EARLY CHILDHOOD INTERVENTION

Shaping the Future for Children with Special Needs and Their Families

Volume Two: Proven and Promising Practices

Christina Groark, Series Editor • Susan P. Maude, Volume Editor

How to go to your page

This eBook set contains 3 volumes.

The front matter and content of each volume have their own page numbering scheme, consisting of a volume number and a page number, separated by a colon.

For example, to go to page iii of Volume 1, type “Vol1:iii” in the "page #" box at the top of the screen and click "Go."

To go to page “123” of Volume 3, type “Vol3:123”… and so forth.

Please refer to the eTOC for further clarification.

Early Childhood Intervention

Early Childhood Intervention: Shaping the Future for Children with Special Needs and Their Families

Volume 1: Contemporary Policy and Practices Landscape

Volume 2: Proven and Promising Practices

Volume 3: Emerging Trends in Research and Practice

Early Childhood Intervention

Shaping the Future for Children with Special Needs and Their Families

Volume 1

Contemporary Policy and Practices Landscape

Steven Eidelman
Editor

Christina Groark, set editor

PRAEGER

AN IMPRINT OF ABC-CLIO, LLC
Santa Barbara, California • Denver, Colorado • Oxford, England

Library of Congress Cataloging-in-Publication Data

Early childhood intervention : shaping the future for children with special needs and their families / Christina Groark, set editor.
p. cm.
Includes bibliographical references and index.
ISBN 978–0–313–37793–8 (hard copy : alk. paper) — ISBN 978–0–313–37794–5 (ebook)
1. Children with disabilities–Education (Preschool)—United States. 2. Children with disabilities—Services for—United States. 3. Child development–United States. 4. Child welfare–United States. I. Groark, Christina J.
LC4019.2.E25 2011
371.9–dc22 2011011997

ISBN: 978–0–313–37793–8
EISBN: 978–0–313–37794–5

15 14 13 12 11 1 2 3 4 5

This book is also available on the World Wide Web as an eBook.
Visit www.abc-clio.com for details.

Praeger
An Imprint of ABC-CLIO, LLC

ABC-CLIO, LLC
130 Cremona Drive, P.O. Box 1911
Santa Barbara, California 93116-1911

This book is printed on acid-free paper ∞

Manufactured in the United States of America

For Paul, my son, and all children with special needs who deserve the best start in life that society in general, policy makers, professionals, and families can give them, and to those who advocate for them, thank you.

Contents

Preface and Acknowledgments

This series of three volumes is about special services known as *early intervention* or *early childhood special education* (EI/ECSE) provided to young children with special needs and their families. As the terms imply, these services provide support early in a child's life, even as early as birth, until the age of school entry. Specifically, early intervention as found in Part C of the IDEA 2004 Statute (P.L. 108-446) is defined as health, educational, and/or therapeutic services that are provided under public supervision and are designed to meet the developmental needs of an infant or toddler who has a developmental delay or a disability. At the discretion of each state, services can also be provided to children who are considered to be *at risk* of developing substantial delays if services are not provided. These services must be provided by qualified personnel and, to the maximum extent appropriate, must be provided in natural environments including the home and community settings in which children without disabilities participate. Early childhood special education (ECSE), as found in Part B, Section 619 of the IDEA, intends for smooth transition of a child from EI to ECSE. It stipulates that the local education agency will participate in the transition planning of a child from early intervention (Part C) to early childhood special education for a preschool-aged child the year she turns 3 years of age. The child may receive all the early intervention services listed on her service plan until her third birthday. Then she must be assessed as eligible for ECSE services

Why is this field important? First, it is scientifically known that early childhood is a time of significant brain development and substantial growth in every domain of all children's development. Second, it is widely accepted that at this time, all learning takes place in the context of relationships, and that families are central to these relationships. Therefore, for better child outcomes, short and long term, families

must be involved at all levels. Third, professionals serving eligible children and families must be on the same page with the families, the children, and each other by coordinating their work and being focused on the skills that are important in the individual child's life. Fourth, this field is important because it demonstrates a connection between instruction and developmental outcomes that benefit children with or without disabilities. For example, the design of certain curricula, individualized educational programs, universal design for environments, tiered teaching methods, and other practices in these volumes are good strategies for all children, not only those with special needs.

But why attend to this particular population of children and families here and now? The prevalence of children with special needs worldwide as well as nationally is increasing. In 1991–1992, the prevalence of children with disabilities in the United States was estimated at 5.75 percent (http://www.cdc.gov/mmwr/PDF/wk/mm4433.pdf). In a more recent review (*Pediatrics* [2008], *121*, e1503–e1509) by Rosenberg, Zhang, and Robinson, the prevalence of developmental delays of children born in the United States in 2001 and eligible for Part C early intervention was indicated at 13 percent.

This growing prevalence also points to economic and public health concerns. Developmental delay, when attended to appropriately earlier in life, is shown to be lessened and thereby alleviate costs to the public. Typically, the estimated lifetime cost for those born in 2000 with a developmental disability is expected to total (based on 2003 dollars) $51.2 billion for people with intellectual disabilities, $11.5 billion for people with cerebral palsy, $2.1 billion for people who are deaf or have hearing loss, and $2.5 billion for people with vision impairment (http://www.cdc.gov/ncbddd/dd/ddsurv.htm). Early services work to significantly reduce these costs.

Also, as society, the economy, and all aspects of life are becoming more globally interdependent, it is our responsibility to help all children reach their potentials and contribute positively to our future. Our society needs a trained, talented, and diverse workforce. We cannot afford to lose the potential of such an important and large sector of children.

In addition to growing prevalence and the need for a diverse workforce, special needs affect all types of families. There is no culture, ethnic group, gender, geographic area, or socioeconomic status group that does not include children with special needs. Special needs and disabilities are inordinately diverse in terms of diagnosis, variability within a diagnosis, intensity, spectrum of characteristics, age of impact, multiplicity, and combinations of disabilities. Further, all children, typically developing or not, need some individualized attention, instruction, and care. They are not little adults. They learn by different styles and at different rates.

Because of this diversity and the importance of the development of this cohort of children, the editors worked diligently to be sure that the most current and best available research is combined with professional experiences, wisdom, and values; clinical expertise; and family-child perspectives. Although no rock was left unturned in the selection of topics and contributors, there was some difficulty in selecting topics. The advisors, editors, and publishers felt strongly that this series is to be of utility to a variety of professionals, parents, practitioners, policy makers, service trainers, students, academics, and scholars, including those not directly related to this field (e.g., a lawyer who is interested in policy, a parent who wants to know about the best supports for her child). Although we strongly intended to have the three volumes provide breadth to the readers, we still wanted them to be as comprehensive as possible. Once the topics were agreed upon, authors were easy to select because we invited the best in the field who could communicate the issues in an accurate, precise, and understandable way. Therefore, information was gathered from experience and scientific evidence by the best in the fields of early intervention and early childhood special education policy and law, medicine and health sciences, and education and child welfare, among others.

So the reader will find that the scope of this series is broad but still covers the critical components of early intervention and early childhood special education. It is organized into three volumes in such a way that readers can skim through each to find the areas of particular interest to them. The chapters within the three volumes are intended to answer key questions regarding how this field works. For instance, how do we identify children needing early intervention or early childhood special education and recognize them as early as possible? Where does this detection and subsequent service take place? Who works in early intervention, and what is their training? What is the families' role in all of this, and what are their rights? How does that role differ in early intervention compared to early childhood special education? Which programs, or what parts of programs, work best, and for whom? What does it cost to provide this service, and how effective is it? What are still some of the unknowns of this field (which is relatively young compared to other fields of study)?

Specifically, Volume 1, *Contemporary Policy and Practices Landscape*, begins with a historical perspective of this field. It then relates state

policies and various attempts to implement them and international laws and sample country responses to the care, education, and development of children with disabilities. This volume also considers who provides these services; their training, background, and experiences; and evaluation of programs for quality and cost-effectiveness. Policies regarding children with special needs nationally and internationally tell us the rights of children and families. Sometimes they even tell us what should be provided and when. However, they do not tell us *how* to implement quality programs; thus, the need for Volume 2.

You will see, therefore, that the chapters in Volume 2, *Proven and Promising Practices in Early Intervention/Early Childhood Special Education*, cover the best available practices that are currently used and studied throughout the field of early intervention. These chapters include information on programs such as Early Head Start and Head Start and new, exciting model strategies and techniques in intervening with children with challenging behaviors, mental health diagnoses, sensory processing, and others. We were fortunate to find the best professionals in the fields of early intervention and early childhood special education, including individuals from occupational therapy, speech and language pathology, psychology, policy development, technology use with children, early literacy and math, teacher education, English-language learning, and specialists in visual and hearing impairments. Yet there is always room for new knowledge and improvement. That is what we hope we captured in Volume 3.

Volume 3, *Emerging Trends in Research and Practice*, creatively takes the reader into the realm of possibilities. It helps the reader think about needs of expanding or emerging populations such as culturally and linguistically diverse families and the need for schools to be prepared for learners with a wide range of needs and abilities. This volume also invites reflection on issues that are not totally resolved, like crossing systems in the delivery of services, how do we get over the financial and administrative silos in these public systems, and how do we get professionals and bureaucrats to work together to cross these systems? However, this volume also provides solutions to current issues that should be considered, advocated for, or debated, such as the Recognition and Response tiered model of instruction.

Finally, the chapters in Volume 3 point us in the direction of future research and trials of models and strategies. For instance, we need to make the best use of technology and research-based practices. Another example includes child progress monitoring and accountability. Monitoring and accountability have evolved over the years, and better

practices actually may include simpler procedures. But are we capturing the complexities of teaching and learning? Do we really understand the needs of children with special needs and how to best engage their families and integrate a variety of professional recommendations for the most effective program? Finding these answers will demand a lot from professionals (e.g., to follow professional practices such as DEC-NAEYC), from researchers (e.g., to develop and test evidenced based practices), and from the public in general (e.g., to advocate).

All three volumes contain special features like matrices, graphs, and diagrams to stimulate readers not only in what is, but in what could be. They are different from other works in that they provide the state of the art in the field while considering the antecedents and the future prospective in the field. They are intended to be appealing to anyone interested in children, especially children with special needs, and to provide enough information to continue and grow that interest.

* * *

I would like to thank many people for their contributions to the creation, writing, editing, and production of this series. First, the volume editors, Steven Eidelman, Susan P. Maude, and Louise A. Kaczmarek, all of whom are first-rate professionals, child advocates, and early interventionists whom I relied upon heavily for chapter ideas, finding the best authors in the field, volume editing, writing chapters for the volumes, and fabulous contributions to the entire enterprise. There would be no series without them.

Second, my assistants, Mary Ellen Colella, Amy Gee, Mary Louise Kaminski, and Kaitlin Moore, who kept me organized, edited me and reedited me, and checked details when I could no longer see the trees through the forest.

In addition, thank you to our illustrious advisers. They came from so many different professions with the highest level of understanding of the nature of the children in these services and of what is needed by our readers. I appreciate their willingness to share their expertise openly and candidly.

And to my students, Amber Harris-Fillius, Claudia Ovalle-Ramirez, Robin Sweitzer, and Wen Chi Wang, thank you for their thorough reviews of the chapters. I learned a lot from them.

Finally, thank you to my family: Brian, Patti, Stephanie, and Paul, for teaching me about children and families and for their patience and encouragement throughout this work.

This page intentionally left blank

Chapter 1

Historical Perspectives

Barbara J. Smith and Beth Rous

Volumes have been written on the theoretical, scientific, social, and policy foundations of early childhood intervention (see for example, Shonkoff & Meisels, 2003). This introductory chapter attempts to provide a summary perspective on that rich history.

There are two key terms related to early childhood intervention used in this chapter: early intervention and early childhood special education. In *Early Childhood Education: An International Encyclopedia*, edited by New and Cochran (2007), these terms are described. Smith and Guralnick (2007) describe early intervention as the body of "policies, systems, programs, services, and supports provided to vulnerable young children and/or their families to maximize a child's development" (pp. 329–330). Further, Smith and Guralnick point out that "the concept of early intervention implies that: (1) acting earlier rather than later results in important effects not gained if action is delayed, and (2) action is needed beyond that typically available and is based on specific circumstances and unique child and family characteristics" (p. 330).

Early childhood special education (ECSE) is described by Mallory (2007) as "a field characterized by grounded theory, practices, and applied research concerned with the causes and consequences of disability in the first eight years of life. The field has evolved since its inception in the 1960s and 1970s based on increasingly more sophisticated understandings of the nature of early childhood disability" (p. 321).

As used in this chapter, early intervention can be viewed as a term encompassing the array of services and policies established for improving the developmental trajectory of young children, from birth to age eight, with special needs and their families. Early childhood special education (ECSE) is the profession that establishes the parameters for professional standards, program standards, and approaches, and embodies the theoretical and scientific foundations for the field.

This chapter provides the theoretical and scientific history as well as the sociopolitical roots of ECSE and early intervention.

THEORETICAL FOUNDATIONS

Mallory (2007) describes ECSE as having evolved from the fields of early childhood education (ECE) and special education, but that it is "more than the sum of these two components; it now represents a distinct body of professional knowledge, practice, and policy" (p. 321).

EARLY CHILDHOOD EDUCATION FOUNDATIONS

ECSE and early intervention are grounded in key theoretical foundations of ECE. One such foundational theory is early childhood as a distinct period of human development characterized by approaches to learning and interpreting the world differently from those of adults. Second, ECSE and early intervention embody the ECE notion that development is sequential but responsive to environmental factors that affect that sequence or trajectory. Twentieth-century writers and theorists shifted the concept of human development as a fixed sequence of stages to the concept that a child's development is affected not only by nature, or the characteristics of the child at birth, but also by nurture, or those things the environment provides. This view of young children was directly influenced by human ecologists. This perspective views human development as an interaction between the growing human being and the contexts or environment with which it interacts (Cochran, 2007). As we will describe later in this chapter and in greater detail in Chapter 2, many of the key issues and practices in the field of ECSE and early intervention today reflect this concept of the importance of the child's interaction with its environment, such as inclusion (e.g., children and families having access to services and community opportunities).

Early education movements in the early 1800s emphasized these theories as well as the role early education could play in ensuring an educated citizenry and transforming society (Bauer, Johnson, Ulrich, Denno, & Carr, 1998). In the United States, the first systematic developments in ECE were the establishment of kindergartens with the goal of supporting social and emotional readiness for formal schooling. In 1873, Susan Blow founded the first public kindergarten in St. Louis and by 1883, every public school in St. Louis had a kindergarten classroom. Day nurseries were established in the mid-1800s with the goal of providing young children of working parents with custodial care in home-like settings. With changing values related to women working out of the home, and particularly with the women's suffrage movement in the early 1900s, other forms of ECE developed. Nursery schools were established in the early 1900s primarily by and for middle-class families and focused more on education and social emotional development of young children and to serve as informational resources for parents. As theories of the developing child and the developing brain were advancing, so too did efforts emerge to show effective ways of teaching young children. In the 1920s, the National Association of Nursery School Educators (NANE) was founded. In 1927, the National Committee on Nursery Schools recommended a four-year college degree for nursery school teachers (Darragh, 2010).

In the 1930s and 1940s, the Great Depression created high unemployment, and World War II created the need for women to work outside the home to fill both jobs left by men who were in the military and jobs created to support the war effort. Therefore, caring for children outside of the home became a necessity. The Works Progress Administration in 1933 supported nursery schools so that out-of-work teachers could have jobs. In the 1940s, the federal government provided funding for child care so that women could work in war-related industries (Bauer et al., 1998). Views about ECE and the availability of ECE settings continued to evolve with the women's equity movement. The Equal Pay Act of 1963 and Titles VII and IX of the Civil Rights Act of 1964 ushered in federal equal rights for women and girls in education and employment as well as a growth in child care opportunities (Darragh, 2010).

These historic events expanded early education as a system and as a profession. However, during this period, young children with disabilities received little attention.

SPECIAL EDUCATION FOUNDATIONS

The second theoretical foundation of ECSE and early intervention according to Mallory (2007) is the field of special education. At roughly the same time period in the nineteenth century that theories associated with early childhood as a distinct period of human development with its own learning characteristics emerged, so too emerged an interest in atypical human development. This interest and documentation of developmental disabilities and mental illness led to a subsequent movement to address the needs of these populations. Early approaches to address or "treat" disability were to create institutions to house individuals away from society.

The eighteenth and nineteenth centuries brought theories advancing the idea that young children's development is not predetermined but is influenced by environmental factors. This same notion was put forward regarding the developmental trajectory of people with disabilities. Seguin and Itard proposed that children with disabilities could learn and were not possessed by demons or need to be incarcerated (Bauer et al., 1998). Inspired by this work and Seguin's move to the United States from France, educational programs for people with mental retardation expanded, albeit in residential institutions, and by the end of the nineteenth century these institutions were well established and committed to education and to some degree the eventual inclusion into the community of persons with disabilities (Shonkoff & Meisels, 2003).

However, in the early twentieth century, influenced by those who supported the eugenics movement, the residential institutions were refocused from training and possible social integration to custodial care. This movement justified racist and immigration restrictions and compulsory sterilization (Shonkoff & Meisels, 2003). Work on the new Binet Intelligence Test involved administering the test to newly arriving immigrants at Ellis Island to identify the "feebleminded progeny of the foreign hordes" (Gilhool, 1995, p. 13, in Bauer et al., 1998), and states supported public institutions to separate individuals with disabilities because they were considered dangerous. Some states went so far as to make it a criminal offense for parents to refuse institutionalization (Gilhool, 1995). Thus, according to Shonkoff and Meisels (2003), "The psychology community's harsh rhetoric challenged the early optimism of special education and residential institutions were transformed into dreary warehouses for neglected and forgotten individuals" (p. 9).

With the expansion of public schooling in the United States at the turn of the twentieth century, the field of special education reemerged with a focus on diagnosis, and an acceptance that learning and development are not fixed but rather can be affected by the environment including education. Over the next four decades, testing of recruits for World Wars I and II revealed many people were living typical lives with disabilities, and with the return of the veterans with war-related disabilities, the view of disability began to change, resulting in a growing recognition of a need to provide support and services (Bauer et al., l998).

In the mid-1960s, findings from researchers such as Skeels, Skeels and Dye, and Kirk indicated that with enriched early experiences, the learning trajectories of young children with disabilities could be dramatically altered for the better (Bauer et al., 1998; Shonkoff & Meisels, 2003). At the same time, other educational theorists and researchers were looking at the relationship of children's characteristics and the quality of the environment. Benjamin Bloom (1964) and J. McVicker Hunt (1961) argued that intelligence is not fixed, develops early, and is affected by early experiences. In the 1960s, this scientific and theoretical foundation along with strong support from the Kennedy administration led to states enacting legislation and social values changing resulting in expanded educational programs for children with disabilities. However, special education and early intervention services were largely confined to volunteer efforts and provided to children with disabilities in settings separate from their typically developing peers.

Caldwell (1973) described these various eras in special education as three distinct historical periods: (1) "forget and hide," (2) "screen and segregate," and (3) "identify and help." Allen and Schwartz (1996, p. 4) suggest that the current era could be captioned as "include and support" as described in Chapter 2.

SOCIOPOLITICAL FOUNDATIONS

As noted above, concurrent with the theoretical and scientific advances in the mid-1960s, public policy began to play a key role in the expansion of services and the development of systems for special education, early childhood education, ECSE, and early intervention. While research findings were establishing the importance of education in the lives of young children and those with disabilities, services were voluntary and not part of the mainstream education systems. Advocates began to turn to policy makers in an effort to establish more and better services for young children with special needs. States began to enact policies providing education for school-age children with disabilities, special education as a profession grew, the Kennedy administration provided strong support for services for people with disabilities, the federal Bureau of the Education of the Handicapped (BEH) within the Department of Health, Education, and Welfare was established, and federal support for research and development and personnel preparation in special education was provided. Additionally, an increase in concern and advocacy over marginalized populations and a call for equal protection of the law and fairness in society resulted in monumental advances for young children with disabilities, and other special needs such as living in poverty.

LEVELS AND BRANCHES OF GOVERNMENT AND POLICY

ECSE and early intervention have essential roots in public policy. To fully grasp this policy foundation, it is important to understand the structure of public policy and government in the United States. The U.S. Constitution outlines the governance of the United States. This structure is comprised of levels of government as outlined in the Constitution—federal and state levels. Each of these levels has its own governance that creates policy. At each level, there are three branches of government—legislative, executive, and judicial—all of which are designed to limit and balance power.

First and foremost to understanding past and present sociopolitical issues in ECSE and early intervention, is the delineation between the two levels of government: federal and state. The limitation of power was key to the writing of the U.S. Constitution—limitation of power of government over the individual, and limitation of the power of the federal government over state governments. The 10th Amendment of the Constitution was added to clarify that the powers not delegated in the Constitution to the federal government "are reserved to States respectively, or to the people." This form of government, federal and several sovereign states, is referred to as "federalism." As described below, ECSE and early intervention policy has been developed at both the federal and state levels. It is important to note there is a tension or balance between the federal and state governments as to the appropriate role of each in education and human services. The concept of "federalism" is important to understanding this balance and the conversation between policy makers at the different levels of government. A good example of this tension is the attempt of the Reagan administration in the early 1980s to repeal the Education for All Handicapped Children Act, under the argument that such education matters belonged to the states and not the federal government. Advocates and supporters worked to convince the administration of the need for a federal presence in establishing a right to an education for children with disabilities and persuaded the administration to withdraw its proposal.

As described above, the U.S. governance structure at both the federal and state levels is comprised of three branches that serve as checks and balances on the power of each. As described in the Constitution, the branches are legislative (which passes laws), executive (which implements the laws), and judicial (which interprets the laws). Article I of the Constitution describes the legislative powers at the federal level as resting with the Congress. At the state level, the legislative branch is the state legislature. Article II describes the executive branch at the federal level as the president, which includes the president's cabinet and agencies such as the Department of Education or Department of Health and Human Services. At the state level, the executive branch is the governor, state cabinet and agencies such as the state departments of education, health, or human services. Article III describes the third branch of government as the judicial branch, which at the federal level is the Supreme Court and federal district court system. At the state level, the judicial branch is the state court system including the state Supreme Court.

As noted above, there is a tension about what type of policy should rest with what level (federal or state). Policy makers and advocates debate the appropriate role of federal and state governments in areas such as whether the federal government should intervene in states' delivery of services (see the legal history of services to children with disabilities described later in this chapter) or whether the more appropriate role of federal policy is to entice or provide incentives to states to meet certain goals versus mandating them. These enticements or incentives may be voluntary grants to begin services to children, or grants to agencies or programs to research and disseminate best practices that may eventually lead to widespread use of such services and approaches. As described below, advocates argued that the federal government needed to establish a right to an education for children with disabilities because states had failed to do so even with incentives, and because the federal government could provide requirements that would cross state lines thus ensuring some continuity of services to children and families regardless of the state in which they resided. Throughout the following section, there are examples of the federal role in providing: (1) resources and direction for non-mandatory services, which we will refer to as incentives and policies directed at improving the quality of services; and (2) mandating services, which we will refer to as ensuring access to services. Also, below are examples of how the various branches of government have been used to advance services to children with disabilities.

THE ROLE OF POLICY IN ECSE AND EARLY INTERVENTION

Public policy has played two major roles in ECSE and early intervention: (1) encouraging states and localities to provide services and providing resources and guidance about best practice; and (2) requiring states to provide services and to establish systems for doing so. By the mid-1960s, the research on the effects of early experience and child development led to two major federal initiatives that paved the way to where we are today in ECSE and early intervention. These two policy initiatives represent the federal government providing incentives and guidance to states to provide services versus requiring them to do so. The first, Project Head Start, a federal program of early education and other supportive services for young children living in poverty, was enacted in 1964 under the Economic Opportunity Act as a component of the "War on Poverty" of the Johnson administration. Head Start was established to provide early intervention for young children at risk for school failure due to poverty. In 1972, Head Start programs were required to allocate 10 percent of its enrollment for children with disabilities. This requirement not only resulted in the first national early intervention services for young children with disabilities, but also made a national statement about the importance of serving young children with disabilities with their typically developing peers rather than separately.

The second major policy milestone during this period was the Handicapped Children's Early Education Program (HCEEP) enacted by Congress in 1968 to develop research and demonstration projects aimed at discovering new and better approaches to working with young children with disabilities. DeWeerd (1977) and Hebbeler, Smith, and Black (1991) described the contribution the HCEEP program had in developing a body of knowledge and effective models and interventions. DeWeerd noted that by 1968, Congress recognized one reason there were so few services for young children with disabilities was the shortage of models of programs that were effective. Thus they established HCEEP to provide grants to:

1. Support research on effective practices
2. Provide grants to universities for student stipends to encourage students to study and become ECSE providers

3. Develop, demonstrate, and outreach information on effective models of ECSE
4. Develop a national center to provide technical assistance to programs and states on how to deliver ECSE

The body of research, demonstration programs, scientific literature, and a national network of advocates that resulted from the HCEEP program led to: (1) widespread awareness of the positive effects early intervention could have on young children's development and future; (2) advocacy groups that included family members, scientists, and program personnel; and (3) ECSE teacher degree programs established at the university level across the nation.

A major unintended result of this comprehensive initiative was the establishment of the professional association, the Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC). DEC established the first research journal, the *Journal of Early Intervention*, and an annual professional conference, and it provided a platform for advancing professional standards, programs standards, and public policies that promote best practices for optimizing the developmental outcomes of young children with special needs, including children with disabilities, children at risk for disabilities, and children living in poverty.

While HCEEP was helping to develop the field of early intervention and ECSE, other important sociopolitical events were happening. By the mid-1970s it was estimated that one million school-age children with disabilities were not receiving an education (Weintraub & Abeson, 1976). Building on the right to education precedent set in the 1954 *Brown v. Board of Education* court ruling, which established a right to equal education for all children regardless of race, the 1970s saw several court cases and other policies advance the right to education for children with disabilities. In 1971, the landmark *Pennsylvania Association for Retarded Children v. Commonwealth of Pennsylvania* lawsuit established the right to an education for all school-age children with mental retardation. In 1972, in *Mills v. Board of Education*, the court in the District of Columbia established a right to an education for all children with disabilities of school age. These court cases found that under the equal protection clause of the 14th Amendment to the U.S. Constitution that if education is provided by the state to one group, it must be provided to all. The interpretation of the equal protection clause was evolving from ensuring equal access to the same resources, to "equal access to differing resources for equal objectives" (Weintraub &

Abeson, 1976, p. 8). Soon, state legislatures and other court cases followed, and children with disabilities were winning the right to an education, to due process during important decisions such as assessment, to diagnosis and placement in special education, and to have services provided in the "least restrictive environment." This right to education movement culminated in 1975 with the Education for All Handicapped Children Act (P.L. 94-142), which was created by amendment to the Education of the Handicapped Act (later named the Individuals with Disabilities Education Act, or IDEA). This new law mandated states to provide a free, appropriate public education to all school-age children with disabilities in the least restrictive environment and according to a written Individualized Education Program (IEP). P.L. 94-142, while not requiring states to serve very young children, provided financial incentives to states to provide preschool education to children with disabilities younger than age six.

In 1984, based upon research findings on the efficacy of early intervention services and the social value of supporting families and children, Congress established a new program under HCEEP that provided federal funds to states for planning, developing, and implementing statewide services for children with disabilities from birth to five years of age. Again, this was not a mandate, but an incentive program. In 1984, about half the states had public policies for providing early intervention and education services to some portion of the population of young children with disabilities, ages 3–5, with 10 states providing some services from birth (Smith, 1988).

Building on these state efforts, and based on an accumulation of the federally funded efficacy research and development of effective practices and services under HCEEP, Congress passed P.L. 99-457 in 1986, the Education of the Handicapped Act Amendments of 1986. These amendments created what is now known as IDEA, Part C for infants and toddlers with disabilities and IDEA, Part B, Section 619 for preschool-aged children with disabilities. This law required states to lower the age from six to three for a free appropriate public education to children with disabilities under Part B. It also established a voluntary early intervention program of services for children with disabilities or at risk for disabilities from birth through age two under Part C. One of the architects of P.L. 99-457, Robert Silverstein, a congressional staff person involved in the writing of the law, gave a speech in 1988 (Silverstein, 1988) in which he quoted from materials sent to the Congress from the U.S. Department of Education in 1985 about the findings from the HCEEP program. The materials said: "Studies of the effectiveness of preschool education for the handicapped have demonstrated beyond doubt the economic and educational benefits of programs for young handicapped children. In addition the studies have shown the earlier intervention is started, the greater is the ultimate dollar savings and the higher is the rate of educational attainment by these handicapped children." Silverstein went on to say that information from states at that time indicated the number of preschool children with disabilities being served had leveled off over the years and the current incentives were not sufficient for all children to receive services, . . . "Some members of Congress thought that it was time to take advantage of 17 or so years of research showing the effectiveness of early intervention and mandate the provision of services for the birth to five population" (p. 10). Thus it is clear that a policy mandating states to provide services to young children with disabilities was built upon policies that provided incentives to states and policies that supported research and development of effective practices funded under the HCEEP program under EHA. However, it is also evident that the research funding and state incentives were not adequate, and that a policy requiring services was also needed if all children were to be served.

The effect of these policies is clear. State policies for providing services to young children with disabilities increased dramatically over the next decade. Smith and McKenna (1994) described the dramatic increase in state early intervention and preschool services between 1986 and 1992:

> In 1986, only 25 states had legal mandates for services to children under the age of 6. By 1992, however, all states had established policies that ensured that all eligible children had access to early intervention services from birth . . . in 1986 states were reportedly serving fewer than 30,000 infants as compared to nearly 250,000 by 1991. (p. 257)

In the 1980s and 1990s, there have been amendments to IDEA refining some of the early childhood provisions, but by and large, there have been few major federal initiatives in the early intervention arena. However, Early Head Start was established for birth-to-2-year-olds and contains the same 10 percent enrollment of children with disabilities requirements as the 3- to 5-year-old program. Funding for IDEA and Head Start has increased but is still not sufficient to appropriately serve all eligible children. A major milestone was the passage of the Americans with Disabilities Act (ADA) in 1990. While this is not early childhood legislation, it bans discrimination in public services such as child care and other early childhood settings. Therefore, children with disabilities gained the right to entry to many natural settings and environments through the ADA.

ISSUES AND TRENDS

Unfortunately, an unexpected turn of events occurred in the mid-1990s that affected the available resources at the federal level that were used to promote quality ECSE and early intervention services. A movement to reduce the size of the federal government led to the repeal of several programs, one of which was HCEEP. Therefore, there is currently no federal program solely dedicated to funding early intervention and ECSE research and development efforts. Research has traditionally been seen as an appropriate role of the federal government as it benefits all states and therefore should not be the burden of any one state. There are opportunities for research funding through other programs, but not at the level of the targeted HCEEP program. This development challenges states to establish the policies and structures to promote high-quality ECSE and early intervention services and systems. While most states will not significantly support research, there are other quality-enhancing policies and systems more likely to be implemented by states.

One approach to enhancing quality in states is the establishment of training, professional development, and technical assistance programs to support the use of effective practice at the local level. However, currently many states do not provide such supportive systems. Often, states provide support for short-term training sessions on particular topics of interest or concern. However, a growing body of research suggests training alone, without on-site coaching to provide opportunities for application of new strategies with feedback, does not result in a change of current practice by service providers. To achieve adoption of effective practice and strategies, providers need to receive information on the new practice, be provided with an opportunity to apply that practice, and receive supportive feedback (Blase, 2009; Fixsen, Naoom, Blase, Freidman, & Wallace, 2005; Joyce & Showers, 2002). To achieve this type of professional development and technical assistance system, states will need to develop policies and resources that may currently not be in place within the state. Further, while this is indicated as the most effective way to achieve high-quality services and systems, it will require a paradigm shift for states to establish and support such intensive technical assistance and training systems for early childhood programs. Blase (2009) described how states can approach building such a system, from designing basic technical assistance to programs that capitalize on their current readiness for coaching and other professional development approaches, to intensive technical assistance targeted at programs and systems. However, this approach can require a full systems-change effort, including resources, systems, and quality assurance mechanisms such as certification and licensing related to the evidence-based practices as well as data collection and evaluation systems tied to quality improvement efforts.

In addition to the theoretical, scientific, and policy foundations to early intervention and ECSE, by the 1990s there was also a social value that providing effective services and supports to young children with special needs and their families should be conducted in settings that are normal and include typically developing peers (Sandall, Hemmeter, Smith, & McLean, 2005). This concept of "inclusion" has been a focal point of early intervention and ECSE for the past 20 years. It has major ramifications of the field on policies, on personnel preparation, and on systems at the local, state, and federal levels. One of the major implications of the inclusion movement has been to bring the fields of ECSE and ECE together, not as one field but as two coordinated fields of knowledge necessary to meet the needs of all children (Smith & Bredekamp, 1998). While ECSE emanated partly from ECE, it diverged in many ways, not the least of which is in the development of different pedagogical approaches to teaching young children. Research has shown that young children with disabilities often need more structured, adult-directed teaching strategies to learn the same objectives as their typically developing peers (Smith, Miller, & Bredekamp, 1998). They may need adaptations to approaches, materials, and equipment, and they may need help in accessing the same curriculum as their peers. The two professional associations, the Division for Early Childhood (DEC) of the Council for Exceptional Children and the National Association for the Education of Young Children (NAEYC), have worked together since the early 1990s to establish a shared vision of inclusion, and to promulgate personnel and program recommendations for how to teach all children together. In 1993, DEC and NAEYC issued a position statement about the importance of inclusion. Subsequently they worked together to help early educators to blend the approaches and to see the teaching strategies as a continuum of effective strategies depending on the needs of the child. Rous describes

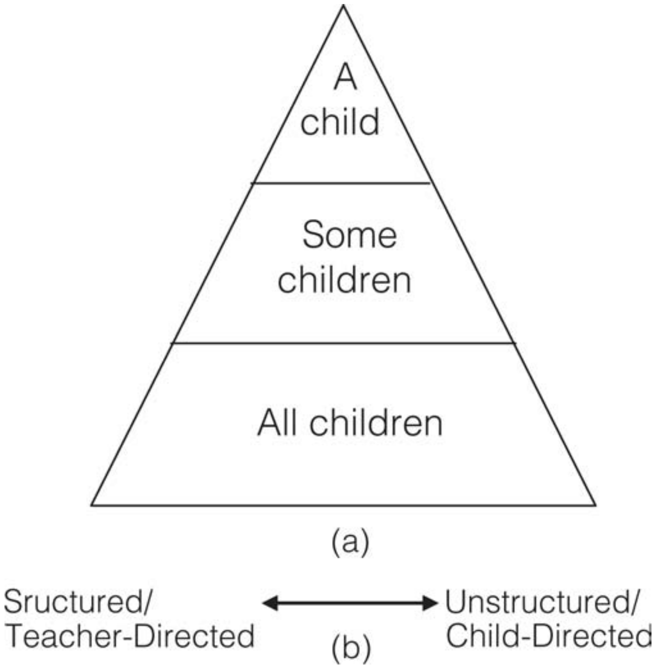


Figure 1.1 Conceptual models of individual appropriateness: (a) Pyramid model. (b) Continuum model.

in Chapter 2 how this early position on inclusion has been revised and built upon by the two organizations.

Smith and Bredekamp in 1998, representing the two professional associations, described the importance of early educators and early childhood special educators collaborating in inclusive settings to bring the full range of teaching approaches necessary for all children. They described two conceptual models for viewing the ECE and ECSE teaching practices: one as a pyramid, and one as a continuum, both representing the range of strategies from those for all children to those specialized strategies that some children may need some of the time (see Figure 1.1).

In addition to conceptualizing shared teaching approaches and collaboration of personnel to effectively teach all children in an inclusive environment, inclusion has also presented paradigm shifts in teacher education, service system coordination, and accountability. Chapter 2 describes these issues in more detail.

While there have been many advances for young children with disabilities and their families, there remain many challenges. Young children with disabilities have gained access to programs and services, but the quality and effectiveness of those services are still not funded and supported at a level suitable to promote the optimal development of all children. Other challenges include services in inclusive and natural environments (such as the family home or child care centers), family centeredness, transition from one system to another, and professional competence. While the federal role in ECSE policy has been and will likely continue to be primarily providing access to services, the role of states should be focused on the assurance that those services are of the highest quality necessary to ensure optimal developmental outcomes. This means states need to invest in training and technical assistance to programs to ensure that personnel have the skills they need to provide effective services. States need to link accountability measures to supports to programs in an effort to establish continuous improvement based upon those measures. States and universities need to establish personnel licensing standards that meet national recommendations from DEC and NAEYC.

Harkening back to the beginnings of the field of ECSE and early intervention services, it is imperative that advocates express to policy makers the importance of the relationship of the young child's development and the ecology of that child: the quality of that ecology (the knowledge and resources of the family, the health and educational services provided to the child and family, the accessibility and level that the community welcomes children with special needs, and professional competence) will determine the development of the child. Therefore, not only is early intervention the right thing to do, but it is imperative that it is done effectively.

In Chapter 2, we describe in more detail current programs and challenges in the field, particularly those related to the quality and inclusiveness of the early intervention and ECSE services provided to young children and their families across multiple service systems.

REFERENCES

Allen, K. E., & Schwartz, I. S. (1996). *The exceptional child: Inclusion in early childhood education*. Albany, NY: Delmar.

Bauer, A. M., Johnson, L. J., Ulrich, M., Denno, D. M., & Carr, V. W. (1998). A history of working with and for children. In L. Johnson, M. LaMontagne, P. Elgas, & A. Bauer (Eds.), *Early childhood education: Blending theory, blending practice*. Baltimore: Paul H. Brookes.

Blase, K. A. (2009). *Technical assistance to promote service and system change: Roadmap to effective intervention practices*. Technical Assistance Center on Social Emotional Intervention. Retrieved from http://www.challengingbehavior.org.

Bloom, B. S. (1964). *Stability and change in human characteristics*. New York: Wiley.

Caldwell, B. M. (1973). The importance of beginning early. In M. B. Karnes (Ed.), *Not all little wagons are red: The exceptional child's early years*. Arlington, VA: Council for Exceptional Children.

Cochran, M. (2007). Ecology of human development. In R. New & M. Cochran (Eds.), *Early childhood education: An international encyclopedia*. Westport, CT: Praeger.

Darragh, J. C. (2010). *Introduction to early childhood education*. Upper Saddle River, NJ: Pearson.

DeWeerd, J. (1977). Introduction. In J. Jordan, A. Hayden, M. Karnes, & M. Wood (Eds.), *Early childhood education for exceptional children: A handbook of ideas and exemplary practices*. Reston, VA: Council for Exceptional Children.

Fixsen, D. L., Naoom, S. F., Blase, K. A., Freidman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature*. Publication #231. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, the National Implementation Research Network (FMHI).

Hebbeler, K., Smith, B. J., & Black, T. (1991). Federal early childhood special education policy: A model for the improvement of services for children with disabilities. *Exceptional Children, 58*(2), 104–112.

Hunt, J. M. (1961). *Intelligence and experience*. New York: Ronald Press.

Joyce, B., & Showers, B. (2002). *Student achievement through staff development* (3rd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Mallory, B. (2007). Early childhood special education. In R. New & M. Cochran (Eds.), *Early childhood education: An international encyclopedia*. Westport, CT: Praeger.

New, R., & Cochran, M. (Eds.). (2007). *Early childhood education: An international encyclopedia*. Westport, CT: Praeger.

Sandall, S., Hemmeter, M., Smith, B., & McLean, M. (Eds.). (2005). *DEC recommended practices: A comprehensive guide for practical application*. Longmont, CO: Sopris West Publishing.

Shonkoff, J. P., & Meisels, S. J. (2003). *Handbook of early childhood intervention*. New York: Cambridge University Press.

Silverstein, R. (1988, February). A window of opportunity: P.L. 99-457. In *The intent and spirit of P.L. 99-457: A sourcebook*. Washington, DC: National Center for Clinical Infant Programs

Smith, B., & Bredekamp, S. (1998). Foreword. In L. Johnson, M. LaMontagne, P. Elgas, & A. Bauer (Eds.), *Early childhood education: Blending theory, blending practice*. Baltimore: Paul H. Brookes.

Smith, B., & Guralnick, M. (2007). Early intervention. In R. New & M. Cochran (Eds.), *Early childhood education: An international encyclopedia*. Westport, CT: Praeger.

Smith, B., Miller, P., & Bredekamp, S. (1998). Sharing responsibility: DEC-, NAEYC-, and Vygotsky-based practices for quality inclusion. *Young Exceptional Children, 2*(1), 11–20.

Smith, B. J. (1988). Early intervention public policy: Past, present, and future. In J. Jordan, J. J. Gallagher, R. J. Hutinger, & M. Karnes (Eds.), *Early childhood special education: Birth-three*. Reston, VA: Council for Exceptional Children.

Smith, B. J., & McKenna, P. (1994). Early intervention public policy: Past, present, and future. In L. Johnson, R. J. Gallagher, M. La Montagne, J. Jordan, J. J. Gallagher, P. Hutinger, & M. Karnes (Eds.), *Meeting early intervention challenges: Issues from birth to three*. Baltimore: Paul H. Brookes.

Weintraub, F., & Abeson, A. (1976). New education policies for the handicapped: The quiet revolution. In F. Weintraub, A. Abeson, J. Ballard, & M. LaVor (Eds.), *Public policy and the education of exceptional children*. Reston, VA: Council for Exceptional Children.

Chapter 2

Key National and State Policy Implementation Issues

Beth Rous and Barbara J. Smith

In Chapter 1, historical trends in early intervention and early childhood special education policies and issues were traced and described. This chapter builds on that history and describes current policies and issues for the field.

OVERVIEW OF FEDERAL SERVICES FOR YOUNG CHILDREN WITH SPECIAL NEEDS

As discussed in Chapter 1, there are three levels of government: federal, state, and local. At the federal level, the current system of services for young children has been described as diverse in terms of the focus of the various federal programs (Rous & Townley, 2010). For example, some programs are targeted to specific populations in an effort to prevent potential negative outcomes from known conditions (e.g., poverty is targeted by Head Start), while others are geared toward intervention due to existing conditions (e.g., Part C of IDEA). Some programs are universal in focus, including everyone (e.g., public school services), while still others are targeted (e.g., availability of child care to support working families). This section will provide specific information on major federal programs operated out of the U.S. Departments of Education, Health and Human Services, and Justice that impact young children with special needs, birth to age 8.

U.S. Department of Education

The Elementary and Secondary Education Act (ESEA, federal statute passed in 1965) provides federal support and guidance for elementary and secondary public school programs across the country. This statute, reauthorized every five years, has had several names. Most recently, it is named the No Child Left Behind Act of 2001. Funds through ESEA flow from the federal government to states, who then distribute funds to local school districts. ESEA does not mandate that states provide universal services to preschool-aged children, thus states who have public preschool programs have created and funded them on a voluntary basis. However, ESEA does include several programs to support vulnerable populations within schools. Those programs are extended to preschool populations served within the school. Examples include Title I, which provides compensatory education grants to schools and districts that focus on supporting students from low income families and improving their educational opportunities, and Title III, which focuses on supporting language instruction for students that have limited English proficiency (LEP).

In 2001, as part of the reauthorization of ESEA, a presidential initiative was created known as Good Start Grow Smart (GSGS). This initiative was designed to enhance accountability efforts in school-age programs (i.e., kindergarten through grade 12) by focusing on supporting high-quality early childhood programs across three main areas. First, GSGS called for strengthening Head Start programs through the development and implementation of a new accountability system that would emphasize early literacy development. Second, GSGS was designed to support states in enhancing early childhood quality, in part by supporting states in voluntarily establishing early learning guidelines for children ages three to five years. These guidelines are related to language and pre-reading skills. States are to align those guidelines with standards in place for K–12. Third, GSGS focused on improved access to research and evidence based practice for family members and professionals in the area of early childhood.

Within the Department of Education, the Office of Special Education Programs (OSEP) administers programs that fall under the Individuals with Disabilities Education Act (IDEA). Two specific components of IDEA relate to young children with disabilities. IDEA includes provisions for eligible children, birth to 3 years, to receive early intervention services. This is known as Part C of IDEA. Part C funds are distributed from the federal government to states. Under Part C, states have the option of designating a lead agency for services that vary across the Departments of Education, Health Services, or Human Services depending on the state. The lead agency is responsible for providing services to children who have a disability or are at substantial risk of developmental delay due to specific diagnosed conditions. States also have the option of serving children through Part C who have other risk conditions, such as biological/medical or environmental risk. The services under Part C are targeted to both the child and his or her family and are outlined in a document known as an Individualized Family Service Plan (IFSP). This IFSP is intended to be developed in partnership with the family by an interdisciplinary team of professionals. Every child and family is provided with a service coordinator or case manager to help coordinate services offered through the interdisciplinary team. For children in early intervention, IDEA provides provisions on the location of the services provided, indicating that these services must occur in the child's natural environment (e.g., home, child care program) to the maximum extent appropriate. Early intervention offers a range of services such as developmental and therapeutic services (e.g., physical, occupation and speech/language), family training and support, nutrition, and/or evaluation and assessment, depending on the child and family's level of need and as outlined in the IFSP.

IDEA also provides provisions for eligible children with disabilities ages 3 through 21 to receive a free appropriate public education (FAPE) through the public school system. This is known as Part B of IDEA. Part B funds flow from the federal level to state education agencies, who distribute them to local school districts. Within Part B, Section 619 specifically addresses the funding for services for preschool children (ages 3 to 5) who have a disability as determined by IDEA and each state's eligibility criteria. IDEA includes 14 disabilities definitions, including autism, deafness, deaf-blindness, emotional disturbance, hearing impairment, mental retardation, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech/language impairment, traumatic brain injury, and visual impairment. For children up to age 9, states may also use developmental delay as a category of eligibility. Once determined eligible, the specific special education and related services the child will receive are outlined in an Individualized Education Program (IEP). This plan is developed in collaboration with the family by a team that includes the child's regular education teacher, special education teacher, and other appropriate related services personnel such as the occupation, physical or speech/language therapist, mobility specialist, etc. Part B requires that the services a child receives are provided in the least restrictive environment (LRE). The goal of LRE is to support the inclusion of children with disabilities with their typically developing peers.

U.S. Department of Health and Human Services

One of the most well-known programs for young children is Head Start. In 1964, this comprehensive child development and family support program was established as part of the Economic Opportunity Act. The overall purpose of the program has been to support low-income families as a way to help break the cycle of poverty. The Head Start program is designed to serve 3- and 4-year-old children and includes a requirement to include children with disabilities (at least 10% of enrollment) in the program. During the reauthorization of 1994, Early Head Start programs were initiated. Early Head Start programs serve children up to age 3 and also include a 10 percent enrollment requirement for children with disabilities. Like ESEA and IDEA, the Head Start Act is reauthorized every five years. However, unlike programs through the Department of Education, Head Start funds are grant based and flow directly from the federal government to local grantees. Once funded, agencies are required to follow specific standards for program operation within the community(ies) they serve and are monitored through a regional network of offices.

In 1996, the Child Care and Development Block Grant (CCDBG), currently referred to as the Child Care and Development Fund (CCDF), was established. This block grant goes to states to support low-income working families in accessing child care through a subsidy program, as a way to support them in becoming and remaining independent. Within the CCDF statute, states are required to give priority to very-low-income families and those who have children with special needs. These funds also include provisions that focus on improving the quality of child care programs within states, as well as helping to ensure the availability of child care options.

Another long-standing program for young children is the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program. EPSDT is a component of the Medicaid program and is designed to improve the health of low-income children. Services are mandated for children under the age of 18 who receive Medicaid and include periodic health checks, screening for physical and mental conditions (including dental, hearing, and vision), completing appropriate diagnostics tests if concerns are identified through screening, and providing appropriate treatment of such conditions. Another closely related program is the Children's Health Insurance Program (CHIP), which is administered by states and designed to provide health coverage for low-income families who are above the poverty cutoff for eligibility in Medicaid.

U.S. Department of Justice

The Americans with Disabilities Act (ADA) is a federal law designed to protect the civil rights of people with disabilities. This act, passed in 1990, prohibits discrimination against people with disabilities. The ADA has undergone numerous amendments since its passage and often has required review and interpretation through the court system (ADA, 2008). General provisions of the act require guarantees of equal opportunities for individuals with disabilities, including young children with special needs that are served in child care, Head Start, public schools, and other early childhood programs. Under Title III of ADA, early childhood programs, including private centers, generally cannot exclude children from programs due to their disability and must make reasonable modifications to policies and practices to support these children and make their facilities accessible.

KEY ISSUES IN THE FIELD

There are numerous issues facing the field of early intervention, including a move toward greater accountability for child outcomes, an emphasis on the use of evidence-based practice, and issues related to ensuring high-quality services and professionals who are qualified and trained to provide high-quality services. However, these issues must be considered within the context of the most pressing issue in our field—the continued desire to ensure that young children with special needs have the opportunity to participate in typical early childhood programs and services, or inclusion. Inclusion is not a new concept. It has been at the heart of early childhood special education legislation (e.g., natural environments, least restrictive environments) as well as other federal mandates in early childhood (e.g., Head Start and 10% disability enrollment requirements). Building on a joint position statement developed in 1993, in 2009, the Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) and the National Association for the Education of Young Children (NAEYC) proposed the following definition (DEC/NAEYC, 2009):

> Early childhood inclusion embodies the values, policies, and practices that support the right of every infant and young child and his or her family, regardless of ability, to participate in a broad range of activities and contexts as full members of families, communities, and society. The desired results of inclusive experiences for children with and without disabilities and their families include a sense of belonging and membership, positive social relationships and friendships, and development and learning to reach their full potential. The defining features of inclusion that can be used to identify high quality early childhood programs and services are access, participation, and supports.

The development of this shared definition represents a defining moment in the fields of early intervention and early childhood as it provides clear guidelines that can positively influence research, policy, and practice. This definition includes three key components of inclusion that provide a framework for cross-sector work on increasing opportunities for inclusion for children of all abilities: (1) access; (2) participation, and (3) supports. From a policy perspective, several questions should be asked to determine the extent children have access to, can participate in, and have the supports needed to be successful in inclusive settings.

The first important question is: *Where do young children with special needs receive early intervention services, and to what extent are services provided in inclusive settings?* States report that 82 percent of those receiving early intervention services receive them in the home (Good, Lazara, & Danaher, 2008), 3.3 percent receive services in programs that serve typically developing children, while the remainder receive services in provider locations, such as clinics, hospitals, or residential facilities. Children and families are reported to receive on average between one and three hours a week of early intervention services (Hallam, Rous, Grove, & LoBianco, 2009; Kochanek & Buka, 1998; Shonkoff, Hauser-Cram, Krauss, Upshur, & Sameroff, 1992) and it is estimated that over half of children are in some type of nonparental care (e.g., child care, family, friend, or neighbor care) by nine months of age (Flanagan & West, 2004). At the preschool level, 25 percent of preschoolers with special needs receive their special education services in noninclusive settings (i.e., separate school, building, or residential facility), and only 48 percent spend at least 80 percent of their time in school with typically developing peers (Lazara, Dannaher, Kraus, & Goode, 2009).

The second question is: *How does the current structure of early childhood services in the United States support opportunities for inclusion for young children with special needs?* While there is a federal mandate to serve children with special needs (birth to 5 years), there is no federal mandate to offer general early childhood services and supports to typically developing children. Many states, however, do provide publicly supported preschool programs on a limited basis. Unlike school-age populations, publicly funded programs for infant-toddlers are generally designed on a home-visiting model, while publicly supported preschool programs (e.g., Head Start and public pre-kindergarten) are designed for targeted populations (i.e., economic risk, disability) and most often offered on a half-day (3 to 4 hours), part-week (e.g., 4-day versus 5-day) basis.

Therefore, children are likely to receive early childhood services in a combination of publicly and privately funded settings throughout a day. For example, an infant may be receiving early intervention services in the home for one hour a week, but is also enrolled in a child care program five days a week so that family members can work. A 3-year-old may spend four mornings a week in the public preschool program and the fifth day and each afternoon in a child care program. A 4-year-old of a single working parent may spend the early morning with family or a friend who drops them off at a Head Start center for the morning. The child is transported to the public preschool program in the afternoon, then to a child care program until the parent gets off work.

At the preschool level, funding of preschool programs designed to serve all children is left to state discretion. While there is considerable push on states to offer universal preschool services for 4-year olds, the National Institute for Early Education Research of the Department of Education (NIEER) reports that in 2008, 24 percent of 4-year olds and 3 percent of 3-year olds were served in state-funded preschool programs in the United States. Only three states make preschool services available for all 4-year olds, and no states are making universal services available for children under age 4 (Barnett, Epstein, Friedman, Boyd, & Hustedt, 2008). This provides a dilemma for states regarding how to provide inclusive settings. States and localities must collaborate across a variety of early childhood partners (e.g., Head Start, child care) to ensure that children are offered opportunities to participate with their nondisabled peers. Cross-agency collaboration requires communication, shared commitment to inclusion, supportive policies, and procedures in all agencies and professional development across agencies so that personnel can work together and share expertise related to meeting the educational needs of all children (Smith & Rose, 1993).

The third and most complex question is: *How can we ensure that services provided in inclusive settings are of high quality and meet the needs of children with special needs?* While the concept of inclusion is not new, the actual practice of including children with special needs in a variety of early childhood programs remains difficult. There have been numerous efforts over the last two decades to provide targeted support to programs in supporting children with a variety of needs in typical early childhood settings. Some have been focused on research (e.g., Early Childhood Research Institute on Inclusion) and some on professional development (e.g., Special Quest, Head Start Center for Inclusion, and National Professional Development Center on Inclusion).

Recently, there has been a growing recognition that to increase the inclusion of children in early childhood settings, we must focus attention on embedding these efforts within the national initiatives to improve overall quality in early care and education settings. In other words, included children with special needs in poor-quality settings will not produce the kinds of overall outcomes that are possible. The broader early childhood field has a long history of efforts to address the quality of child-care settings (Rous & Townley, 2010). However, the last decade has seen a dramatic increase of state-level efforts to develop Quality Rating and Improvement Systems (QRIS) and other initiatives that include specific standards of quality related to program structure and the environments in which children spend time (e.g., National Association for the Education of Young Children [NAEYC], 2005). Others focus on adult-child/child-child interactions within those environments (e.g., Pianta & Hamre, 2009). These efforts within states have primarily focused on child care programs. Commonly accepted elements of quality initiatives in early care and education settings include (1) program standards, (2) accountability measures, (3) program and practitioner outreach and support, (4) financial incentives, and (5) parent education (Child Care Bureau, 2007). Although child care programs serve young children with disabilities, few states have explicitly included standard or elements related to children with special needs (Child Care Bureau, 2007; Hallam, Rous, & Cox, 2008).

Another aspect of quality includes the increasing emphasis on the use of evidence-based (also referred to as scientifically or research-based) practice. This has required renewed efforts to define high-quality research, identify specific practices that have a research evidence base, and identify processes by which providers and teachers can choose appropriate instructional and curricular approaches for implementation. Of particular importance for children with special needs is the ability to implement these practices in inclusive settings. The Institute for Educational Sciences (IES) in the U.S. Department of Education supports this goal by providing specific research priorities that focus on identifying new interventions (Goal 2), determining the impact of these interventions (Goal 3), and exploring the large-scale implementation of interventions in a variety of settings (Goal 4; IES, 2009).

Professional development plays a critical role in the implementation of evidence-based practice to support children in inclusive settings. As proposed by Buysse, Winton, and Rous (2009), professional development means using evidence-based strategies to facilitate "teaching and learning experiences that are transactional and designed to support the acquisition of professional knowledge, skills, and dispositions as well as the application of this knowledge in practice" (p. 239). These professional development efforts include those focused on training at the pre-service (e.g., 2- and 4-year colleges and universities) and in-service level (national and regional training networks), as well as technical assistance services. Training and technical assistance providers also have the responsibility to use evidence-based practice in the design and delivery of training and technical assistance services as well as support practitioners and programs in identifying evidence-based practices for implementation across settings. They must know which practices are effective and how to teach them to providers so that they can implement them appropriately in their work setting. The challenge for states is to fund and support such effective technical assistance networks. As Blasé (2009) points out, the adoption of evidence-based practices requires on-site coaching and support.

Finally, the development of specific accountability measures within early childhood systems can impact the level to which children with special needs are included in programs with typically development children and the degree to which their individual needs are supported in these environments. Accountability for results is not a new idea in the area of early childhood special education. Monitoring systems at the state and local level have been in place since the passage of Public Law 99-457 in 1986. However, passage of the Government Performance Results Act (GPRA) in 1993 has led to increased accountability demands across all sectors of the federal government through requirements to document stated results from programs (Harbin, Rous, & McLean, 2005). Through GPRA, Congress requires federal agencies to identify specific goals for each program they administer, establish indicators for those programs, and beginning in 2002, participate in Program Assessment Rating Tool (PART). PART is an assessment process developed and implemented through the Office of Management and Budget (OMB) to determine the degree to which program results can be demonstrated. This process was designed to align the GPRA process with budget decisions.

The increased emphasis on accountability includes results at the child/student level. This is evidenced by new requirements for increased student achievement in ESEA and measuring impact of programs on specific child outcomes in Head Start, early intervention, and early childhood special education. For example, in early intervention and early childhood special education, OSEP requires state-level aggregate data on the degree to which children participating in IDEA Part C and Part B, §619 have met three specific child outcomes. These outcomes are designed to measure children's progress against typically developing peers in (1) positive social-emotional skills, (2) acquisition and use of knowledge and skills, and (3) use of appropriate behaviors to meet their needs (Hebbeler & Barton, 2007).

EARLY INTERVENTION POLICY WITHIN THE BROADER EARLY CHILDHOOD SYSTEM

The last two decades have seen significant growth in services provided to young children in the United States, both with and without disabilities, through public school preschool, Head Start, and child care programs. Despite tough economic times, the National Conference of State Legislators reported increased funding of early childhood efforts during 2009 (Poppe & Clothier, 2009).This expansion of public and private early childhood programs may be attributed to two major factors. First, the number of dual- and single-parent families in the workforce has increased dramatically, which in turn has increased the need for out-of-home care for working families. Second, research findings have led to a better understanding of the relationship between high-quality early childhood experiences and later school and life success (e.g., Gormley, Phillips, & Gayer, 2008; Shonkoff & Phillips, 2000; Wong, Cook, Barnett, & Jung, 2008).

As discussed earlier in this chapter, the number and type of programs for young children is diverse, with program administration across a number of federal and state agencies. With the increased support for early childhood programs, there has also been a renewed focus on ensuring various federal and state programs for young children engage in more collaborative efforts. Interestingly, the push for collaboration across programs has shifted in terms of the primary initiators of the collaborative efforts. In the late 1980s and early 1990s, there were several initiatives in early childhood special education to bring other "early childhood partners" to the table to support the inclusion of young children with special needs in their programs and services. This was especially crucial in the area of transition of young children into school programs (e.g., Rosenkoetter, Hains, & Fowler, 1994; Rous, Hemmeter, & Schuster, 1994). More recently, there have been increased efforts to support "cross-sector" collaboration by early childhood educators. These efforts have been spurred by recognition of the increasing diversity of young children (e.g., cultural, ethnic, language, and ability) in public preschool, Head Start, and child care programs and the need to provide specific supports and expertise to these programs for meeting these diverse needs (Smith, Miller, & Bredekamp, 1998).

These efforts have received significant support at the federal level through the Early Learning Challenge Fund initiative (U.S. Department of Education, 2009), which focuses on supporting states in developing more integrated and collaborative systems for early learning across states. This focus on cross-sector collaboration was combined with the growth of early care, intervention, and education programs across the country. The initiative is designed to provide new opportunities at the state and local levels to engage in meaningful dialogue around critical issues for children with special needs within the broader early childhood systems. This is seen as especially important, given the fragmented nature of the early care, intervention, and education system in the United States. There is a need to ensure the inclusion of young children with disabilities in all aspects of these systems, including professional development, quality initiatives such as state Quality Rating and Improvement systems and program standards, and accountability efforts such as child outcome reporting, state data systems, and early learning guidelines/standards (Buysse & Hollingsworth, 2009). The specific components included in the proposed 2009 Early Learning Challenge Fund can be used as a framework for these important conversations (as outlined in Table 2.1).

Table 2.1 Key Considerations for Children with Special Needs within the Broader Early Childhood System Components

Early Learning Challenge Fund Component[1]	Key Issues or Considerations for Children with Special Needs
Aligned early learning and development standards that lead to school readiness and are integrated with program quality to guide curriculum and program development	• Representativeness of a range of ability levels in standards including children who have significant and/or multiple disabilities • Consideration for developmental patterns of young children with disabilities and the range of environments in which young children with disabilities are served • Linkages between evidence-based practice and intervention strategies that have been proven effective for young children with disabilities
An evidence-based quality rating system structured with progressive levels of quality—which may be used across early learning settings and programs	• Needs of young children with disabilities are explicitly addressed in Quality Rating and Improvement Systems (QRIS) standards • Range of physical, social, and developmental needs of children with special needs are addressed • Program standards developed by professional associations for children with special needs included and referenced (e.g., Division for Early Childhood; Occupational Therapy Association) are referenced
An effective system of program review, monitoring, and improvement applied across all programs and settings	• Indicators required for state monitoring through the Office of Special Education Programs (OSEP) are integrated within the system
An evidence-based system of professional development to prepare an effective and well-qualified workforce of early educators, including appropriate levels of training, education, and credentials	• Guidelines/standards and evidence-based practices are embedded across professional development activities implemented at both the preservice and in-service levels across systems • Needs of providers serving children with special needs are considered in core content across settings

(*Continued*)

Table 2.1 (Continued)

Early Learning Challenge Fund Component[1]	Key Issues or Considerations for Children with Special Needs
Strategies for families and parents to better assess quality in their child's early learning program and better support their child's learning	• QRIS systems include specific information on programs that provide inclusive services for children across a range of disabilities
Systems to facilitate screening and referrals for health, mental health, disability, and family support	• Systems are in place to reduce duplication of effort in screening and diagnosis of children with disabilities based on eligibility criteria
A coordinated zero-to-five data infrastructure to collect essential information on where young children spend their time and the effectiveness of programs that serve them	• The needs of children with a range of disabilities is considered in the identification of assessments and measures • The multiple environments in which children may be concurrently served is considered in development of data systems
An age- and developmentally appropriate curriculum and assessment system that is used to guide practice, improve programs, and inform kindergarten readiness	• Recommended practices related to curriculum and assessment developed by professional associations for children with special needs are included and referenced (e.g., Division for Early Childhood; Occupational Therapy Association)

[1] Components are presented at: http://www2.ed.gov/about/inits/ed/earlylearning/elcf-factsheet.html.

LEADERSHIP IMPLICATIONS AND RECOMMENDATIONS FOR POLICY AND PRACTICE

State and local leaders play a critical role in designing and implementing early intervention service structures that support the inclusion of young children with special needs. Given the current context of cross-sector services and supports, those in leadership positions have an obligation to seek, understand, and implement evidence-based leadership skills. However, many times, leaders in the field of early childhood rise to leadership positions through their content knowledge in early childhood and/or basic managerial skills without the benefit of professional development in the area of leadership.

Hundreds of books, articles, and documents provide definitions and descriptions of quality leadership (e.g., Bolman & Deal, 2008; Covey, 1991). Definitions of good leaders have been provided across disciplines (e.g., business, education) and typically take the form of descriptions of the qualities, skills, or competencies that leaders must have. Leaders are defined as either effective or ineffective. Kagan and Bowman (1997) defined the role of leadership in early childhood programs by presenting five dimensions of leadership: (1) pedagogical, (2) administrative, (3) advocacy, (4) community, and (5) conceptual. These dimensions provide a general framework, but do not differentiate between administration/management, which involves the day-to-day operation of a program, and leadership, which involves an ability to influence stakeholders towards accomplishing organizational goals.

The U.S. Department of Education identified five dimensions of leadership key to sustain reform efforts that can provide insights for today's early childhood leaders (U.S. Department of Education, 1996) to make significant progress within the context of today's cross-sector early childhood environment, especially toward a goal of ensuring more inclusive opportunities for young children, a report on leadership, and school reform. These dimensions include (1) partnership and voice; (2) vision and values; (3) knowledge and daring; (4) savvy and persistence; and (5) recognition that personal qualities such as passion, humor, and empathy play a role in effective leadership. The first, *partnership and voice*, involves the ability of early childhood leaders to gather information from a wide variety of stakeholders and include those stakeholders in all aspects of the program. The second dimension, *vision and values*, requires early childhood leaders to be clear about the vision for early childhood services and to work with other partners to keep that vision alive by working in partnership to sustain the values that support it. Third, k*nowledge and daring* requires leaders to be willing and able to take risks, such as implementing a new curriculum or technology. However, they need to be able to balance this risk-taking so that risks are calculated based on the development and sustenance of evidence-based practice and emerging knowledge in the field. Fourth, being *savvy and persistent* involves leaders having an understanding of how the system works and the ability to promote cooperation across the system. To this list, we would add the important characteristics associated with effective collaborative leadership. As noted earlier, the early childhood world is comprised of many early childhood and early intervention systems and programs that need to work together to ensure all children's and families' needs are met and effective inclusive services are available to children with disabilities. This requires that programs work together to build a unified system (Hayden, Frederick, & Smith, 2003).

The current approach to building leaders in the field of early intervention, as well as early childhood, needs focused attention. As the interest in supporting early childhood programs continues to grow, the field must shift from an on-the-job training model to a more coordinated and planned approach to identifying what early childhood leaders need to know to be effective and providing clear pathways for building leaders and ensuring they have acquired those competencies, knowledge, and skills. The current approach in early childhood stands in contrast other comparable fields, like education, in which there are clear delineations of the skills and competencies required for school leaders. Through the Interstate School Leaders Licensure Consortium (ISLLC), six standards (Figure 2.1) were designed to reflect current research in educational leadership and provide a framework for research, policy, and practice, as well as professional

Figure 2.1 ISLLC Educational Leadership Policy Standards

1. An education leader promotes the success of every student by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by all stakeholders.
2. An education leader promotes the success of every student by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.
3. An education leader promotes the success of every student by ensuring management of the organization, operation, and resources for a safe, efficient, and effective learning environment.
4. An education leader promotes the success of every student by collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources.
5. An education leader promotes the success of every student by acting with integrity, fairness, and in an ethical manner.
6. An education leader promotes the success of every student by understanding, responding to, and influencing the political, social, economic, legal, and cultural context.

development and credential systems for educational leaders (Council of Chief State School Officers, 2008).

Following a similar model in early childhood special education would require rethinking our current certification and credentialing systems to embed leadership content particularly at the master's and doctoral level. Identifying key knowledge, skills, and competencies constitutes the first steps. One such effort in this area was Project Lead, a leadership grant funded through the United States Department of Education, Office of Special Education Programs (OSEP). Through this project, a set of early intervention–early childhood leadership competencies were developed that were aligned with the ISLLC standards (Harbin, Neal, & Malloy, 2003). These standards include knowledge, dispositions, and practices across seven leadership dimensions: pedagogical, organizational, human resources, collaborative, political, systems, and symbolic.

Designing more explicit leadership standards and programs can help us support leaders better able to address ongoing issues in the field of early intervention at the system level. They will be able to respond to the changing political context. They will be responsive to current research and contribute to a research agenda that can focus on broader issues that affect policy and practice. For example, currently in early intervention, we have divergent structures at the state levels for services for infants and toddlers (e.g., vendor versus agency-based systems; primary versus team-based provider models; dedicated versus primary service coordination; Good, Lazara, & Danaher, 2008). However, little attention has been paid to the effectiveness, advantages, and disadvantages of these structures. These are key policy issues that need to be addressed if we are to build an effective system of services for young children with disabilities and their families.

REFERENCES

Americans with Disabilities Act (ADA). (2008). Sec. 3406. Retrieved from http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:s3406enr.txt.pdf

Barnett, W. S., Epstein, D. J, Friedman, A. H., Boyd, J. S., & Hustedt, J. T. (2008). *The state of preschool: 2008 state preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research.

Blasé, K. (2009). Technical assistance to promote service and system change. *Roadmap to Effective Intervention Practices* #4. Tampa, FL: University of South Florida, Technical Assistance Center on Social Emotional Intervention for Young Children.

Bolman, L. G., & Deal, T. E. (2008). *Reframing organizations: Artistry, choice and leadership* (4th ed.). San Francisco: Jossey-Bass.

Buysse, V., & Hollingsworth, H. L. (2009). Program quality and early childhood inclusion: Recommendations for professional development. *Topics in Early Childhood Special Education 29*(2), 119–128.

Buysse, V., Winton, P., & Rous, B. (2009). Reaching consensus on a definition of professional development for the early childhood field. *Topics in Early Childhood Special Education 28*(4), 235–243.

Child Care Bureau (2007). *Child care bulletin 32: Systemic approaches to improving quality of care QRS gain ground across the nation*. Washington, DC: Author.

Council of Chief State School Officers (2008). *Educational leadership policy standards: ISLLC 2008 as adopted by the national policy board for educational administration*. Washington, DC: Author.

Covey, S. R. (1991). *Principle-centered leadership*. New York: Simon & Schuster.

DEC/NAEYC. (2009). Early childhood inclusion: A joint position statement of the Division for Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC). Chapel Hill: University of North Carolina, FPG Child Development Institute.

Flanagan, K., & West, J. (2004). Children born in 2001: First results from the base year of the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B). NCES 2005-036. Washington, DC: National Center for Education Statistics. Retrieved from http://www.childcareresearch.org/childcare/resources/4623/pdf

Goode, S., Lazara, A., & Danaher, J. (Eds.). (2008). Part C updates (10th ed.). Chapel Hill: University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

Gormley, W. T., Phillips, D., & Gayer, T. (2008). Preschool programs can boost school readiness. *Science, 27*(320), 1723–1724.

Hallam, R., Rous, B., & Cox, M. (2008, February). Quality child care for young children with disabilities: An examination of statewide child care quality rating systems. Poster session presented at the Conference on Research Innovations in Early Intervention, San Diego, CA.

Hallam, R., Rous, B., Grove, J., & LoBianco, T. (2009). Level and intensity of early intervention services for infants and toddlers with disabilities. *Journal of Early Intervention, 31*(2), 179–196.

Harbin, G., Neal, P., & Malloy, W. (2003). *Early childhood leadership competencies*. Project LEAD. Chapel Hill: University of North Carolina, FPG Child Development Institute.

Harbin, G., Rous, B., & McLean, M. (2005). Feature article: Issues in designing state accountability systems. *Journal of Early Intervention, 27*(3), 137–164.

Hayden, P., Frederick, L., & Smith, B. J. (2003). *A roadmap for facilitating collaborative teams*. Longmont, CO: Sopris West Publishing.

Hebbeler, K., & Barton, L. (2007). The need for data on child and family outcomes at the federal and state levels. *Young Exceptional Children Monograph Series, 9*, 1–15.

Institute for Educational Sciences (IES), U.S. Department of Education. (2009). Preparing an application. Retrieved from http://ies.ed.gov/funding/prep.asp

Kagan, S. L., & Bowman, B. (1997). *Leadership in early care and education*. Washington, DC: National Association for the Education of Young Children.

Kochanek, T. T., & Buka, S. L. (1998). Patterns of service utilization: Child, maternal, and service provider factors. *Journal of Early Intervention, 21*(3), 217–231.

Lazara, A., Danaher, J., Kraus, R., & Goode, S. (Eds.). (2009). *Section 619 Profile* (16th ed.). Chapel Hill: University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

National Association for the Education of Young Children (NAEYC). (2005). Position statements of NAEYC. Retrieved from http://www.naeyc.org/positionstatements

Pianta, R., & Hamre, B. K. (2009). Classroom processes and positive youth development: Conceptualizing, measuring, and improving the capacity of interactions between teachers and students. *New Directions for Youth Development, 121*, 33–46.

Poppe, J., & Clothier, S. (2009). *Early care and education state budget actions FY 2009*. Denver, CO: National Conference of State Legislatures.

Rosenkoetter, S. E., Hains, A. H., & Fowler, S. A. (1994). *Bridging early services for children with special needs and their families: A practical guide for transitioning planning*. Baltimore: Paul H. Brookes.

Rous, B., Hemmeter, M. L., & Schuster, J. (1994). Sequenced transition to education in the public schools: A systems approach to transition planning. *Topics in Early Childhood Special Education 14*(3).

Rous, B., & Townley, K. F. (2010). Early childhood policy and implications for quality initiatives. In. P. Wesley & V. Buysse (Eds.), *The quest for quality: Promising innovations for early childhood programs*. Baltimore: Paul H. Brookes.

Shonkoff, J. P., Hauser-Cram, P., Krauss, M. W., Upshur, C. C., & Sameroff, A. J. (1992). *Development of infants with disabilities and their families: Implications for theory and service delivery.* Monographs of the Society for Research in Child Development.

Shonkoff, J., & Phillips, D. A. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press, National Research Council and Institute of Medicine.

Smith, B., Miller, P., & Bredekamp, S. (1998). Sharing responsibility: DEC-, NAEYC-, and Vygotsky-based practices for quality inclusion. *Young Exceptional Children, 2*(1), 11–20.

Smith, B. J., & Rose, D. F. (1993). *The administrator's policy handbook for preschool mainstreaming*. Cambridge, MA: Brookline Books, Inc.

U.S. Department of Education. (1996). *The role of leadership in sustaining school reform: Voices from the field*. Washington, DC.

U.S. Department of Education. (2009). *The Early Learning Challenge Fund*. Retrieved from http://www2.ed.gov/about/inits/ed/earlylearning/elcf-factsheet.html

Wong, V. C., Cook, T. D., Barnett, W. S., & Jung, K. (2008). An effectiveness-based evaluation of five state pre-kindergarten programs. *Journal of Policy Analysis and Management, 27*(1), 122–154.

Chapter 3

Early Intervention: International Policies and Programs

Joan C. Eichner, Christina Groark, and Oleg Palmov

In our globalized society, it is important to understand early intervention as it is implemented and interpreted around the world. This chapter reviews the international political and practice environments for serving young children who are at risk of developing disabilities or have diagnosed disabilities. It describes international laws, conventions, and agreements that cover the rights of children with disabilities and the policies and practices that provide support and services to these populations in a diverse sample of countries. These countries include Canada, Russia, China, New Zealand, Brazil, and South Africa.

CHILD RIGHTS–BASED INTERNATIONAL POLICIES

A common definition is useful to analyze global policies on disability. According to the Convention on the Right of Persons with Disabilities, Article 1: "Persons with disabilities include those who have long-term physical, mental, intellectual, or sensory impairment which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others" (prepared by UN Web Services Section, Department of Public Information, United Nations, 2006). However, the definition used in each country varies. Often there may be no universally agreed-upon definition, or the definitions of disability may vary among a country's policies. For purposes of this chapter, we follow the standard of the Convention of the Rights of the Child, which outlines the human rights entitlements of all children, regardless of their abilities.

THE CONVENTION ON THE RIGHTS OF THE CHILD

The 1989 Convention on the Rights of the Child (CRC) sets a human-rights standard by which to judge the treatment of, and services for, children in all countries. To date, 193 countries have ratified the CRC. Every member of the United Nations (UN) has ratified it except the United States and Somalia (United Nations Children's Fund [UNICEF], 2008). The CRC identifies minimum political, civil, social, and economic rights to which all children are entitled. These rights are considered by the CRC to be essential, universally accepted, and nonnegotiable by any government. Governments that support the CRC share responsibility to ensure the rights of all children are guarded and respected. The CRC is based on four principles: Nondiscrimination; devotion to the best interests of the child; the right to life, survival, and development; and respect for the views of the child. The CRC is the first globally recognized legal document that focuses on the unique needs and vulnerabilities of individuals under age 18.

The CRC recognizes that a supportive and nurturing environment is essential for a child to develop to his or her fullest potential, and this environment is created by social, cultural, political, economic, and civil rights (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2009). Articles 27–29 require countries that have pledged support to the CRC to recognize a child's right to basic education at an appropriate level for the child, and a standard of living that is sufficient to allow the child to develop physically, mentally, spiritually, morally, and socially (UNICEF, 2008).

Article 23 of the CRC pertains to children with special needs. Part I assures that governments accepting the CRC recognize and protect the basic rights of children with disabilities and ensure their full and active participation in society. Part II states that any child with special needs should be informed of, and receive, appropriate care and services, subject to available resources. Part III removes financial barriers to care by stating that assistance should be provided to families at no cost, whenever possible, while "taking into account the financial resources of the parents or others caring for the child." This covers education, health care, rehabilitation, employment training and assistance, recreation, and cultural, social, and spiritual development opportunities. Part IV of Article 23 states that all countries supporting the CRC should openly share knowledge and best practices, with the intention of enhancing the capacity of under-resourced countries (United Nations

Office of the High Commissioner for Human Rights [UNOHCHR], 1990; UNICEF, 2008).

The CRC may be either supported or ratified. Countries that support it express a commitment to recognize and protect children's human rights. Countries that ratify the CRC are legally bound by the United Nations and the other supporting countries to uphold their commitment; however, the specific policies and practices used in each nation are subject to that country's need and interpretation. All actions that supporting or ratifying countries undertake must be in the best interests of children.

The CRC is significant because it represents a global promise to recognize and protect the rights of all children. However, it also acknowledges the challenges some countries may face as they attempt to meet the needs of children with disabilities. These challenges may stem from limited economic resources, a lack of trained professionals, public stigma, superstitions or misinformation about disabilities, political unwillingness, or other reasons. CRC is useful as a rallying tool that establishes global goals for advocates and supporters of children with all types of special needs. It focuses attention on the issues affecting these children and the commitment all countries should make to advance their quality of life. However, the CRC does not require or guarantee a supporting country will implement steps to achieve these goals. Each country that subscribes to the convention must consider how it can meet the CRC goals given its unique population and economic, political, and social contexts.

OTHER INTERNATIONAL POLICIES INFLUENCING CHILD RIGHTS

International legislation specific to early intervention is rare; however, the principle of universal human rights can be used to judge the policies and programs offered in individual countries. The following policies that frame education, health care, and access to equal public services as human rights show an evolution in international laws and regulations that affect children with disabilities.

The 1948 Universal Declaration of Human Rights, Article 25(2), recognizes childhood as a time that merits special care, assistance, and protection (United Nations, 1948). Acceptance of the Universal Declaration shows political support for equality for all people of all countries, ethnicities, genders, religions, and socioeconomic backgrounds who should be respected for their essential worth as human beings. A state that accepts the Universal Declaration chooses to become legally obligated by it, and the United Nations has established mechanisms that hold governments accountable for human-rights violations.

Many international policies regarding children focus on their right to education. In the forward to *A Human Rights Based Approach to Education for All*, Vernor Muñoz, UN Special Rapporteur on the Right to Education, describes education as the primary vehicle by which economically and socially marginalized adults and children can lift themselves out of poverty and obtain the means to participate fully in their communities (UNICEF, 2007). Similar statements appear in such treaties as the United Nations Educational, Scientific, and Cultural Organization's (UNESCO) Convention against Discrimination in Education (1960), the International Covenant on Economic, Social, and Cultural Rights (1966), and the United Nations Convention on the Rights of the Child (1989) (UNICEF, 2007). These policies show the international community that education is a human entitlement to which children with special needs should not be excluded; indeed, education may be the only available vehicle through which vulnerable or marginalized children can achieve a better quality of life.

One policy specific to children with disabilities is the "Declaration on the Rights of Disabled Persons" (the Declaration) adopted by the United Nations General Assembly (UNGA) in 1975. The Declaration describes the rights of persons with disabilities to receive services tailored to their particular needs, the right to appropriate treatments, and the right to environments and living conditions that are appropriate but are as equivalent as possible to those of their contemporaries. The Declaration also promotes integration of mixed-ability individuals, thereby representing a philosophical shift towards inclusion (United Nations, 1975; World Health Organization, 2005; World Health Organization Regional Office for Europe, 2005). The UNGA went on to establish 1981 as the International Year of Disabled Persons, a move that emphasized global public awareness, disability prevention, rehabilitation, and equal opportunities for all (United Nations Enable Convention on the Rights of Persons with Disabilities, 1976). The year led to the formation of the World Program of Action Concerning Disabled Persons (WPA), adopted in 1982. The WPA is a global strategy to prevent disabilities, improve rehabilitation, and equalize opportunities. Like its predecessors, the WPA frames equality for individuals with disabilities as a human-rights issue that requires national, regional, and international action and support (United Nations Enable, 1982).

In 1990, a global commitment to education was renewed by representatives from over 300 countries and nongovernmental organizations in Jomtien, Thailand, at the World Conference on Education for All. The resulting Jomtien Declaration on Education for All extended the right of basic education to early childhood by affirming that learning begins at birth and that early childhood care and education (ECCE) is an integral part of basic education. It recognized that ECCE should be provided in multiple settings, including the home and community (Article 5). The Jomtien Declaration cites children's rights and needs for educational opportunities to develop academic skills and the values, attitudes, knowledge, and skills they will need to survive and thrive into adulthood. The Jomtien Declaration pays special attention to vulnerable groups such as children with disabilities (UNESCO, 2009). The Jomtien Declaration was supported in 1993, the 48th session of the UNGA, which adopted the Standard Rules on Equalization Opportunities for Persons with Disabilities. This agreement is not legally binding, but the Standard Rules are used as a policy-making tool and establish a political and moral commitment to achieve equal opportunities for individuals with special needs. Several of the Standard Rules impact young children with special needs and mirror aspects of the modern early intervention model. For example, Rule Two outlines the need for states to provide multidisciplinary professional teams for the early detection, assessment, and treatment. Rule Three focuses on appropriate rehabilitation techniques that ensure the full and equal participation of the individual in society. Rule Six recognizes that very young children and preschool-aged children need special consideration in education through inclusive, culturally sensitive, and appropriate pedagogy designed to meet individualized needs (United Nations Enable, 1993).

International support for child rights continued throughout the 1990s. In 1994, over 300 representatives from 92 governments and 25 international organizations met in Salamanca, Spain, under the auspices of UNESCO, to further the objective of Education for All. The Conference adopted the Salamanca Statement on Principles, Policy, and Practice in Special Needs Education and a Framework for Action. These documents highlight the principles of inclusion and recognize the need to work toward schools that include all children, embrace differences, support learning, and respond to individual children's needs. This step was an important contribution to the goal of achieving Education for All and sets a standard for inclusive and equal services. UNESCO's 2009 report, *Policy Guidelines on Inclusion in Education,* is an update on the movement toward inclusive education, a major step toward universal education for all children. This document defines inclusive education broadly, discusses its educational and social value and cost-effectiveness, and identifies challenges to designing and implementing inclusive education systems (UNESCO, 2009).

In April 2000, over 1,000 people from 164 countries attended the World Education Forum in Dakar, Senegal, and ultimately adopted the Dakar Framework for Action, Education for All. The Dakar Framework affirms a right to free and compulsory primary education for all children regardless of limited resources in their home country (paragraph 10). This represented a step forward because participating countries dedicated themselves to expansion and improvement of early childhood care and education with particular focus on the most "vulnerable and disadvantaged children" (paragraph 7; UNESCO, 2009). In late 2007, UNESCO published *Education for All Global Monitoring Report* on global progress toward meeting the universal education goals that were outlined in 2000. This report indicates a significant increase in primary school enrollment, from 647 million in 1999 to 688 million in 2005. Despite this progress, more than 50 countries will not meet the goal of universal primary education by 2015, and gender disparity in attendance of primary school remains a global program. Furthermore, the focus on improving primary education has overshadowed efforts in early childhood education despite research supporting the importance of investing in this crucial early period of a child's development (UNESCO, 2007).

The last major international policy covered here, the Convention on the Rights of Persons with Disabilities (the Convention) and its Optional Protocol (a related document that outlines procedures that may be used by countries adopting the Convention), was adopted in December 2006 by the United Nations. It is the first comprehensive human rights treaty of the twenty-first century and reflects the evolution from viewing persons with disabilities as charity recipients to accepting them as individuals who are knowledgeable of their rights, capable of claiming those rights, and active members of society.

Each of the policies described here outlines principles that countries should strive to follow and not contradict through national-level laws or actions. The policies have wide-ranging goals with vast differences in implementation and the level of achievement reached in supporting countries. Some of them include qualifications, such as being subject to available resources, which provide countries a necessary means to show support, but not meet, the ideal described by international standards. Even with their limitations, these policies are advantageous because they draw global attention and coordination action to meet the educational, health, social and other needs of all children. Countries that represent every geographic area of the world were chosen to illustrate how each country has interpreted and implemented global- and national-level policies. Although executed in disparate cultures, political contexts, and economic conditions, all of the efforts described in this chapter seek to improve the health, well-being, and education of all children with unique and diverse needs.

COUNTRIES

Canada

Background and Demographics

At 3.8 million square miles, Canada is the world's second-largest country physically. It is a highly developed industrial society with a population of 33.5 million. The majority of the population is of British, French, or other European descent, while smaller percentages of people identify with Amerindian, Asian, African, Arab, or mixed background (United States Central Intelligence Agency, 2009b). Overall, Canadians enjoy a high quality of life, long life expectancy, and a low infant mortality rate (United States Department of State, 2008).

Each of Canada's provinces (similar to states in the United States) and territories administer child care services that typically include preschools, center-based child care, and regulated family child care. These jurisdictions are also responsible for kindergarten starting at age 5. While kindergarten is seen as a public responsibility, preschool services for children under age 5 are viewed as a private matter. There is a wide range in quality, type, and availability of early childhood services among Canada's regions, and it is generally agreed that no region has a model system that meets the needs of most children and families (Friendly, 2007).

Key Early Intervention Issues and Prevalence

The prevalence of early childhood disability is difficult to measure because of delayed diagnosis and underreporting, but it is estimated that there are 26,210 Canadian children with special needs between birth and age 4 (Max Bell Foundation, 2006). The majority of these children are classified with a "delay," followed by hearing and vision impairments (McGill University & Yaldei Development Center, 2006). The Canadian Human Resources and Skills Development program's 2008 report *Advancing the Inclusion of People with Disabilities* states that the disability rate has increased from 12.4 percent in 2001 to 14.3 percent in 2006 (affecting approximately 4,417,870 individuals in 2006). Most of this increase is due to an aging population; however, the rate of childhood learning disabilities also increased significantly (Government of Canada, 2008).

National Early Intervention Policies and Programs

Canada now has federal legislation specific to disabilities, leaving many of Canada's provinces to enact their own policy and practice (Burns and Gordon, 2009). The national government, particularly the Department of Justice and the Canadian Human Rights Commission, promotes and supports the rights of individuals with disabilities to social inclusion and active participation in society through a number of initiatives and a comprehensive legal framework. In the 1980s, the government enacted the Canadian Charter of Rights and Freedoms (1982) and the Canadian Human Rights Act (1985), legal measures to protect equal rights and freedom from discrimination for all, including discrimination based on physical or mental disabilities (Government of Canada, 2008). Canada supported human rights globally by drafting the United Nations Convention of the Rights of Persons with Disabilities (Government of Canada, 2008). It has also made a commitment to increasing community living, but each of the 13 provinces and territories of Canada retain individual choice about institutionalization. Currently, British Columbia, Ontario, and Newfoundland have closed all their institutions. However, other provinces and territories are actively funding and building them (S. Rattai, personal communication, January 12, 2010).

Canada has a number of national policies that support prevention or amelioration of developmental delays and disability in young children through poverty reduction and family support. Physical and mental health and social assistance services are viewed as part of the larger system of economic and social supports provided to Canadian families. Children's preventative health services are supported by a national health system and insurance plan. Children receive well-baby services by the family's primary care physician and free home-visiting programs that are provided to all families. Mothers, and to some extent fathers, receive six months of paid leave from employment around the birth of a child (Kamerman, 2000).

In 2000, the national government agreed to provide $500 million Canadian per year to provinces and territories to improve and expand their early childhood development services for children under age 6 (Government of Canada Federal, 2004). The provincial and territorial governments, excluding Quebec province, which manages its own social affairs, are required to focus on four national action areas. Each government has different approaches and programs, but all use a common reporting measure to promote comparison. The action areas are:

- Promote healthy pregnancy, birth, and infancy
- Improve parenting and family supports
- Strengthen early childhood development, learning, and care
- Strengthen community supports (Government of Canada Federal, 2004)

Early childhood education services consist of child care during parental work hours and preschool programs that teach and socially prepare children for school. Both services are publicly subsidized and provide preference to children from low-income families and those with developmental delays or other special needs (Kamerman, 2000). Canada also has a Universal Child Care Plan (the Plan) and Universal Child Care Benefit, which allows parents the choice of the most appropriate type of child care and provides financial resources for parents regardless of their location, circumstances, or preferences (Government of Canada, 2009).

Canada has a nationally known, community-based early intervention effort, the Better Beginnings Better Futures project, which was designed to reduce emotional and behavioral problems in young children. The model relies on significant parent and community participation and uses strategies chosen by the beneficiaries (Peters, 2004). Evaluations of the program have shown decreases in social and emotional problems, improved health outcomes, increased preventive health care use, and increases in linking young children with early intervention and other services (Peters, 2000).

Russia

Background, Demographics, and Prevalence

The Russian Federation spans the largest area of any country. As of 2009, its population is an estimated 140,041,247, with 14.8 percent under the age of 15 (United States Central Intelligence Agency, 2009d). Poor economic conditions are widespread in Russia, especially in rural areas. According to UNICEF statistics, Russia has one of the highest infant mortality rates (under age 1) in Eastern Europe at 13 per 1,000 live births in 2007 (UNICEF, 2009).

There are special considerations in Russia with regard to vulnerable children. The first is the number of children living in state-run institutions and on the streets. Although labeled as orphans, many of these children have been abandoned by their parents or live on the streets due to domestic abuse. USAID reports that in 2007, there were almost 732,000 children in orphanages, and *2 million to 4 million* street or neglected ("unsupervised") children in Russia (Telyukov & Paterson, 2009).

The second special consideration is the high number of children with disabilities. UNICEF reports that 2.5 percent of Russian children are registered as having a disability with the health and social security authorities. There are over 62,000 children with disabilities in Russian state institutions as of 2002. However, many institutionalized children with disabilities are not registered with the social security administration. In actuality, UNICEF estimates that there were 174,432 children with disabilities in Russian institutions in 2002 (UNICEF, 2005).

Key Early Intervention Issues

The national framework for special education was conceived in Russia when the first schools for children with vision and hearing disorders were founded by Alexander I in 1806. After the 1917 revolution, church and state separated, and any kind of charity was forbidden. As a result, all special education schools and shelters for people with disabilities, which were usually church-based, lost financial and political support (Malofeev, 1996, 2000).

At that time, Russia was experiencing a unique and drastic change in its political and economic systems, ideology, values, and cultural norms, along with deep economic crisis and civil war. The new government took responsibility to educate children with developmental disorders.

The conditions on which the system of special education in the Soviet Russia was being formed were tough: there was no education-for-all legislation and no Individuals with Disabilities Education Act, no possibility to interact with parents and civil movements, and no philanthropy. The only financial resource was the government (Malofeev, 2000).

During the late 1920s and early 1930s, the need for a special education system for people with hearing, vision, and mental disabilities was recognized. This policy was the "General Compulsory Education Act" created by a resolution passed on July 25, 1930. However, this document applied only to public schools; therefore, special education schools were required to follow common school standards that were applied to all children regardless of their abilities. Those with mental and physical disabilities were considered "uneducable" and excluded from public schools. Special boarding schools without any education programs were founded for these children.

During the 1950s–1990s, a system was established that included eight types of special education schools and 15 types of special education programs. Nevertheless, in reality, not more than 3 percent of all schoolchildren had the ability to study there. In addition, special education schools and properly trained teachers were spread unevenly throughout the country.

When the Soviet Union collapsed, the country and its people once again faced fundamental changes in culture, economics, and society. In 1991, the Russian Federation proclaimed itself a democratic country and ratified the CRC, the Convention of the Rights of Persons with Disabilities, and the Rights of Mentally Retarded Persons. Upon ratification, attitudes toward people with disabilities were expected to change. However, the system of care and education for children with special needs continued to lack the integration of care and education, identification of children at risk, and early intervention programs. A great number of children with developmental disabilities were sent to orphanages and later were raised in boarding schools.

By the time the first early intervention program was established in Russia, the national demographics, health conditions and quality of life of children had reached dire states. According to data in the Governmental Report, "On Childhood Conditions in the Russian Federation" (1994), there was a decrease in the birthrate from 17.2 to 9.4 per 1,000 inhabitants in Russia from 1987 to 1993; an increase in the morbidity of neonates (173.7 babies per 1,000 live births in 1991 as compared to 82.4 in 1980); and an increased infant mortality rate.

Until recently, Russian infant facilities in general, and particularly those for at-risk babies, provided medical assistance but no educational, psychological, or social-work supports. Therefore, when left in the family, high-risk children had no access to medical assistance, and families of babies with special needs had virtually no choice between a segregated institution and keeping the child at home. High-risk babies were often taken away from the family and placed in special, medically oriented institutions. Infant facilities lacked screening and assessment techniques for infants' development. In addition, limited current research on infant development was available for parents or professionals. Until recently, the universities and pedagogical institutes have focused on training specialists to work with children over the age of 3. There were no preservice programs for teachers (including special education) or psychologists for children in early childhood, and no professional training in such specialties as motor development or organizing the settings for very young children (physical and occupational therapy; Muhamedrahimov, 2000).

National Policies and Programs

Since 1991, the government of the Russian Federation passed more than 300 regulatory acts protecting the rights of children with disabilities. Legislative possibilities for formulating the Early Intervention Act were created. However, the project itself is in the process of discussion, and modifications are being made according to early intervention and inclusive education practices since 1992. Russia is one of the few developed countries that have not yet adopted a nondiscrimination law that guarantees citizens with disabilities the right to special education (extract from a letter to the Government of Russia from the Education Academy, 2007). On April 24, 2006, in the course of Parliament proceedings, three obstacles were outlined: (1) no common system of early diagnosis or child and family psychological follow-up, (2) difficulties in creating proper conditions for the development of early intervention programs in state institutions, and (3) teachers were not trained properly and systematically to work in this field (Policy Brief of the Russian Academy of Education to the Government of the Russian Federation, 2007). In 2006, the right to develop policies in the field of early intervention and the creation of necessary conditions for them was legalized (122 Federal Law, 22.08.2004) and was provided to the local and regional governments. Depending on the social and economic status of the region, the social politics, and the number of specialists available, several key trends exist (Razenkova, 2009):

1. Integrating professional training initiatives into regional laws and distribution of evidence-based early intervention models. This trend has existed in St. Petersburg since 1991.
2. Initiatives to legally require early intervention programs stem from the regional government. During this time, various models of serving children and their parents are being created (Moscow, Samara region, Krasnoyarsk region). In these cases, programs are opened as branches of existing state institutions of the education, health, and social defense systems.
3. The development of separate non-state initiatives serving children with special needs and their parents is essentially financed by international grants. Usually, non-state initiatives are a cooperation of the nongovernmental organization (NGO) and the government institutions (Downside Up, the charity fund, Moscow; The National Foundation for the Prevention of Cruelty to Children [NFPCC], Moscow).

In November 2009, the Russian government, in cooperation with UNICEF Russia, launched a series of Children's Rights public service announcements (PSAs). These PSAs were broadcast via video, billboards, and magazines and were scheduled to run through March 1, 2010, in commemoration of the 20th anniversary of the Convention of the Rights of the Child (UNICEF, 2009). The announcements emphasize societal responsibility to all children, especially children at risk.

China

Background and Demographics

The People's Republic of China (PRC) is a vast and diverse country culturally, economically, and geographically, which is influenced by both Eastern and Western traditions. Many ethnic groups comprise its population of about 1.3 billion (United States Central Intelligence Agency, 2009c). The country is divided into 22 provinces, 5 autonomous areas, 4 municipalities, and a special administrative region. National reforms since the late 1970s have improved the standard of living throughout PRC, but disparities between regions are great. The coastal areas and eastern provinces are more populated and developed than the eastern and rural areas (Tsai-Hsing, McCabe, & Bao-Jen, 2003). Many children live in rural and underresourced communities (McLoughlin, Zhou, & Clark, 2005).

Historically in PRC, children with disabilities were viewed as society's responsibility and were accorded public sympathy, yet these children rarely received education outside of the home until the first schools for the blind and deaf were built by Western missionaries in the late 1800s (Chen, 1996). Prior to their creation, cultural norms and government policies often excluded children with disabilities from public education. In the last 60 years, dramatic and fundamental economic, social, and cultural changes occurred in PRC that affected the availability of services for children with a range of abilities. Social, political, and economic reforms in the late 1970s resulted in a growing acceptance of differences of ability, which led to changes in the education system that offered more support for children with special needs (McCabe, 2003).

Key Early Intervention Issues/Prevalence

The contemporary concept of disability is defined in the 1987 National Survey on the Status of Disability (NSSD). A number of factors make accurate estimation of prevalence of childhood disability difficult. PRC lacks well-designed, large-scale studies and an organized collection of national statistics on early childhood disabilities. There is no standard measure of child development in PRC, and the data from Western tools that have been adapted to the local culture are not always interpreted correctly, and few professionals are trained to administer these tests (McLoughlin et al., 2005). Many children with disabilities are delayed in receiving diagnosis and treatment due to the cultural perception that a medical professional should identify a disability rather than a caregiver or educator (McLoughlin et al., 2005).

The prevalence of disabilities in children birth to 4 years is 2.9 percent, and the most common disabilities are hearing impairment, intellectual disability, and physical impairment (Asia-Pacific Development Center on Disability, 2002). The NSSD estimated there were 2.46 million special needs children under age 6 (Epstein, 1992; Gargiulo, 1996; Odom, 2003; Tsai-Hsing et al., 2003). Preliminary findings of the second National Survey (2006–2007) show the proportion of disabled persons to the total population has increased since 1987 (China Disabled Persons' Federation, 2006). A 2002 survey estimated that 4.3 million people live with disabilities in PRC. Its immense population makes PRC the country with the most individuals with special needs. Stratford and Ng (2000) estimate that a child with a disability is born in PRC every 40 seconds, or about 2,000 births per day. This is striking, considering the United States Census Bureau estimates that one child—with or without a disability—is born every seven seconds the United States.

A reported 62.5 percent of the country's children with special needs receive education (Asia-Pacific Development Center on Disability, 2002). About 15 percent of those students attended special education schools, 8 percent attended specialized classes, and over 77 percent were educated in regular classes. However, many children with special needs did not attend any school due to a lack of sufficient school placements and teachers, classrooms, and trained teachers (McCabe, 2003).

National Early Intervention Policies and Programs

The value placed on education by Chinese culture and the push for compulsory education has led to policies that increase access to appropriate early education for children with special needs. The Compulsory Education Act of 1986 required all levels of government to provide nine years of education to all children in general or specialized schools or classes (Chen, 1996; Disability Rights Education and Defense Fund, Seventh National People's Congress, 1986).

The 1990 Law of the People's Republic of China on the Basic Protection of Disabled Persons was the first legislation to encourage special education programs in early childhood in addition to elementary schools (Disability Rights Education and Defense Fund, Seventh National People's Congress, 1990). Article 25 states that preschools and primary and junior high schools must accept students with disabilities who are "able to adapt themselves to life there." For children who do require specialized services or classrooms, Article 26 adds that preschools and schools must provide for those children's needs through schools dedicated to children with disabilities or specialized classrooms attached to general education schools or welfare institutions (Disability Rights Education and Defense Fund, 1990).

The Compulsory Education Law (1986) led to better integration of children with special needs into general education classrooms. Often, basic education is achieved in inclusive classrooms to due to practical necessity. The concept of inclusion is called *Suiban Jinudo*, and initially resulted from the inability of many schools in resource-constrained or rural areas to build special schools. Thus, these villages integrated all children into general education classrooms. However, few teachers are trained in special needs instruction techniques, and there is little oversight of the implementation of *Suiban Jiudu* in schools (Pang, 2006).

Many localities have begun the integration in preschool (at age 3 1/2), believing earlier integration will assist primary schools to better educate all children with minimal modifications necessary (McCabe, 2003; Pang, 2006). To integrate at the preschool level, a variety of approaches have been used, including: completely integrated classrooms; integrated classrooms that use instructional modifications or segregate children for some activities; and others that have developed counterpart arrangements between general education schools and those with special education programs (McCabe, 2003).

Children's rights were extended into early childhood through the Law on the Basic Protection for the Disabled and the Regulations on Education for Persons with Disabilities (1994), which identified national policy goals to develop and improve services for individuals with special needs and prioritized the development of early intervention programs (Chen, 1996). Together, these policies led to an increase in the number of children with special needs attending preschools (Pang, 2006; McCabe, 2003). Early intervention services are delivered in a variety of ways, including public or private schools, rehabilitation centers, and other organizations. Currently, many services are delivered in early intervention classes within special education schools, but more and more schools are integrating general education and special needs students (Tsai-Hsing et al., 2003; McLoughlin et al., 2005).

PRC uses some of the early intervention models developed in the United States and other Western countries, such as the Head Start model, to intervene on behalf of young children with disabilities and those who are at risk (Tsai-Hsing et al., 2003). However, economic and material resources can be scarce, especially in rural areas that often lack trained professionals and interdisciplinary agencies to conduct interventions (Tsai-Hsing et al., 2003). However, since the 1980s, PRC has made substantial progress toward developing early intervention and special education programs in rural and resource-constrained areas (Deng, 2004; Tsai-Hsing et al., 2003). Since then, more communities have begun to offer preschool programs for children with special needs, and many children with mild to moderate disabilities were included in general preschool classes. While the number of early childhood intervention and special education services is growing, there is much work to be done to increase the capacity and quality of services (Odom, 2003; Tsai-Hsing et al., 2003; Zhao, Guo, & Zhou, 1997).

Parents have played an important role in improving early intervention and special education services in PRC, but on the whole, parents and providers could improve their partnership. Parents have lobbied effectively for the creation of community schools for children with disabilities, yet special education teachers often struggle to establish relationships with some parents due to the parental perception that teachers are the authorities whose expertise should be respected. Some parents also feel shame at having a child with a disability and do not draw attention to it (McCabe, 2003). As in other countries, many Chinese households have two working parents or face economic hardship, making parental involvement challenging (Tsai-Hsing et al., 2003). Some programs also offer education and support for parents of children with special needs.

PRC's policy of limiting the majority of couples to having only one child (known as the "One Child Policy") has influenced some parents' relationships with their children. When a firstborn child has a disability, parents may apply for permission to have a second child. Although some families have abandoned a child born with disabilities, many others have been able to devote significant time, attention, and resources to their child with special needs. In many families, four grandparents and two parents are all available to offer one child a wealth of care and support (Tsai-Hsing et al., 2003).

New Zealand

Background and Demographics

New Zealand is a small but growing agricultural country with a population of 4,280,000 and a beautiful and diverse terrain. The majority of the population is descended from Europeans, Maori, Asian, and other Polynesian Pacific heritages. Education is compulsory from ages 6 to 16. The country enjoys a low infant mortality rate and high life expectancy. New Zealand is led by a prime minister and is an independent member of the Commonwealth of Nations, a group of countries that were formerly British colonies (New Zealand Statistics, 2006).

Incidence and Prevalence

The 2006 census reports the population birth to age 4 was approximately 286,000, with an estimated 5.2 percent prevalence of all disability in this group. About four-fifths of these children receive supportive services (New Zealand Statistics, 2006; Dalziel, 2001). The most common types of disability are chronic conditions and diseases that existed at birth, which affect 4 percent of children, and psychiatric or psychological disorders, affecting 2 percent. An estimated 5 percent of children required special educational considerations due to a chronic health problem, or a learning or developmental disorder. Data are also kept on other common disability types such as speech, sight, hearing, and intellectual disorders. Fifty-two percent of children had a single disability, while 48 percent had multiple disabilities. Eighty-six percent of these children require "low" (41%) to "medium" (45%) level supports (Bascand, 2006).

The New Zealand Disability Strategy

The New Zealand Disability Strategy (the Strategy) outlines steps to achieve an inclusive society that supports full participation of all people with any type of disability. The Strategy was developed by the Ministry of Health in consultation with people living with disabilities, their families, and a group of organizations working on disability-related issues. A committee of experts on disability, the Sector Reference Group, was established by the minister for disability to advise the content and development of the strategy. This group and the Ministry of Health first drafted and produced a discussion document, which was released and debated at 68 public meetings throughout New Zealand. Over 700 people responded, including individuals with disabilities, their families, extended familial networks, service providers, and advocates for people with disabilities. The Sector Reference Group analyzed the findings and presented their recommendations to the minister for disability issues. The revised draft later became the Strategy, launched on April 30, 2001.

In 15 objectives and 113 actions, the Strategy outlines objectives covering all aspects of life including education; human and legal rights; lifestyle choices; access to information; inclusion of minority groups; special attention to children, youth, and women; and the value of families and other sources of support (New Zealand Office of Disability Issues, 2009). The scope of the Strategy goes beyond providing high-quality support services, although that is an integral component. The developers of the Strategy recognize that most of the barriers encountered by individuals with disabilities are associated with public ignorance or stigmas, violations of human rights, and unequal access to educational and employment opportunities. The vision proposed in the Strategy is a society that places high value on the lives of people with disabilities and strives to enhance their participation (New Zealand Office of Disability Issues, 2009).

To this end, the Strategy requires government agencies to consider the implications of their decision making on people with disabilities. The document is organized around five key themes: upholding citizenship, building government capacity, improving support services, promoting participation in all areas of life, and addressing diversity of need (Dalziel, 2001). Fifteen objectives that embody a rights-based approach to disability are enumerated in the Strategy; several directly affect children with special needs (New Zealand Office of Disability Issues, 2008a).

The first step of implementation focused on government agencies incorporating the Strategy objectives in their services, funding, and policy development. The Office of Disability Issues also works with public agencies to reduce stigma surrounding people with disabilities. Local authorities have the responsibility to improve access to community resources. The Strategy operates across sectors and complements other national policies such as the New Zealand Health Strategy (New Zealand Office of Disability Issues, 2009). Progress in implementation is monitored through required reports submitted by all government agencies. The minister for disability issues oversees progress and reports yearly to Parliament on progress and challenges. The Office for Disability is responsible for promoting the Strategy and monitoring implementation. Nongovernmental organizations, a nonprofit organization with an international focus, are invited to participate as well (New Zealand Office of Disability Issues, 2008b).

Some objectives of the Strategy are pertinent to children. Objective 3 of the Strategy focuses on eight actions designed to ensure a quality education. The action steps promote the right of all persons to education, use of communication techniques to enhance learning, trained and knowledgeable instructors who are sensitive to the needs of disabled students, equitable access to resources, the right to appropriate and effective inclusive education, access to peer interaction among students with disabilities, school accountability, and development of higher education options for students with disabilities (Dalziel, 2001). In New Zealand, inclusive education means the right of every student to learn and fully participate in an integrated classroom with other children his or her age (Ballard, 1996).

Objective 13 outlines 10 action steps to enable children and youth to lead full and active lives. These actions embody the values of early intervention in New Zealand. Action 1 notes the importance of interdisciplinary coordination, collaboration, and leadership among agencies working with children, youth, and families, which are necessary to provide appropriate services that recognize the particular needs of children with disabilities. Other action steps include conducting public education and antidiscrimination campaigns, developing family-focused support services, including the input of disabled people in policy and program formulation, and taking other steps to promote independent living and greater control in the lives of persons with disabilities (Dalziel, 2001).

In addition to the Strategy, the New Zealand Public Health and Disability Act 2000 (NZPHD Act) guides the organization and funding of health and disability services in New Zealand. Its goals include improving health outcomes, reducing health disparities, disseminating information, fully including people with disabilities, and providing opportunity for all New Zealanders to provide input into public health and disability services (New Zealand Ministry of Health, 2000).

Brazil

Background and Demographics

At over three million square miles, Brazil is the world's fifth-largest country by geography, comprising almost half of the South American continent. It is a federal republic, which means the country is led by a national government and constitution, with 26 self-governing states, 1 federal district, and more than 5,500 local municipalities. The 2000 census shows a population over 170 million. About 23 million children, or 13.5 percent of the population, are preschool aged (Freitas, Shelton, & Tudge, 2008). The census estimates 14.5 percent of the population live with a disability (Mont, 2007).

Brazil's people are experiencing a major shift in age and demographics and a rapidly declining fertility rate. Poverty affects all urban areas, especially those in the northeast region, and nonwhite individuals and those living in rural areas experience higher rates of poverty (Lumpkin & Aranha, 2003). Brazil is reported to have the most unequal distribution of wealth among its citizens of any county in the world, resulting in dramatic imbalances in the ability to access education and social services (Lumpkin & Aranha, 2003; Celia, 2004).

In 1988, Brazil ended military rule, adopted a constitution, and began national decentralization in which more authority and responsibility shifted from the national to local governments. Many municipalities struggle to fill their new responsibilities of providing health and human services; however, the country is making an effort to build the capacity of local governments. Article 227 of the national constitution ensures that the human rights of all children shall be upheld and protected by families, society, and the government at all levels. The adoption of the new constitution coincided with the Convention on the Rights of the Child and the passing of two seminal laws in 1990 (Statute of the Child and Adolescent and the Lei Organica da Suade) to form an era of recognition and support for child rights (Lumpkin & Aranha, 2003).

Brazil is part of a regional movement in Latin America and the Caribbean (LAC) to coordinate the efforts to protect child rights and guarantee their healthy development and active participation in society. Marked improvements have occurred since the 1990s, yet the progress among countries varies widely. Often the neglected areas or those last addressed by reform are services for the youngest children and children at risk for or with disabilities.

Brazil's education system is decentralized, with clear domains drawn among levels of government. Local municipalities are responsible for providing and guaranteeing access to early childhood development services, such as child care, preschool, and kindergarten. Increasingly, municipalities are also responsible for primary education, formerly shared between state and local authorities. Secondary education is provided by states, while the federal government devises education standards and attempts to reduce educational disparities through equalizing material and funding distribution (Lumpkin & Aranha, 2003). The majority of children receive a free public education. Primary education is guaranteed for all, and special education has shifted toward an inclusive model. In 1998, about 87 percent of children with disabilities received education services in special schools. By 2000, 79 percent attended special schools and 21 percent attended inclusive schools (Lumpkin & Aranha, 2003). Education at all ages has increased, including the rate of preschool enrollment (Celia, 2004). Because Brazil is a large, populous, and diverse country, it is challenging to design and implement public policies that meet the needs of all children while implementing quality standards and maintaining respect for cultural, ethnic, and regional diversity (Freitas et al., 2008).

Key Early Intervention Issues and Prevalence

Brazil's new constitution recognized children's and their families' rights from birth. The 1991 Statute of the Child and Adolescent (often referred to as the Children's Constitution) also declared children's rights as citizens who are entitled to protection and free education. Public Law on the Rights and Basis of Education (Public Law), created in 1996, integrated education from birth to age 6 into the public education system. The Public Law recognized early childhood as the foundation of basic education; supported the coordination of school, community, and family-based socialization efforts; and established a minimum standard of early childhood development knowledge for teachers of young children. In 2004, an estimated 1.3 million children (10%) from birth to age 3 attended day care, and another 5.6 million (56%) aged 4 to 6 attended preschool. The majority of these programs are located in urban areas, reflecting the 86 percent of the population that lives there (United States Central Intelligence Agency, 2009a), but resulting in unequal distribution of early childhood education (Freitas et al., 2008). The constitution also gave legal legitimacy to the social norm that parents and extended families are considered the first providers of care and support to children (Lumpkin & Aranha, 2003).

National Early Intervention Policies and National-Level Programs

Brazil has taken a unique approach to early intervention while increasing primary school enrollment and reducing child labor rates. Guided by the Federal Secretariat of Social Assistance (SEAS), state and municipal governments collaborate on numerous programs designed to enhance family support and capacity and increase primary education through financial incentives based on school attendance. These early intervention programs exist for children with disabilities and children at risk. SEAS's main objectives are to coordinate services and provide all levels of government and nongovernmental agencies with technical and financial support that promotes protective measures and social inclusion. SEAS partners with other funding agencies to enhance institutional capacity at child care centers, and community-based primary health care initiatives targeting pregnant women and children under age 6 are supported and prioritized at all levels of government. There, identification of children with special needs is frequently done through community health outreach workers and volunteers (Lumpkin & Aranha, 2003).

Legally, all children have the right to education from birth, resulting in a large percentage of children enrolled in early childhood education programs (Freitas et al., 2008). The inclusion model is becoming more common in primary school, but organized early intervention programs are few. Many parents are not informed of their child's rights and are unable or unwilling to dedicate the necessary time to fight for those rights. Most groups working on behalf of children with disabilities focus on a few key issues, resulting in fragmentation among early intervention and childhood disability efforts (Freitas et al., 2008).

A lack of coordination among the health, education, and social services sectors hampers early childhood initiatives, family support services, and early intervention efforts. Add to that redundancy of service and conflict among public agencies, nongovernmental organizations, and parent-led groups. While progress to include individuals with disabilities into the policy process has been made, many families still lack knowledge of, and access to, preventive and early intervention services (Lumpkin & Aranha, 2003).

South Africa

Background and Demographics

South Africa, population 49 million, is a middle-income country that has well-developed business, legal, and communications sectors; is rich in natural resources; and is a strong player in the global market. The population is comprised of four self-classified groups: black African, colored, Indian or Asian, and white. Among these groups, significant disparities in living conditions, opportunity, and social circumstances persist. Poverty, unemployment, and political and social marginalization are persistent effects of South Africa's history of legal racial segregation and discrimination that perpetuate disparities in many aspects of life, including early childhood services (United States Central Intelligence Agency, 2009e). Persons with disabilities are more likely to experience poverty, social isolation, and unemployment during all phases of life, and great disparities in access to and use of social services exist (McClain et al., 1997).

South Africa's policy objectives regarding disability issues include raising awareness, decreasing discrimination, and valuing diversity among citizens. Its movement toward a "social model" values the participation of individuals with disabilities and proposes increased inclusion in decision-making processes (McClain et al., 1997). Insufficient coordination exists among government agencies to properly implement preventive measures, early identification, or early intervention for children. Public awareness and political support is increasing, but there is an ongoing failure to implement policies created to support them (Saloojee, Phohole, Saloojee, & Ijsselmuiden, 2006).

Key EI issues and Prevalence

The most commonly cited prevalence estimates of motor, sensory, and intellectual impairments in children birth to age 9 are 5.2 to 6.4 percent (Anderson, 1991; Case, 1999; Christianson, et al. 2002; Corneljie, 1991; Couper, 2002, as cited in Saloojee et al., 2006), but some estimates put the prevalence rate of moderate-to-severe impairments as high as 12 percent (McClain et al., 1997). The President's Integrated Disability Strategy (the Strategy) acknowledges a lack of reliable information on the prevalence and type of disabilities experienced by South African children. Data gathering on disability is hindered by multiple definitions of disability, lack of common data-gathering techniques, discrimination, poor infrastructure, and periodic violence that interrupts data collection and service provision (McClain et al., 1997).

Historically, disability has been framed as a medical rather than a social issue, resulting in social isolation and a lack of national statistics on disability. Reflecting changing global attitudes, South Africa is working to reframe its cultural and social perceptions of disability to create a more inclusive environment. One key aspect of this change is participation of persons with special needs in policy development (McClain et al., 1997). Secondly, there has been a professional ideological shift toward understanding the context in which children develop, considering parent-child interactions, building collaborations between families and professionals, and developing multi-sector responses to early childhood issues (Eloff, 2006).

Early childhood intervention services face a number of challenges including poverty, high unemployment, low literacy rates, and urgent public health concerns such as HIV/AIDS. There are also a large number of young children in the population, yet few early childhood services for them. The national government has recently made a commitment to early childhood education that will require a national-level social reconstruction that addresses poverty and disparities in access to health care and education (Eloff, 2006). To improve access to services, professionals must also understand family perceptions of disability. Often, families take a fatalistic view of any type of impairment a child may be born with or develop in course of life, a belief that may decrease their likelihood to seek intervention. Families and professionals must partner to achieve the best outcomes, and professionals must have culturally specific knowledge and techniques.

National Policies and Programs

In South Africa, "educare" is the term commonly used by nongovernmental organizations to refer to services for young children. It conveys that there is no formal line between education and caregiving services, yet government agencies divide education and care services between different departments and funding streams, resulting in a lack of coordination and consistency between communities and among the levels of government. "Day care" is controlled by the Department of Health, but "preschool education" falls under Department of Education. Each department operates independently (Liddell & Kemp, 1995).

The quality of ECD services varies greatly throughout the country. Children under age 5 are served through both public and independent ECD programs. Most public programs are funded by the provincial Department of Education and provide pre-primary schools for children aged 3 to 5. Independent programs offer a wider variety of services and are funded through a combination of fees, fund-raising, and limited governmental support. Independent services are usually provided in community-based sites or independent pre-primary schools. After a review of nearly 22,000 ECD sites, the Ministry of Education estimates 49 percent are community-based, 34 percent are home-based, and 17 percent are school-based (Asmal, 2001a).

One of the challenges facing postapartheid South Africa is overcoming the history of discrimination and realizing the constitutional value of equity provided to all learners. Historically, services for children were segregated based on race and special need (Walton, Nel, Hugo, & Muller, 2009). Since 2004, all individuals with disabilities were also entitled to free health services as well as basic education guaranteed by the constitution. The families of children with special needs may also receive a "care dependency grant" of about $110 USD (Saloojee et al., 2006, page 231). The Office on the Status of Disabled Persons in the Office of the Deputy President works with state departments and nongovernmental organizations to promote, create, and maintain an environment that encourages acceptance of and equal participation by individuals with special needs (McClain et al., 1997). The country's Integrated Disability Strategy White Paper asserts South Africa will follow the precedent set in the United Nations Standard Rules for the Equalization of Opportunities for Persons with Disabilities and the World Program of Action Concerning Disabled Persons, thereby following a rights-based philosophy (McClain et al., 1997).

This approach requires major changes in many of South Africa's education sites. Historically, children were classified and segregated into special schools or rooms according to their ability. Many schools, especially those in rural areas, were neither able nor willing to accommodate special needs children. As of the late 1990s, an estimated 70 percent of children with special needs did not attend school. Government publications since then have proposed to integrate all children in both traditional and dedicated service centers (McClain et al., 1997). The public education sector is currently enacting a 20-year plan to promote inclusion and full participation of children with special needs into general education schools (Saloojee et al., 2006), and also plans to improve out-of-classroom opportunities that promote life skills development, independent living, and workforce training (McClain et al., 1997).

Early intervention services in South Africa are influenced by a number of postapartheid national policies. In 1998, the Department of Education reviewed national health, education, and social welfare policies and programs that impact early childhood development and concluded that policies and programs had been adopted at all levels of government. Some of the major policies are mentioned below.

The Child Care Act 74 (1983) guided the first early childhood development policies. The Early Childhood Development White Paper from the Department of Education (2001) updated the country's early childhood development philosophy and is the guiding document for implementation of early childhood programs (UNESCO, 2006). It established the National Early Childhood Program, largely focused on 4- to 5-year olds transitioning into school. The program and policy goals set in this document and applicable to children birth to age 5 include a national curriculum, professional development and career-track planning programs for providers, an accreditation program for providers, and a national information and advocacy outreach program for parents and communities (UNESCO, 2006). The White Paper identifies a need to develop services and programs for children under age 4 with special education needs, among other "special populations" in need of more focused attention and service provision at the local, state, and national levels (Asmal, 2001a).

In 1997, the Integrated National Disability Strategy (the Strategy) was published, which frames inclusive education as the foundation on which to build an integrated society. The Strategy proposes that all early childhood education be provided in an environment that acknowledges, accepts, and values diversity. Furthermore, to meet the country's goal of forming an integrated society, education must be equally accessible to all children regardless of the nature of their needs. If the existing school system cannot appropriately serve a child with special needs, the child should have access to a school that can. Finally, parents' rights and preferences for their children should be given consideration. The Strategy proposes to have children with special needs access education services earlier, and it targets vulnerable populations, such as black African children, girls, very young children, those with multiple disabilities, and those living in rural areas (McClain et al., 1997).

Also in 1997, the report *Quality Education for All: Overcoming Barriers to Learning and Development* was published. This document recommended increased focus on early identification, assessment, and intervention for children with special education needs. Another document, the *Inter-Ministerial Committee on Young People at Risk*, made policy recommendations for increased focus on prevention, building child resilience, and early intervention (Asmal, 2001a).

Despite these policies, approximately 82 percent of early childhood programs designed for children up to age 5 serve only 3- to 5-year olds. Services for children under age 3 are lacking, despite acknowledgement from the Ministry of Education that this is the most crucial time of child development (Asmal, 2001a). Early childhood development programs are viewed as a form of investment in human and economic development for the country; however, the primary responsibility for the care of children rests with families. The Early Childhood Development strategic plan focuses on delivering inclusive and appropriate services, prioritizes the development of a national early childhood curriculum, advancing professional development for teachers and caregivers, and improving the physical conditions in schools and child care centers (Asmal, 2001b).

In 2008, the Parliament enacted the Children's Act to reflect the contemporary views of children's rights that appear in the constitution and the CRC. This act protects the most vulnerable groups of children and encourages the creation of a national policy model for children's social development. The legislation provides families with policy and

Key Aspects of Policies	Brazil	Canada	China	New Zealand	Russia	South Africa
The Convention on the Rights of the Child (1989)						
Nondiscrimination	1988 Constitution	1985 Human Rights Act	1982 Constitution	The NZ Disability Strategy	1993 Constitution	1996 Constitution
Devotion to the best interests of the child	91 Children's Constitution	2000 ECD Communique		1989 Children, Young Persons & Families Act		2001 ECD White Paper
All children have the right to life, survival, and development	1988 Constitution	2000 ECD Communique	1991 L.P.M.~	1989 Children, Young Persons & Families Act	1995 Family Code	1996 Constitution
Respect for the views of the child	91 Children's Constitution			1989 Children, Young Persons & Families Act		1992 Children's Charter of S.A.
All children and families must be informed of, and receive, appropriate care and services	Programa Bolsa Familia	2000 ECD Communique		1989 Children, Young Persons & Families Act		2005 Children's Act
There should be no financial barriers to services	Programa Bolsa Familia	2006 Univ. Child Care Plan		1989 Children, Young Persons & Families Act	1993 Constitution	1992 Children's Charter of S.A.
Focuses on the unique needs and vulnerabilities of chidren under age 18	91 Children's Constitution		1991 L.P.M.~	1989 Children, Young Persons & Families Act	2002 Pres. Order for I.C.A.M.***	1996 Constitution
All countries should recognize a child's right to an adequate standard of living for physical, mental, spiritual, moral and social development	91 Children's Constitution	2000 ECD Communique	1991 L.P.M.~	1989 Children, Young Persons & Families Act		1996 Constitution
Universal Declaration of Human Rights (1948)						
Childhood is recognized as a unique time deserving of special care, assistance, and protection	91 Children's Constitution		1991 L.P.M.~	1989 Children, Young Persons & Families Act	1993 Constitution	1992 Children's Charter of S.A.
Established the essential worth of human beings, giving political support to all people of all countries, ethnicities, genders, religions, and socio-economic backgrounds	91 Children's Constitution	1985 Human Rights Act	1982 Constitution	1989 Children, Young Persons & Families Act	1993 Constitution	1996 Constitution
Declaration on the Rights of Disabled Persons (1975)						
All children should receive services tailored to their needs	91 Children's Constitution		1990 BPDP Law*	The NZ Disability Strategy	1995 Law on S.P.P.D.**	2001 ECD White Paper
Children with special needs have a right to appropriate treatments	91 Children's Constitution	Universal Healthcare	1990 BPDP Law*	The NZ Disability Strategy	1995 Law on S.P.P.D.**	1997 INDS~~
Children with special needs have a right to environments and living conditions that are as appropriate and equivalent as possible to those of their contemporaries	91 Children's Constitution		1990 BPDP Law*	The NZ Disability Strategy	1995 Law on S.P.P.D.**	2001 ECD White Paper
Integration of mixed-ability individuals		1985 Human Rights Act	1986 Compulsory Edu. Act	The NZ Disability Strategy	1995 Law on S.P.P.D.**	
Jomtien Declaration (1990)						
Declares that learning begins at birth	1996 Public Law	2000 ECD Communique		Pathways to the Future		2001 ECD White Paper
Recognizes early childhood care and education as an integral part of basic education	1996 Public Law	2000 ECD Communique	1989 Kindergarten regulations	Pathways to the Future	1993 Constitution	2001 ECD White Paper
Early childhood care and education should be provided in multiple settings	1996 Public Law	2006 Univ. Child Care Plan		Pathways to the Future		2001 ECD White Paper
All children have the right to educational opportunities such as literacy, numeracy, problem solving, and life skill development	1988 Constitution	2006 Univ. Child Care Plan	1986 Compulsory Edu. Act	The NZ Disability Strategy		1997 INDS~~
Basic education is the right of all children, regardless of situation or ability	1988 Constitution	2006 Univ. Child Care Plan	1986 Compulsory Edu. Act	The NZ Disability Strategy	1993 Constitution	1997 INDS~~
The Standard Rules on Equalization Opportunities for Persons with Disabilities (1993)						
State should provide mulitidisciplinary professional teams for early detection, assessment, and treatment of disabilities	91 Children's Constitution	2000 ECD Communique	1990 BPDP Law*	The NZ Disability Strategy	1995 Law on S.P.P.D.**	1997 INDS~~
Rehabilitation should be provided in appropriate ways that maximize equal participation in society	91 Children's Constitution	2000 ECD Communique	1990 BPDP Law*	The NZ Disability Strategy	1995 Law on S.P.P.D.**	1997 INDS~~
Recognizes that very young children need special considreation	91 Children's Constitution	2000 ECD Communique	1990 BPDP Law*	The NZ Disability Strategy		1997 INDS~~
Promotes inclusive, culturally-sensitive, and appropriate education for all children	2001 Nat'l. Edu.Plan	2000 ECD Communique	1986 Compulsory Edu. Act	The NZ Disability Strategy	1995 Law on S.P.P.D.**	2001 Special Needs Edu. White Paper
Salamanca Statement (1994)						
Promotes inclusion and integrated schools	2001 Nat'l. Edu.Plan	Provinical Governments **		The NZ Disability Strategy	1995 Law on S.P.P.D.**	2001 Special Needs Edu. White Paper
Communities should embrace differences in ability	2001 Nat'l. Edu.Plan	1985 Human Rights Act	1990 BPDP Law*	The NZ Disability Strategy	1995 Law on S.P.P.D.**	2001 Special Needs Edu. White Paper
Respond to individuals' unique needs	2001 Nat'l. Edu.Plan	1985 Human Rights Act	1990 BPDP Law*	The NZ Disability Strategy	1995 Law on S.P.P.D.**	1997 INDS~~
Dakar Framework for Action (2000)						
All children have a right to free and compulsory education regardless of resources of the home country	2001 Nat'l. Edu.Plan (to age 14)	Provinical Governments **	1986 Compulsory Edu. Act	The NZ Disability Strategy	1993 Constitution	1992 Children's Charter of S.A.
Promotes expansion and improvement of early childhood care and education for all children	2001 Nat'l. Edu.Plan	2000 ECD Communique	1994 Reg. on Edu. for Persons w/ Disabilities	Pathways to the Future		2001 ECD White Paper
Convention on the Rights of Persons with Disabilities (2006)						
Views persons with disabilities as capable individuals who are knowledgeable of their rights, and are active members of society	Ratified	Drafted and Supported	Ratified	Ratified	Ratified	Ratified

**Provincial governments, not federal, regulate education in Canada

*1990 BPDP Law = 1990 Law of the People's Republic of China on the Basic Protection of Disabled Persons

*** 1995 Law on Social Protection of People with Disabilities

Figure 3.1 The key aspects of policies related to early childhood intervention and the approaches to these policies taken by Brazil, Canada, China, New Zealand, Russia, and South Africa.

service coordination among the relevant government departments and nonprofit services, with public or nongovernmental agencies intervening only when necessary (Stout, 2009).

COUNTRY MATRIX

Figure 3.1 outlines the key aspects of policies related to early childhood intervention and the approaches to these policies taken by each of the countries examined in this chapter.

CONCLUSION

Children of all countries and ability levels are our future. They will make decisions that keep nations at peace or bring us to war. They will discover cures for disease, invent new technology for good or evil, and raise future generations. Therefore, all countries will benefit from awareness of global policies and programs that improve children's opportunities and help them progress personally, academically, and socially so that they succeed in life. Furthermore, this information would be an asset in countries where policy and practice for children with special needs has not developed or been implemented to the standards proposed by international human rights agreements. This is clearly recommended in the Convention on the Rights of Children, where Part Four of Article 23 states that all countries supporting the CRC should engage in the open sharing of knowledge and best practices for the care of children with disabilities, with the intention of enhancing the capacity of underresourced countries (UNOHCHR, 1990; UNICEF, 2008).

This chapter reviews international laws and policies to provide a foundation for fair and equal treatment of all children. Yet, as evident in the country profile section, there is vast diversity in supports and services available to children, especially children with special needs. This discrepancy among nations challenges professionals to work across cultures to develop standards of care and service for these children. We can begin by creating a common language of terms, definitions, measurements, and standards to identify children in need and raise their education, health care, and welfare to the forefront of the political agendas of their countries.

REFERENCES

Asia-Pacific Development Center on Disability. (2002). *Country Profile: People's Republic of China*. Retrieved from Statistical Data on Disability Profile, http://www.apcdfoundation.org/?q=content/china

Asmal, K. (2001a). Education white paper 5 on early childhood education. Meeting the challenge of early childhood development in South Africa. Ministry of Education.

Asmal, K. (2001b). Address at the Launch of the White Paper for Early Childhood Development and the Nation-wide Audit of ECD Provisioning in South Africa. Ministry of Education

Ballard, K. (1996). Inclusive education in New Zealand: Culture, context and ideology. *Cambridge Journal of Education, 26*(1).

Bascand, G. (2006). 2006 Disability Survey.

Burns, K. K., & Gordon, G. L. (2009). Analyzing the impact of disability legislation in Canada and the United States. *Journal of Disability Policy Studies* published online Nov. 30, 2009.

Celia, S. (2004). Interventions with infants and families at risk: Context and culture. *Infant Mental Health, 25*(5): 502–507.

Chen, Y. (1996). *China Policy on Inclusive Education*. Beijing, China: National Institute for Educational Research.

China Disabled Persons' Federation. (2006). *Communique on major statistics of the Second China National Sample Survey on Disability*. Retrieved from http://www.cdpf.org.cn/old/english/top-7.htm

Dalziel, H. L. (2001). *The New Zealand disability strategy making a world of difference*. Whakanui Oranga, New Zealand Ministry of Health.

Deng, M. & Poon-McBrayer, K. F. (2004). Inclusive Education in China: Conceptualisation and Realization. *Asia-Pacific Journal of Education, 24*(2), 143–157.

Disability Rights Education and Defense Fund, Seventh National People's Congress. (1986). *Compulsory education law of the People's Republic of China*. Congress, People's Republic of China: Law Publishers.

Disability Rights Education and Defense Fund, Seventh National People's Congress. (1990). *Law of the People's Republic of China on the Protection of Disabled Persons*. Congress, People's Republic of China: Legal System Publishers.

Eloff, I. J. (2006). Some thoughts on the perceptions of the role of educational psychologists in early childhood intervention. *Early Child Development and Care, 176* (2), 111–127.

Epstein, I. (1992). Special education issues in China's modernization. In R. Hayhoe (Ed.), *Education and modernization: The Chinese experience*. Elmsford, NY: Pergamon.

Freitas, L. B. B., Shelton, T. L., & Tudge, J. R. H. (2008). Conceptions of US and Brazilian early childhood care and education: A historical and comparative analysis. *International Journal of Behavioral Development, 32*, 161.

Friendly, M. J. (2007). *Early Childhood Education and Care in Canada 2006* (7th ed.).

Gargiulo, R., &. Piao, Y. (1996). Early childhood special education in the People's Republic of China. *Early Child Development and Care, 118*, 35–43.

Government, of Canada. (2008). Human Resources and Skills Development. Advancing the Inclusion of People with Disabilities.

Government of Canada. (2009). *Canada's Universal Child Care Plan*. Retrieved April 1, 2009, from http://www.universalchildcare.ca/eng/why_ucc/index.shtml

Government of Canada Federal. (2004). *Federal/Provincial/Territorial Communiqué on Early Childhood Development*. Retrieved from http://www.ecd-elcc.ca/en/ecd/ecd_home.shtml

Governmental Report. (1994). *On childhood conditions in the Russian Federation*. (Gosudarstvennyy Doklad "O polozhenii detey v Rossiyskoy Federatsii"). Moscow.

Kamerman, S. B. (2000). Early Childhood Intervention Policies: An International Perspective. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention*. Cambridge: Cambridge University Press.

Liddell, C. A., & Kemp, J. (1995). Providing services for young children in South Africa. *International Journal of Educational Development, 15*(1), 71–78.

Lumpkin, H. G., & Aranha, M. S. F. (2003). The right to a good and supportive start in life. In S. L. Odom, M. J. Hanson, & J. A. Blackman (Eds.), *Early intervention practices around the world*. Baltimore: Paul H. Brookes.

Malofeev, N. N. (1996). *Spetsialnoye obrazovaniye v Rossii i za rubezhom*. (*Special education in Russia and abroad*). Moscow: Institute for Special Education.

Malofeev, N. N. (2000). *Sovremennyy etap v razvitii sistemy spetsialnogo obrazovaniya v Rossii: rezultaty issledovaniya kak osnova dlya postroyeniya programmy razvitiya*. (*The current stage in the development of special education in Russia: results of the study as a basis for building programs*). Moscow: Almanac ICP RAO 1-2000.

Max Bell Foundation. (2006). *What is early intervention?* Retrieved March 26, 2009, from http://www.earlyinterventioncanada.com/early_intervention.html

McCabe, H. (2003). The beginnings of inclusion in the People's Republic of China. *Research and Practice for Persons with Severe Disabilities, 28*(1), 16–22.

McClain, C., Howell, C., Lagadien, F., Pretorius, L., Rantho, M., & Thompson, P. (1997). Integrated National Disability Strategy White Paper. Office of the President.

McGill University & Yaldei Development Center. (2006). Canadian data. From http://www.earlyinterventioncanada.com/pdf/PopulationData.pdf

McLoughlin, C., Zhou, Z., & Clark, E. (2005). Reflections on the development and status of contemporary special education services in China. *Psychology in the Schools, 42*(3), 273–283.

Mont, D. (2007). *Measuring disability prevalence*. World Bank Disability and Development Team.

Muhamedrahimov, R. J. (2000). New attitudes: Infant care facilities in Saint-Petersburg (Russia). In J. D. Osofsky & H. E. Fitzgerald (Eds.), *WAIMH handbook of infant mental health. Vol.1: Perspectives on infant mental health* (pp. 245–294). New York: John Wiley & Sons.

New Zealand Ministry of Health. (2000). *The New Zealand Public Health and Disability Act 2000*.

New Zealand Office of Disability Issues. (2008a). *The New Zealand Disability Strategy: Common questions*. Retrieved from http://www.odi.govt.nz/nzds/common-questions.html

New Zealand Office of Disability Issues. (2008b). *The New Zealand Disability Strategy: Progress reports*. Retrieved from http://www.odi.govt.nz/nzds/progress-reports/index.html

New Zealand Office of Disability Issues. (2009). *The New Zealand Disability Strategy: History of the Strategy*. Retrieved from http://www.odi.govt.nz/nzds/strategy-history.html

New Zealand Statistics. (2006). Table Builder. 2006 Disability Survey, Statistics New Zealand.

Odom, S. (2003). *Early intervention practices around the world*. Baltimore: Paul H. Brookes.

Pang, Y. A. (2006). The development of special education in China. *International Journal of Special Education, 2*(1), 77–86.

Peters, R. D. (2000). *Developing capacity and competence in the better beginnings, better futures communities: Short-term findings report*. Kingston, Ontario.

Peters, R. D. (2004). *Better beginnings, better futures: A comprehensive, community-based project for early childhood development. Highlights of Lessons Learned*. Kingston, Ontario.

Policy Brief of the Russian Academy of Education to the Government of the Russian Federation. (2007). *Modernizatsiya sistemy spetsialnogo obrazovaniya v RF: Dostizheniya, problemy, perspektivy. ("Modernization of the special education system in Russia: Achievements, problems and perspectives"*). Following the meeting, Bureau of the Department of psychology of Russian Academy of Education. Moscow, February 21.

Razenkova, Y. A. (2009). Predlozheniya po effektivnomu ispolzovaniyu organizatsionnykh mekhanizmov dlya sovershenstvovaniya i razvitiya sistemy ranney pomoshchi v razlichnykh regionakh strany. (Proposals to effective use of organizational mechanisms for perfection and development of early support system in various regions of the country). *Defektologiya, 4*, 61–64.

Saloojee, G., Phohole, M., Saloojee, H., & Ijsselmuiden, C. (2006). Unmet health, welfare and educational needs of disabled children in an impoverished South African peri-urban township. *Child: Care, Health and Development, 33*(3), 230–235.

Stout, B. (2009). Residential care in South Africa. In M. E. Courtney & D. Iwaniec (Eds.), *Residential Care of Children*. Oxford: Oxford University Press.

Stratford, B., & Ng, H. (2000). People with disabilities in China: Changing outlook—new solutions—growing problems. *International Journal of Disability, Development and Education, 47*(1), 7–14.

Telyukov, A., & Paterson, M. (2009). Assessment of USAID's child welfare programs in Russia. Evaluation Report. Gaithersburg, MD: Terra P. Group.

Tsai-Hsing, H., McCabe, H., & Bao-Jen, L. (2003). Cultural issues and service provision in rural areas. In In S. L. Odom, M. J. Hanson, J. A. Blackman, & S. Kaul (Eds.), *Early intervention practices around the world*. Baltimore: Paul H. Brookes.

United Nations. (1948). *The Universal Declaration of Human Rights*. Retrieved March 25, 2009, from http://www.un.org/Overview/rights.html

United Nations Children's Fund (UNICEF). (2005). Revised country programme document: Russian Federation. Retrieved from http://www.unicef.org/about/execboard/files/Russia_CPD_English(1).pdf

United Nations Children's Fund (UNICEF). (2007). UNICEF: A human rights based approach to education for all. New York: United Nations Children's Fund/United Nations Educational, Scientific and Cultural Organization.

United Nations Children's Fund (UNICEF). (2008). *Convention on the Rights of the Child*. Retrieved from http://www.unicef.org/crc/index_30160.html

United Nations Children's Fund (UNICEF). (2009). *I have the right: UNICEF Russia launches child rights campaign*. Retrieved from http://www.unicef.org/infobycountry/russia_51631.html

United Nations Educational Scientific and Cultural Organization (UNESCO). (1960). Convention against discrimination in education. Retrieved from http://www.unesco.org/education/pdf/DISCRI_E.PDF

United Nations Educational Scientific and Cultural Organization (UNESCO). (2006). International Bureau of Education. South Africa Early Childhood Care and Education (ECCE) Programmes. Retrieved October 30, 2009, from http://unesdoc.unesco.org/images/0014/001472/147241e.pdf

United Nations Educational Scientific and Cultural Organization (UNESCO). (2007.) Education for All by 2015: Will we make it? Retrieved from http://unesdoc.unesco.org/images/0015/001547/154743e.pdf.

United Nations Educational Scientific and Cultural Organization (UNESCO). (2009). *Education*. Retrieved from http://portal.unesco.org/education/en/ev.php-URL_ID=48712&URL_DO=DO_TOPIC&URL_SECTION=201.html

United Nations Enable Convention on the Rights of Persons with Disabilities. Retrieved from http://www.un.org/disabilities/default.asp?navid=12&pid=150

United Nations Enable Convention on the Rights of Persons with Disabilities. *The International Year of Disabled Persons 1981*. Retrieved from http://www.un.org/esa/socdev/enable/disiydp.htm

United Nations Enable Convention on the Rights of Persons with Disabilities. (1976). *Promoting the rights of persons with disabilities*. Retrieved from http://www.un.org/esa/socdev/enable/rights/humanrights.htm

United Nations Enable Convention on the Rights of Persons with Disabilities. (1982). *World Programme of Action Concerning Disabled Persons*. Retrieved from http://www.un.org/disabilities/default.asp?id=23

United Nations Enable Convention on the Rights of Persons with Disabilities. (1993). *The Standard Rules on the Equalization of Opportunities for Persons with Disabilities*. Retrieved from http://www.un.org/esa/socdev/enable/dissre00.htm

United Nations Office of the High Commissioner for Human Rights. (1975). *The Declaration on the Rights of Disabled Persons*. Retrieved from http://www.unhchr.ch/html/menu3/b/72.htm

United Nations Office of the High Commissioner for Human Rights [UNOHCHR]. (1990). *Convention on the Rights of the Child*. Retrieved from http://www2.ohchr.org/english/law/crc.htm

United States Central Intelligence Agency. (2009a). *World Factbook: Brazil*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/br.html

United States Central Intelligence Agency. (2009b). *World Factbook: Canada*. Retrieved June 4, 2009, from https://www.cia.gov/library/publications/the-world-factbook/geos/ca.html

United States Central Intelligence Agency. (2009c). *World Factbook: China*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html

United States Central Intelligence Agency. (2009d). *World Factbook: Russia*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/rs.html

United States Central Intelligence Agency. (2009e). *World Factbook: South Africa*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/sf.html

United States Department of State. (2008). *Background Note: Canada*. Retrieved from http://www.state.gov/r/pa/ei/bgn/2089.htm

Walton, E., Nel, N., Hugo, A., & Muller, H. (2009). The extent and practice of inclusion in independent schools in South Africa. *South African Journal of Education, 29*, 105–126.

World Health Organization. (2005). *International Classification of Functioning, Disability and Health (ICF)*. Retrieved from http://www.who.int/classifications/icf/en

World Health Organization Regional Office for Europe. (2005). *Declaration on the Rights of Disabled Persons*. Retrieved from http://www.euro.who.int/mentalhealth/declarations/20061204_1

Zhao, L., Guo, C. F., & Zhou, M. (1997). The implementation of counterpart activities for healthy young children and young children who are deaf. In Y. Chen, *Theory and practice of the reform of China's integrated education* (pp. 198–202). Beijing: Xinhua Chubanshe.

Chapter 4

Reflections on Early Identification

Bruce K. Shapiro

A developmental disability is a severe, chronic disability attributable to mental and/or physical impairments that are likely to continue indefinitely, resulting in substantial functional limitations in three or more life activity areas: self-care, receptive and expressive language, learning, mobility, self-direction, capacity for independent living, and economic self-sufficiency. These disorders disclose themselves before age 22 and require care, treatment, or other services of lifelong or extended duration. Children younger than age 9 may be considered to have a developmental disability without showing limitations in three or more life activity areas if they have a high likelihood of meeting those criteria in later life without services and supports (Public Law 106-402, 2000).

Please be aware that different states in the United States may use different definitions in state law for the term developmental disability. Table 4.1 lists the definitions of the developmental disabilities.

Developmental disabilities are a group of conditions that are due to abnormal brain function or to metabolism or degenerative processes. They limit typical activities. The disorders outlined in Table 4.1 are defined by the nature of the limitation. The degree of the limitation, the process that results in the limitation, or the cause of the brain malfunction is not required for the diagnosis. However, understanding the underlying brain malfunction is important. Brain malfunction in childhood can result from many causes. Genetic disorders, infection, nutritional and metabolic disorders, trauma, hypoxia (lack of oxygen) or ischemia (lack of blood flow), and toxins (tobacco, lead, alcohol) are some of the more common etiologies of brain malfunction. These causes may give rise to widespread brain malfunction that result in multiple diagnoses for children with developmental disabilities. For example, many children with cerebral palsy also have epilepsy and intellectual disability. It is the multiple combinations of disorders of

Table 4.1 Developmental Disabilities: Definitions and Prevalence

Attention Deficit Hyperactivity Disorder (ADHD): ADHD is a brain disorder that is characterized by developmentally inappropriate levels of inattention, distractibility, impulsivity, and hyperactivity. Many children with ADHD will not meet the full criteria for developmental disabilities, but those who are more severely affected will. The prevalence of ADHD is between 5% and 8% of school-aged children.

Autism: Autism is a brain development disorder that is characterized by impaired social interaction and communication and by restricted and repetitive behavior. Children who do not manifest these characteristics by age 3 or who do not fully meet the diagnostic criteria for autism are called "autism spectrum disorder." Approximately 1% of children have autism spectrum disorder.

Blindness: Best corrected visual acuity of 20/400 or less or restricted field of vision to 10 degrees. The prevalence of legal blindness is 0.07%.

Cerebral Palsy (CP): CP is a disorder of movement or posture that is due to a brain disorder or defect that occurs in the developing fetal or infant brain. The disorder does not worsen, but the symptoms may change as the child ages. The prevalence of cerebral palsy is 0.1–0.3% of children.

Deafness: There is no uniformly accepted threshold for deafness. The term "deaf" is sometimes used to describe someone who has an approximately 90 dB or greater hearing loss or who cannot use hearing to process speech and language information, even with the use of hearing aids. The prevalence of communicatively handicapping hearing loss (moderate to profound) is 0.1–0.2% in the general population.

Epilepsy: Epilepsy is a brain disorder involving repeated, spontaneous seizures of any type. The prevalence of epilepsy in children is 0.4–0.9%.

Intellectual Disability: Significantly sub-average general intellectual function accompanied by deficits in adaptive behavior that commences before 18 years of age. The prevalence of intellectual disability is approximately 1.2%.

Receptive Expressive Language Disorder: This is a group of disorders distinguished by the child's inability to understand language or express it. A child with mixed receptive expressive language disorder is not able to communicate thoughts, needs, or wants at the same level or with the same complexity as his or her peers. They have difficulty understanding what is being said to them and often have a smaller vocabulary than their peers. Receptive Expressive Language Disorder is found in about 3% of school-aged children.

Specific Learning Disabilities (Including Dyslexia): "A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations" (PL 108-446, 2004). Many children with specific learning disabilities will not meet the full criteria for developmental disabilities, but those who are more severely affected will. The prevalence of specific learning disabilities is 5% of the school-aged population.

Source: Prevalence statistics derived from Centers for Disease Control and Prevention, National Center on Birth Defects and Developmental Disabilities Web site.

varying degrees that call for individualized treatment programs for people with developmental disabilities.

Understanding that brain malfunction shows itself in many ways may be useful for early identification. A child with a developmental dysfunction in one area is likely to have a developmental dysfunction in another area. As an example, children who are late walkers often have disordered language development.

EARLY IDENTIFICATION

What Is Early Identification?

Early identification is the prelude to early intervention. The object of early identification is to identify a disorder at a stage before it is fully evident and to undertake interventions that will either prevent or substantially modify the natural progression of the disorder. Identification is not an end, but the beginning of a process that leads to the provision of care and, hopefully, a better outcome for the child.

Early identification seeks to detect children who are likely to have a disorder and enables further evaluation to determine whether the disorder is present. Early identification describes a series of techniques that result in diagnosis. Methods used for early identification range from using public service advertisements on radio and television to reach the general population, to the measurement of biochemical processes in the body fluids of an individual. Defining conditions that place one at greater risk for developmental disability and assessing/evaluating those at risk are other means that might be employed.

Why Is Early Identification Beneficial?

The justification for early identification is that it leads to better outcomes for the child. Basically, early identification is the first step in the therapeutic process. Early identification facilitates evaluation, assessment, and diagnosis and leads to early intervention.

Early identification may allow for interventions that cure or prevent a disorder. Some disorders that previously damaged the developing brain can now be treated and developmental disability averted. This is the justification for newborn bloodspot screening (see below). In the case of metabolic disorders, such as congenital hypothyroidism or phenylketonuria, supplying deficient hormones or applying a special diet prevents the developmental dysfunction associated with these disorders in the past.

Early intervention may alter the character and severity of the developmental disorder. There is a general perception that starting therapy at an earlier age is associated with better outcomes. This is supported by studies that show that younger animals have increased ability to recover from brain injury (plasticity) and suggest critical periods (National Research Council and Institute of Medicine, 2000). However, the data that directly link the age that intervention commences and outcomes are few, and the studies have not consistently supported the assertion that earlier intervention results in better outcomes (Bruer, 1999).

Early identification leads to evaluation, assessment, and diagnosis. Establishing a diagnosis allows for development of a management program, enables long-term planning, and may lead to improved family functioning. Families often recognize developmental issues before the problem is identified by professionals. Many families experience substantial anxiety until a diagnosis is established and a management plan developed.

Secondary problems may result from failure to identify a developmental disorder. Children with cerebral palsy who maintain a fixed position may be at increased risk of scoliosis (i.e., curvature of the spine) and hip problems. Children with autism spectrum disorder may not respond to discipline in an expected fashion and may become severely anxious or aggressive. A child with vocal tic disorder may be misperceived as intentionally making noises to disrupt the class and gain attention. Early identification leads to recognition of the disorder, better understanding of its character, and utilization of treatments that minimize secondary problems.

Early identification holds the promise of developing interventions that are more effective than the ones that are used currently. Most of the interventions that are utilized for developmental disabilities were developed for older children and now are used for younger and younger children. The child who is identified at a younger age may be better served by a different treatment than those that have been established for older children. One example is the use of occupational therapy for young children with sensory integrative disorder and the use of cognitive behavioral therapy (CBT) for older children with the same symptom complex. Occupational therapy seeks to decrease the response to sensory stimuli by addressing the sensory systems directly; whereas cognitive behavioral therapy, as the name implies, uses cognitive and behavioral approaches to alter the response to sensory stimuli and requires children to be of an age such that they can understand and employ the techniques.

How Early Is Early?

This question is usually asked in an open-ended fashion. The implication is that if identification at 6 months is good, then identification at 5 months is better. The extension of that argument is that there is no limit to how early developmental disabilities can be identified. As a result, there could be no limit to the resources that would be expended on the identification process. Early identification becomes the end product and not a step in a process to early intervention.

Reframing the question to "How early is early enough?" results in an achievable outcome. "Enough" is a point at which substantial damage has not occurred and allows sufficient time for the rest of the processes to be implemented. It permits some flexibility in the system and allows for assessment and implementation of the intervention. Universal newborn screening programs (see below) have identification of hearing loss by one month as their goal but allow five more months for the confirmatory evaluation and intervention processes to be implemented.

Preconceptual Identification

Current technology allows for identification before conception for some disorders. Having this knowledge allows carriers of the conditions to make informed decisions about marriage and reproduction. It also allows for prenatal diagnosis. Two such examples are Fragile X syndrome and Tay-Sachs disease.

Fragile X syndrome is a chromosomal disorder that is the most commonly inherited form of intellectual disability in males and is found in approximately 8 percent of children with autism. Sisters of children with Fragile X syndrome may be screened to determine if they are carriers of the syndrome.

Tay-Sachs disease is an inherited disorder that causes a child's brain to lose function because of an enzyme deficiency. Approximately 1 in 30 Ashkenazi Jews have the gene for this disorder. Carriers of the disorder may be identified by a blood test.

Identification during Pregnancy

Many developmental disorders are the result of events that occur before delivery. Our abilities to detect developmental disorders in utero are limited, but this is an area of future growth. In-utero procedures may focus on delineating variations from normal pregnancy or focus on specific entities.

One example of procedures that are nonspecific is the non-stress test. The non-stress test is usually performed near the end of pregnancy. It may be used if there is concern about fetal well-being, if the mother has diabetes, if the fetus has not grown as well as expected, or if the pregnancy is extending beyond term. The non-stress test measures the fetal heart rate when the fetus is moving and compares it to the heart rate when the fetus is resting. A reactive non-stress test means that the blood flow to the fetus is adequate. A nonreactive non-stress test suggests that the fetus may be at risk.

A number of blood tests may be used in the first or second trimester to detect spina bifida/anencephaly or Down syndrome and other chromosomal disorders. Amniocentesis and chorionic villus sampling are techniques that obtain amniotic fluid or a piece of the placenta so that genetic and metabolic studies can be performed. Ultrasound is used to determine the number of fetuses, assess fetal growth, and identify structural abnormalities such as hydrocephalus or urological abnormalities. Fetal MRI imaging is a relatively new procedure that is increasingly used in clinical settings to augment the information provided by ultrasound.

Neonatal Identification

Newborn screening has expanded as new technologies have been developed. For example, at present, the state of Maryland screens newborns for hearing loss and 54 rare diseases. Blood samples are collected on filter paper and sent to the state laboratory for analysis. The diseases screened include disorders of the metabolism of amino acids, organic acids, urea cycle, fatty acid oxidation, carbohydrates, hormones, hemoglobin, and cystic fibrosis. (See State of Maryland Family Health Administration [http://fha.maryland.gov/pdf/genetics/Pamphlet_NBS.pdf] for details.) Most of these disorders can be effectively managed if detected early. For information on your state law, see http://www.ncsl.org/IssuesResearch/Health/NewbornGeneticandMetabolicScreeningLaws/tabid/14416/Default.aspx

Postnatal Identification

The most common techniques used to identify developmental disabilities are (1) risk registries, (2) population screening, and

Table 4.2 Calculation of Sensitivity and Specificity

	Disorder Present	Disorder Absent
Test Positive	A	C
Test Negative	B	D
Total	A + B	C + D
Sensitivity is A/(A + B)		
Specificity is D/(C + D)		

(3) developmental failure/maternal referral. Each of these techniques attempts to classify children as being more or less likely to have a developmental disability. The ideal approach to early identification would identify all of the children with developmental disabilities in the most efficient manner. The likelihood ratios that describe the efficiency of classification are sensitivity and specificity. Sensitivity is the ability to correctly identify children with the disorder of interest. Specificity is the ability to correctly identify children who do not have the disorder of interest (see Table 4.2).

The American Academy of Pediatrics (AAP) endorses instruments that have sensitivity and specificity abilities of 70–80 percent. Using a hypothetical instrument with those classification abilities and applying to a population of 10,000 children who have a 1 percent rate of a disorder would yield Table 4.3. The results show that for each positive test, only 31 percent of children will have the disorder. This means that almost twice as many confirmatory evaluations are required. For each negative test, 97 percent of children will not have the disorder, but 3 percent of children would. Depending on the disorder, this could be a very meaningful shortcoming of the method used. Overall, 20 percent of children will be misclassified.

Table 4.3 Illustration of the Performance of a Hypothetical Instrument

	Disorder Present	Disorder Absent
Test Positive	800	1,800
Test Negative	200	7,200
Total	1,000	9,000

Risk

Risk is a statistical concept that says that a person is more or less likely to have a condition. Risk may be based on group status or by performance. An example of the former is being born prematurely with a birth weight less than 1,500 grams, while an example of the latter is not walking until 20 months.

When risk is assigned, it is most often relative risk. Relative risk compares the frequency of a disorder seen in people who have been exposed to a condition to the frequency of the disorder in people who have not been exposed to the condition. For example, the National Perinatal Collaborative Project (NPCP) was a longitudinal research project that followed approximately 50,000 women's pregnancies from identification until the children were 7½ years old. Perinatal refers to the time from the fifth month of pregnancy until one month after birth. Extensive data were collected on the mother's pregnancies, perinatal period, and the child's early development. One factor, the overall impression of brain abnormality at the time of discharge from the hospital, carried a 99-fold increased risk of cerebral palsy at age 7.

While the first impression is that this is a strongly predictive factor, further analysis suggests otherwise (Shapiro & Gwynn, 2008). First, this factor occurred rarely in the study population. Only 1.2 percent of the population had the factor. Second, most of the children with cerebral palsy did not have the factor. Only 23 percent of the children with cerebral palsy had the factor. Third, the factor predicted other outcomes more than the targeted outcome. Fifty-three percent of those who had the factor died before age 7. Finally, high relative risk for conditions that occur infrequently does not predict the presence of the disorder well. Of the children in the NPCP, the prevalence of cerebral palsy at age 7 was 0.153 percent (1.53 in 1,000). Applying the relative risk of 99-fold meant that 15 percent of the children who had the factor manifested cerebral palsy at age 7 (99 × 0.153%). It also means that 85 percent did not. Establishing a treatment program based on relative risk is destined to be successful because most children do not demonstrate the condition they are "at risk" of developing. This is why we sometimes think treatment strategies have worked because they were "treating" something that did not exist.

Risk Registries

Risk registries identify children as "at risk" when they have characteristics that are associated with the disorder of interest. Most risk registries use historic risk to identify children who require evaluations to confirm the diagnosis. They are used because the risk factors are easily identified—for example, birth weight less than 1,500 grams—but they are limited when applied to individuals. First, as noted above, most children do not have the condition that they are "at risk" of having. In addition, most children with developmental disabilities do not come from an "at risk" population. While prematurity is associated with cerebral palsy, most cerebral palsy is found in children who were delivered at full term. Similarly, while Down syndrome is associated with advanced maternal age, most children with Down syndrome are born to mothers less than 35 years old.

Expanding risk registries beyond the most basic information may prove challenging. Some risk factors may be difficult to define, such as hyperactivity or colic. Some factors may have poor classification abilities (sensitivity and specificity) and poorly distinguish those with the condition of interest (e.g., teenage pregnancy). Some risk factors may not exert their effect directly, or may do so on many different levels. For example, low socioeconomic status is associated with developmental disability, but the mechanisms by which low socioeconomic status causes developmental disability remain to be defined. Finally, risk registries can be expanded to the point that they cannot be implemented. To establish a risk registry that focuses on prematurity would require evaluating approximately 10 percent of the population.

Risk registries established on the basis of performance are more likely to better classify children who are at risk for developmental disabilities because performance-based classification is more specific than risk assigned by historical risk. Performance-based registries require more initial effort than historic risk registries because a larger number of children need to have their performance evaluated. However, the total effort expended might be less because fewer children would require confirmatory evaluations based on performance rather than group status. Assigning risk based on performance is the foundation for screening.

Screening

Screening is the application of procedures to a population without symptoms to identify people who have a high likelihood of having the disorder of interest. Screening is the first step in the diagnostic process. Screening does not yield a diagnosis. The result of screening is "risk." A child who "fails" a screen requires an evaluation to confirm the disorder. Even the biochemical tests performed as part of the newborn screening require confirmatory testing before treatment is initiated.

Screening is justified if the condition will benefit from early diagnosis and treatment and that the cost-benefit ratio is positive. This assumes that the condition exists without symptoms or that early intervention will alter the natural history of the disorder. To accomplish this assumes that the condition of interest can be identified in measurable terms and that the instruments used to screen have acceptable psychometric properties. Finally, for screening to be justified, diagnostic and treatment services must be available to confirm the screen results.

The American Academy of Pediatrics has developed a system of surveillance and screening to guide the identification processes (AAP Council on Children with Disabilities et al., 2006). Surveillance is a flexible, longitudinal, continuous, and cumulative process whereby knowledgeable health care professionals identify children who may have developmental problems. Screening is used at 9, 18, and 30 months, or if surveillance raises questions. The tests that are recommended are listed in Table 4.4 and are widely available. Other groups may recommend different instruments. Other instruments exist but were not recommended because of their screening characteristics. This system is being implemented, and data about the efficacy of this process should be forthcoming in the near future.

Developmental Failure

Developmental disabilities present in many different ways, but the way they come to attention is not random. Many of these presentations are readily observed by early childhood personnel. They include the most common ones of abnormal physical appearance, physiological instability, poor interaction with the environment, motor or language delays, behavioral disturbances, and poor school performance. What these wide ranges of presenting symptoms have in common is that they represent failure to meet age-appropriate expectations. The age at which it is recognized that appropriate expectations are not being met is closely related to the child's ultimate diagnosis (Lock, Shapiro, Ross, & Capute, 1986). Table 4.5 lists the age-related developmental expectations. Parents identify most children with developmental disabilities. They raise concerns when children do not meet age-appropriate expectations. Mothers observe their children and compare them to the children of friends, neighbors, relatives, and play groups. By the time a mother has decided that her child is not meeting age-appropriate expectations, she has conducted a study that controls for

Table 4.4 Developmental Screening Tools Endorsed by the AAP

General Developmental Screening Tools

Ages and Stages Questionnaires
Battelle Developmental Inventory Screening Tool, 2nd ed.
Bayley Infant Neurodevelopmental Screener
Brigance Screens-II
Child Development Inventory
Child Development Review-Parent Questionnaire
Denver-II Developmental Screening Test
Infant Development Inventory
Parents' Evaluation of Developmental Status

Language and Cognitive Screening Tools

The Capute Scales
Communication and Symbolic Behavior Scales-Developmental Profile
Early Language Milestone Scale

Motor Screening Tools

Early Motor Pattern Profile
Motor Quotient

Autism Screening Tools

The Checklist for Autism in Toddlers
Modified Checklist for Autism in Toddlers
Pervasive Developmental Disorders Screening Test-II
1. Primary Care Screener
2. Developmental Clinic Screener
Screening Tool for Autism in Two-Year-Olds
Social Communication Questionnaire

Source: AAP Council on Children with Disabilities et al., 2006.

all the demographic and Table 4.5 confounding variables. Mothers cannot only identify children who are substantially different, but they can also estimate their child's functional level with great accuracy (Pulsifer, Hoon, Palmer, Gopalan, & Capute, 1994).

Assessment

Risk registries, screening, and recognition of developmental delay are techniques that place a child "at risk." They are the first steps in the diagnostic process. Assessment takes the process beyond assignment of "risk" to diagnosis.

Diagnosis is of major importance with developmental disabilities. Diagnosis facilitates treatment. It defines the parameters of the treatment and allows goals to be established. Diagnosis allows prognosis.

Table 4.5 Age-Related Developmental Expectations

Age	Function	Questions
Newborn	Cute	Whom does he look like?
	Major organ systems work	
2–6 Months	Interacts with the environment	Does she see?
		Does she hear?
		Does she recognize you?
6–15 Months	Motor achievement	Does he sit, crawl, walk?
18–30 Months	Language achievement	How many words does she have?
		Is she intelligible?
30–48 Months	Fine motor	Is she overactive?
	Behavior	How well does she play?
	Self-help skills	What is the quality of her work—cutting, coloring, pasting?
		Can she feed, dress, or toilet by herself?

Source: Modified from Shapiro & Gwynn (2008).

Understanding the nature and potential outcomes of a disorder enables the long-term planning that is critical to successful management programs. A specific diagnosis is required to determine the cause of the developmental disability. If an etiology can be determined, then research may enhance understanding of the disorder and open the possibilities of effective treatments or prevention of the disorder for future children. Diagnosis is important for planning and the development of policy. Knowing the number of children with condition X enables planners to determine the services that are required in the community to meet the needs of those families.

Developmental Assessment

The purpose of developmental assessment is to establish a diagnosis, delineate other disorders, and generate hypotheses about the possible causes of the dysfunction. While there are many tools for assessing development, the basic principles derive from the work of Arnold Gesell.

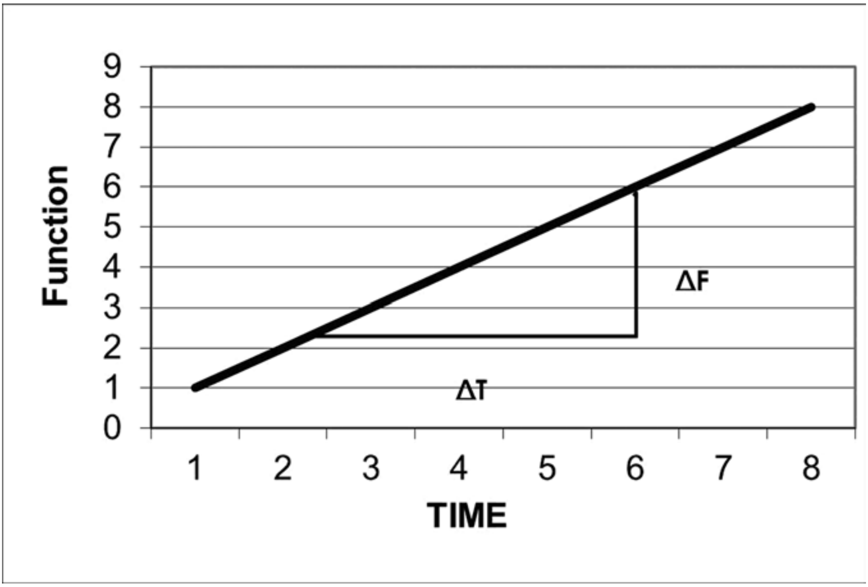


Figure 4.1 Developmental quotients compare the age of achievement (functional age) to chronological age.

Gesell developed an empirical system of developmental assessment that was based on his observations of children (Gesell & Amatruda, 1947). Gesell held that development was an extension of neurological function, and that if a child was developing normally, the brain was functioning normally, or that the compensatory mechanisms were working. He noted that development did not occur randomly. Children followed an ordered sequence—in the motor area they rolled, sat, crawled, and then walked. One of his most important observations was that children who were delayed followed the same sequences, but their achievements occurred at a later age. Gesell's definition of developmental sequences or milestones could be described as rates that compared the age of achievement to chronological age. This was called developmental quotient. For example, a 3-year-old who has achieved an 18-month level would have a developmental quotient of 50 percent (18 months/36 months = 50%).

Delay is what brings children to the attention of caregivers. (For a listing of developmental disabilities, including definitions and prevalence, see Figure 4.1.) The definition of delay may be arbitrary and may be established by the state (P.L.108-446, 2004). Traditionally it

Table 4.6 Developmental Dissociation

	Gross motor	Fine Motor/ Problem Solving	Language	Personal-Social
Cerebral Palsy	Decreased	±	±	±
Intellectual Disability	±	Decreased	Decreased	Decreased
Receptive Expressive Language Disorder or Hearing Loss	±	±	Decreased	±
Autism Spectrum	±	±	Decreased	Decreased

Table of dissociation: ± does not always imply typical development. It refers to relative sparing of this domain of development. Delay may be in ± areas but not to the degree that is "decreased."

was a quotient of 70 percent or less (two standard deviations if 100 was the average and a standard deviation was 15 points). Some practitioners felt that one standard deviation (DQ of 85 or less) would merit attention. Current practice uses 75 percent. Development may be asynchronous, meaning that different aspects of development such as gross motor, fine motor (hand function), problem solving, language, and personal-social (activities of daily living, play) may develop at different rates. These differences in development can be used to achieve early diagnosis. Developmental quotients can be calculated for each aspect of development. Differences of more than 15 percent are significant. Table 4.6 demonstrates developmental dissociation. Of particular note is the primacy of delayed language in developmental disabilities.

Finally, deviation from the sequence is not typical. This may be seen in children who violate the developmental sequence, as in the case of walking before crawling. Deviance may also be noted in children who evidence uncoupled development. They do some things that are age appropriate but not others (e.g., the child who has 75 words but does not use spontaneous two-word phrases). Deviance is often noted in autism spectrum disorder.

Uses of Developmental Milestones

Developmental assessment is a system used to define development in children. The ability of developmental assessment to diagnose and

Table 4.7 Developmental Milestones

Language Milestones	
First word	11 months
Second word	12 months
Third word	13 months
4–6 words	15 months
7–10 words	17 months
50 words	21 months
Two-word phrases	21 months
Gross Motor Milestones	
Roll tummy to back	4 months
Roll back to tummy	5 months
Sits alone	6 months
Crawls	8 months
Walks	12 months

Source: Adapted from Shapiro & Gwynn (2008).

predict outcomes is based on the milestones chosen, the precision with which they are applied, and the child's degree of delay. Deviations from what is typical are predicted with much greater accuracy than degrees of normality. Developmental assessment cannot predict whether, or which, college a child will attend.

Developmental milestones are not equal in their ability to predict. To be useful, milestones must be observed with ease. They must be present in most of the population. They have to appear within a narrow time frame (milestones that occur between 4 and 14 months [a 10-month span] are not useful for early identification). The milestones must be able to predict the disorder of interest.

Language milestones are most useful for the early diagnosis of intellectual disability, receptive-expressive language disorders, or autism spectrum disorders. Gross motor milestones include activities such as rolling, sitting, crawling, and cruising. They are important for the diagnosis of cerebral palsy. Given that many young children choose not to perform in the evaluation session, language, gross-motor, and personal-social milestones may be obtained historically by interviewing parents or other caregivers. Table 4.7 lists a number of language and motor milestones and their usual age of appearance.

Techniques of Milestone Usage

Developmental milestones may be used in many different ways. Milestones may be plotted on a graph. Ongoing monitoring and collection of milestone attainment allows for a curve to be developed that reflects the child's development. The curve shows changes in function (milestone achievement) over time (the child's age).

Criterion-referenced use of milestones is a cross-sectional sampling that samples behavior at a single point in time. Criteria-referenced methods hold the child's age or the function of interest constant. For example, a criterion-referenced use of milestones might ask that all children who were not walking (function) by 21 months (age) be further evaluated. Children who do not meet the criterion are identified for further evaluation. This is the mechanism of screening and does not result in a diagnosis.

Best performance is another method of cross-sectional sampling of a child's behavior. This technique is used by most standard evaluation instruments. A child is asked to perform on a test. The results, which reflect the child's performance at a single point in time, are compared to the performance of similarly aged children. Standard evaluation instruments assume that the child's performance on an assessment instrument is reflective of his abilities. Best performance allows both the age and function to vary.

Finally, retrospective analysis attempts to capture the dynamic aspects of development by sampling the age of achievement of several milestones and develop a summary quotient that reflects the child's development. For example, a child may have their first word at 22 months, have three words at 3 years, and start to use two-word phrases at 4 years. The developmental quotients are 50 percent (11/22), 42 percent (15/36), and 50 percent (24/48), respectively, leading one to conclude that the child is developing at about half of the typical rate. Using multiple milestones to derive a quotient improves diagnostic precision because it lessens the impact of single milestones.

Vision

Vision problems occur in 5 to 10 percent of preschoolers. While there are many different eye disorders, most fall into three categories: refractive error, strabismus, or amblyopia.

Refractive errors include nearsightedness (myopia), farsightedness (hyperopia), and astigmatism. Refractive errors rarely delay early development, save in extreme cases. Blindness is defined as best corrected visual acuity of less than 20/400 in the best eye or a field of vision that is restricted to 10 degrees. Blindness that is seen in infants and young children may be associated with other developmental disorders. Children who are blind often have residual visual ability, but blindness creates challenges for assessment in other developmental areas.

Strabismus, commonly called crossed or wandering eye, is a misalignment of the eyes. The misalignment may be intermittent or fixed. Strabismus occurs in approximately 2 to 4 percent of children. Early intervention for strabismus is important to prevent amblyopia.

Amblyopia is a loss of visual acuity due to brain suppression of the visual signal from an eye. It may be seen in strabismus that is not treated, where the visual signal from one eye is suppressed to prevent double vision. It may be seen as a result of marked differences in the visual acuity between the eyes. Rarely, amblyopia may result from obstruction of the visual signal coming into the eye, as in the case of a congenital cataract (deprivational amblyopia). Amblyopia may cause reduced vision to the level of functional blindness if the affected eye is untreated.

Visual screening commences in the newborn nursery. Newborn screening assesses the eye structures, responses to visual stimuli (such as eye closure to a bright light), and alignment. The ability to fix, follow objects, and alignment are the foci of the first few months. Ideally, this should be evaluated for each eye independently. The ability to see and obtain small objects (e.g., a piece of lint on the carpet) is appropriate for children in the first half-year of life.

Assessment of visual acuity that uses behavioral methods begins at 3 years of age, although estimates of visual acuity can be measured earlier. Techniques that measure pursuit of novel stimuli of graded sizes, or preferential looking, yield reliable measures of visual acuity but have not been widely adopted in the primary care setting.

The American Academy of Pediatrics Committee on Practice and Ambulatory Medicine (2003) endorsed the following tests for use in children who are 3 to 5 years of age: Snellen letters, Snellen numbers, Tumbling E, HOTV, and the Allen or LH test. The Tumbling E test requires the child to show which way the E is pointing. The HOTV tests uses letters that are more easily distinguished by preschool children because they are not affected by rotation. The Allen and LH tests are presented in picture format for children who do not know their letters. Asking younger children to match the stimuli they see to a testing board that contains all of the stimuli may increase their performance.

Details of specific visual screening tests have been reviewed recently (American Academy of Pediatrics Committee on Practice and Ambulatory Medicine, 2003; Tingley, 2007). Criteria for referral for additional evaluation include (1) structural abnormality at any age, (2) failure to show light appreciation in either eye at any age, (3) misalignment of the eyes, (4) visual acuity of 20/50 or worse or more than two lines difference between the eyes in 3-year olds, and (5) visual acuity of 20/40 or worse or more than two lines difference between the eyes in 4-year olds.

Screening for visual problems in preschool children is far from universal (Hartmann et al., 2006). A large multisite study revealed that successful screening for 3-year-olds was completed far less often than in 4-year olds (80% versus 94%). The authors also reported substantial variation in following the recommended protocol, referral rates, and follow-up. They concluded that all aspects of preschool vision screening need to be reviewed before an effective system can be achieved.

Hearing

Hearing loss may be viewed in several different ways. The nature of the hearing loss (conductive, sensorineural, mixed, or central), the degree of hearing loss, and the cause of the hearing loss are but several of the ways that hearing loss may be categorized.

Conductive hearing losses occur when sound is not transmitted to the hearing system. This type of hearing loss is quite common in preschool children and is associated with otitis media and fluid in the middle ear (effusion). The effusion blunts the transmittal of the sound signal and affects hearing. Conductive hearing losses are not usually permanent, but persistent effusions are treated by insertion of tympanostomy tubes. Although concern has been expressed about the relationship between persisting middle-ear effusions and developmental outcome, a number of studies have failed to show adverse developmental outcomes at school age in otherwise healthy children who have persisting middle-ear effusions (McCormick, Johnson, & Baldwin, 2006; Paradise et al., 2005).

Sensorineural hearing loss is the focus of universal newborn screening efforts. It is the type of hearing loss that affects the function of the auditory nerve. Sensorineural hearing loss may not be evident at birth and may develop later in childhood. Sensorineural hearing loss may have its onset after the newborn period, and it may progress as the child ages and becomes communicatively disabled. Consequently, sensorineural hearing losses require regular monitoring. Mixed hearing losses have elements of conductive and sensorineural dysfunction.

Central hearing loss is the result of the brain's inability to interpret the incoming sound stimuli. It does not affect the hearing apparatus. Landau Kleffner is a syndrome seen in preschool children that has language regression, seizures, central hearing loss, and atypical electroencephalogram as key components.

Hearing loss, like visual loss, may be categorized by the severity of the impairment. It is grouped by the loudness of the sound (dB) required to effect a response. Hearing loss may range from minimal (16–25 dB) to profound (more than 90 dB). Hearing loss in the moderate to profound range (more than 40 dB) occurs in 1 to 3/1,000 newborns.

There are many causes of hearing loss. Sensorineural hearing loss may result from infection, toxins, genetic, trauma, or structural causes (Nance, 2003; Roizen, 2003). Congenital cytomegalovirus infection (CMV), a viral infection that may be acquired during gestation, is a common cause of hearing loss. Some of the sensorineural hearing losses are associated with structural or functional abnormalities (e.g., Stickler syndrome or Alport syndrome), while others (e.g., connexin 26) are not.

The methods used for evaluating hearing are dependent on the ability of the child to cooperate. Physiologic measures, such as auditory brainstem responses or otoacoustic emissions, do not require the child's cooperation (see American Academy of Pediatrics, Joint Committee on Infant Hearing, 2007). Impedance audiometry provides useful information about the status of the middle ear and is used most often in the evaluation of conductive hearing loss. Visual reinforced audiometry may be used in children as young as 6 to 9 months to approximate hearing acuity. For those children who can be conditioned for visual reinforcement audiometry (VRA), the American Speech-Hearing-Language Association (ASHA) recommends screening with earphones to test each ear with 1,000, 2,000, and 4,000 Hz tones at 30 dB HL (American Speech-Language-Hearing Association, 1997). If the child cannot be conditioned to earphones, evaluation in sound field conditions may provide sufficient information to answer the question of whether the child has sufficient hearing for development of language. Conditioned play audiometry and use of headphones may be used in somewhat older children. For those children who can be conditioned for play audiometry (CPA), screening each ear (with 1,000, 2,000, and 4,000 Hz tones at 20 dB HL) is recommended. Referral should be made for children who show no response or no reliable response at level at 30 dB for VRA or 20 dB for CPA at any frequency in either ear.

Failed hearing screens are frequently seen in preschool children. In one study (Allen, Stuart, Everett, & Elangovan, 2004) only 54 percent of 3- and 4-year-old children who attended passed the initial screening that included pure tone audiometry, impedance tympanometry, and direct visualization of the ear drum and external structures (otoscopy). About 30 percent of children failed pure tone audiometry. Thirty percent of study children also failed impedance tympanometry. After a rescreening, 76 percent of children passed. Follow-up assessment compliance after the rescreening was poor, approximating 10 percent. The hearing status of 18.3 percent of the eligible children was never ascertained. While the number of failed screens was high, the number of children with confirmed hearing loss was not. Of the children who completed the audiologic screening and/or received diagnostic audiologic assessment, 0.5 percent were confirmed to have hearing loss.

Universal Newborn Screening

As a result of concerns about the long-term developmental implications of delayed identification, evaluation, and treatment of hearing loss in children, Congress authorized the development of a system of early hearing detection and intervention programs. By 2005, all states had operational programs. The programs seek to identify congenital, permanent bilateral or unilateral sensory, or permanent conductive hearing loss and neural hearing loss. Children are initially screened in the hospital using physiological techniques (automated auditory brainstem responses or otoacoustic emissions). Those who were born outside of a hospital or who missed or failed the initial screen are screened/rescreened by 1 month of age. Those who do not pass the rescreening are referred for audiologic evaluation by 3 months and, if they are found to have a hearing loss, referred for aural rehabilitation, medical, and early intervention services by 6 months of age.

Initial screening has proved to be very successful. The Centers for Disease Control and Prevention (CDC) reported that in 2007, approximately 95 percent of eligible infants were screened by early hearing and intervention programs. However, a significant number of children who required further evaluation did not receive appropriate follow-up evaluations. Of the 1.8 percent of children who did not pass their initial screen, 37 percent were found to have normal hearing, and 6.3 percent of children who failed the screen had a hearing loss. Unfortunately, 56.6 percent of children who failed the initial screen did not have a documented diagnosis. Of this group, 79 percent were either lost to follow-up or lost to documentation, 13 percent were in process, and the remainder had parents who declined further evaluation or moved to another state, or the child died.

Of the children with hearing loss, 85.5 percent were referred for early intervention services (Part C of IDEA). Of concern was that 35.7 percent of children with hearing loss were not receiving early intervention, the vast majority of whom were lost to follow-up/documentation.

The AAP Joint Committee on Infant Hearing (2007) identified a number of challenges to the success of the Early Hearing Detection and Intervention (EHDI) systems. Among them were (1) too many children were lost between the failed screening and rescreening and between the failed rescreening and the diagnostic evaluation, (2) often there is a lack of timely referral for diagnosis of and intervention for suspected hearing loss in children, (3) access to Part C services is inadequate among states and within states, (4) there is a lack of specialized services for children with multiple disabilities and hearing loss, and (5) there is a shortage of professionals with skills and expertise in both pediatrics and hearing loss and a lack of in-service education for key professionals. Early childhood personnel can play an important role in assuring that children who fail a screen receive the necessary evaluation to confirm or exclude the diagnosis of hearing impairment.

WHAT ARE THE LIMITS OF EARLY IDENTIFICATION?

Early identification is part of a process that leads to early intervention and better outcomes for the individual. Systems for identifying developmental disabilities have improved significantly over the past quarter century, but still there are limits to achieving the goals of early identification of all children with developmental disabilities. Among the factors that limit early identification efforts are the need to have multiple evaluations to detect all of the disorders of interest, the limited ability of current instruments to classify children successfully, and insufficient efforts to ensure that children who are identified with early identification techniques receive confirmatory testing and, ultimately, intervention.

Early identification does not take place at a single time. It is not possible to identify all possible conditions of interest at a single time.

Sometimes time must pass before the symptoms of a disorder show themselves well enough to be identified. Our current instruments for identification are limited in their ability to identify children with developmental disabilities. Consequently, children may have to "grow into" a disorder. Identification of developmental disabilities is a continuing process. Recognition of this led the AAP to develop a system that includes ongoing surveillance and screening at multiple ages (AAP Committee on Children with Disabilities et al., 2006).

Early identification does not always result in early intervention. The Early Hearing Detection and Intervention Program is a model for identification, but it is limited. Systems that bridge identification and intervention programs are often inefficient. Families may be difficult to follow or may not appreciate the potential of early intervention. Again, early childhood personnel can be key advocates to assure that children receive the follow-up evaluations and, when necessary, referrals for services that they need.

The costs of early identification programs are not trivial. Among the costs are contacting and gaining permission for screening, informing those who fail the screening tests and ensuring that they receive confirmatory screening, provision of counseling relative to the disorder of interest, and linking to early intervention services. Decisions must be made by policy makers as to how much to expend in early identification and how much to allow for other programs.

Early identification is not independent of the other processes that affect the outcome of individuals with developmental disabilities. While it focuses on the individual, early identification is dependent on processes that affect the community and family environments. Unless it is coupled with research that focuses on better techniques for identification, improved methods of intervention, increased understanding of the roles of families in identification and intervention, and successful ways of preventing developmental disabilities, early identification will not meet its objectives.

REFERENCES

Allen, R. L., Stuart, A., Everett, D., & Elangovan, S. (2004). Preschool hearing screening: Pass/refer rates for children enrolled in a head start program in eastern North Carolina. *American Journal of Audiology, 13*(1), 29–38.

American Academy of Pediatrics Committee on Practice and Ambulatory Medicine of American Academy of Pediatrics, Section on Ophthalmology of American Academy of Pediatrics, American Association of Certified Orthoptists, American

Association for Pediatric Ophthalmology and Strabismus, and American Academy of Ophthalmology. (2003). Eye examination in infants, children, and young adults by pediatricians. *Pediatrics, 111*, 902–907.

American Academy of Pediatrics Council on Children with Disabilities, Section on Developmental Behavioral Pediatrics, Bright Futures Steering Committee, Medical Home Initiatives for Children with Special Needs Project Advisory. (2006). Identifying infants and young children with developmental disorders in the medical home: an algorithm for developmental surveillance and screening. *Pediatrics, 118*(1), 405–420.

American Academy of Pediatrics Joint Committee on Infant Hearing. (2007). Year 2007 position statement: Principles and guidelines for early hearing detection and intervention programs. *Pediatrics, 120*(4), 898–921.

American Speech-Language-Hearing Association (ASHA). (1997). Guidelines for audiologic screening. Retrieved December 17, 2010, from http://www.asha.org/docs/html/GL1997-00199.html doi:10.1044/policy.GL1997-00199

Bruer, J. T. (1999). *The myth of the first three years*. New York: The Free Press.

Centers for Disease Control and Prevention. Summary of 2007 National EHDI Data (Version 1). Retrieved December 17, 2010, from http://www.cdc.gov/ncbddd/ehdi/documents/DataSource2007.pdf

Centers for Disease Control and Prevention. http://www.cdc.gov/ncbddd/dd/default.htm

Committee on Practice and Ambulatory Medicine, Section on Ophthalmology, American Association of Certified Orthoptists; American Association for Pediatric Ophthalmology and Strabismus; American Academy of Ophthalmology. (2003). Eye examination in infants, children, and young adults by pediatricians. *Pediatrics, 111*(4, pt. 1), 902–907.

Gesell, A., & Amatruda, C. S. (1947). *Developmental diagnosis* (2nd ed.). New York: Hoeber.

Hartmann, E. E., Bradford, G. E., Chaplin, P. K., Johnson, T., Kemper, A. R., Kim, S., & Marsh-Tootle, W. (2006). PUPVS panel for the American Academy of Pediatrics. Project. Universal Preschool Vision Screening: A demonstration project. *Pediatrics, 117*(2), 226–237.

Lock, T. M., Shapiro, B. K., Ross, & Capute A. J. (1986). Age of presentation in developmental disability. *Journal of Developmental and Behavioral Pediatrics, 7*(6), 340–345.

McCormick, D. P., Johnson, D. L., & Baldwin, C. D. (2006). Early middle ear effusion and school achievement at age seven years. *Ambulatory Pediatrics, 6*(5), 280–287.

Nance, W. E. (2003) The genetics of deafness. *Mental Retardation Developmental Disabilities: Research Reviews, 9*(2), 109–119.

National Research Council and Institute of Medicine. (2000). From neurons to neighborhoods: The science of early child development. In J. P. Shonkoff & D. A. Phillips (Eds.), *Board on Children, Youth, and Families, Commission on Behavioral and Social Science and Education*. Washington, DC: National Academy Press.

Paradise, J. L., Campbell, T. F., Dollaghan, C. A., Feldman, H. M., Bernard, B. S., Colborn, D. K., et al. (2005). Developmental outcomes after early or delayed insertion of tympanostomy tubes. *New England Journal of Medicine, 353*(6), 576–586.

P.L. 106-402. (2000). Developmental Disabilities Assistance and Bill of Rights Act of 2000. 114 stat.1683–1684.

P.L. 108-446. (2004). Individuals with Disabilities Education Act of 2004. 118 Stat 2657–2658.

Pulsifer, M. B., Hoon, A. H., Palmer, F. B., Gopalan R., & Capute, A. J. (1994). Maternal estimates of developmental age in preschool children. *Journal of Pediatrics*, *125*(1), S18–24.

Roizen, N. J. (2003). Nongenetic causes of hearing loss. *Mental Retardation Developmental Disabilities: Research Reviews*, *9*(2), 120–127.

Shapiro, B. K., & Gwynn, H. (2008). Neurodevelopmental assessment of infants and young children. In A. J. Capute & J. A. Accardo (Eds.) *Neurodevelopmental disabilities in infancy and childhood*. Baltimore: Paul H. Brookes.

State of Maryland Family Health Administration. Newborn Blood Spot Screening Program. http://fha.maryland.gov/genetics/nbs_bloodspot.cfm

Tingley, D. H. (2007). Vision screening essentials: Screening today for eye disorders in the pediatric patient. *Pediatrics in Review*, *28*, 54–61.

Chapter 5

Professional Development for Early Childhood Intervention: Current Status and Future Directions

Susan A. Fowler, Tweety Yates, and Michaelene M. Ostrosky

Professional preparation is a central issue in early childhood education, with many hotly debated questions at the core of this issue. For example, what constitutes a highly qualified teacher or provider who can serve all young children, including those with special needs (e.g., developmental delays) or those at risk for later school difficulties (e.g., living in poverty, English-language learners)? What professional preparation should early childhood educators receive *before* they work with young children? Should their preparation include a college degree, license, certificate, credential, or endorsement? What ongoing professional development would benefit early childhood educators *after* they begin working with young children and families? Across the United States, these questions are not easily or consistently answered. The philosophy that young children with special needs and their families are full members of their community, and that they should receive services in their natural environments or in programs that serve typically developing children, is an important piece of any discussion of personnel preparation. However, the issue of *who* provides *what* services for young children and *where* these services are provided is complex for several reasons.

First, the personnel who work with young children during the early years (before kindergarten) come from many different disciplines and begin their careers in early education with varying levels of preparation. Whether personnel are licensed, credentialed, or meet minimum training requirements depend on a variety of factors, including place of employment, services provided, characteristics of the children served, state regulations, and even sources of funding. Their titles and training vary by position (teacher, aide, therapist, provider, early interventionist) as well as by specialization (e.g., developmental therapist, speech therapist, early childhood special education teacher, infant toddler specialist, child care provider). Their preparation may or may not have included a focus on working with young children with special needs or diverse abilities.

Second, the number of children who enter group care or receive care outside of the home has increased dramatically in the past few decades, as more parents are involved in the workforce. This has placed a great demand on the need for personnel in early care and education, making it one of the fastest-growing sectors in the workforce (Bartsch, 2009). National surveys currently estimate that over 11 million children receive some form of early care and education outside of the home annually during their first five years of life (Burton et al., 2002). To meet this need, an estimated 2.2 million individuals are paid annually to provide care and education to society's youngest members (Brandon, Weiss, & Dugger, 2010).

Third, there is no single service system or model for meeting the educational, therapeutic, or child care needs of young children below the age of 5. Instead we have a variety of services that include publicly funded programs, such as Head Start, state funded prekindergarten, and early childhood special education, as well as private programs (for profit and not for profit), such as nursery schools and part-day and full-day child care. Some programs are licensed by a state regulatory agency, and others are licensed exempt. Some programs are located in community settings (e.g., park districts), while others reside in religious settings (e.g., churches), corporate settings, or local school districts. In total, half of the early care and education teachers and staff (1.1 million) work within center-based contexts. Family child care is yet another source of care, which may be provided for a fee or through less formal avenues such as kith and kin systems of exchange. Family child care likewise can be licensed or unlicensed, and annually, 300,000 individuals provide family child care (care for small groups of children who are not related and receive service in the provider's home). Yet another option used by many families is paid relatives and non-relatives who provide care; of these, an estimated 600,000 are relatives and 200,000 are non-relatives or neighbors (Brandon et al., 2010). The level of preparation and formal training for early care and education providers varies greatly, especially given the setting. Those who work in regulated settings, such as community-based centers, tend to have the greatest level of education and may hold licenses, certificates, or credentials. Each state sets its own licensing standards and regulates child care training. Requirements may range from less than a high school diploma to college degree. Thus, *where* personnel work and *what* they do in their work also dictates their level of preparation (U.S. Department of Labor, Bureau of Labor Statistics, 2010).

PERSONNEL WHO PROVIDE SPECIAL EDUCATION AND RELATED SERVICES TO YOUNG CHILDREN

It is within this larger context of early care and education that services for children with developmental delays and disabilities must be considered. The number of children identified as eligible for early intervention (birth to age 3) and early childhood special education (ages 3–5) services has doubled over the past 20 years since all states were required to provide services to all eligible preschool-aged children and to have a system of early intervention in place for infants and toddlers. Recent federal data indicate that over one million children received special education and related services during their first five years. In 2008, 710,000 children between the ages of 3 and kindergarten entry were served through early childhood special education services. Approximately 322,000 infants and toddlers with developmental delays received early intervention services during their first three years of life (USDE 28th Annual Report to Congress, 2009), and increasingly, many children with disabilities or developmental delays receive early care and education services alongside their typically developing peers. In fact, 2006 data indicate that approximately one-third of preschool-aged children with disabilities receive all of their special education and related services in typical early childhood settings, and an additional 17 percent of children attend a typical early childhood program at least part of the time while also attending a specialized program. Figure 5.1 presents the distribution of educational environments where 3- to 5-year-olds received special education and related services in 2006. The most recent reauthorization of the Individuals with Education Improvement Act (2004) emphasized the importance of educating children with disabilities in the same settings in which their typically developing peers are educated. As a result, the percentage of children with disabilities who are enrolled in programs that also serve typically developing children is likely to increase even more.

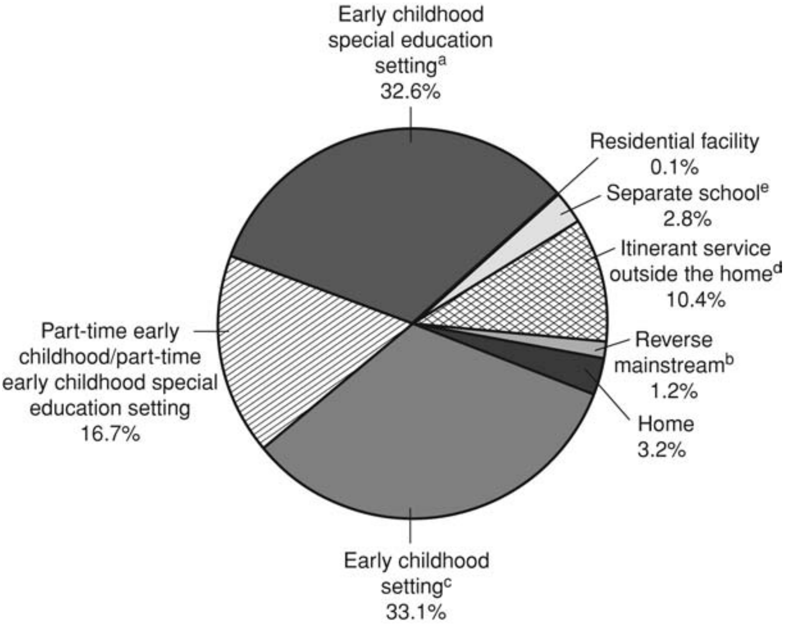


Figure 5.1 Pie chart from USDE 28th Annual Report to Congress (Figure 1-13; distribution of educational environments where children ages 3 through 5 are receiving special education and related services under IDEA, Part B: Fall 2004, p. 35).

The location of services for the very youngest children, newborns through age 2, have also been addressed through policy and statute, which require that services be delivered in natural environments, defined as settings in which children without disabilities are most likely to be served. In many instances, the natural environment is the home, and services are provided through home visits or in community locations requested by the family. This is a shift away from the delivery of services in clinical or medical settings or in programs designed solely for children with disabilities. It is also a shift toward providing intervention in the context of a family's daily routine, so that families or other caregivers are likely to participate in the intervention and apply the strategies or practices throughout typical daily activities.

With these demographic and contextual variables in mind, the purpose of this chapter is to discuss the current state of professional preparation for the array of personnel who work directly with very young children (birth to age 5) who have developmental delays or disabilities and with their families. The focus of the chapter is primarily on those who are certified, licensed, or credentialed to work with children with special needs. However some attention is given to personnel who have not been prepared to work with children with disabilities, but who play a central role in their care and education in community programs.

EARLY INTERVENTION SERVICES FOR INFANTS AND TODDLERS AND THEIR FAMILIES (EI)

The goal of Early Intervention (EI) is to provide support to infants, toddlers, and young children and their primary caregivers to promote optimal development during the first three years of life. An essential philosophical element of EI is to strengthen and support the parents' or caregivers' capacity to meet their child's needs and design services within the context of the family (Dunst, 2007). To optimize state resources, the original legislation (EHA, 1986) identified the basic components that should be included in EI systems, while allowing states the flexibility of determining the population served as well as the structure of their service delivery system. Given this flexibility, *how* services are provided as well as *who* provides these services can vary greatly from state to state (Bruder, 2010). Table 5.1 presents the professional fields originally identified within early intervention. Current research indicates that the most commonly provided services are: special instruction and child development, speech therapy, occupational therapy, physical therapy, developmental therapy, and service coordination (Hebbeler, Spiker, Morrison, & Mallik, 2008).

Table 5.1 Disciplines Identified by PL 99-457 as Eligible Providers of Services for Infants and Toddlers with Exceptionalities and Their Families

Audiology
Medicine
Nursing
Nutrition
Occupational Therapy
Physical Therapy
Psychology
Special Education
Speech Therapy
Social Work

Development of Early Intervention Credential and Preparation Systems

The original 1986 legislation gave states a five-year window to develop a coordinated and comprehensive infrastructure for providing early intervention services. Two components of this system included the development of personnel standards and a comprehensive system of personnel development (CSPD) that included both preservice and in-service preparation of personnel (McCollum & Bailey, 1991). While most states already had professional preparation standards and state licensure for teachers in early childhood special education, the majority did not have standards or credentials for providers serving infants and toddlers. Many states saw the opportunity for the development of an early intervention credential as a way to improve the quality of their EI services and personnel development systems. The credential would provide a method for a state-identified entity to review providers' experiences and qualifications related to serving very young children as well as ensure an understanding of the EI system. A primary question became *how* to create a credentialing system that encompassed multiple disciplines from different training programs, with varying licensure requirements and philosophies for delivering services (Bruder, Mogro-Wilson, Stayton, & Dietrich, 2009; Campbell, Sawyer, & Muhlenhaupt, 2009).

Despite these challenges, recent reports indicate that approximately half of the states either have or are developing a credential specific to early intervention (the Center to Inform Personnel Preparation Policy and Practice in Early Intervention and Preschool Education, 2007). The primary method for obtaining a credential in early intervention involves meeting competency standards (as developed by individual states). The credential attests that personnel have demonstrated competencies related to working with infants and toddlers with disabilities and their families. These standards may be met by attending in-service trainings, completing coursework, or through a recognized program of preservice preparation. An example of South Carolina's core competencies for early intervention providers can be found in Table 5.2. The core competencies are listed as well as one example of a required skill under each competency area.

Many states have added systems overview trainings as a prerequisite before personnel could begin providing services. These trainings typically include an overview of the state philosophy and principles around early intervention and legal requirements of early intervention.

Table 5.2 Sample Competencies in EI

South Carolina Early Intervention Core Competencies (http://www.scfirststeps.org/BabyNet/Policies%20and%20Procedures/Appendix7d.pdf)

1. Early Intervention Foundations

Example: Know and apply relevant policies and procedures regarding the components of a Part C system: Interagency collaboration, public awareness and child find, referral and intake, evaluation, assessment and determination of eligibility, IFSP development, implementation, and monitoring transition, service coordination training, teaming, and consultation, and procedural safeguards, due process, and mediation.

2. Child Development and Learning

Example: Understand typical and atypical child development and the implications for development and learning.

3. Family and Community Relationships and Supports

Example: Establish and maintain collaborative partnerships with families that build families' sense of parenting competence and confidence.

4. Evaluation and Assessment

Example: Use a variety of screening, evaluation, and assessment methods and tools in a family-centered and culturally sensitive manner.

5. Service Coordination, Delivery, and Implementation

Example: Implement and monitor an Individualized Family Service Plan (IFSP) that incorporates child and family outcomes within the context of the family's home and community routines and activities.

6. Professional Development Standards

Example: Incorporate current scientifically based research findings/trends and peer-reviewed literature relevant to early intervention systems and services to solve problems and/or modify existing practices with families, infants, and toddlers.

Trainings may also include information on the operation of the system (e.g., billing procedures for services, processes for family referral and evaluation). Another major training focus is how early intervention is conducted between families and professionals within natural environments. Professional development efforts increasingly have focused on providing services in natural environments using a family-centered philosophy and a transdisciplinary approach (Bruder, Mogro-Wilsom, Stayton, & Dietrich, 2009; Campbell, Sawyer, & Muhlenhaupt, 2009).

Traditionally, early intervention had been viewed as child-focused, with the major purpose being to enhance the developmental outcomes for young children with disabilities. This shift in practice was based primarily on two interrelated reasons: the child is a member of the family, and the family has significant impact on the child's development. Thus, the primary role of service providers in EI became to work with and support family members and caregivers in children's lives. In addition, a new emphasis was placed on providing EI services in natural environments as defined by individual states. This change resulted from research showing that it is during routine activities and everyday interactions with familiar people in familiar contexts that learning opportunities occur for children. In addition, special instruction by early interventionists seemed to be most effective within the context of natural environments using a team approach among professionals and parents (Dunst, 2007). This shift to providing services in natural environments presented not only a change in where services were provided but also a change in how they were provided. A set of guiding principles was developed to illustrate these beliefs and how these practices should support intervention with all children and families within natural environments. These principles can be found in Table 5.3 (NECTAC Workgroup on Principles and Practices in Natural Environments, 2008).

Use of natural environments represents a significant philosophical shift in service orientation for those specialists whose preparation may

Table 5.3 NECTAC Work Group Principles and Practices for Providing Early Intervention in Natural Environments (2008)

Seven Principles for Providing Early Intervention in Natural Environments

1. Infants and toddlers learn best through everyday experiences and interactions with familiar people in familiar contexts.
2. All families, with the necessary supports and resources, can enhance their children's learning and development.
3. The primary role of the service provider in early intervention is to work with and support the family members and caregivers in a child's life.
4. The early intervention process, from initial contacts through transition, must be dynamic and individualized to reflect the child's and family members' preferences, learning styles, and cultural beliefs.
5. IFSP outcomes must be functional and based on children's and families' needs and priorities.
6. The family's priorities, needs, and interests are addressed most appropriately by a primary provider who represents and receives team and community support.
7. Interventions with young children and family members must be based on explicit principles, validated practices, best available research, and relevant laws and regulations.

have focused on the delivery of services to older children or even adults in school, clinical, and medical settings. In fact, a recent study of service delivery combinations in early intervention found that when children received services from multiple therapists, the therapists were "less likely to provide services in the home only and more likely to offer a combination of group and one-on-one. Furthermore, these families were most likely to receive the highest intensity of services per week (i.e, more than 2 hours)" (Raspa, Hebbeler, Bailey, & Scarborough, 2010, p. 140–141). This finding was also true with speech therapist services. This study identified the five most typical teams of providers who worked with families in EI. The five teams included (1) speech language pathologist, (2) occupational-physical therapist, (3) educator team, (4) multiple-therapist team, and (5) other provider teams. They found that the educator team and the occupational-physical therapist teams were most likely to provide services one-on-one and in the home (Raspa, Hebbeler, Bailey, &Scarborough, 2010). The majority of states have established EI technical assistance systems to support the training of providers. Many states are relying on in-service development to provide additional training to specialists to prepare them for the specific concerns and issues of meeting the needs of very young children and their families through natural environments.

A Growing Profession

A shortage of personnel in many of the identified disciplines has further exacerbated state efforts to develop and support their credentialing systems and professional development plans. States reported shortages of speech therapists, occupational therapists, physical therapists, and special educators. As a way to address personnel shortages, about half of the states reported adding new professional categories, particularly at the paraprofessional level including speech language therapist assistants, physical therapist assistants, and occupational therapist assistants. In addition, several states reported adding professional parent roles such as parent facilitators and parent liaisons. Other states added bilingual and sign-language interpreters, not only to improve the number and quality of EI personnel, but also to meet the growing need for more diverse and culturally competent staff.

While there is no question that much progress has been made as states have put systems into place to ensure that EI providers have the knowledge, skills, and abilities to work with infants and toddlers with disabilities and their families, there are still several important issues to be addressed. Among these are the different ways in which states fund services for families and their young children. A number of states have moved to a system of fee-for-service, in which individual therapists or providers are reimbursed for the time that they spend working directly with a family. Although their services may be coordinated through a local office, they work as independent contractors. This means that supervision is minimal and the opportunity to participate in reimbursed professional development is missing (Peterson, Luze, Eshbaugh, Jeon, & Kantz, 2007). Fee-for-service structures also may interfere with the opportunity for providers to meet and engage in transdisciplinary planning and the development of interventions that can address multiple areas of growth and development for the family and reduce the number of providers in their lives.

Challenges for EI Personnel

First, while many states have developed credentialing systems and training requirements, few have created an avenue or career ladder for early intervention providers to advance within the system based on training and performance. This would not only strengthen the quality of services provided in the system, but also help in retaining quality personnel. Secondly, with the ongoing challenge of personnel shortages, states will need to determine how to maintain their standards of excellence while meeting the increased need for additional personnel. Lastly, support is needed to increase the number of higher-education programs and qualified faculty offering EI coursework. Results from the Center to Inform Personnel Preparation Policy and Practice in Early Intervention and Preschool Education (2005) showed that while only a little over half of the states reported having higher education programs that prepared professionals to work in the field of EI.

EARLY CHILDHOOD SPECIAL EDUCATION (ECSE): SERVICES FOR CHILDREN FROM BIRTH TO AGE 8

While Early Intervention is defined as a service field for children from birth through age 2, the age range of children served within early childhood education and early childhood special education can vary considerably based on state definitions. As in Early Intervention, personnel from several disciplines are involved in the delivery of services to preschool-aged children with disabilities. These include early childhood special educators (ECSE), early childhood educators (ECE), paraprofessionals, speech and language therapists, occupational therapists, physical therapists, and other related services (e.g., nursing, nutrition). Shortages have been reported in most of these disciplines for serving preschool-aged children (Center to Support Personnel Preparation and Practice, 2007). This section of the chapter will address the role of ECSE and ECE teachers and their current status. In general, early childhood special education refers to free, appropriate, specially designed instruction to meet the unique needs of a young child with a disability. Common to all states with some form of ECSE preparation program is the delivery of services to children between three years of age and the age of eligibility for kindergarten. The instruction and services can be delivered in a preschool classroom, in the home, in child care, or in other settings in which preschool-aged children typically are found (http://www.isbe.state.il.us/earlychi/pdf/ECSE_LRE_guidance.pdf). The majority of children with disabilities between the ages of 3 and 5 are served in classroom settings, with only 3 percent receiving services at home (Carlson, et al., 2008; Markowitz et al., 2006; USDE 28th Annual Report to Congress, 2009). However, many states may provide certification or endorsements in ECSE that allow educators to work with children across a variety of age ranges (e.g., birth to age 8, age 3 to 21). Certification is acquired through the completion of a baccalaureate degree or an advanced degree. Endorsements are considered as add-on requirements beyond the initial certification, which expand the range of children a teacher may serve. The variability in age ranges across states, as well as the use of endorsements and certifications, creates a complicated context for the preparation of personnel who seek to work primarily with young children.

The need for personnel in ECSE increased dramatically 25 years ago when federal legislation and funding expanded services to all children between ages 3 and 5 who were identified as having a disability or developmental delay. Prior legislation had permitted services for younger children but had not required them. As a result, over half of the states did not have services in place for all preschool-aged children with disabilities; and of these, many did not have teacher preparation programs or certification requirements for early childhood special education. Most states had requirements in place for special education (often crossing the age range of 3–21) and for early childhood education (ECE), but not for the intersection of the two professions. The need to certify a sufficient pool of ECSE teachers quickly outpaced efforts to develop policies that might create a uniform certificate for all teachers in early childhood, whether special education or general education. The early requirement for meeting the least restrictive environment for serving children with disabilities allowed for (1) locating classes for preschool children with disabilities in regular elementary schools; (2) linking classes for children with disabilities part time with other public programs, such as Head Start; and (3) placing children with disabilities in private community programs (USDE Federal Register, 1989). This initial flexibility with which service could be provided resulted in many school districts adding self-contained classes in neighborhood elementary schools, although the second and third options also were used, but with less frequency.

With the increased demand for ECSE teachers, new personnel preparation programs were developed across the country; some emerged from special education programs, others from early childhood education programs, and a few from a blending of the two programs. Currently, 80 percent of the states require an ECSE certificate to teach preschool-aged children with disabilities, in the role of either co-teacher, consultant, itinerant, or primary teacher (Geiger, Crutchfield, & Mainzer, 2003). The route to certification, however, can vary considerably from state to state, as can the age ranges served through the certification. Although teachers are required to be certified to teach preschoolers with disabilities, the most recent federal report on certification indicates that as many as 12 percent of teachers employed to provide special education and related services to preschoolers are not fully certified (USDE 28th Annual Report to Congress, 2009).

In an effort to create greater uniformity and consistency in preparation programs, the major association for early childhood education, the National Association for the Education of Young Children (NAEYC), and the primary association for early childhood special education, the Division of Early Childhood of the Council of Exceptional Children (DEC), both recommended that states develop free-standing certificates for professionals who work with young children from birth through 8 years of age. Their statements advocate that professionals be certified for the same age ranges and that states adopt the same standards for certification to increase reciprocity (Hyson, 2003; Sandell, McLean, & Smith, 2000).

A basic element of their shared approach is the delineation of three age ranges for children who are taught within ECE and ECSE: infants and toddlers (birth through age 2), preschool (ages 3 to 5 or kindergarten entry), and primary (kindergarten to third grade). The statement recommends that certification programs allow personnel to choose specializations in two of the three age spans. Such specialization supports the idea that personnel should gain the knowledge and skills most appropriate for promoting learning and development in very young children (birth to age 5) or children entering their early years of education (ages 3 to 8). This recommendation that all states support a congruent age range for certification is intended not only to increase reciprocity among states, but also to create a uniform and distinctive certificate that addresses the skills and knowledge around assessments, curriculum, and teaching strategies needed for supporting young children.

A review of state certification requirements for ECSE teachers indicates that states are far from meeting the ideals of shared certification standards and consistent age ranges. A recent study of requirements indicates that six certification models are used across the country (Stayton et al., 2009) and that at least 11 age ranges are represented across these models within the United States.

Models of Certification for Early Childhood Special Education

Table 5.4 reflects the emerging nature of ECSE as a specialized content area and the extent to which it may be most closely associated with special education, early childhood education, or both. As such, some states have certification in ECSE, and others have endorsements in ECSE. The distinctions impact the model of preparation. States with ECSE certification have adopted a set of regulated requirements that prepare teachers to work specifically with young children who have disabilities or developmental delays. States with the ECSE endorsement, in contrast, have teachers complete a set of requirements that are added to an existing teaching certificate, which could be early childhood education

Table 5.4 Models of Certification for Early Childhood Special Education

1. ECSE certification
2. ECSE endorsement
3. Blended ECE and ECSE certification
4. Special education certification
5. ECSE and special education endorsement
6. ECE and special education endorsement

or special education. Endorsements are "add-ons" to a program and typically involve additional coursework and practice teaching. The extent to which endorsement programs actually integrate information on teaching children with and without disabilities into the same coursework, or present them as separate courses, varies.

The blended ECE and ECSE certification ideally is a program that prepares teachers to work with typically developing children as well as those with disabilities, and addresses the range of child abilities throughout shared coursework and field experiences. This is the model that approximates the joint position statement on inclusion developed by DEC and NAEYC and enables teachers to work in classrooms that are inclusive of all children. The blended certificate also allows teachers the flexibility to teach within the general education system or special education system. It supports the inclusion of children with disabilities with typically developing peers. A teacher with the blended certification may be the primary teacher or co-teacher within an inclusive early care and education program, or serve as a consultant to a number of programs that include children with disabilities. They might also teach in an inclusive class in elementary schools, such as first grade. Interviews with state directors of ECSE services identified three themes behind the development of the blended certificate. The first was to provide inclusion opportunities for children, the second was to enhance collaboration between general and special education in teaching children, and the third was to increase the professional status of early childhood and early childhood special educators in the field (Stayton et al., 2009).

The fourth model, special education certificate, reflects an extension of teacher preparation in special education to include preschoolers along with students enrolled in kindergarten through grade 12. Some states have a special education certificate that covers the full range of children with disabilities from age 3 to age 18 or 21. Teachers prepared in these programs may subsequently teach a variety of age groups and are less likely to have much coursework and experience with young children. The fifth and sixth models identified are ones in which teachers have a certificate but hold multiple endorsements, whether in special education or in early childhood. Interestingly, some states follow a single certification route, while others use several of the models as pathways for teachers to become certified. This may reflect a need for flexibility in hiring personnel for programs as well as the patchwork pattern in which routes to certification or endorsement have developed over time.

The core content of preparation programs is another way in which the national associations are working toward consensus and a shared approach to accreditation of college and university preparation programs. The Council of Exceptional Children (CEC), which is the parent organization of DEC, has identified 10 common core standards that all special educators must meet. DEC has added six standards specific to ECSE preparation in addition to the core standards (Council for Exceptional Children, 2009). If a higher education program offers a blended ECE and ECSE degree, then NAEYC standards also are included in the program. Table 5.5 presents the standards developed by CEC for all special education teachers, the DEC standards added specifically for early childhood special education, and the NAEYC standards for early childhood care and education. The standards share a focus on (1) promoting child learning, (2) linking child assessment with teaching or instruction, and (3) professional development. Collaboration is clearly identified in CEC and DEC as an important standard representing the need to build relationships with professionals in related specialties (e.g., speech therapy) and in general education for the inclusion of students. This standard also includes collaboration with families, which likewise is emphasized in several of the NAEYC standards.

In a recent study, 17 states were sampled to determine if state early childhood special education standards were congruent with nationally recommended standards. Again, the variability across states in meeting the standards was striking. Three of the 17 states met or nearly met all ECSE standards and the CEC common core, while another two states met more than half of the standards. These five states indicated that they either adopted the national standards or aligned their state standards directly with the national standards. In contrast, three states met none of the standards, and the remaining nine ranged from meeting slightly more than 10 percent to fewer than 50 percent. (Center to Inform Personnel Preparation Policy and Practice in Early Intervention & Preschool Education, 2008). This lack of convergence between state and national standards indicates that most states are working in isolation in developing and revising their certification requirements. Many do not appear prepared or able to adopt nationally advocated standards. In fact, interviews conducted with state policy makers suggest that experts in ECSE may not even be at the table for discussion of certification and endorsement standards related to early childhood education. One policy maker was quoted as saying, "certification development and implementation is a slow, cumbersome process in

Table 5.5 Standards for Professional Development in Special Education, Early Childhood Special Education, and Early Childhood Education

Council for Exceptional Children: Core Standards for All Special Educators	Division for Early Childhood of CEC: Standards for ECSE	National Association for the Education of Young Children: Standards for ECE
1. Foundations	1. Leadership and policy	1. Promoting child development and learning
2. Development and characteristics of learners	2. Program development and organization	2. Building family and community relationships
3. Individual learning differences	3. Research and Inquiry	3. Observing, documenting and assessing to support young children and families
4. Instructional strategies	4. Individual and program evaluation	4. Using developmentally effective approaches to connect with children and families
5. Learning environments and social interaction	5. Professional development and ethical practice	5. Using content knowledge to build meaningful curriculum
6. Language	6. Collaboration	6. Becoming a professional
7. Instructional planning		
8. Assessment		
9. Professional and ethical practice		
10. Collaboration		

Source: CEC, 2009; NAEYC, 2009

which key stakeholders in the state with expertise in ECSE may not be integrally involved in the process" (p. 11). This is in direct contrast to the national associations' recommendation that personnel standards be developed within a collaborative framework including representation of key stakeholders and representatives of professional organizations, policy makers, and families. Given the small percentage of state certification efforts that align with national standards, most states may take years to reach the ideals established by the national professional associations. The lack of alignment between states, and with national standards, will continue to create barriers to reciprocity of certifications and endorsements for highly qualified teachers, making it impractical to recruit across state lines. Nonetheless, national organizations continue to advocate for more consistency in philosophy and approach.

Inclusive Early Childhood Programs

The blended model of ECE and ECSE, or the ability for teachers to have an endorsement in one area and certification in the other, will increase in popularity and demand due to other educational changes in the nation. In 2004, the Individuals with Disabilities Education Act was reauthorized and included language that explicitly stated that young children with disabilities were to be served in the same settings that children without disabilities are served. This clarification of the least restrictive environment option for children, preschool and school aged, has increased significantly the percentage of children who are served in the general education environment with access to the general education curriculum. The U.S. Department of Education reported in 2009 that half of preschool-aged children were enrolled either full time or part time in early childhood settings (USDE 28th Annual Report to Congress, 2009).

Perhaps just as important as the legislative direction was the development and adoption in 2009 by DEC and NAEYC of their first joint position statement entitled *Early Childhood Inclusion* (see Tables 5.5 and 5.6). The organizations noted:

> [T]he lack of a shared national definition has contributed to misunderstandings about inclusion . . . and that having a common understanding . . . is fundamentally important for determining what types of practices and supports are necessary to achieve high-quality inclusion. (DEC/NAEYC, 2009, p. 1)

The publication of this statement places even more pressure on states to create professional development programs so that all teachers have the skills and competencies to work with all children, including those with and without disabilities. In fact, the organizations call for a revision of program and professional standards, stating: "A definition of inclusion could be used as the basis for revising programs and

Table 5.6 Definition of Early Childhood Inclusion from the DEC/NAEYC Joint Position Statement on Inclusion

Early childhood inclusion embodies the values, policies, and practices that support the right of every infant and young child and his or her family, regardless of ability, to participate in a broad range of activities and contexts as full members of families, communities, and society. The desired results of inclusive experiences for children with and without disabilities and their families include a sense of belonging and membership, positive social relationships and friendships, and development and learning to reach their full potential. The defining features of inclusion that can be used to identify high-quality early childhood programs and services are access, participation, and supports.

professional standards to incorporate high-quality inclusive practices" (p. 4). Likewise, it also calls for "an integrated system of high-quality professional development to support the inclusion of young children with and without disabilities" (p. 4). The joint statement on inclusion has the potential to push states to develop both preservice, in-service, and technical assistance programs that will prepare early childhood educators to work with all children.

The emergence of the pre-K or universal preschool movement in the last decade also has increased opportunities for the inclusion of children with IEPs, providing a more normalized or natural environment for children with disabilities. As of 2010, 38 states provide publicly funded pre-K services for 3- and 4-year-olds. In fact, the 2009 Report on "The State of Preschool" in the United States indicates that "30 percent of children attend a state-funded preschool program at age 4, including those receiving special education. When Head Start is added, enrollment in public programs is nearly 40 percent at age 4" (Barnett, Epstein, Friedman, Sansanelli, & Huestedt, 2009, p. 1). As a result, many states and their local districts are including children with IEPs in their pre-K classes using a model in which ECSE and ECE teachers team-teach, or in which an ECSE teacher oversees the implementation of the IEP by consulting with the ECE teacher, who is the lead teacher for the classroom. This is a dramatic shift from the use of self-contained ECSE classes in neighborhood schools, initially allowed in 1988.

Recent research has focused on identifying the factors likely to influence the successful inclusion of children with disabilities in community preschool programs designed for typically developing children or children at risk due to poverty. Access to ongoing professional development has been identified as a key factor (Lieber et al., 2000). One study of 16 preschool programs across four states found that training was critical for staff to address the particular needs of a child with disabilities as well as to include the child in typical activities, whether by adapting materials or using supports, such as a peer or staff member. Another study identified limited qualified personnel as a barrier to inclusion (Brotherson, Sherriff, Milburn, & Schertz, 2001). Not surprisingly other issues that influenced successful inclusion included the opportunity for staff to have time to plan and coordinate services, the development of respectful relationships among the early care and education teachers, and the specialized therapists and teachers. Having a shared vision for inclusion and the transformations in classrooms and teacher roles to support inclusion likewise is often cited (e.g., Buysee, Wesley, & Keyes, 1998).

Because inclusive child care and education is not universally available for all families with a young child with a disability, many have to put together two or more programs to meet their child's special education needs as well as the family's need for child care. Their children make a daily transition between a half-day ECSE program designed to meet their special needs and a child care. These transitions may range from simple and almost seamless to difficult to negotiate, depending on the child and the relationships between program staff and family. For example, if there are no links between home, preschool, and child care, then only the child knows what happens in each setting and may or may not be able to convey critical events. Programs that have regularly scheduled communication (such as notebooks that travel, phone calls, and e-mail) can improve the quality and consistency of services that children receive and at the very least keep each other and the family well informed about each day. Research on the extent to and ways in which teachers communicate across programs for children who are dually enrolled is limited. But one research study indicates that several barriers can impact sharing of information. They range from time constraints and logistics of communication to attitudes in which teachers report lack of willingness or respect on the part of one program. Interestingly, communication was most likely to occur in response to a child's behavior problems in one program and the desire to identify a common and effective way of intervening or circumventing the undesirable behaviors (Donegan, Ostrosky, & Fowler, 1996). Again, joint in-service training opportunities could address issues of attitude and respect by providing opportunities for ECSE teachers and ECE and child care providers to learn about ways of collaborating and ways of supporting the child and family in the two programs and addressing specific strengths and needs.

INCREASED DEMAND FOR CERTIFIED ECE TEACHERS

The increase in publicly funded prekindergarten programs, the recent expansion of Head Start services, and the professionalization of its teaching force are among several factors that are leading to increased professionalization of early care and education teachers—those teachers who work outside of the public school sector. Most early childhood teachers who are not certified have at least an associate of arts degree (Kagan, Kauerz, & Tarrant, 2008). Teachers who hold the title of lead teacher typically have more education than assistant teachers. Teachers in state-funded prekindergarten programs or those certified to work with preschool children with disabilities tend to be the most educated, holding baccalaureate or graduate degrees and certifications. Increased education, along with employment in state or federally funded preschool programs, has led to significantly higher salaries for teachers, with ECSE teachers and certified ECE teachers in public pre-K programs being paid at school-district salary levels. According to the U.S. Department of Labor, National Bureau of Labor Statistics (2007), salary figures nationally averaged $51,160 for ECSE teachers. In contrast, licensed or certified preschool teachers who work outside of pre-K programs were likely to earn half as much, or $25,800. Those who were employed as child care providers were likely to earn even less, averaging $19,670. Preschool teachers earn less than any other teacher in the field of education, and child care workers are among the lowest paid in the service care industry. The degree to which economic and educational improvements in one sector of early care and education improve the conditions for other sectors is yet unknown. However, the knowledge and skills of teachers in early care and education are important factors to consider, as children with disabilities are increasingly spending all or part of their day in early care and education programs, where their peers without disabilities are served. Significant disparities in pay and status among teachers who hold certification and those who do not may also impact their successful collaboration in community programs (Fink & Fowler, 1997). Conversely, the higher status and salary of certified teachers may lead to changes in the status of noncertified teachers and promote a focus on a career ladder within the field that will enable teachers to move toward higher credentials or certification based on continued professional development and ultimately to more competitive salaries.

THE FUTURE OF EI/ECSE PROFESSIONALS

The fields of EI/ECSE continue to evolve, developing primarily in the past 25 years. Empirical research has shown that high-quality early childhood programs for infants, toddlers, and preschoolers result in positive outcomes for children as well as later success in school and the community (Raver, 2002). Early childhood is recognized as the critical period for brain development; this time in young children's lives establishes the foundations of language development, social and emotional development, and a predisposition to learning and curiosity. Standards and benchmarks for early child learning and development have been established in states throughout the country. Teacher preparation standards have been proposed by international and national organizations (i.e., DEC, NAEYC, Head Start) and licensures, certifications, and credentials have been developed to ensure quality early childhood programming and to advance professionalism in an area that has not been traditionally valued by society at large (as evidenced by low salaries in child care and high turnover rates). Even with these improvements in standards and professionalism, the fields of ECSE and EI still face challenges, including shortages. For instance, the numbers of professionals and paraprofessionals who provide early intervention services for infants, toddlers, and young children number around 63,000, and the number of teachers with ECSE endorsements and/or certifications number near 31,000 (USDE 28th Annual Report to Congress, 2009). States have developed a greater capacity to serve young children and their families, and they have improved their processes for identifying eligible children. Over the past 20 years, the number of children receiving services has doubled to more than a million.

Concurrent with the changes in early intervention and special education have been dramatic changes in the population of young children born in the United States. Advances in medical technology have enabled more very low-birth-weight, premature infants to survive, many of whom will require early intervention services. The demographic changes in the child population are dramatic, with 20 percent of all children living in homes with at least one immigrant parent, with many children speaking a first language other than English.

In contrast, most teachers and providers in early care and education are likely to be white, female, and in their 30s or 40s. Greater diversity in terms of race and ethnicity can be found in programs in which at least 75 percent of the children are from an underrepresented group. However, there is a significant ethnic, racial, gender, and linguistic gap between the increasingly diverse population of children and the primarily white, female, and English-speaking professionals who serve young children (Saluja, Early, & Clifford, 2002). This mismatch in demographics can be problematic as the diversity of the early childhood population is not represented in the adults who teach and care for them. Acknowledging and celebrating families' cultures, home languages, and values are critical when creating partnerships and facilitating young children's development and learning. Cultural clashes are more likely to occur when those who teach our youngest members of society have backgrounds that are different from the families of those in their care. Misunderstanding may arise around family and professional roles, child-rearing practices, and cultural traditions and values. For example, a common myth held by many educators is that children should learn one language at a time and that speaking multiple languages will confuse or delay young children's acquisition of English (Tabor, 2008). Yet, globally, most people are multilingual. Cultural competence and an appreciation of multilingual homes must be part of the awareness and skill set of all beginning and practicing early educators. The extent to which cultural and linguistic diversity is addressed in depth in preparation programs is very uneven (Sanchez & Thorpe, 2008) Professional preparation programs, whether preservice or in-service will need to address the changing demographics and infuse diversity constructs into all aspects of early education (Maude et al., 2010).

Another topic receiving considerable attention in special education is the use of scientifically based or evidence-based practices (EBP), which has emerged from the medical field. With the introduction of No Child Left Behind legislation, the U.S. Department of Education began emphasizing the importance of considering the research evidence behind intervention strategies and instructional practices (Buysee & Wesley, 2006). As the fields of general and special education struggle to define EBPs (and what type of information counts as evidence for good practice), a second hurdle facing the fields is to prepare and support teachers in implementing EBPs. Translating research to practice cannot be achieved without close attention to the fidelity with which any particular practice is implemented by professionals

(Odom, 2009). If we believe that EBPs and high-quality teachers are linked, then professional development must include an emphasis on defining, implementing, and evaluating EBPs.

The current emphasis on EBP is impacting the field of early childhood special education as teachers are pushed to critically evaluate the evidence behind the practices they consider embracing. Administrators also are challenged to provide teachers with the time, tools (i.e., coaching and mentoring in using a practice correctly), and resources (i.e., access to professional journals, involvement in research projects) necessary to implement evidence-based practices. Professional organizations (e.g., Division of Early Childhood of the Council for Exceptional Children) and Web sites (e.g., the What Works Clearinghouse) are excellent resources for learning about EBPs in early childhood special education.

Technology may represent another challenge and area of growth for personnel in EI and ECSE. As new technologies emerge, early interventionists and early childhood special education professionals should be encouraged (and expected) to master these tools as they would other tools of their trade. The ways we communicate, access information, and connect with one another are changing. Young adults often turn first to technology for obtaining new information and for networking with peers and other professionals (e.g., the Internet, Facebook, Twitter, and mobile devices that provide access to many resources and offer opportunity for collaborative work). Young families may turn first to Web resources for advice and information and find competing recommendations or explanations for their questions. Helping families to navigate resources may become another part of the job for EI providers and early childhood teachers.

Technology also has implications for the preparation of future teachers and therapists. Researchers have already begun investigating the use of technology to provide immediate feedback to student interns (Barton & Wolery, 2007) and to provide consultative support when implementing interventions (Gibson, Pennington, Stenhoff, & Hopper, 2010). In fact, technology may provide part of the solution to preparing more teachers and in supporting advancement on the career ladder as online classes and distance education provide access to continuing education for a broad range of individuals.

Retaining new teachers and therapists in their positions can be as much of a challenge as preparing a sufficient supply. One strategy is to provide mentoring and induction to novice teachers, including those in EI and ECSE. Smith and Ingersoll (2004) note that new teacher induction programs are "designed to assist novice teachers to move from their role as a pre-service ‘student of teaching’ to their new role as a ‘teacher of students’ ” (p. 683). Induction programs may include “workshops, collaborations, support systems, orientation seminars, and especially mentoring” (Smith & Ingersoll, 2004, p. 683). Although induction has been discussed in the teacher education literature for many years (Feiman-Nemser, Schwille, Carver, & Yusko, 1999; Wong, 2004), attention to the design and implementation of meaningful induction activities for novice teachers is critical at this time when U.S. public schools are faced with growing demands to recruit and prepare teachers to address the needs of an increasingly diverse student population.

Keeping teachers employed at the same school or in the same early childhood program (as well as keeping early interventionists employed in their role, such as independent developmental therapists) provides stability for students and their families and reduces costs for schools and communities. Teacher stability is especially problematic for the field of special education. Darling-Hammond and colleagues (2005) describe four factors that influence the retention of new teachers: (1) salaries, (2) working conditions, (3) preparation, and (4) mentoring support.

As the fields of EI and ECSE move out of the infancy stage, high-quality preservice training, professional development, opportunities for planning and collaborating with peers, the availability of mentoring and induction programs, and other such resources are necessary. They are critical to increasing the diversity of the professionals who enter the field and in preparing them to work with and meet the unique needs of our youngest members of society and their families. Those who provide professional preparation to future generations of early childhood educators must continue to refine and improve preservice and in-service offerings so the most current information, reflecting evidence-based practices, is available to practitioners. Early interventionists and early childhood special educators who provide an array of services to infants, toddlers, and young children with and without disabilities in a variety of settings deserve nothing less than the best preparation and support available so that they in turn can provide the optimal services to young children and their families.

REFERENCES

Barnett, W. S., Epstein, D. J., Friedman, A. H., Sansanelli, R. A., & Huestedt, J. T. (2009). *The state of preschool 2009*. National Institute for Early Education Research. Retrieved from http://nieer.org/yearbook

Barton, E. E., & Wolery, M. (2007). Evaluation of email feedback on the verbal behaviors of pre-service teachers. *Journal of Early Intervention, 30*(1), 55–72.

Bartsch, J. S. (2009) The employment projections for 2008–18. *Monthly Labor Review Online, 132,* No. 11. Retrieved from http://www.bls.gov/opub/mlr/2009/11/art1exc.htm

Brandon, R. N., Weiss, E., & Dugger, R. (2010). The economic value of U.S. early childhood investments. Presented at the NACCRRA Policy Symposium, Washington, DC. Retrieved from http://www.naccrra.org/conferences/symposium/docs/The%20Economic%20Value%20of%20Early%20Childhood%20in%20the%20US.pdf

Brotherson, M., Sherriff, G., Milbrun, P., & Schertz, M. (2001). Elementary school principals and their needs and issues for inclusive early childhood programs. *Topics in Early Childhood Special Education, 21,* 31–45.

Bruder, M. B. (2000). Family centered early intervention: Clarifying our values for the new millennium. *Topics in Early Childhood Special Education, 20*(2), 105–115.

Bruder, M. B. (2010). Early childhood intervention: A promise to children and their families for their future. *Exceptional Children, 76,* 339–355.

Bruder, M. B., Mogro-Wilson, C., Stayton, V., & Dietrich, S. L. (2009). The national status of in-service professional development systems for early intervention and early childhood special education practitioners. *Infants and Young Children, 22,* 13–20.

Burton, A., Whitebrook, M., Young, M., Bellm, D., Wayne, C., & Brandon, R. N. (2002). *Estimating the size and components of the U.S. childcare workforce and caregiving population: Key findings from the child care workforce estimate.* Washington, DC: Center for the Child Care Workforce and Human Services Policy Center.

Buysee, V., & Wesley, P. W. (2006) Evidence-based practice: How did it emerge and what does it really mean for the early childhood field? In V. Buysee & P. W. Wesley (Eds.), *Evidence-based practice in the early childhood field.* Washington, DC: Zero to Three.

Buysse, V., Wesley, P., & Keyes, L. (1998). Implementing early childhood inclusion: Barrier and support factors. *Early Childhood Research Quarterly, 13,* 169–184.

Carlson, E., Daley, T., Bitterman, A., Riley, J., Keller, B., Jenkins, F., & Markowitz, J. (2008). *Changes in the characteristics, services, and performance of preschoolers with disabilities from 2003–04 to 2004–05, wave 2 overview report from the pre-elementary education longitudinal study.* Rockville, MD: Westat. Retrieved from https://www.peels.org/reports.asp

Campbell, P. H., Sawyer, L. B., & Muhlenhaupt, M. (2009). The meaning of natural environments for parents and professionals. *Infants and Young Children, 22,* 213–224.

Center to Inform Personnel Preparation Policy and Practice in Early Intervention & Preschool Education. (2005). Study II data report: The higher education survey for early intervention and early childhood special education—Preparing adequate numbers of students in institutions of higher education trained in service areas required under the IDEA. Retrieved from http://www.uconnucedd.org/projects/per_prep/per_prep_resources.html

Center to Inform Personnel Preparation Policy and Practice in Early Intervention & Preschool Education. (2006). *Study IV data report: The national status of early* *intervention personnel credentials*. Retrieved from http://www.uconnucedd.org/projects/per_prep/per_prep_resources.html

Center to Inform Personnel Preparation Policy and Practice in Early Intervention & Preschool Education. (2007). Study 1, The national landscape of early intervention in personnel preparation standards under Part C of the Individuals with Disabilities Education Act (IDEA), Vol. 1. Retrieved from http://www.uconnucedd.org/projects/per_prep/per_prep_resources.html

Center to Inform Personnel Preparation Policy and Practice in Early Intervention & Preschool Education. (2008). Study V Data Report: Analysis of State Certification Requirements for Early Childhood Special Educators. Retrieved from http://www.uconnucedd.org/projects/per_prep/resources/LP-revision12-11-Study V FINAL Data Report with Content Analysis 01-23-09 ccs.pdf

Council for Exceptional Children. (2009). *What every special educator must know ethics, standards and guidelines* (6th ed.). Arlington, VA: Author.

Darling-Hammond, L., Holtzman, D., Gatlin, S. J., & Heilig, J. V. (2005). Does teacher preparation matter? Evidence about teacher certification, Teach for America, and teacher effectiveness. *Education Policy Analysis Archives, 13*(42). Retrieved from http://epaa.asu.edu/epaa/v13n42

DEC/NAEYC. (2009). Early childhood inclusion: A joint position statement of the Division for Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC). *Young Exceptional Children, 12*, 42–47.

Donegan, M. M., Ostrosky, M. M., & Fowler, S. A. (1996). Children enrolled in multiple programs: Characteristics, supports and barriers to teacher communication. *Journal of Early Intervention, 20*, 95–106.

Dunst, C. J. (2007). Early intervention for infants and toddlers with developmental disabilities. In S. L. Odom, R. H. Horner, M. E. Snell, & J. Blatcher (Eds.), *Handbook of developmental disabilities* (pp. 161–180). New York: Guilford Press.

Feiman-Nemser, S., Schwille, S., Carver, C., & Yusko, B. (1999). *A conceptual review of literature on new teacher induction*. Washington, DC: National Partnership for Excellence and Accountability in Teaching.

Fink, D. B., & Fowler, S. A. (1997). Inclusion, one step at a time: A case study of communication and decision making across program boundaries. *Topics in Early Childhood Special Education, 17*(3), 337–362.

Geiger, W. L., Crutchfield, M. D., & Mainzer, R. (2003). The status of licensure of special education teachers in the 21st century. Retrieved from http://www.copsse.org

Gibson, J. L., Pennington, R. C., Stenhoff, D. M., & Hopper, J. S. (2010). Using desktop videoconferencing to deliver interventions to a preschool student with autism. *Topics in Early Childhood Special Education, 29*(4), 214–225.

Hebbeler, K. Spiker, D., Morrison, K., & Mallik, S. (2008). A national look at the characteristics of Part C early intervention services. In C. A. Peterson, L. Fox, & P. M. Blasco (Eds.), *Young Exceptional Children Monograph Series No. 10: Early intervention for infants and toddlers and their families: Practices and outcomes* (pp. 1–18). Longmont, CO: Sopris West.

Hyson, M. (2003). *Preparing early childhood professionals: NAEYC's standards for programs*. Washington, DC: National Association for the Education of Young Children.

Illinois State Board of Education. (2005, September). Early childhood special education least restrictive environment (LRE) guidance paper. Retrieved from http://www.isbe.state.il.us/earlychi/pdf/ECSE_LRE_guidance.pdf

Individuals with Disabilities Education Improvement Act Amendments of 2004, Pub, L. No. 108-446, 118 Stat. 2647 Retrieved from http://www.copyright.gov/legislation/pl108-446.pdf

Kagan, S. L., Kaurez, K., & Tarrant, K. (2008). *The early care and education teaching workforce at the fulcrum: An agenda for reform*. New York: Teachers College Press.

Lieber, J., Hanson, M., Beckman, P., Odom, S., Sandall, S., Schwartz, I., et al. (2000). Key influences on the initiation and implementation of inclusive preschool programs. *Exceptional Children, 67*, 83–98.

Markowitz, J., Carlson, E., Frey, W., Riley, J., Shimshak, A., Heinzen, H., et al. (2006). *Preschoolers' characteristics, services, and results: Wave 1 overview report from the pre-elementary education longitudinal study (PEELS)*. Rockville, MD: Westat. Retrieved from https://www.peels.org/reports.asp

Maude, S. P., Catlett, C., Moore, S., Sanchez, S. Y., Thorp, E. K., & Corso, R. (2010) Infusing diversity constructs in preservice teacher preparation: The impact of a systematic faculty development strategy. *Infants and Young Children, 23*, 103–121.

McCollum, J., & Bailey, D. (1991). Developing comprehensive personnel systems: Issues and alternatives. *Journal of Early Intervention, 12*(3), 195–211.

National Association for the Education of Young Children (NAEYC). Standards for professional preparation programs. (2009). Retrieved from http://www.naeyc.org/positionstatements/ppp

NECTAC Work Group on Principles and Practices in Natural Environments. (2008). Agreed upon practices for providing services in Natural Environments. Retrieved from http://www.nectac.org/~pdfs/topics/families/AgreedUponPractices_FinalDraft2_01_08.pdf

Odom, S. L. (2009). The tie that binds: Evidence-based practice, implementation science, and outcomes for children. *Topics in Early Childhood Special Education, 29*(1), 53–61.

Peterson, C. A., Luze, G. J., Eshbaugh, E., Jeon, H. J., & Kantz, K. R. (2007). Effecting change through home visiting: Promising pathways or unfulfilled expectations. *Journal of Early Intervention, 29*, 119–140.

Raspa, M., Hebbeler, K., Bailey, D. B., & Scarborough, A. A. (2010). Service provider combinations and the delivery of early intervention services to children and families. *Infants & Young Children, 23*(2), 132–144.

Raver, C. (2002). Emotions matter: Making the case for the role of young children's emotional development for early school readiness. *Social Policy Report, Society for Research in Child Development, 16*, 3–20.

Saluja, G., Early, D. M., & Clifford, R. M. (2002). Demographic characteristics of early childhood teachers and structural elements of early care and education in the United States. *Early Childhood Research and Practice, 4*, 285–306.

Sanchez, S., & Thorpe, E. (2008). Teaching to transform: Infusing cultural and linguistic diversity. In P. J. Winton, J. A., McCollum, & C. Catlett (Eds.), *Practical approaches to early childhood professional development: Evidence, strategies, and resources* (pp. 81–97). Washington, DC: Zero to Three.

Sandall, S., McLean, M. E., & Smith, B. J. (Eds.). (2000). *DEC recommended practices in early intervention/early childhood special education* (pp. 1–168). Longmont, CO: Sopris West.

Smith, T. M., & Ingersoll, R. M. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal, 41* (3), 681–714.

Stayton, V. D., Dietrich, S. L., Smith, B. J., Bruder, M. B., Mogro-Wilson, C., & Swigart, A. (2009). State certification requirements for early childhood special educators. *Infants and Young Children*, *22*, 4–12.

Tabor, P. (2008). *One child: Two languages: A guide for early childhood educators of children learning English as a second language* (2nd ed.). Baltimore: Brookes Publishing Company.

Wong, H. K. (2004). Induction programs that keep new teachers teaching and improving. *National Association of Secondary School Principals (NASSP) Bulletin, 88*(638), 41–58.

U.S. Department of Education, *Federal Register*. (1989, April 27). 34 CFR Part 300, Assistance to states for education of handicapped children; final regulations (pp. 18254–18255). Washington, DC: U.S. Government Printing Office.

U.S. Department of Education, 28th annual report to Congress on the implementation of the Individuals with Disabilities Education Act, 2006. (2009). Retrieved from http://www2.ed.gov/about/reports/annual/osep/2006/parts-b-c/index.html

U.S. Department of Labor, National Bureau of Labor Statistics. (2007–08). *Occupational outlook handbook2010–2011 Edition*: Child care workers. Retrieved from http://www/bls.gov/oco/ocos170.htm

What Works Clearinghouse. Retrieved from http://ies.ed.gov/ncee/wwc

Chapter 6

Trends in Contemporary American Families and Their Significance for Young Children

Bahira Sherif Trask and Steven Eidelman

From a practice, research, and policy perspective, families play a crucial role in American children's lives. For children with disabilities, this is even more true. Many of the systems of services and supports, especially Part C of the Individuals with Disabilities Education Act (IDEA) and Head Start programs have strong family components. For children with significant disabilities, there is frequently more interaction with the health care system, further placing additional responsibilities on families.

Recent surveys indicate that, despite media portrayals to the contrary, most Americans still place a high value on finding a significant other, marrying for love, and having children (Saad, 2006). Historically, families were formed through marriage. Marriage marked the formation of a new household, the initiation of a sexual relationship, and the birth of children. With the increasing social acceptance of premarital sex, cohabitation, childbirth outside of marriage, and same-sex partnerships, fundamental notions about who or what is a family are increasingly debated. The institution of family is being redefined. These debates around the public and private roles of families have brought to the forefront a series of policy concerns, many of which center specifically on improving the welfare of children and their development. Moreover, contemporary discourses around families increasingly acknowledge the critical role that other structures and institutions in society play. These discourses have served to highlight the fact that "family" can be experienced differently by children depending on their social class, race, ethnicity, gender, disabilities, and even regional location.

The current financial downturn has highlighted the realization that although some families and their children are more vulnerable than others to economic marginalization, none are immune from the deep structural changes undermining "traditional" families. Contemporary adaptation in families has taken varying forms including renegotiated gender roles, increasing divorce rates, the increase in single-parent households, and more nonfamilial household units. Moreover, as social and economic changes produce new family arrangements, some of these alternatives are becoming more accepted, in the face of rhetoric to the contrary. Rather than being an expression of group-specific differences alone, family diversity is an outgrowth of distinctive patterns in the way families and their members are embedded in environments with varying access to opportunities, resources, and rewards.

THE MYTH OF THE MONOLITHIC FAMILY

The term "the family" has become increasingly controversial over the last several decades. It is associated with a specific composition of members and their associated roles. To most Americans, the term "family" conjures up an image of a father, mother, and children, with the father gainfully employed and the mother, ideally, a homemaker available to her children at all times. Critics argue that most individuals in U.S. society do not live in that arrangement anymore, and that, thus, the term "the family" has lost its functional meaning. Later in this chapter, data are presented related to this point. For these critics, the concept of the family is also problematic because it is understood to be prescriptive (i.e., it implies how people *should* live and does not reflect the reality of most Americans' lives). Smith (1993) has referred to this as the Standard North American Family (SNAF), and maintains that this image is still powerful even though the realities for most American families are quite different. According to the U.S. Census Bureau (2008), approximately 7 percent of households in the United States consist of a father gainfully employed in the labor force, a mother who is a homemaker, and their children. If divorce and remarriage were factored in, the percentage of families who fit this particular family type would be even smaller.

Currently, the legal definition of family, used by the U.S. Census Bureau, refers to two or more people who live together in a household and are related to each other by blood, marriage, or adoption. This definition of families is structural; it focuses on the requirements for membership and the spatial arrangements (where they are living together or in separate physical locations) of its members. In 2007, there were 116 million U.S. households. Of those, approximately, 67.8 percent (78.4 million) of all households fit this U.S. Census Bureau definition of family. This statistic indicates a decrease in family households from 85 percent in 1960, which can be attributed to various factors including: individuals are marrying later, they are less likely to have children, and they are more likely to live alone or with an unrelated person. The number of households composed of married couples with children under the age of 18 dropped from 40 percent in 1970 to 23 percent in 2007, while the number of individuals living alone doubled from 13.1 percent to 26.8 percent. Male-headed households with a child or other dependent family member jumped from 2.4 percent in 1960 to 4.4 percent in 2007. Female-headed households with a child or dependent family member climbed from 8.4 percent to 12.4 percent (U.S. Census Bureau, 2008), an increase of nearly 50 percent. There has also been an increase in the number of nonfamily households that contain more than one individual, more than doubling from 1.9 percent to 5.6 percent. This number may conceal gay or heterosexual couples who are living together without being formally married as well as renters or boarders in homes. These statistics indicate that while married households are still in the majority, an increasing number of young and old individuals are living in arrangements that are not officially defined as family, though the people in these arrangements may consider themselves to be in a family.

While household composition has changed, so has the average size of families and households. In 2007, the average American household is estimated to have about 2.56 individuals. This figure represents a significant reduction when compared to some of the earliest census figures. Census figures from 1890 indicate that the average American household at that time contained 5.4 individuals, more than double the average size of today's households.

Statistics on households and families, however, are deceptive. Families are not just defined by their structures. Most Americans now consider any group of emotionally bonded individuals as a family (Stacey, 1996). Families are linked to societal ideologies and reflect certain values and behaviors that are considered important in a culture. Understanding these behaviors and values is critical because they provide an explanation for why certain types of families are legitimized. They also set the criteria for what is considered deviant. Social arrangements that are considered deviant are not supported through public opinion or through social policies. This occurs to maintain a specific type of social order. For example, over the last several years, we have witnessed strident debates around same-sex marriage in the United States. While same-sex marriage is legitimized by law in many European countries, we in the United States have been slow to accept the formal union of gay and lesbian couples. The debates over same-sex marriage provide an example of the relative power of different interest groups—in this case, heterosexual versus homosexual individuals. These disputes also give us insight into the fundamental values that many Americans still hold when it comes to the institution of family—that families are created through marriage between a man and a woman.

Despite controversies around the definition and meaning of family, families in the United States continue to enjoy significant symbolic value. Politicians run for office emphasizing their strong "family values." Commercial ventures such as the Disney Channel promote "family programming," implying that they are geared toward promoting the psychological health and well-being of children. Countless other products and services are marketed as being "family friendly." Much of this symbolism implies that families are wholesome units, united with respect to goals, and sharing uniform experiences. These idealized versions of family life have been challenged in particular by feminists, who have revealed that the internal workings of families are not necessarily in line with public representations. For example, Heidi Hartmann introduced the idea that families are often wrought with conflict and represent conflicting interests.

> Such a view assumes the unity of interests among family members: it stresses the role of the family as a unit and tends to downplay conflicts or differences of interest among family members. I offer an alternative concept of the family as a locus of struggles. In my view, the family cannot be understood solely or even primarily as a unit shaped by affection or kinship, but must be seen as a location where production and redistribution take place. As such, it is a location where people with different activities and interests in these processes often come into conflict with one another. (Hartmann, 1981, p. 368)

Hartmann's perspective highlighted the notion that families are places where individuals negotiate their different relationships and desires. Different members will have varied perspectives on their experiences in their families. Thus, some members may feel that their families are "happy families" though other members may feel quite negatively about their experiences within the same family. This perspective allows us to understand that the internal dynamics of families are often quite different depending on the vantage point of different individuals. Different children may have very diverse experiences within the same family, depending on birth order, gender, disabilities, and a myriad of other factors.

CHANGES IN AMERICAN FAMILIES

Much of the contemporary controversy around families centers on perceived or suspected transformations in American families. However, what is often not clearly understood is that much of the change with respect to families is actually the result of demographic transformations, and not necessarily just the consequence of family dissolution and family intimacy, as is so often believed (Fischer & Hout, 2010). For example, one major change over the last 100 years is that Americans are living longer. In 1900, an American white male was expected to live until approximately the age of 62 or 63. Today, an American white male can expect to live until his mid-70s, and the estimates for middle- and upper-class males is quite a bit higher. The same facts hold true for women. This greater longevity has significant implications for family life and for social policies pertaining to families. Children today are much more likely to know their grandparents, and even their great-grandparents, than at any other time in human history (Buck, Van Wel, Knijn, & Hagendoorn, 2008). However, the greater longevity of family members has also introduced significant concerns around caretaking responsibilities for adult children, and at times even for younger children and children with disabilities, in families (Bengston & Allen, 1993). Many families raising young children are also providing care to aged parents.

Moreover, another demographic shift, the declining fertility of women, has had a profound impact on families. While in 1900 the average American woman bore about four children, today's mother averages about two children (with some differences between different ethnic and religious groups). These extensions of the life span and the reduced fertility of women have contributed to a large number of Americans over 50 living in the "empty nest" with just a spouse, and an increasing number of older individuals living alone (Fischer &

Hout, 2010). Thus, the most profound change in contemporary American family life has been experienced by the elderly, who are the most likely to have ended their parenting at an earlier stage in life, have fewer children, and are living longer than past generations.

Another profound family change in the United States centers around the large proportion of mothers with young children now working in the paid labor force. In 1920, approximately 10 percent of married women worked outside of the home. In 2008, 60 percent of mothers with preschool children were employed outside of the home, with the rate for low-income women higher than for middle-class women. This trend has significant implications for the raising of children, the relationship between spouses, and for community and social life. Mothers have more pressure on their time, are significantly responsible for child care arrangements, and are still expected to perform household duties (U.S. Department of Labor, 2009, Table 7).

Families who have a child with a significant disability are more likely to be poor and more likely to experience material hardship than families without a child with a disability (Parish et. al., 2009). These same families, with higher costs for raising their child (or children) with disabilities, are also more likely to work fewer hours due to caregiving burdens, though the evidence for this is not as strong as the cost of caregiving evidence, and therefore have fewer financial resources available to them (Rupp & Ressler, 2009).

Other significant family trends include the rising age of marriage for both women and men and the continued high divorce rate. The age of first marriage has fluctuated somewhat over the last 100 years, with a dip in marriage age occurring in the 1950s but rising steadily to about 25 years for women and 28 years for men in 2009 (U.S. Census Bureau, 2009). With respect to divorce, it is important to note that, historically, marriages were more likely to be dissolved through the death of a spouse than through the legal termination of a marriage. Today, while divorce has become commonplace, so has remarriage and cohabitation. As will be discussed later, there is a great deal of academic and popular dispute around the effects of divorce on children; however, in reality, we know little about the processes of divorce on the development of children when coupled with remarriage and periods of cohabitation.

There has been a great deal of misinformation about the divorce rate in families where there is a child with a disability. The research demonstrates mixed impacts, with some studies showing a higher divorce rate when there is a child who was born with low birth weight, cerebral palsy (Joesch & Smith, 1997), attention deficit hyperactivity disorder (ADHD), and oppositional defiant disorder (Wymbs et. al., 2008), though the impact is not high. Other studies on children with intellectual disability or children with autism do not show a significant difference, though a lot has been written about stress on the family and emotional stress on the parents (Bromley, Hare, Davison, & Emerson, 2004; Yamada et al., 2007). While beyond the scope of this chapter, the impact of a child on families is something early childhood providers should be aware of in their work.

Interestingly, marriage remains as popular an option as always in the United States. When polled, over 90 percent of Americans claim that they want to marry—and actually do marry (Fischer & Hout, 2010). From an historical perspective, it is actually simpler to create a stable nuclear family for children in the contemporary context because premature death and unplanned pregnancies, while still over 40 percent of all pregnancies, have become less common.

A BRIEF OVERVIEW OF HISTORICAL ASPECTS OF AMERICAN FAMILIES

The transition from subsistence farming to wage labor that began in the late 1700s marked the origins of many of the trends witnessed in today's American families. As commercial capitalism with its emphasis on the buying, selling, and distribution of goods such as tobacco, grain, and cotton took hold, new types of jobs became available that drew men, primarily sons, off their family farms and undermined the authority of fathers. As children attained a greater degree of economic independence, they were also able to subscribe to more individualistic notions of family life. By the mid-1800s, as industrial capitalism spread, increased factory work had changed the nature of both work and family life.

In agrarian times, women and men worked together to maintain the farm and the household. Then, industrialization moved work out of the home. The industrial form of wage labor became increasingly valued as society moved predominantly toward a market economy (Hattery, 2001). The movement toward industrialization was accompanied by a growing distinction between men's (paid) work and women's (unpaid) work. As the need for factory labor grew, men's work became more valuable and led to a societal belief in the "natural" roles of men and women. This pervasive belief in a "natural" division of labor became legitimized by emphasizing the biological differences between the sexes. Women's biological ability to bear children became equated with an equivalently important ability to rear children. Among the American middle and upper class, this was thought to make women more suited to attending to the private sphere of the household and family. Men, on the other hand, were believed to be biologically better disposed to working in the harsh environments of factories and, in general, in the public arenas of work and finance. This economic transformation created a context in which the contributions of men came to be perceived as more valuable for families and society due to the primacy given to the importance of earning money (Moen & Sweet, 2003). Women's most important input became their domestic one. Feminists have pointed out that by working for "free," women's labor became undervalued, creating inequalities in families. These eighteenth- and nineteenth-century developments gave birth to an ideology about gender roles and the division of labor in families that continues to persist in U.S. culture.

Contemporary feminist scholarship on families has exposed this inequality between the sexes in families and questioned the arrangement of "traditional" families with respect to the roles of women (Hattery, 2001). In much of this literature, family arrangements that foster the well-being of children have been virtually ignored. Instead, the primary emphasis in much of the research on families has continued to focus on issues around the perpetuation of traditional models of gender. Despite a lack of interest specifically in children, much of this work has revealed that popular conceptualizations of historically stable, breadwinner-homemaker families with happy, well-adjusted children has no real foundation in reality! Instead, historically, most American families were not able to adhere to a model of family life with two parents who were biologically related to their children, clear gender roles, and a father employed in the labor force. Instead, death often left children without one or both parents, and poverty often forced all members of the family, including the children, to work to survive. For low-income, immigrant, and minority men and women, family constellations that deviated from the mainstream ideal were the norm, not the exception. In these families, women most commonly worked outside of the home to help make ends meet, and men and children shared in domestic household activities including caretaking (Coontz, 1992).

From an historical perspective, there were several other noteworthy developments in American families that continue to play a role in contemporary social life. Throughout much of American history, love and sex were not a significant aspect of marriage and the founding of families. In fact, until about 1900, passion was thought to be a dangerous emotion that should not be part of the marriage process. Instead, parents played a critical role in helping choose a mate for their children. Criteria for marriage included a suitable family background, economics, sympathy, and understanding. Men and women married for economic reasons, social stability, social acceptance, and to have children (Cherlin, 2010).

Between 1890 and 1960, attitudes towards families, marriage, and sex underwent a profound transformation. Increasingly during this period, sexual attraction and love came to be seen as the most important criteria in choosing a mate. Individuals no longer married just to produce children anymore. Moreover, with the introduction of birth control and better health practices, childhood mortality sank, and men and women were able to have fewer children. The life span of family members also increased. The shift toward smaller families that were living longer allowed men and women to focus their attention on each other and to emphasize the psycho-social development of their children.

Changes within families were also accompanied by new attitudes toward children. In colonial times, children were to have been born "in sin" and were, thus, raised very strictly. It was only in the late 1800s that attitudes toward children began to shift. Children were now believed to be morally pure and closer to God than adults, which led to a new way of viewing parenting. Children were now consigned to the "women's sphere" as they were believed to need their mother's nurturance and guidance. This was, again, a significant shift in family life. During colonial times, men had been believed to be the better, more appropriate parent and spiritual guide of their children. It is important to note that these conceptualizations of the purity and innocence of children were reserved again, however, for white middle-class children. African American, working-class, and immigrant children were expected to work and assume adult roles from a very early age. They did not participate in the new conceptualizations of children as moral and pure, worthy of a labor- and worry-free childhood.

The 1960s introduced new social perspectives on families that had their roots in the civil rights movement, the expansion of sexual behavior outside of marriage, the Vietnam War, the revival of feminism, and a general anti-authoritarian stance. The divorce rate started to climb to unprecedented rates, and women with children flocked into the work force. While statistics indicate an increase in the percentage of two-parent families during the decades of the 1950s, 1960s, and 1970s (Seward, 1978), Masnick and Bane (1980) point out that it was only in the late 1970s that the number of nuclear families affected by divorce began to exceed those disrupted by death. As the prevalence of divorce and mothers with children under age 18 entering the work force increased, American families began to deviate from the 1950s and 1960s concept of the "typical" or "traditional" family. The general shift away from the family as a unit of production to a unit characterized by emotional intimacy is today seen by many scholars as the primary transformation in American family life (Coontz, 1992).

In the late twentieth and early twenty-first centuries, other notable family trends have accompanied ideological changes. Fertility has decreased while cohabitation has increased, and "other" forms of families such as step-families, female-headed households, and grandparents raising children have become increasingly visible. In particular, gay and lesbian families have become a recognized, if controversial, family form in Western families. Nevertheless, research indicates that gay and lesbian couples look for the same things that other men and women search for in their relationships: commitment, stability, and companionship as well as satisfying sexual relationships. Gay and lesbian couples, however, tend to be more egalitarian than heterosexual couples. Gay and lesbian families share similar goals and expectations for family life. Many individuals and couples are choosing to become parents; however, current legislation preventing legal marriage and same-sex adoptions in many states present unique challenges to family formation (see http://gaylife.about.com/od/gayparentingadoption/a/gaycoupleadopt.htm). Regardless of the legal obstacles that face many gay and lesbian couples, a sociological phenomenon labeled the "gayby boom" has led to significant number of same-sex partners and gay and lesbian individuals choosing to have children and providing a supportive and healthy environment for child rearing. Currently, approximately one in three lesbian women has given birth to a child, and one in six gay men has either adopted or fathered a child (Gates, Badgett, Macomber, & Chambers, 2007). It is important to acknowledge, however, that gay and lesbian families continue to face discrimination despite the growing number of individuals and families advocating for social equity regardless of sexual orientation.

THE FAMILY VALUES DEBATE

The contemporary trend of high numbers of women working outside of the home has set the stage for an unprecedented degree of debate about the appropriate distribution of roles in families. From an historical perspective, in the United States until the early 1960s, most women who sought employment outside of the home were poor and women of color. White women participated in the labor force only during their early 20s, leaving once they married and had children. A short deviation from this pattern occurred during World War II, when women were needed in the labor force due to a shortage of men. However, with the return of large numbers of men from the military after World War II, women were encouraged to once again take up their domestic roles. Beginning in the late 1960s, a new trend emerged: women entered into the labor force and remained through their childbearing years (Bianchi, Robinson, & Milkie, 2007).

In the United States, the debate about women's and men's roles has taken on strong political connotations. It is primarily referred to as the "family values" debate even though, in reality, it focuses on women's paid employment and the resultant changes in family life. For example, one prominent scholar has suggested that "families have lost functions, power, and authority; that familism as a cultural value has diminished, and that people have become less willing to invest time, money, and energy in family life, turning instead to investments in themselves" (Popenoe, 1993, p. 527). This particular scholar has gone on to perpetuate the argument that the institution of family is in decline. To strengthen families, he suggests that we need to return to a traditional model of one partner being a wage earner and the other caring for the children and other dependent family members. What this model of family life does not adequately address is the concern that one family member will, thus, be economically vulnerable. Most households in the United States are either dependent on multiple incomes or are composed of only one head of household who needs to be in the paid labor force (McGraw & Walker, 2004). Embedded in the suggestion that we need to return to more "traditional" arrangements is the notion that women are at fault for the "decay" of society, as their appropriate role should be as primary caretakers of the home and family.

In the United States, opponents of a traditional distribution of roles in families advocate a family institution that is less hierarchically organized, that allows for greater personal growth for its members, and that encourages women to pursue educational and employment opportunities that benefit both individuals and society as a whole. From this perspective, public policy needs to be restructured to provide greater social benefits such as adequate child care, universal health insurance and flexible work schedules to accommodate caregiving and formal labor-force participation.

Much of this debate has ignored some other complicated issues that characterize contemporary times. For example, both advocates for "traditional" families and their critics have ignored the reality that increased educational opportunities and participation in the formal and informal labor force have allowed only certain groups of women to acquire the necessary economic resources to postpone marriage, to gain greater power vis-à-vis their spouse in marriage, and to leave abusive and exploitive marriages. For many other women, particularly those at the lower end of the socioeconomic scale, participating in the formal and informal labor force has not led to self-empowerment and autonomy. Instead, their employment outside of the home or away from traditional means of subsistence has translated into low-paying and, at times, risky jobs with schedules that interfere with child rearing. At times, their economic engagement has come at a high personal cost. Men socialized into "traditional" social roles may become embittered and downright abusive due to feelings of inadequacy about not fulfilling their provider role. This leads to violence toward women and their children in families and is an often overlooked phenomenon.

The "family values" debates combined with statistics on the high number of women in the paid labor force has spurred strident debates around parenting issues, social policies to support working parents, optimal conditions for child development, and socialization into "appropriate" gender roles. However, the cultural, political, and economic contexts within which these debates are held differ widely and elicit at times very diverse responses. It is thus impossible to speak just of one type of family experience as normative for all children.

THE SOCIALIZATION OF CHILDREN IN FAMILIES

Families are the primary vehicles of socialization for children, and virtually every aspect of their future lives is affected by these initial experiences (Karoly, Kilburn, & Cannon, 2005). Socialization involves learning the roles, norms, and values of a certain culture and society. Extensive research indicates that very early experiences are formative for individual development. Infants attain their first sense of self, other people, and social relationships through their initial interactions with their primary caregivers. While in the United States, we have emphasized the role of the mother in early socialization and development, there is an increasing scholarly and popular realization that fathers, siblings, and other closely involved individuals also provide crucial role models as well as nurturance for young children (Palkovitz, 2002).

An extensive literature around the socialization of children in families has centered on parenting styles, children's psychological makeup, intensive mothering, and father involvement. But perhaps none has been more controversial in recent years in the United States than the issue of gender socialization. Gender socialization refers to the process, assumed to start at birth, whereby cultural roles are learned according to one's sex. Cross-cultural evidence indicates that at times, even pre-birth, the fetus is treated differently if it is a boy or a girl (McHale, Crouter, & Tucker, 2003). Research indicates that depending on its sex, parents, caregivers, siblings, and other community members react to the young infant child differently, teaching it from birth that there are gender differences and that this behavior is accompanied by differing societal expectations for girls and boys. Children are directed into specific gender roles that impact their daily activities, the course of their lives, and their future potential. Extensive research indicates that despite dramatic changes, socialization differentiated by gender remains intact and, in fact, increases as young people enter adolescence (McHale, Crouter, & Tucker, 2003).

As children transition from childhood into adolescence, parents continue to play a significant role with respect to socialization. However, during this period, most teens also tend to seek out others, and peer influence grows in importance. While recent years have witnessed much debate about the significance of peers on adolescents, recent work indicates that effective parenting is directly related to decreased negative influence of peers and delinquency among adolescents (Simons, Chao, Conger, & Elder, 2001). Furstenberg (2000) has pointed out that much of the work on adolescents has approached this period of time in individuals' lives from a problem perspective, concentrating on deviant behavior creating the impression that all teens are plagued by problem behaviors. He points out that this is not necessarily the case, and that we need to look at the teenage years also as a period of positive development and growth. During this time in their lives, adolescents increasingly spend more time with peers, in school, and community settings, and are thus influenced by new ideas and perspectives. Today, more than ever before, teens are also inundated by media messages and communication technologies that facilitate networking across cultural and geographic boundaries. This connectivity translates into parental and familial socialization influences being in direct competition with other messages from external sources. However, there is much variation among adolescents with respect to personality and receptivity to multiple stimuli. It thus behooves us not to generalize and assume that all teens are vulnerable to negative messages or that family influence necessarily diminishes during this period. As with all other parts of the life course, a great deal of individual differences and situational experiences play a critical part in development.

Another significant aspect of socialization and an issue of major concern to many researchers and policy makers is the number of children being raised in single-parent homes. As of 2009, approximately 40 percent of children in the United States were born to unmarried mothers. *The 2009 Statistical Abstract of the United States* illustrates that about 30 percent, or 22 million, children under the age of 18 were not living with both parents last year. Most of these children lived with their mothers, while 3.5 percent lived not with either parent, but instead most probably with other relatives. Statistics also indicate that while most white children are born into two-parent households, divorce or an absent parent leads to about 21 percent of children not living with both parents. In comparison, 62 percent of black children were born to single mothers. About 30 percent of Hispanic children lived with only one parent; some of these parents were divorced, some were never married, and some had an absent father. These statistics indicate that for children born in the 1990s and 2000s, the likelihood is high that they will experience one-parent families at some point in their lives before they turn 18. One-parent families differ significantly from two-parent families due to changes in parenting styles and an increase in domestic and caretaking responsibilities for children (Jayakody & Kalil, 2002). Moreover, economics often play an important detrimental role in single-parent families as there is usually less money available to the mother and her children after the divorce.

In particular, single parenthood combined with poverty affects the lives of too many American children, and this is particularly true for children with disabilities. Approximately 29 percent of families headed specifically by single mothers live below the poverty line, compared to 8 percent of children living in two-parent families (Amato & Maynard, 2007), making their children more vulnerable to a wide array of risk factors (DeNavas-Walt, Proctor, & Smith, 2009). Analysis of longitudinal data indicates that approximately 34 percent of American children will spend at least one year of their lives living under the poverty level (Rank & Hirschi, 1999). It is important to note that, as multiple studies indicate, it is not necessarily single parenthood that is detrimental for children's development, but instead it is the combination of factors such as single parenthood combined with poverty, bad neighborhoods, and poor schools that influence child outcomes (Repetti, Taylor, & Seeman, 2002).

CHILDREN AND THE CHILD CARE CONTROVERSY

As the number of dual-earner families grows and single parenthood becomes more prevalent, child care arrangements have become one of the primary concerns for many American families. Approximately 76 percent of children under the age of 5 with working parents participate in some type of nonparental care, and two out of five have multiple care arrangements. Thus, parents and children negotiate a complex web of child care arrangements that include babysitters, child care centers, relatives, and friends. Moreover, about 41 percent of these children are in nonparental care at least 35 hours per week. A third of these children are put into non-arental care by the time they are 3 months old (Capizzano & Adams, 2000). These statistics, combined with the high percentage of women in the labor force, have fueled an intense debate in the United States about the role of families, specifically mothers, in children's lives, the effects of child care on children's development, and the role that the government should play with respect to the public financing of child care programs.

Complicating this debate is that studies on the effects of child care on children have proven that it is not necessarily the mother's working or nonparental child care that is problematic, but instead the quality of the programming that children are exposed to that matters most. For example, one national study found that only 10 percent of child care facilities for very young children could be rated as "excellent" (U.S. Consumer Product Safety Commission, 2001). These types of findings continue to raise parental concerns about the safety and the effects of nonparental care on children. In contrast, other studies have illustrated that when children from low-income families are placed in high-quality child care, they tend to outperform all children who have not been exposed to this type of learning situation by the time they enter kindergarten (NICHD, 2000). For example, high-quality child care in the first three years of a child's life leads to significant improvements in language ability and school readiness (NICHD, 2003). Early intervention programs such as Head Start also have been proven effective in mitigating some of the detrimental influences that young children in poverty experience. Children who have participated in high-quality child care are less likely to drop out of school once they are older and exhibit stronger language and mathematical skills than their counterparts who have attended programs of lesser quality (Reynolds, Temple, Robertson, & Mann, 2001). Extensive research continues on this question.

Those child care facilities that are associated with the strongest positive results for child outcomes tend to be small in size and to have a high adult-to-child ratio. However, two significant issues influence the provision of quality child care: (1) good child care is extremely expensive, making it inaccessible to the majority of American families; and (2), child care providers are among the poorest-paid professionals in U.S. society, often earning minimum wage with no retirement and health care benefits, though with the passage of health reform in 2010, these workers were intended to have health insurance by 2014. The impact on acquiring health insurance on the cost of child care is currently not known; however, it is believed that costs will increase in many instances and decrease in others. This leads to high turnover in child care facilities (by some estimates about 30 percent leave every year), affecting the quality of programming that is delivered to children (Zuckerman, 2000). These various issues make affordable, quality child care one of the primary problems facing contemporary American families.

CHILDREN AND DIVORCE

It has now become commonplace for children in the United States to experience the divorce of their parents and to live apart usually from their father. Approximately 40 percent of children under the age of 18 will experience the divorce of their parents, and another subset will experience a remarriage and subsequent divorce. Many of these families are or become economically vulnerable, and they are represented disproportionally by ethnic and racial minorities. Many studies have found that while not necessarily permanently damaging, divorce does have a significant impact on children's academic success and social development (Amato, 2002). What is often not clearly explained through demographic studies of divorce is that it is the actual long-term divorce process that can prove to be so detrimental for children. Divorce is usually the culmination of a whole series of family problems rather than just the starting point. Research indicates that boys in particular tend to suffer from familial conflict long before the actual divorce occurs. Moreover, many couples that ultimately separate engage in a series of detrimental behaviors before the divorce, such as poor parenting practices and high levels of conflict. They are often less involved in their children's educational and social lives, leading to behavior problems in their offspring (Furstenberg, 2009).

Problem behaviors in children are often compounded after a divorce primarily because of poor parenting practices, financial issues, and multiple transitions. A primary factor that influences children's negative behaviors is that many parents do not supervise their children properly once they leave their marriage, engage in poor parent-child relationships, and expose their children to open conflicts with their ex-spouse. Research has shown that when parents make a conscious effort, they can minimize the effects of divorce on their children by keeping both parents engaged with the children, offering guidance and advice, and limiting their exposure to conflict and negativity about the nonresidential parent (Amato, 2002). Finances also seriously affect the divorce process. Mothers are often hardest hit, as their income drops by about a third after a divorce due to women's lesser earnings and often a lack of child support. Financial and emotional strains compound after a divorce, taking a toll particularly on the parent with whom the child or children live and their children. Many women and their children also move from their residential home, causing a disruption of social support networks. Research indicates that responses to divorce differ by gender, with boys acting out through arguments and anger, and girls becoming more depressed and anxious (Morrison & Cherlin, 1995). Over time, many children also lose contact with their nonresidential parent, usually the father.

Over the long term, most children recover from the negative repercussions of divorce. While Judith Wallerstein's work (Wallerstein, Lewis, & Blakeslee, 2000) has received much media press for its findings that divorce irreparably harms a significant number of children as they move into adulthood, many other studies have disproven her thesis and have suggested instead that it is the coming together of factors such as poverty and parental negativity that can harm children over the long term. For example, Hetherington and Kelly (2002) report from their investigations that approximately 80 percent of children of divorce eventually adapt to the situation and proceed to have successful lives. This is not to suggest that divorce is not immensely difficult for all those involved, but only to point out that most individuals are able to cope with the changed familial circumstances and to move on in life. The research on the resilience of children is encouraging. Moreover, a small subset of studies has found that the consequences for children experiencing continued conflict between their parents is actually more detrimental to their long-term development than had their parents divorced (Amato & Booth, 1997).

Children who seem to fare best after a divorce are those who have been exposed to a minimum of conflict pre- and post-divorce and who receive a great deal of social support from their families and friends. Custodial and noncustodial parents need to provide emotional responsiveness, show involvement in the children's activities, and keep their children out of their battles (Leon, 2003).

Interestingly, research indicates that there is no real benefit for children when parents remarry. While remarriage introduces a new parental figure into the household and may enhance financial well-being, children in remarried families exhibit the same degree of behavioral problems as children in single-parent families and often deal with more interpersonal conflicts than children being raised in their original two-parent families (Garnefski & Diekstra, 1997).

CONCLUDING THOUGHTS AND POLICY IMPLICATIONS

Empirical evidence indicates that families continue to function as a source of resilience for children, and that the extent to which families mitigate risk factors plays a crucial role in children's developmental outcomes. Despite some claims that environmental and peer influences are stronger influences on children's development, research indicates that parents provide material and social capital for their children, act as buffers between their children and harmful environmental influences, and continue throughout a child's life course to influence its emotional, physical, and social well-being. This crucial relationship is basic to understanding any aspect of a child's life and needs to be considered in analyses that attempt to posit that race, ethnicity, socioeconomic status, religion, and disabilities are equal or more important variables.

Clarke-Stewart (2006) identifies the following factors as basic to rethinking policies that would further children's development: (1) it is not necessarily just poverty that is a risk factor for children, but instead it is the *number* of risks that a child is exposed to that is detrimental; (2) fathers matter as much as mothers with respect to child outcomes;

(3) family dynamics are closely correlated with child outcomes no matter how much time a child spends in child care; (4) divorce combined with poor parenting can have long-term detrimental effects on children; and (5) consistent conflict in families has negative repercussions for children. She goes on to explain that research findings such as these need to be viewed through a policy lens that promotes protective qualities in children themselves (such as academic achievement, strong attachments to caregivers, and positive relationship skills) and that give children the chance to find support and success in a range of settings and experiences (such as home, school, community, and peers). This strengths-based perspective advocates that instead of intervening only once problems have set in, we need to develop and encourage new perspectives and policies that have broad holistic impacts and that implement a preventative approach. Instead of targeting specific groups of children, or just schools or families, policies need to be put in place that support and encourage the competencies of all children. Moreover, if limited resources are at issue, the scholarly literature on risk and resilience suggests that policies that target young children at risk tend to be more effective than intervening later on in life (Clarke-Stewart, 2006).

We also need to be aware of the fact that different families are going to have varying needs and be exposed to a range of risk factors. This makes it difficult to speak of one specific family policy or set of policies. However, we can identify social or life domains that need to be reorganized in such a manner that they will enhance the quality of life for families and their children. For example, work needs to be restructured to allow parents to have more control over their time, to allow for job sharing, and/or to work from home. In addition, since child care has become such a crucial part of most American families' lives, it would be immensely beneficial if government were to regulate and support quality child care. Current regulatory policy and practice is divided between state and federal governments, and there is enormous variation among and between the states. Children who grow up in high-risk areas are now known to profit from an array of social services with respect to health care and education. Thus, we need to subsidize and build up these structures so that they can assist families with their quest to raise children with positive developmental outcomes.

What the scholarship on children and families ultimately tells us is that while family forms and risk factors differ, as long as children have loving, involved caregivers, they flourish. In the final analysis, the single most important factor that can optimize child outcomes is the quality of the parent-child relationship. Thus, we need to aim our policies toward promoting supportive environments that give parents the tools to promote the positive well-being of their children. This requires supporting families from an economic and social perspective, especially those who are most vulnerable and who have severe financial needs. Investing in children and their families right from the start is actually more cost-effective than attempting to intervene further on down the road when severe problems have set in. In sum, supporting families allows us to create more optimal environments for children and to mitigate so many of the factors that can ultimately undermine the healthy development of young people in our society.

REFERENCES

Amato, P. (2002). The consequences of divorce for adults and children. In R. Milardo (Ed.), *Understanding families into the new millennium: A decade in review* (pp. 488–506). Minneapolis: National Council on Family Relations.

Amato, P., & Booth, A. (1997). *A generation at risk: Growing up in an ear of family upheaval*. Cambridge, MA: Harvard University Press.

Amato, P., & Maynard, R. (2007, Fall). Decreasing nonmarital births and strengthening marriage to reduce poverty. *The Future of Children, 17*(2).

Bengston, V. L., & Allen, K. R. (1993). The life course perspective applied to families over time. In P. Boss, W. Doherty, R. LaRossa, W. Schumm, & S. Steinmetz (Eds.), *Sourcebook of family theories and methods: A contextual approach* (pp. 469–499). New York: Plenum.

Bianchi, S., Robinson, J., & Milkie, M. (2007). *Changing rhythms of American family life*. New York: Russell Sage Foundation.

Bromley, J., Hare, D., Davison, K., & Emerson, E. (2004). Mothers supporting children with autistic spectrum disorders: Social support, mental health status, and satisfaction with services. *Autism*, *8*, 409–423.

Buck, F., Van Wel, F., Knijn, T., & Hagendoorn, L. (2008). Intergenerational contact and the life course status of young adult children. *Journal of Marriage and Family, 70*, 144–156.

Capizzano, J., & Adams, G. (2000). The number of child care arrangements used by children under five: Variation across states. Urban Institute. http://www.newfederalism.urban.org/pdf/anf_b12pdf

Cherlin, A. (2010). *Public and private families: An introduction*. New York: McGraw Hill.

Clarke-Stewart, A. (2006). What have we learned: Proof that families matter, policies for families and children, prospects for future research. In A. Clarke-Stewart & J. Dunn (Eds.), *Families count: Effects on child and adolescent development* (pp. 321–336). New York: Cambridge University Press.

Coontz, S. (1992). *The way we never were: American families and the nostalgia trap*. New York: Basic Books.

DeNavas-Walt, C., Proctor, B., & Smith, J. (2009). Income, poverty, and health insurance coverage in the United States: 2008. In *Current Population Reports, P60-236 (RV)*. Washington, DC: U.S. Government Printing Office.

Fischer, C., & Hout, M. (2010). The family in trouble: Since when? For whom? In. A. Cherlin (Ed.), *Public and Private Families*. New York: McGraw Hill.

Furstenberg, F. (2000). The sociology of adolescence and youth in the 1990s: A critical commentary. *Journal of Marriage and the Family, 62*, 896–910.

Furstenberg, F. (2009). If Moynihan had only known: Race, class and family change in the late twentieth century. *Annals of the American Academy of Political and Social Science, 631*, 94–110.

Garnefski, N., & Diekstra, R. (1997). Adolescents from one parent, stepparent, and intact families: Emotional problems and suicide attempts. *Journal of Adolescence 20*, 201–208.

Gates, G., Badgett, J., Macomber, J., & Chambers, K. (2007, March). *Adoption and foster care by gay and lesbian parents in the United States*. Urban Institute. Retrieved January 20, 2010, from http://www.urban.org

Hartmann, H. (1981). The family as the locus of gender, class and political struggle: The example of housework. *Signs, 6*, 366–394.

Hattery, A. (2001). *Women, work and family: Balancing and weaving*. London: Sage.

Hetherington, E., & Kelly, J. (2002). *For better or for worse: Divorce reconsidered*. New York: W. W. Norton.

Jayakody, R., & Kalil, A. (2002). Social fathering in low-income African American families with preschool children. *Journal of Marriage and Family, 64*, 504–516.

Joesch, J. M., & Smith, K. R. (1997). Children's health and their mothers' risk of divorce or separation. *Social Biology, 44*(3–4), 159–169.

Karoly, L. A., Kilburn, M. R., & Cannon, J. S. (2005). *Early childhood interventions: Proven results, future promise*. Santa Monica, CA: RAND Corporation.

Leon, K. (2003). Risk and protective factors in young children's adjustment to parental divorce: A review of the research. *Family Relations, 52*, 258–270.

Masnick, B., & Bane, M. J. (1980). *The Nation's Families 1960–1990*. Boston: Auburn House.

McGraw, L., & Walker, A. (2004). Gendered family relations: The more things change, the more they stay the same. In M. Coleman & L. Ganong (Eds.), *Handbook of contemporary families: Considering the past, contemplating the future* (pp. 174–191). Thousand Oaks, CA: Sage Publications.

McHale, S., Crouter, C., & Tucker, C. (2003). Family context and gender role socialization in middle childhood: Comparing girls to boys and sisters to brothers. *Child Development 70(4)*, 990–1004.

Moen, P., & Sweet, S. (2003). Time clocks: Work-hour strategies. In P. Moen (Ed.), *It's about time: Couples and careers*. Ithaca, NY: Cornell University Press.

Morrison, D., & Cherlin, A. (1995). The divorce process and young children's well-being: A prospective analysis. *Journal of Marriage and the Family, 57*, 800–812.

NICHD Early Child Care Research Network. (2000). Characteristics and quality of child care for toddlers and preschoolers. *Journal of Applied Developmental Science, 4*, 116–135.

NICHD Early Child Care Research Network. (2003). Does amount of time in child care predict socioemotional adjustment? *Child Development, 74*, 976–1005.

Palkovitz, R. J. (2002). *Involved fathering and men's adult development: Provisional balances*. Hillsdale, NJ: Lawrence Erlbaum Press.

Parish, S., Rose, R., Andrews, M., Grinstein-Weiss, M., Richman, E., & Dababnah, S. (2009) Material Hardship in US Families Raising Children with Disabilities: Research Summary & Policy Implications, *Research Brief*, University of North Carolina School of Social Work, 1–8.

Popenoe, D. (1993). American family decline, 1960–1990: A review and appraisal. *Journal of Marriage and the Family, 55*, 527–555.

Rank, M., & Hirschi, T. (1999). The economic risk of childhood in America: Estimating the probability of poverty across the formative years. *Journal of Marriage and the Family, 61*, 1058–1067.

Repetti, R. L., Taylor, S. E., & Seeman, T. E. (2002). Risky families: Family social environments and the mental and physical health of offspring. *Psychological Bulletin, 128*, 330–366.

Reynolds, A., Temple, J., Robertson, D., & Mann, E. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association, 285*, 2339–2346.

Rupp, K., & Ressler, S. (2009) Family caregiving and employment among parents of children with disabilities on SSI. *Journal of Vocational Rehabilitation, 30*, 153–175.

Saad, L. (2006, May). Americans have complex relationship with marriage. *Gallup monthly poll*. http://www.gallup.com/poll/23041/Americans-Complex-Relationship-Marriage.aspx

Seward, E. (1978). *The American family: A demographic history*. Beverly Hills, CA: Sage Publications.

Simons, R., Chao, W., Conger, R., & Elder, G. (2001). Quality of parenting as mediator of the effect of childhood deviance on adolescent friendship choices and delinquency: A growth curve analysis. *Journal of Marriage and Family, 63*, 63–79.

Smith, D. E. (1993). The standard North American family: SNAF as an ideological code. *Journal of Family Issues, 14*, 50–65.

Stacey, J. (1996). *In the name of the family: Rethinking family values in the post-modern age*. Boston: Beacon Press.

U.S. Census Bureau. (2008). Table 58: Households, families, subfamilies, and married couples. In *The 2008 statistical abstract*, http://www.2010census.biz/compendia/statab/cats/population/households_families_group_quarters.html

U.S. Census Bureau. (2009). Table 68: Children under 18 years old by presence of parents. In *The 2009 statistical abstract*. http://www.2010census.biz/compendia/statab/cats/population/households_families_group_quarters.html

U.S. Consumer Product Safety Commission. (2001). *Home playground equipment-related deaths and injuries*. Washington, DC: Author. http://www.cpsc.gov/library/playground.pdf

U.S. Department of Labor. (2009). *Women in the labor force: A databook*, Report 1018. http://www.bls.gov/cps/wlf-databook2009.htm

Wallerstein, J., Lewis, J., & Blakeslee, S. (2000). *The unexpected legacy of divorce*. New York: Hyperion.

Wymbs, B., Pelham, W., Molina, B., Gnagy, E., Wilson, T., & Greenhouse, J. (2008). Rate and predictors of divorce among parents of youths with ADHD. *Journal of Consulting and Clinical Psychology*, *76*, 435–744.

Yamada, A., Suzuki, M., Kato, M., Suzuki, M., Tanaka, S., Shindo, T., et al. (2007). Emotional distress and its correlates among parents of children with pervasive developmental disorders. *Psychiatry and Clinical Neurosciences*, *61*, 651–657.

Zuckerman, D. (2000). *Child care staff: The low-down on salaries and stability*. National Center for Policy Research for Women & Families. http://www.center4policy.org/wwf2.html

Chapter 7

Program Evaluation in Early Intervention and Early Childhood Special Education

Susan P. Maude and Lizanne DeStefano

Program evaluation is the process of carefully collecting information about a program or some aspect of a program to guide improvement, judge its quality or impact, or make management decisions (McNamara, 2010; Raizen & Rossi, 1981; Wholey, Hatry, & Newcomer, 1994; Weiss, 1997). In this chapter, we will refer to early childhood programs including, but not limited to, those funded by public schools, public state agencies (Departments of Education, Health and Human Services), private and/or not-for-profit, corporate funding operations, and community organizations. Furthermore, this chapter will focus on the assessment of *programs* not on individual child or family assessment.

Program evaluation includes a wide array of approaches, such as needs assessments, accreditation, cost-benefit analysis, effectiveness, formative (during the operation of a program), summative (at the end of a program), goal-based, process, outcomes, impact, and so on (Chen, 2005; Donaldson, Christie, & Mark, 2009; Killion, 2007; Stake, 2003; Worthen & Sanders, 1987). The type of evaluation approach one chooses depends on what one wants to learn about a program and the use to which evaluation information will be put. In the past decade, evaluation efforts in early intervention and early childhood special education (EI/ECSE) have focused heavily on accountability and accreditation. One reason for the emphasis on accountability was the priority placed on outcomes data by the Office of Management and Budget (OMB), one of the largest agencies within the Executive Office, as well as the

Government Performance and Results Act (GPRA) of 1993 (Harbin, Rous, & McLean, 2005). These federal initiatives were one of the first to require all federal programs to report "data on progress toward meeting the goals of the program, which in turn are used to help determine federal budget allocations" (Rous, McCormick, Gooden, & Townley, 2007, p. 20). In this chapter, we move beyond that focus and encourage additional uses for program evaluation and building the capacity of and climate for evaluation in EI/ECSE programs.

Many practical factors shape the evaluation, including the consumer or client (family, funder, board of directors) need for information, timeline for use of results, resources available, access to evaluation expertise, audience and stakeholder expectations, data collection, and analysis capacity. Before beginning an evaluation, these factors should be thoroughly explored by the client in collaboration with key stakeholders including program staff, and considered in every aspect of evaluation planning. For example, if evaluation information is needed in six months to serve as the basis for an application for refunding, then the design of the evaluation must ensure that the evaluation will produce findings for use by that date. Elaborate designs that will take longer than six months to produce results, though attractive, are not appropriate for this purpose. Likewise, if local capacity to collect and report data is limited, evaluation planning must take that into consideration by either building in data collection training and support into the design, bringing in external expertise, or employing data collection methods that are aligned with local capacity.

This chapter will argue for the need for a conceptual framework to help guide an evaluation, provide a brief overview of five evaluation frameworks that have strong applicability to early childhood programs, discuss issues in planning and conducting evaluation of EI/ECSE programs, and provide information about participatory designs. Our purpose is to encourage EI/ECSE programs to expand upon accountability efforts currently mandated by state or federal funding agencies to collect information on program effectiveness and program quality that is more useful for program improvement and impact assessment. As reported by Meisels (2007), evaluation in early childhood must move beyond mere outcome assessment for accountability purposes to a fuller analysis of the effectiveness of program elements, pedagogy, curriculum, and child outcomes to determine what works for whom and to guide program improvement.

USE OF A CONCEPTUAL FRAMEWORK TO DRIVE AN EVALUATION

Whether you are evaluating local, regional, state, national, and/or international programs, a conceptual framework is essential to a coherent, transparent, rigorous evaluation. A conceptual framework can show relationships among the components of the EI/ECSE program (e.g., philosophical underpinnings, screening, assessment, curricula, staffing, family support, fee structure for peers with typical development) and the intended outcomes. As such, the conceptual framework guides the choices to be made at each step in an evaluation. Development of the framework forces the evaluation team to be explicit from the outset about their assumptions regarding what will be measured, why it is being measured, and how the data will be analyzed and reported. Therefore, this step ensures that, at the end of the process, findings will meet the intended information needs. Moreover, a conceptual framework provides a structure for understanding, interpreting, and manipulating outcome measures. It answers the question of why a particular outcome is important, and identifies factors that must be taken into account to be able to interpret results appropriately. The conceptual framework is critical to the success of an evaluation and should be specified in as much detail as possible (DeStefano & Wagner, 1992; Greene, Caracelli, & Graham, 1989; Stecher & Davis, 1987). Studies have been conducted reviewing evaluation of human services (Halpern, 1987) and found that despite the recommendation that they begin with the articulation of a conceptual model that describes the major elements of the program and guides the development of the evaluation design, many studies continue to fail to make explicit the conceptual frameworks underlying the program theory and operations.

Advantages for using a conceptual framework include the following: (1) it identifies advance organizers and any major questions the evaluation should address (individual and overall), thereby guiding the evaluation; (2) it provides a visual or graphic representation of process and product portions of your efforts and any possible causal connections; (3) it clarifies each element of your EI/ECSE program and/or efforts; (4) it helps insure that what is being evaluated is indeed what should be evaluated; and (5) it serves as a means to share with others the complexities of your work.

The lack of a conceptual framework can seriously limit the usefulness of the evaluation findings. Time and effort can be expended on the collection of data that may not relate to what the "stakeholders" are trying to measure or impact. A stakeholder is defined as any individual who may have a vested interest or "stake" in the program. Stakeholders in an EI/ECSE program could include but are not limited to administrators, staff, children, family members, funders, and community partners. Stakeholders or funders may experience frustration when the questions for which they need answers are not addressed.

The next section of this chapter will focus on five particular evaluation approaches or frameworks that assist EI/ECSE programs in making decisions about their program: (1) goal-based, (2) standards-based, (3) outcome-impact, (4) consumer-oriented or participatory, and (5) cost-benefit analysis.

Goal-Based Evaluation

Goal-based evaluations are a useful framework to implement when determining if an EI/ECSE program has met its predetermined goals or objectives (McNamara, 2010; Stecher & Davis, 1987). This approach to evaluation is also referred to as goal-oriented evaluation and has similarities to the outcomes-based evaluation to be reviewed later in this chapter. Often EI/ECSE programs are established to meet one or more specific goals. These goals are often described in the original program plans. Table 7.1 provides a good overview of questions to ask in developing your goal-based evaluation.

Methods

Goal-based evaluation can use a variety of methods to assess the extent to which the program is making progress toward attaining its

Table 7.1 An overview of questions to consider when developing a goal-based evaluation.

1. Implementation: Is the EI/ECSE program being implemented on schedule and as planned?
2. Effectiveness: Are key components of the EI/ECSE program operating effectively? How might they be improved?
3. Impact: What outcomes are associated with participation in the EI/ECSE program? How do these compare with a comparable group of children/families in other EC programs? What is the value-added of participation in the program?
4. Sustainability: How and to what extent are elements of the EI/ECSE program becoming a part of the regular operations and how will they be sustained? What opportunities and barriers exist?

stated goals, including surveys, interviews, direct assessments, observation, document review, and secondary analysis of existing data. The key to effective goal-based evaluation is that the program goals must be explicit, understood, and valued by key stakeholders. Goals must be measurable. If the goals are not stated in measurable terms or if there is no consensus around the goals, then goal-based evaluation is not a good choice to frame the evaluation.

Strengths and Limitations

Goal-based evaluation is a good choice for many EI/ECSE programs because it is straightforward and easily understood by those within and outside the program. It is an appropriate evaluation approach for programs at all stages of development. Formative information on progress toward stated goals is useful for program management and improvement, while summative information on program outcomes and impact can attest to program quality and effectiveness. As stated earlier, goal-based evaluation requires clear, agreed-upon, measurable goals. If these do not exist, goal-based evaluation should not be attempted until goals have been developed and adopted by an EI/ECSE program. A limitation to this type of program evaluation is that the focus of the evaluation is very narrow, specifically focused on the program goals, and other unintended goals may not be identified.

Exemplars in EI/ECSE

Prior to the emphasis on outcomes or standards, EI/ECSE programs were typically designed around particular goals (to support the EI/ECSE program in engaging parents as partners in their child's education) and subsequent activities to meet or obtain that goal (conduct a needs assessment survey, identify priorities from the results of the survey, and implement activities in support of those activities). The activities were then evaluated to determine how best they met the originally stated goals. Head Start and programs funded by not-for-profit agencies (The ARC) have typically utilized goal-based evaluations. Furthermore, professional development plans for educators and teachers may also embrace a goal-based evaluation approach.

Standards-Based Evaluation

Standards-based evaluation measures a program against a set of commonly accepted standards in the field. Pre-K Now (2009) defines standards as "a broad term referring to structural guidelines and requirements that form the basis of a pre-k system, all of which are important and inter-related" (para. 1). The structural guidelines and requirements from federal, state, and professional policy typically addresses the use of standards in EI/ECSE across three levels: (1) program, (2) professional, and (3) child or early learning.

The first level, program standards, includes the regulations that guide how EI/ECSE programs operate. The Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) is the leading professional organization for young children with diverse abilities and their families. In the 1980s, DEC identified recommended practices to guide service delivery in EI/ECSE. Little to no evidence exists that these practices are being used by practitioners in the field or have been embedded into higher education personnel preparation programs (Bruder & Dunst, 2005; Campbell, Chiarelo, Wilcox, & Milbourne, 2009; Dunst & Bruder, 2006). In 2003, the Early Childhood Outcomes (ECO) Center was funded by the U.S. Department of Education to assist states in developing high-quality EI/ECSE state systems (Early Childhood Outcomes Center, 2010). Accreditation or monitoring, sometimes referred to as continuous improvement, is a common evaluation approach in which a program is compared against a set of program standards.

The second level, professional standards, articulates the competencies and credentials needed by service providers and educators within the EI/ECSE programs. The Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) is the leading professional organization for young children with diverse abilities and their families. DEC has identified specific competencies or standards for educators who work in EI/ECSE settings at the initial or entry and advanced levels (DEC, 2008a,b). Institutes of higher education (IHEs) utilize these standards to design their professional development programs of study at the undergraduate and graduate levels. Furthermore, state departments of education have developed their state licensure and standards built upon these DEC competencies. Unfortunately, Bruder and her colleagues working from the Center to Inform Personnel Preparation, Policy, and Practice (2008) reported that IHEs and states responsible for licensure are inconsistent in their utilization of these competencies. Furthermore, she advocates for a national set of competencies in EI/ECSE (Bruder, 2010).

The third level, child or early learning standards, describe what children should know as a result of participating in an early childhood program (Pre-K Now, 2010).

Early learning standards are "widely accepted statements of expectations for children's learning" (Council of Chief State School Officers [CSSO], 2009). Scott-Little and her colleagues identified the content addressed by states in the development of infant-toddler early learning guidelines (Scott-Little, Kagan, Frelow, & Reid, 2009).

Standards-based evaluation differs from normative evaluation techniques because rather than comparing programs or schools to other programs or schools, they are measured against a standard of excellence. There are several types of standards. Content standards describe what a child should know or be able to do at a particular age or grade level in a particular content area. Curriculum standards specify what should be taught at a specific age or grade level rather than what students should know. Performance standards describe knowledge or skills that are assessed through the observation, description, or documentation of child behavior or performance in connection with broadly stated content standards. Standards are typically aligned to instruction, learning, and assessment in the classroom (CSSO, 2009; Kagan & Scott-Little, 2004).

Early learning standards are "statements that describe expectations for the learning and development of young children." These expectations may relate to several domains, such as physical well-being, social and emotional well-being, language development, approaches to learning, and general knowledge. These standards describe what knowledge, skills, and dispositions children at a certain age or developmental period are expected to know. They are designed to understand what knowledge teachers, programs, parents, and the community are expected to know so that they can help the children learn. Early learning standards are developed through researching early learning and development processes, sequences, and long-term consequences. They should be appropriate for and inclusive of the widest range of life situations and experiences possible (CSSO, 2009).

Methods

Standards-based evaluation generally comes with a set of prescribed methods to assess the extent to which the program is aligned with a particular set of standards. The key to effective standards-based evaluation is that the selected standards must be appropriate for achieving the intended goals of the program, aligned with program context, including populations served, and valued by key stakeholders and measurable.

Strengths and Limitations

Standards-based evaluation is a good choice for many EI/ECSE programs because it is straightforward, easily understood by those within and outside the program, and is appropriate for programs at all stages of development. Formative information on how a program embodies a common set of standards is useful for program management and improvement, while summative information on standards alignment is commonly accepted evidence of program quality and effectiveness. Programs may be confused by the proliferation of standards and have difficulty selecting those that are most appropriate for their evaluation needs.

Exemplar in EI/ECSE

Much effort has been expended by state departments of education to develop early learning standards for both the 0–3 age group of children with disabilities and the 3–5 age group of children with and without disabilities (Kagan & Scott-Little, 2004; Scott-Little et al., 2009). One particular state to highlight here has been Vermont. The Vermont Early Learning Standards, or VELS (2003), were developed by a subcommittee of the Vermont Early Childhood Work Group. Similar to work in other states, the standards were written using a four-tiered structure around (1) domains, (2) learning goals and definitions, (3) examples, and (4) supports for learning. Their strong commitment to the value and importance of play as a key component in the learning process is unique. Their statement about play and how they embedded its importance can be found on the first pages of the VELS document:

> **The Role of Play in Addressing the Standards:** The subcommittee acknowledged the important role of play in how children learn by including it as a guiding principle and as the first Learning Goal in each of the domains. There is abundant evidence that children learn best through play. The sub-committee based its thinking about each domain on the understanding that children should be provided with opportunities to play in a learning environment that addresses their developmental needs for movement, problem-solving, creativity, and social interaction with adults and other children. Teachers and families can best guide learning in all domains by providing opportunities for children to explore and apply new skills in natural contexts. Responsive adults teach young children by interacting through play with each child according to the child's interests, abilities, and

> cultural preferences. Through play, children enhance the learning of skills, knowledge and dispositions that guarantees success in later schooling. In VELS, therefore, play is one way that children can achieve the Examples described in each of the eight learning Domains. (VELS, 2003, 2)

Outcome or Impact-Based Evaluation

Outcome evaluation is defined as the systematic collection of information to assess the impact of a program, present conclusions about the merit or worth of a program, and make recommendations about future program directions or improvements (CDC, 2007; Reisman, 1994; Reisman & Clegg, 2000; United Way of America, 1996; W. K. Kellogg Foundation [WKKF], 2004). Outcome-based evaluations are focused on determining, exploring, and describing changes that occur as a result of a program being implemented (Fitzpatrick, Sanders, & Worthen, 2004). An outcome is defined as a change in behavior, knowledge, understanding, ability, skill, or attitudes resulting from participation in a program or course, the receipt of services, or the use of a particular product (CSSO, 2009).

Outcome or impact evaluations may be either formative or summative and include consideration of outcomes that are immediate effects, expected final outcomes, and unintended outcomes (Fitzpatrick, Sanders, & Worthen, 2004; Hatry & Kopczynski, 1997; Westmoreland, Lopez, & Rosenberg, 2009). For example, formative outcome evaluations may determine what changes should be made to EI services or ECSE curricula to achieve desired outcomes, while summative evaluations determine whether goals are being sufficiently met to justify the continuation of funding to an innovative EI/ECSE program.

A preliminary step to a good evaluation is clearly articulating expected outcomes. As shown in Figure 7.1, a logic model is a useful

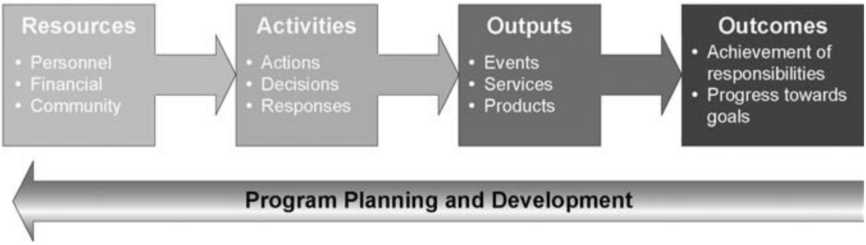


Figure 7.1 Logic model components.

mechanism for designing an evaluation based on an impact hypothesis. It is grounded in the assumption that, for an impact to be achieved, there are enabling conditions in the form of resources, inputs, activities, and outputs (Corso & Maude, 2008).

The use of the logic model framework for outcome evaluation is well documented[1] and has been applied to assess government projects, private industry, and human service programs. This approach has also been applied to early childhood programs and advocated by national early childhood technical assistance systems (NECTAC, OSEP). As the logic model illustrates, some of the initiative's outcomes pertain to expected changes at the individual level (generally immediate outcomes). Other outcomes pertain to changes at the community and workforce levels (generally termed intermediate outcomes).

The ability of program stakeholders to utilize the logic model throughout multiple stages of the program's "life" makes it even more valuable. The logic model may be used in program design, program implementation, and program evaluation. In program design, the model may be used to develop a program strategy and illuminate program concepts and goals for stakeholders, and guide the examination of research that may contribute to program development. In program implementation, the logic model provides focus on desired results and helps to identify information needs for program monitoring and enhancement for achieving these results. Finally, in program evaluation, the logic model provides a guide to the evaluative information needed to assess program impacts. Table 7.2 provides the basic terminology used in outcome evaluation, including the following: inputs/resources, activities, outputs, outcomes, outcome indicator, outcome targets, and benchmarks.

Methods

The logic model framework is used to develop an understanding of the relationship between program resources, activities, and expected

---

[1] There are well over 100 references to logic model design and use in assessment in the literature. The Kellogg Foundation published and recently updated a comprehensive logic model development handbook, "Logic Model Development Guide: Logic models to bring together planning, evaluation & action" (2004). In addition, multiple government and research agencies, including the Centers for Disease Control, RAND, and United Way, have published evaluations and guidelines based on logic model theory.

Table 7.2 Glossary of Selected Outcome Measurement Terms

- **Inputs** are resources a program uses to achieve program objectives. Examples are the early childhood staff (early childhood teachers, para-educators, service providers, director), volunteers (foster grandparents, high school or college students), facilities, equipment, curricula, and money. An early childhood program uses its *inputs* to support its *activities*.
- **Activities** are what a program does with its inputs—the services it provides—to fulfill its mission. Examples are facilitating a half-day, four-day-a-week early childhood program, home visits, screening and assessment services, family education nights, adult education services, and/or providing adult mentors for youth. Program *activities* result in *outputs*.
- **Outputs** are products of a program's activities, such as the number of class sessions provided, number of adult education classes taught, number of children screened, or number of children/families served. Another term for "outputs" is "units of service." A program's *outputs* should produce desired *outcomes* for the program's participants.
- **Outcomes** are benefits for participants during or after their involvement with a program. Outcomes may relate to knowledge, skills, attitudes, values, behavior, condition, or status. Examples of outcomes include greater knowledge of nutritional needs, improved reading skills, more effective responses to conflict, getting a job, and having greater financial stability.

For a particular program, there can be various "levels" of outcomes, with initial outcomes or proximal outcomes leading to longer-term or distal ones. For example, a youth in a mentoring program who receives one-to-one encouragement to improve academic performance may attend school more regularly, which can lead to getting better grades, which can lead to graduating.

- **Outcome Indicators** are the specific items of information that track a program's success on outcomes. Many states have already identified key outcomes for communities to address by the time the child begins school at age 5. For instance, in Iowa there is a statewide "result" that children are ready to succeed in school. Two indicators of this "result" are (1) preliteracy skills, and (2) children in quality preschools.

They describe observable, measurable characteristics or changes that represent achievement of an outcome. For example, a program whose desired outcome is that participants pursue a healthy lifestyle could define "healthy lifestyle" as not smoking; maintaining a recommended weight, blood pressure, and cholesterol level; getting at least two hours of exercise each week; and wearing seat belts consistently. The number and percentage of program participants who demonstrate these behaviors, then, is an *indicator* of how well the program is doing with respect to the outcome.

- **Outcome Targets** are numerical objectives for a program's level of achievement on its outcomes. After a program has had experience with measuring outcomes, it can use its findings to set targets for the number and percentage of participants expected to achieve desired outcomes in the next

(*Continued*)

Table 7.2 (Continued)

reporting period. It also can set targets for the amount of change it expects participants to experience.

- **Benchmarks** are performance data that are used for comparative purposes. A program can use its own data as a baseline benchmark against which to compare future performance. It also can use data from another program as a benchmark. In the latter case, the other program often is chosen because it is exemplary and its data are used as a target to strive for, rather than as a baseline (United Way, 1996).*

*This list was modified from the United Way of America Model (1996) for an EI/ECSE setting.

outcomes using a systematic, visual representation (Kaplan & Garrett, 2005; WKKF, 2004). It provides stakeholders with a clearer understanding of how investments, both human and financial, may contribute to achieving program goals. There are five components to the basic logic model:

1. Resources, which include human, financial, organizational, and community inputs directed towards program use. In EI/ECSE settings, this could include early childhood personnel (years of experience, levels of education, types of education licenses or certifications, number of years in current position, ongoing professional development plans).
2. Program activities, which relate to how these inputs are used. This includes processes, events, actions, tools, and technology associated with implementation of the EI/ECSE program. Examples could include facilitating a half-day, four-day-a-week early childhood program, home visits, screening and assessment services, and family education nights.
3. Direct outputs, which may include multiple types and targets of service, are produced by the activities. Outputs are typically reported by numbers (number of home visits conducted, number of children screened and found eligible, number of families attending the family education nights). Previously, program evaluation efforts in EI/ECSE settings stopped at this level with the recording of outputs and numbers. However, the logic model proposes two additional components.
4. Outcomes, which identify specific changes in participant behavior, knowledge, status, skill, and level of functioning. Examples could include positive changes in child and/or adult behavior, knowledge, and skills as a result of the activities conducted and outputs achieved. These outcomes may be either

short term or long term, but generally occur within about seven years.

5. The final component of the basic logic model is program impact or the fundamental change occurring as a result of program activities. This impact may be either intended or unintended (references). An example of a program impact can be children prepared to enter kindergarten ready to learn.

Strengths and Limitations

Measurement of outcomes for evaluation is useful for four reasons:

1. Outcome evaluation allows EI/ECSE programs to track their own progress and identify possible weaknesses in need of improvement or additional focus.
2. EI/ECSE programs may use outcome information to develop budgets and justify spending.
3. Outcome information may also be used for public purposes in establishing educational accountability.
4. EI/ECSE programs may use the measurement of progress to communicate to families and the community the program's successes.

Benefits to conducting an outcome evaluation of an EI/ECSE program or services include the following: (1) strengthening of existing services; (2) targeting effective services for expansion; (3) identifying professional development needs; (4) developing and justifying budgets; and (5) preparing long-range plans. Limitations to using an outcome evaluation approach include the following: (1) findings of the outcome measurement does not reveal whether the outcomes being measured are the right ones; (2) without experimental or statistical controls, outcome measurements do not prove that the program caused the outcomes; (3) if an outcomes evaluation shows that participants are not experiencing benefits, it may not show where the problems lie; (4) some outcomes are difficult to measure, and (5) extra burden is placed on participants by having them complete surveys, participate in focus groups, etc.

Exemplar in EI/ECSE

This section will share two exemplars of a logic model. The first logic model is from a national parent involvement and education program entitled, Parents as Teachers (PAT). PAT is an early childhood parent education and family support system designed to empower families with the key outcome of helping all children to be healthy, safe, and ready to learn (PAT, 2010). PAT is a home visiting program and is replicated in nearly every state. The reader is guided to their Web site to review the logic model framework (http://www.parentsasteachers.org). The logic model graphic developed by PAT (found at http://www.parentsasteachers.org/images/stories/documents/LogicModel_2006.pdf) clearly guides the reader and stakeholders with a snapshot of the entire PAT program, beginning with key assumptions and values and ending with their intended outcomes.

The second logic model to showcase is currently utilized by a statewide ECSE professional development system in Illinois. Illinois STAR NET is a *S*upport and *T*echnical *A*ssistance *R*egional *NET*work that provides training, consultation, and resources to the early childhood community in Illinois. STAR NET has been in existence since the early 1990s, supported by funds from the U.S. Department of Education through the Illinois State Board of Education (Maude & Corso, in development). These professional development supports are targeted for families, educators, and related specialists who care for or provide services to young children with diverse abilities or disabilities. An additional graphic (see the first author, Susan Maude) captures the mission and activities of the STAR NET system as well as the immediate, intermediate, and long-term outcomes (Maude & Corso, 2010).

PAT and STAR NET provide very comprehensive yet different services with similar outcomes—better outcomes for young children and/or their families. The former program provides supports through home visitors who then work directly with families while the latter program offers ongoing professional development to families and other key early education and care providers to help children. These visuals serve as a means to clarify to others the very complicated yet value-added importance of these supports in the improvement of the lives of young children and their families.

Participatory/Consumer-Oriented Evaluation

The consumer-oriented approach assesses the extent to which a program meets the stated needs or concerns of consumers (children and families) rather than focusing on the extent to which a program meets its stated goals or aligns with a set of standards (Scriven, 1967; Vedung, 2000). In participatory evaluation, consumers and program staff are directly involved in planning and/or carrying out the evaluation as a means of ensuring that their needs are addressed and increasing their use of evaluation information. The consumer-oriented approach to evaluation is directed toward assessing educational programs, practices, and products with the informational needs of the consumer in mind (Fitzpatrick, Sanders, & Worthen, 2004; Scriven, 1973).

Methods

Consumer-oriented and participatory approaches generally involve collecting information directly from those served by the program using surveys, interviews, observations, and direct assessment of students, professionals, and families. A key aspect of data collection is to ensure that consumers are free to offer their perceptions of the program without consequence. This often involves the use of anonymous data collection procedures or third-party evaluators. In participatory evaluation, stakeholders may be involved in choosing methods, designing instruments, and collecting and reporting data.

Strengths and Limitations

One strength of the consumer-oriented approach is its unique focus on the consumer's information needs. Most evaluation approaches focus on the needs and expectations of those designing or administering the program, not those who consume the product being assessed (Fitzpatrick, Sanders, & Worthen, 2004). This approach is well aligned with the philosophy of family-centered practice and consumer involvement in EI/ECSE service provision. Consumer-oriented and participatory approaches also build capacity and empower consumers to take an active role in promoting quality services. Limitations of the consumer-oriented approach includes additional costs to the program and/or participants (time, money) in the development and implementation of the evaluation.

Exemplars in EI/ECSE

The Technical Assistance ALLIANCE for Parent Centers (the ALLIANCE) is an innovative partnership of one national and six regional parent technical assistance centers, each funded by the U.S. Department of Education's Office of Special Education Programs (OSEP). These seven projects comprise a unified technical assistance system for the purpose of developing, assisting, and coordinating the over 100 Parent Training and Information Centers (PTIs) and Community Parent Resource Centers (CPRCs) under the Individuals with Disabilities Education (IDEA) Act P.L. 108-446 (2004). The national and regional parent technical assistance centers work to strengthen the connections to the larger OSEP Technical Assistance and Dissemination Network and fortify partnerships between Parent Centers and education systems at local, state, and national levels (Alliance National Center, 2010).

Each state is home to at least one Parent Training and Information Center (PTIC). These centers serve families of children and young adults from birth to age 22 with all disabilities: physical, cognitive, emotional, and learning. "They help families obtain appropriate education and services for their children with disabilities; work to improve education results for all children; train and inform parents and professionals on a variety of topics; resolve problems between families and schools or other agencies; and connect children with disabilities to community resources that address their needs" (Alliance National Center, 2010).

The Alliance National Center uses a multi-level consumer oriented evaluation approach in which the six regional centers are surveyed and interviewed to determine the extent to which their needs are being met by the Alliance and randomly sampled state centers are interviewed to assess their level of interaction and satisfaction with the regional center. This consumer-oriented strategy is consistent with the needs-driven, service-oriented philosophy of the Parent Training Centers. National and regional centers used the evaluation results to improve consumer satisfaction and target services to meet expressed needs. Please see the Alliance Web site for more information (http://www.taalliance.org).

Cost-Benefit Analysis

Cost-benefit analysis involves identifying and determining the monetary value of the various costs and benefits associated with two or more well-defined alternatives (Fitzpatrick, Sanders, & Worthen, 2004; Goetze, 2007; Trefler, 2009). These costs and benefits are compared to determine which is greater, the costs or the benefits, and to what extent. This is then used to develop a benefit-to-cost ratio for each, the highest of which is then selected. A cost-benefit analysis may be conducted for two purposes (Gupta, 2001). First, one may assess whether the use of one program or activity yields greater benefit than an alternative program or activity. Second, one may also compare a particular project versus the option of making no changes or doing nothing (Gupta, 2001).

Since governments typically fund EI/ECSE programs (Barnett, 2000), it makes sense to evaluate the costs involved in operationalizing diverse early childhood delivery systems. A common argument in the field is that investment in early childhood development programs yield high levels of benefit to families and in state and federal spending. Early studies in the early childhood literature (Garland, Stone, Swanson, & Woodruff, 1981; Masse & Barnett, 2002; Schweinhart, Barnes, & Weikart, 1993) have documented positive benefits of early childhood programs, especially when programs that were of high quality, studies used a longitudinal design, and multiple effects were explored. It is interesting to note that in the last decade, more cost-benefit studies have emerged from researchers in the field of economics.

For example, a report published in 2003 reported an annual return of 16 percent for program participants and a 12 percent return for nonparticipants (Rolnick & Grunewald, 2003). These returns can be categorized into three groups: government budget benefits; increased earning and compensation; and decreased crime-associated cost for individuals. These returns vary in their level of immediacy. For example, decreased spending in special education is experienced sooner than decreased spending on crime, often found much later (Rolnick & Grunewald, 2003). It has also been found that programs directed at economically disadvantaged or impoverished families result in more immediate returns (Grunewald & Markeson, 2007; Lynch, 2007). These programs begin paying for themselves within six years in comparison to nine years for universal programs for 3- and 4-year-olds. This is because children from low-income environments are more likely to require special education and more likely to commit crimes (Grunewald & Markeson, 2007; Lynch, 2007).

Methods

Cost-benefit analyses are commonly done using six steps, as described by Gupta (2001). The first step, defining the goals of the project, is most easily done when the goals of the organization are clearly stated. This is because the evaluator can then more easily determine what action is required to achieve them. The second step is the identification of the alternatives to be evaluated. More difficult is determining what costs and benefits are associated with each alternative. The third step is to consider not only those costs and benefits that are both tangible and intangible, but also those that are direct and those that are indirect. Indirect costs and benefits affect the surrounding community or those outside of the participating group and often tend to be intangible.

The fourth and perhaps most difficult step in conducting a cost-benefit analysis is the estimation and valuation of costs and benefits. Accurately quantifying all costs and benefits related to the program is vital as it allows an evaluative conclusion to be reached once the assessment is completed. Unfortunately, many judgments and fallible estimates must be made.

The fifth and another difficult step relates to changes in these values over time. An assessor must determine whether each cost or benefit will change over time and, if so, to what extent. This requires a strong background in economics, such as an understanding of forecasted changes in supply and demand in specific markets in the future. Lastly, the sixth step builds upon information gathered in the past five steps, and requires the evaluator to determine which alternative yields the largest benefit to be ultimately recommended as the most favorable action to take (Gupta, 2001).

Strengths and Weakness

Having actual or "hard" data to support the financial commitment in support of EI/ECSE programs is a key strength for choosing a cost-benefit analysis. Knowing this information can assist policy makers when determining what level of funding is needed to obtain what types of impact (Barnett, 2000). Conducting a cost-benefit analysis poses certain challenges. There are many estimates of costs, benefits, and judgment calls to make, which often result in increased opportunity for error by the evaluator (Fitzpatrick, Sanders, & Worthen, 2004). Also, assessing the costs and benefits of a program often requires a strong knowledge of both the particular discipline of the program being evaluated and an understanding of technical issues and economic concepts. The assessor must understand the discipline to accurately identify all potential costs and benefits and to better understand how to convert these into monetary values. One must also understand the economic concepts to incorporate vital information such as current market conditions, economic trends in that time period or geographic area, and depreciation (Fitzpatrick, Sanders, & Worthen, 2004). Critical steps include asking the right questions and using the appropriate financial methods to yield accurate information (H. Meeks, personal communication, September 1, 2010).

Exemplars

Several states have conducted longitudinal cost-benefit analysis to determine what may be gained through increased investment in early childhood development programs. Between 1962 and 1989, over 100 families were tracked in a study conducted at the HighScope Perry Preschool Project in Ypsilanti, Michigan (Rolnick & Grunewald, 2003). The program paired daily 2½-hour classroom sessions with 1½-hour home visits and lasted 30 weeks annually. Teachers were well trained and paid 10 percent more than the standard pay for teachers in that school district. Furthermore, there was a 6:1 child-to-teacher ratio. At the age of 27, program participants were compared with a control group of nonparticipants, and significant results were found. Although cognitive advantages in the participating group leveled out within several years, participants were 20 percent more likely to complete high school, four times more likely to earn $2,000 or more monthly, and far less likely to be arrested five or more times.

A similar study was conducted at a Chicago Parent-Child (CPC) Center for families who are economically disadvantaged (Lynch, 2007; Reynolds, Temple, Robertson, & Mann, 2001). A study conducted between 1980 and 2004 investigated the long-term effects of program participation on participants with a comparable population of nonparticipants. Results showed that participants were less likely to be retained in a grade, require special education, be arrested, or experience abuse or neglect (Lynch, 2007). The author argues that these positive outcomes are in part a result of having well-trained teachers and a program emphasis on parental involvement. Ultimately, it was determined that the CPC program benefit-cost ratio is about 10–1. This means that every $1 spent on the program results in $10 of benefit. These benefits were calculated in the form of increased school performance and earning power and decreased crime and pain and suffering of crime victims.

Goetz and her colleagues at the Center for Persons with Disabilities in Utah have been evaluating the costs of both early intervention services (Part C) and most recently have begun investigating the impact of pre-K programs in New Mexico (2007). Having a background in economics certainly assists in this type of program evaluation.

OTHER ISSUES IN PLANNING AND CONDUCTING EVALUATIONS OF EARLY INTERVENTION AND EARLY CHILDHOOD SPECIAL EDUCATION PROGRAMS

In this chapter, we encourage those responsible for EI/ECSE programs to think beyond program evaluation for accountability purposes and to expand their program evaluation repertoire. Including conceptual frameworks and well-chosen evaluation approaches will provide more relevant information to guide program improvement or assess program quality, to communicate more effectively with stakeholders within and outside the program, and to build evaluation capacity among program staff, families, and other consumers. In these challenging economic times, EI/ECSE program administrators are likely to see evaluation as a necessary burden, rather than a way to engage program staff and build support for their program. However, when competition for funds is high, those programs with robust, useful evaluation strategies will be well positioned to argue for their effectiveness and well informed as to the best ways to restructure and respond to fiscal challenges.

Too often in early childhood programs and in education in general, we conduct evaluation because of external requirements and not because we see a real need or because we are truly interested in empirical answers to the questions, "How are we doing?" or "How can we improve?" A noble goal for an early childhood program is to embody the reflective practice that we try to instill in our teachers by embedding an effective and useful evaluation approach into the day-to-day functioning of the program. A routine question at staff meetings, planning sessions, and leadership retreats should be "What do we want to know about our program?" and to find ways to collect and review a variety of data (e.g., student progress, family involvement, consumer satisfaction, standards alignment) as a regular part of program management. Staff and administrators need support in developing their capacity to obtain data as well as learn how to utilize the data for continuous improvement efforts—not just to meet a funding requirement.

Program administrators who want to embed this kind of evaluation into their programs are quickly faced with challenges such as limited funding, lack of evaluation expertise, and time constraints. Creative solutions such as partnering with a university evaluation training program to involve graduate students in cost-effective evaluation projects, pooling evaluation resources with other EI/ECSE programs in your area to develop common instruments, databases, and other shared evaluation resources, and trading time and expertise by serving as "third-party" evaluators for other programs in exchange for their serving as evaluators for your program.

In programs that have a "culture of evaluation," program managers, board of directors, and staff engage regularly in evaluation as a vital part of program operations. Evaluation data are used routinely to guide planning and decision making. Key program stakeholders understand the theory or conceptual model that underlies the program and continually monitor the extent to which desired outcomes are attained. Building a "culture of evaluation" into early childhood programs takes considerable work, but can yield impressive benefits such as more effective, data-based decision making, continuous improvement resulting in enhanced outcomes and effectiveness, and greater collective understanding of and investment in high-quality programming for young children. Finally, existing resources are used more effectively in this framework.

It is important to acknowledge that some of the most important questions in early childhood programming cannot be answered by short-term, simplistic local evaluations. Seminal questions like, "Does this program make a difference in future educational outcomes for children in this community?" require longitudinal, development, multi-institutional collaborations, shared databases, and considerable analytic capacity. With the ESEA reauthorization, Race to the Top and State Fiscal Stabilization funding, and state and federal efforts to develop P-20 longitudinal data systems, we are beginning to develop an infrastructure within which these more ambitious and much-needed studies will become feasible in communities across the United States. Despite this promising development, it remains critical that early childhood professionals are actively involved in the creation and use of longitudinal data systems. Advocacy with local educational agencies, regional educational service centers, the state department of education, and state chapters of national professional associations is critical to ensuring that early childhood programs are represented accurately, that young child outcomes are well assessed, and that mechanisms for tracking children as they move from early intervention and preschool programs into K–12 and beyond yield desired results.

In summary, in recent years, the evaluation of early childhood education has been heavily dominated by accountability demands focused upon regulatory compliance and assessment of child outcomes, particularly academic and cognitive measures. In a time of greater competition for resources and increased demand for efficiency and effectiveness, new approaches to evaluation that promote high-quality programs, inform decision making, and demonstrate the impact and value-added of early childhood programming are essential. Partnerships with universities, K–12 schools, and professional associations can enhance local EI/ECSE programs capacity to enhance their evaluation capacity and adopt new approaches to formative and summative assessment. Advocacy at local, state, and federal levels is needed to ensure that early childhood programming is included in large-scale, longitudinal evaluation systems.

REFERENCES

Alliance National Center. (2010). Technical assistance ALLIANCE for parent centers national center (ALLIANCE). Retrieved from http://www.taalliance.org

Barnett, W. S. (2000). Economics of early childhood intervention. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed., pp. 589–610). New York: Cambridge University Press.

Bruder, M. B. (2010). Early childhood intervention: A promise to children and families for their future. *Exceptional Children, 76*(3), 339–355.

Bruder, M. B., & Dunst, C. J. (2005). Personnel preparation in recommended early intervention practices: Degree of emphasis across disciplines. *Topics in Early Childhood Special Education, 25*(1), 25–33.

Campbell, P. H., Chiarelo, L., Wilcox, M. J., & Milbourne, S. (2009). Preparing therapists as effective practitioners in early intervention. *Infants and Young Children, 22*(1), 21–31.

Center to Inform Personnel Preparation, Policy, and Practice (CIPPP). (2008). *Study VIII: Alignment of Early Childhood Special Education Higher Education Curriculum with National Personnel Standards and Certification Policies, 8*(1).

Centers for Disease Control (CDC). (2007). Evaluating outcomes of HIV prevention programs. Retrieved from http://www.cdc.gov/hiv/topics/evaluation/health_depts/guidance/outcome-eval.htm

Chen, H. T. (2005). *Practical program evaluation: Assessing and improving planning, implementation and effectiveness*. Newbury Park, CA: Sage Publications.

Corso, R. M., & Maude, S. P. (2008). NAEYC *Professional Development Division—Final Evaluation Rep*ort. Summative report developed for the National Association for the Education of Young Children (NAEYC).

Council of Chief State School Officers (CCSSO). (2009). *Early childhood glossary terms*. Retrieved from http://www.ccsso.org/Documents/2006/Assessing_Students_with_Disabilities_Glossary_2006.pdf

DeStefano, L., & Wagner, M. (1992). Outcome assessment in special education: What lessons have we learned? In F. Rusch, L. DeStefano, J. Chadsey-Rusch,

L. A. Phelps, & E. M. Szymanski (Eds.), *Transition from school to adult life: Models, linkages, and policy* (pp. 173–208). Sycamore, IL: Sycamore.

Division for Early Childhood (DEC). (2008a). *DEC ECSE-EI advanced ("Specialist") personnel standards w/ CEC advanced common core*. Missoula, MT: Author.

Division for Early Childhood (DEC). (2008b). *DEC ECSE-EI initial ("Professional") personnel standards w/ CEC common core*. Missoula, MT: Author.

Donaldson, S. I., Christie, C. A., & Mark, M. M. (2009). *What counts as credible evidence in applied research and evaluation practice?* Newbury Park, CA: Sage Publications.

Dunst, C. J., & Bruder, M. B. (2006). Early intervention service coordination models and service coordinator practices. *Journal of Early Intervention, 28*(3), 155–165.

Early Childhood Outcomes Center (ECO). (2010). *About ECO: Overview.* Retrieved from http://www.fpg.unc.edu/~eco/pages/overview.cfm

Fitzpatrick, J. L., Sanders, J., & Worthen, B. R. (2004). *Program evaluation: Alternative approaches and practical guidelines* (3rd ed.). Boston: Allyn & Bacon.

Garland, C., Stone, N. W., Swanson, J., & Woodruff, G. (1981). *Early intervention for children with special needs and their families: Findings and recommendations*. Westar Series Paper No. 11. Seattle, WA: University of Washington, 1981. ED 207 278.

Goetze, L. D. (2007, January). *Utah preschool, cost, quality, and outcomes study.* Final report prepared for the Utah State Office of Education Lead Finance Committee Meeting.

Greene, J. C., Caracelli, V. I., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, *11*, 255–274.

Grunewald, R., & Markeson, B. (2007). *Enriching children, enriching the nation: Public investment in high-quality prekindergarten*— book review summary. Retrieved from http://www.minneapolisfed.org/research/pub_display.cfm?id=1136

Gupta, D. K. (2001). *Analyzing public policy: Concepts, tools, and techniques*. Washington, DC: CQ Press.

Halpern, D. F. (1987). *Student outcomes assessment: What institutions stand to gain*. San Francisco: Jossey-Bass.

Harbin, G., Rous, B., & McLean, M. (2005). Feature article: Issues in designing state accountability systems. *Journal of Early Intervention, 27*(3), 137–164.

Hatry, H. P. & Kopczynski, M. (1997). *Guide to program outcome measurement for the U.S. Department of Education*. Washington, DC: Department of Education, Planning and Evaluation Service.

Kagan, S. L., & Scott-Little, C. (2004). Early learning standards: Changing the parlance and practice of early childhood education? *Phi Delta Kappan, 85*, 388–396.

Kaplan, S. A., & Garrett, K. E. (2005). The use of logic models by community-based initiatives. *Evaluation and Program Planning 28*, 167–172.

Killion, J. (2007). *Assessing impact: Evaluating staff development* (2nd ed.). Newbury Park, CA: Sage Publications and NSDC.

Lynch, R. (2007). *Enriching children, enriching the nation: Public investment in high quality pre-kindergarten*. Washington, DC: Economic Policy Institute.

Masse, L. N., & Barnett, W. S. (2002). *A benefit-cost analysis of the Abecedarian Early Childhood Intervention*. New Brunswick, NJ: National Institute for Early Education Research, Rutgers University.

Maude, S. P., & Corso, R. M. (2010). *STAR NET Evaluation Model 2009–2012*. Unpublished evaluation document.

Maude, S. P., & Corso, R. M. (in development). *The evolution of evaluation in a statewide professional development system: Lessons learned*. Manuscript in preparation.

McNamara, C. (2010). Basic guide to program evaluation. Retrieved from http://managementhelp.org/evaluatn/fnl_eval.htm

Meisels, S. J. (2007). Accountability in early childhood: No easy answers. In R. C. Pianta, M. J. Cox, & K. Snow (Eds.), *School readiness, early learning and the transition to kindergarten*. Baltimore: Paul H. Brookes.

Pre-K Now. (2010). *Meeting standards*. Retrieved from http://www.preknow.org/educators/resource/meetingstandards.cfm

Raizen, S., & Rossi, P. (1981). *Program evaluation in education: When? How? To what ends?* Washington, DC: National Academy Press.

Reisman, J. (1994). *The evaluation forum: Helping organizations define and measure outcomes*. Organizational Research Services (ORS), Inc. Seattle, WA: Clegg & Associates.

Reisman, J., & Clegg, J. (2000). *Outcomes for success!* Seattle, WA: Clegg & Associates.

Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association, 285*, 2339–2346.

Rolnick, A. J., & Grunewald, R. (2003). *Early childhood development: Economic development with a high public retur*n. Minneapolis, MN: Minneapolis Federal Gazette.

Rous, B., McCormick, K., Gooden, C., & Townley, K. F. (2007). Kentucky's early childhood continuous assessment and accountability system: Local decisions and state supports. *Topics in Early Childhood Special Education, (27)*1, 19–33.

Schweinhart, L. J., Barnes, H. V., & Weikart, D. P. (1993). *Significant benefits: The HighScope Perry Preschool study through age 27* (Monographs of the HighScope Educational Research Foundation, 10). Ypsilanti, MI: HighScope Press.

Scott-Little, C, Kagan, S. L., Frelow, V. S., & Reid, J. (2009). Infant-toddler early learning guidelines: The content that states have addressed and implications for programs serving children with disabilities. *Infants and Young Children, 22* (2), 87–99.

Scriven, M. (1967). The methodology of evaluation. In R. E. Stake (Ed.), *Curriculum evaluation*. American Educational Research Association Monograph on Evaluation, No. 1. Chicago: Rand McNally.

Scriven, M. (1973). The methodology of evaluation. In B. R. Worthen & J. R. Sanders, *Educational evaluations: Theory and practice*. Belmont, CA: Wadsworth.

Stake, R. (2003). *Standards-based and responsive evaluation*. Newbury Park, CA: Sage Publications.

Stecher, B. M., & Davis, W. A. (1987). *How to focus an evaluation*. Newbury Park, CA: Sage Publications.

Trefler, D. (2009). Quality is free: A cost-benefit analysis of early child development initiatives. *Journal of Paediatrics and Child Health, 14*, 681–684.

United Way of America. (1996). *Measuring program outcomes: A practical approac*h. Washington, DC: Author.

Vedung, E. (2000). *Public policy and program evaluation*. New Brunswick, NJ: Transaction Publishers.

Vermont Department of Education. (2003). *Vermont Early Learning Standards* (VELS). Montpelier, VT: Author.

W. K. Kellogg Foundation (WKKF). (2004). *Logic model development guide: Using logic models to bring together planning, evaluation, and action*. Battle Creek, MI: Author.

Weiss, C. H. (1997). *Evaluation* (2nd ed.). Alexandria, VA: Prentice Hall.

Westmoreland, H., Lopez, M. E., & Rosenberg, H. (2009, November). *How to develop a logic model for districtwide family engagement strategies*. Cambridge, MA: Harvard Family Research Project.

Wholey, J. S., Hatry, H. P., & Newcomer, K. E. (1994). *Handbook of practical program evaluation*. San Francisco: Jossey-Bass.

Worthen, B. R., & Sanders, J. R. (1987). *Educational evaluation: Alternative approaches and practical guidelines*. New York: Longman.

Chapter 8

Cost-Effectiveness and Efficacy of Programs

Kathleen Hebbeler and Donna Spiker

One of the changes made to the Individuals with Disabilities Education Act (IDEA) in the 2004 amendments involved a rather minor word change. The amendment indicated that the primary focus of federal and state monitoring of the law was to be on improving educational results and functional outcomes for all children with disabilities. Although this may seem like common sense, this directive to monitor results was the culmination of a gradual realization that monitoring the process aspects of IDEA alone was not enough to ensure successful outcomes for children with disabilities. IDEA has its historical roots in assuring the right to a free, appropriate public education for children with disabilities. Earlier versions of the law emphasized the importance of access to education because the law was enacted in response to children with disabilities being denied an education. After several decades of focusing on access, a national study revealed that outcomes for students who had received special education services were problematic, with high dropout rates for some groups and others not being able to live independently after secondary school (Wagner, Blackorby, Cameto, Hebbeler, & Newman, 1993). These findings alerted the nation that a focus on access was not enough. In 2002, the President's Commission on Excellence in Special Education strongly supported the need for a stronger focus on results. Their first recommendation emphasized the importance of looking at results:

> IDEA will only fulfill its intended purpose if it raises expectations for students and becomes result-oriented—not driven by process, litigation, regulation and confrontation. In short, the system must be judged by the opportunities it provides and the outcomes

> achieved for each child. (President's Commission on Excellence in Special Education, 2002, p. 8)

When the 2004 amendment to IDEA codified the focus on results, it represented a minor word change, but it was a significant policy shift in what constitutes effective special education and early intervention services. The need to monitor results was accompanied in the law by strong emphasis on the use of evidence-based practices. Research has been conducted for many years to examine what works for children with disabilities. In 2004, IDEA made the use of effective practices for children with disabilities and the attainment of outcomes a matter of federal policy.

This chapter summarizes what is known and what we need to know about producing results for young children with special needs, including the costs of those services. We begin the chapter by introducing the reader to some basic terms from the literature that we will use throughout the chapter. Some of these terms, especially those related to economic analyses, are sometimes used interchangeably in discussions of programs for young children. Our goal is to provide and use commonly accepted definitions in hopes of increasing the sophistication of the discussion about costs and cost-effectiveness of services. The research on the cost savings associated with providing services to young children whose families live in poverty has been extensively presented in both the professional literature and the popular press and is often cited by advocates as part of the rationale for providing or expanding services for young children. The chapter provides a brief summary of this literature because it has played such a crucial role in the recent expansion of services for children under 5. The applicability of this research to services for young children with disabilities is limited, as will be discussed. Our discussion of costs and results for young children with disabilities addresses what we know about costs of services, efficacy and effectiveness, and cost-effectiveness. The chapter closes with a discussion of future trends and what additional information is needed to make good decisions about programs and services to improve outcomes. A critical distinction for serving children with disabilities that will be referenced throughout the chapter is the difference between research on improving child outcomes through the study of a particular intervention or practice, and data about the national system of early intervention (EI) services and early childhood special education (ECSE) services being provided to children and families under the auspices of IDEA. Research on practices and studies on the implementation of IDEA are both important, but knowing the former does not provide knowledge of the latter, and this is central to the difference between efficacy and effectiveness.

BASIC CONCEPTS

What does it cost to provide early intervention in Program A? How does this compare to the costs of Program B? Is didactic instruction more effective at promoting language than embedded interventions? What is the total cost of early childhood special education in Minnesota? What would be the cost of implementing a different service delivery model? Is providing two two-hour home visits a month more cost-effective than four one-hour visits? Is early intervention a good investment? Is it more cost-effective to serve preschoolers with disabilities in community child care or in preschools operated by their school district?

These represent just a small sample of the many important questions that can be asked about costs and outcomes for programs for young children with disabilities. They are the kind of questions that some administrators and policy makers are asking, and that many more should be asking. Families, as consumers of services, also have a right to know what interventions work and whether their child's program is effective. Teachers and therapists need to know what works so they can make informed decisions in selecting and modifying interventions. If two interventions are equally effective, then there is no justification for implementing one that costs more. Public resources for education, health, and social programs have always been scarce and almost certainly will continue to be so. Neither families nor taxpayers are well served if programs are spending more money than they need to or are not maximizing the results from the dollars being spent.

Having accurate information on the costs of programs is essential to providing effective and efficient services for young children with disabilities and their families. The goal of a *cost analysis* is to determine the economic value of all the resources used to provide the services in a given program (Escobar, Barnett, & Goetze, 1994). Identifying the full cost of EI and ECSE can be challenging because there are multiple costs to operating a program, some of which are paid for with public or private funds and others which are not. A common mistake in cost analysis is using a program's budget as a source of cost information, which will tend to miss some important costs. If a preschool program has two parent volunteers in the classroom at all times, then part of the cost of providing that program is the cost of the parents' time, even though the program may not be paying for it. Assuming the program is effective and another program wanted to replicate it, one could not ignore the hours of parent time that are a resource required to operate the program. Unpacking the costs of a program allows for a determination of the overall costs and also permits identification of who is incurring costs while providing information on the necessary support required if a program is to be transported to a new site (Hummel-Rossi & Ashdown, 2002). Other costs that may be overlooked are the costs of parents providing transportation to the program or the costs of classroom space when a preschool is housed in an elementary school. An alternative to calculating costs is to calculate expenditures, which is sometimes the only feasible option (see e.g., Erickson, 1992). *Expenditures* refer to resources that the program expends.

Many cost analyses use a resource cost model that involves estimating costs for all of the program's resources. This approach requires a complete description of all of the program's components, including personnel, supplies, materials, equipment, transportation, and facilities. Other resources such as using volunteers and parent time must also be included in the costs (Chambers & Parrish, 1994; Levin, 1983; Levin & McEwan, 2000). The first step in this approach involves identifying all of the program activities or ingredients, and the second step is to determine the cost of each one (Barnett, 2000).

Another issue related to costs is the identification of the *funding sources* the programs draws on. Both EI and ECSE, for example, are supported by a variety of funding sources, including a variety of federal funds along with state funds and, in some places, local funds. Another possible funding source for early intervention is private insurance and parent fees. IDEA allows states to charge parents for early intervention services, which is a funding option with both strengths and weaknesses (Mackey-Andrews & Taylor, 2007).

Both cost-benefit analyses and cost-effectiveness analyses are intended to present information to assist in decision-making. A *cost-benefit* or benefit-cost analysis (the terms are used interchangeably) refers to an analysis of the resources used and the results produced by a program or policy. In a cost-benefit analysis, monetary values are estimated for both the resources used (which are the costs) and the results produced (the benefits). A cost-benefit analysis considers the benefits and costs to both the government and to society. The goal is to provide information about whether the programs, services, and practices are paying off economically: are there lasting positive outcomes for children and their families, and do the savings outweigh the costs? (National Research Council and Institute of Medicine, 2009). One of the challenges in cost-benefit analysis is the difficulty in assigning monetary value to some of the outcomes (Barnett, 2000). For example, assigning a dollar value to an increase in parenting confidence produced by an early intervention program will be difficult. *Cost-effectiveness analysis* differs from a benefit-cost analysis in that a dollar value is not placed on the outcome in a cost-effectiveness outcome. The costs and outcomes of one intervention or service can be compared with the costs and outcomes of another treatment. The results of the analysis are reported in terms of how much must be invested to achieve a given level of the outcome (National Research Council and Institute of Medicine, 2009). For example, a cost-effectiveness analysis could identify the cost associated with improving a preschooler's communication skills by five standard scores points on a developmental assessment using a particular intervention. A cost-effectiveness analysis allows a comparison of the relative costs of different approaches required to reach the same level of outcome or of the relative level of outcomes achieved by different interventions with the same costs.

Cost-effectiveness studies require two distinct kinds of information: information on costs, and information on outcomes. Research makes a distinction between two kinds of studies that look at outcomes. *Efficacy* studies examine whether or not interventions, practices, or programs can work in the ideal, highly controlled situation in which interventions are implemented as intended by practitioners or researchers who have been highly trained in the procedures. *Effectiveness* studies are designed to look at interventions in real-life situations and address whether the intervention works when it is implemented in programs as they operate in day-to-day life (Blackman, 2000). Not surprisingly, interventions shown to be efficacious may not turn out to be effective because, for example, they are too difficult or cumbersome for practitioners to implement faithfully. Both kinds of studies are important to understanding and promoting improved outcomes for children and families. Cost-effectiveness analysis can use data from either efficacy or effectiveness studies depending on whether the outcome data is collected from a controlled implementation or implementation in real-world programs.

ECONOMIC ANALYSES OF PROGRAMS FOR YOUNG CHILDREN AT ENVIRONMENTAL RISK

In 1999, the National Academy of Sciences convened a national panel to consider the science behind the notion that the early years of life are critical in laying the foundation for the optimal development of our nation's children. In reviewing the extensive research about early childhood development in the neurobiological, behavioral, and social sciences (National Research Council and Institute of Medicine, 2000), the panel concluded that the early years are indeed critical for setting the stage for long-term favorable or unfavorable developmental outcomes of all children. Furthermore, they concluded that much can be done to increase the chances that more children will experience favorable outcomes.

Several of the panel's recommendations were in response to the well-documented and unfortunate reality that young children exposed to environmental risk, most notably poverty, are likely to acquire new skills and behaviors at a much slower rate than their more advantaged peers in the years leading up to kindergarten (Hart & Risley, 1995; Lee & Burkam, 2002). In turn, poor school readiness at kindergarten entry has been shown to lead to long-term consequences including poor school achievement. New research on the importance of the early years for brain development combined with the significant achievement gap at kindergarten entry for children from low-income families has resulted in substantial interest in policies and programs to address this problem. A sizable body of research has shown that high-quality ECE programs can be successful in promoting school readiness of young children, particularly those living in low-income families (Karoly et al., 1998). Programs for children at risk of poor developmental outcomes have been heavily promoted to policy makers by presenting a body of research demonstrating the costs and benefits of early childhood programs, services, and practices (Barnett, 2000; Karoly & Bigelow, 2005; Karoly et al., 1998; Karoly, Kilburn, Bigelow, Caulkins, & Cannon, 2001; National Research Council and Institute of Medicine, 2009). Providing programs to address the developmental needs of young children living in poverty is not a new idea; Head Start, for example, was created in the 1960s based on the existing evidence of poor school performance for children in poverty. The rationale for providing programs to address this problem was significantly strengthened with the new research on brain development and the very conclusive evidence that the long-term benefits of such programs far outweigh the costs.

In particular, policy makers have been impressed by cost-benefit data from three model programs—the Perry Preschool Program, the Abecedarian Project, and the Chicago Child-Parent Centers. Research on these programs indicates significant short- and long-term benefits that include increased school achievement and educational attainment, reduced juvenile delinquency and criminality, and better adult workforce participation (Karoly et al., 1998). Longitudinal outcomes studies that followed program participants into adulthood indicate that the benefits calculated outweigh program costs while boosting long-term academic, social, and occupational achievement, particularly for children from low-income families who are at greatest risk for poor school readiness and subsequent school failure (Barnett & Masse, 2007; Heckman & Masterov, 2004; Karoly & Bigelow, 2005; Reynolds, Temple, Robertson, & Mann, 2002; Schweinhart, 2004). Across cost-benefit studies of high-quality preschool programs for children with low-income families, the cost savings estimates have ranged from just under $3 up to $17 for every dollar spent (Barnett & Masse, 2007; Belfield, Nores, Barnett, & Schweinhart, 2006; Schweinhart et al., 2005; Temple & Reynolds, 2007).

Such cost-benefit findings have led states all over the country to increase their investments in state-funded preschool programs, even with huge state budget deficits (Gallagher, Clayton, & Heinemeier, 2001; Kauerz, 2001; National Governors Association, 2005). In an influential report, Karoly (2005) estimated that California would receive $2.7 billion in present value net benefits for implementing high-quality, one-year voluntary universal preschool attended by 70 percent of eligible 4-year-olds (i.e., for every dollar spent on preschool programs, there would be a savings of $2.62).

Despite the prominence of a small set of cost-benefit analyses and the growing support for the importance of early childhood programs, very few program models have actually been subjected to a cost-benefit analysis (Karoly, Kilburn, & Cannon, 2005). Cost savings may be far less for less well-resourced program models. The programs that produced the impressive benefits and cost savings were very well implemented, comprehensive, intensive programs with highly trained staff. Not all preschool programs match the level of quality in these model programs. Accordingly, the magnitude of the benefits has not been as large for other preschool programs such as Head Start and state-funded preschool programs (Howes et al., 2008; Zill et al., 2003). Nevertheless, preschool programs judged to have high-quality instruction have been shown to yield positive impacts on low-income children's school readiness in cognitive, language, and social skills (Anderson et al., 2003; Barnett & Hustedt, 2005; Currie & Thomas, 1995).

We have presented a brief overview of the findings from this select set of cost-benefit studies because they have had a significant impact on early childhood policy in the last decade. The findings tend to be cited to justify many different kinds of investments in programs for young children. It is important to remember that these programs were implemented with young children in poverty, and that is the only population to which the findings apply. These programs were not designed to address the needs of children with disabilities, nor were they implemented with this population. It is interesting that children with disabilities have certainly benefitted from this body of work because it has helped alert policy makers to the importance of a child's early years, and also because it has resulted in an increase in preschool programs providing more options for inclusive settings for preschoolers with disabilities.

One can reasonably maintain that these programs did indeed prevent developmental delay by significantly improving the development and learning of children who were already or were on their way to being very low functioning. Some researchers maintain that the children in the Perry Preschool Project met the criteria for mental retardation, and even though these children might not have received that diagnosis today with more sophisticated assessment procedures, the data do suggest the children were fairly low functioning with regard to intellectual development (Barnett & Escobar, 1988). Children with developmental delays, however, make up only one segment of the population of children with disabilities. We cannot conclude that programs for children with disabilities would return the same kind of economic benefits because programs for children from low-income families show such benefits. To reach conclusions about the benefits and cost-effectiveness of programs for children with disabilities, we need to look to the research on programs and interventions designed for this population.

COSTS OF PROVIDING SERVICES TO YOUNG CHILDREN WITH DISABILITIES

Widespread agreement exists about both the need for and challenges associated with obtaining good data on the cost of programs for young children with disabilities (Macy & Schafer, 1985; Roberts, Innocenti, & Goetze, 1999; Tarr & Barnett, 2001). Some past studies have relied on budgets that provide incomplete data on the full cost of services (Barnett & Escobar, 2002). Other challenges include the diversity in the children served and the diversity in the programs themselves. Neither early intervention nor early childhood special education is a well-defined program model. Rather, each is a collection of services delivered in different ways, in different settings, by different professionals at individually determined intensities. How programs are staffed and stuctured varies across the country, making it difficult to generalize cost findings from one locality or state to another. Finally, cost analyses that focus on producing a total per-program cost or a per-child cost may become dated very quickly as costs change with inflation or programmatic changes. All of these challenges have probably contributed to having very few studies on the costs of serving young children with disabilities.

Cost analyses can produce the total cost to operate a program, or costs to serve a particular type of child, or both. An interesting analysis of total cost was completed by Chambers (1991) to assist California in projecting the costs to the state of participating in Part C (then referred to as Part H). The analysis made projections about the number of children likely to be identified and calculated service costs, along with costs for all the program components such as the development of the IFSP, outreach and public awareness, and the cost of the Interagency Coordinating Council. In the spirit of a cost-benefit analysis, Chambers noted that the state needed to consider whether the costs are outweighed by the long-term benefits of providing services to this population.

A study in Massachusetts based on data from 1988 calculated the hourly cost of various kinds of services. The study found that home visits cost $53.68 per hour; a center-based individual session, $45.28 per hour; a child-focused group session, $21.52 per hour; and a parent support group session, $14.72 per hour (Warfield, 1994). Escobar et al. (1994) calculated costs for 11 home-based and center-based early intervention programs in seven states. In 1990 dollars, the range in costs for the home-based programs was from $3,617 to $7,693 per child, and the range for the center-based programs was from $3,228 to $14,123. Across programs, personnel costs ranged from 35 to 65 percent of total program costs. An analysis of early intervention in New Jersey in 1996 found an average cost of $7,933 per year per IFSP with substantial variation across programs (Tarr & Barnett, 2001). The authors note that at time the data were collected, the state was providing center-based services and that shortly thereafter, the state had begun serving more children and families in natural environments, an example of a programmatic change with a high likelihood of impacting costs.

The only national data on the cost of early intervention comes from the National Early Intervention Longitudinal Study (NEILS). This study followed a nationally representative sample from the time they began early intervention in 1997 or 1998 until the end of their kindergarten year. Applying a resource-cost-model approach to data for a subsample of 2,195 children with adequate service data, the study calculated per-child expenditures for the child's total time in early intervention. The estimates were expenditures for services received from the initial IFSP through program exit, did not include costs for service coordination, and represented only the agencies' cost, not any costs incurred by the family. The average total spending for the average total stay in early intervention of 17.2 months was estimated to be $15,740 per child or $916 per month (Hebbeler, Levin, Perez, Lam, & Chambers, 2009; Levin, Perez, Lam, Chambers, & Hebbeler, 2004).

Cost analyses also look at how costs differ for different groups or what explains variation in costs. NEILS found substantial variation in expenditure for children with different disabilities. Monthly expenditures for children with risk conditions were $549; for children with only communication delays, $642; for children with developmental delay, $948; and for children with diagnosed conditions, $1,103. NEILS also found substantial variation within these groups. For example, for children with developmental delays, the median expenditure was $588 (compared to a mean of $948), the 25th percentile was $282, and the 75th was $1,128 (Hebbeler et al., 2009). Looking at variation across EI programs, Tarr & Barnett (2001) found that programs where staff spent a greater proportion of time in direct service delivery had lower costs. Programs with more aides had lower costs as did programs where more time was spent delivering services in a group. Escobar et al. (1994), in their study of 11 programs, found that the factors with the greatest impact on costs were program duration and frequency of service (measured in hours per year), intensity of service, geographic location, and contributed resources.

Other cost analyses for services for young children with disabilities have examined costs of particular models or practices Odom and his colleagues (2001) studied the costs of preschool inclusion by comparing instructional costs (not total costs) of community-based and Head Start–inclusive programs with the costs of more traditional preschool special education classrooms. Across the 14 programs in 5 states, there were 9 possible within local education agency (LEA) comparisons of inclusive to traditional programs. In six of the nine comparisons, the inclusive programs were less expensive than the traditional program. Costs to the LEA ranged from $1,576 to $4,963 for the traditional programs, and from $941 to $6,886 for the inclusive programs.

Studies such as these, although relatively rare, provide a foundation for understanding what it costs to provide services and what are some of the factors that lead services to go up or down. Far more information would be helpful, particularly related to the implementation of early intervention and early childhood special education across the country. More information on cost would be helpful as new practices or program models are being developed, so potential adopters could make more informed decisions.

RESEARCH ON THE EFFICACY AND EFFECTIVENESS OF EI AND ECSE

There is a clear need for continuing to expand the knowledge base on interventions and practices to promote good outcomes for young children with disabilities, and we need to know more about what works, for whom, and under what circumstances (Guralnick, 1989, 2005b). However, there is actually a fairly large body of research on the efficacy and effectiveness of early intervention (EI) and early childhood special education (ECSE) that has grown steadily over the past five decades (Guralnick, 1997, 2005b; Shonkoff & Meisels, 2000). To understand efficacy research, it is important to understand what EI and ECSE are trying to do. The goals of these programs have remained the same: (1) to promote and advance the development and skills of infants, toddlers, and preschoolers, and (2) to support and assist families in promoting the development and skills of infants, toddlers, and preschoolers. The outcomes for children have become broader and more functional (Spiker, Hebbeler, & Mallik, 2005). Parents, practitioners, and researchers agree that EI and ECSE services help to lay a foundation for the child's lifelong learning. This foundation is expected to help the child achieve higher levels of functioning that will support full participation in family, school, and community life, and lead to a good quality of life. Similarly, EI and ECSE provide a foundation for the family to be able to help the child learn and grow; participate fully in family, school, and community; and have a good quality of life *as a family*. It is also important to note that as recently as the 1970s, children with disabilities were institutionalized based on low expectations about their ability to participate in home, school, and community life. Such low expectations and the tremendous costs of institutionalization were unfortunate, and they also served to limit educational policies, available services and programs, and the kind of research that was funded and conducted. IDEA changed the landscape of education for children with disabilities, including infants, toddlers, and preschoolers. The law raised expectations for what children could achieve and also increased the importance of using effective practices in the service of promoting good outcomes.

Given the changing historical landscape, what does the research tell us about the effectiveness of EI and ECSE for infants, toddlers, and preschoolers with disabilities? Understanding the efficacy research on programs or services for young children with disabilities requires appreciating the implications of three characteristics of this population and the programs provided. First, EI and ECSE consist of a wide range of services. These services range from special instruction for the child to therapies (e.g., physical, occupational, speech), family training, and a variety of specialized services (e.g., audiology, vision or assistive technology services, diagnosis and evaluation) that are delivered in a variety of settings by many different kinds of professionals and paraprofessionals (Guralnick, 1997, 2005b; Hebbeler, Barton, & Mallik, 2008; Hebbeler, Spiker, Morrison, & Mallik, 2008; Spiker & Hebbeler, 1999). As will be described below, some studies have focused on the effects of receiving or not receiving a specific type of service (e.g., physical therapy). Most efficacy studies are about specific practices or strategies to promote children's learning or development.

Second, there is considerable variability among young children with disabilities with regard to their types of disabilities; the severity of their delays and functioning levels; their rates of skill acquisition; their health status and conditions; social, behavioral and temperamental characteristics; and ultimately, their developmental and educational outcomes (Scarborough et al., 2004; Scarborough, Hebbeler, & Spiker, 2006) and chapters on specific disabilities in Guralnick (1997). Many studies focus on effectiveness of a practice or intervention for children with specific types of disabilities.

Third, related to this child variability, EI and ECSE services are by design expected to be individualized to address the very different needs and functioning levels of the children served. Children receive different constellations of services, with different intensity over differing durations. Even when the service is ostensibly the same, providers will implement adaptations when providing services that accommodate the needs of the particular children (e.g., different children with gross motor delays receive physical therapy, but the characteristics of the therapy will vary to meet the child's specific needs). The implication of the diversity of the children, the diversity of the services, and individualization based on need is that much of what we know about the efficacy of practices or interventions under circumscribed conditions has not been tested in the full range of programs and populations that make up EI and ECSE in the "real world."

Overview of Efficacy Studies with Young Children with Disabilities

Efficacy research has demonstrated many benefits of intervention for infants, toddlers, and preschoolers with disabilities (Bailey et al., 2006; Guralnick, 1997, 2001, 2005b; Spiker, Hebbeler, & Mallik, 2005) that include the following:

- Acceleration of skills and behaviors that eliminates delay and leads to normal functioning
- Acceleration of skill acquisition and improved functioning that improves the child's developmental trajectory without attaining normal functioning
- Prevention of abnormal patterns or functioning that would lead to greater delay and dysfunction
- Promotion of optimal parent-child interactions that facilitate the child's development and functioning
- Provision of helpful parent support to allow parents to better facilitate the child's development and functioning
- Encouragement of the child's participation in inclusive settings

Some of the earliest EI and ECSE programs were research demonstration projects in the 1960s, 1970s, and 1980s. These early programs tended to be broad-based parent training and center-based programs that focused on promoting cognitive, language, communication, and motor skills. "Training" strategies were used that emphasized stimulus-response learning models and behavior modification strategies, with the parents being trained to "stimulate" the child. These studies showed benefits of these programs compared with control groups in the United States, England, Canada, and Australia (Farran, 1990;

Farran, 2000; Gibson & Harris, 1988; Guralnick & Bricker, 1987; Spiker & Hopmann, 1997). The results showed increased rates of development of skills and milestones and slower declines in the rate of development as measured by global developmental or IQ tests. It is worth noting that these and many subsequent efficacy studies actually test the effect of specific practices, strategies, or program models for teaching children or assisting parents to help them learn rather than testing the impact of a type of service per se (e.g., speech therapy).

By the 1990s, a body of research on interventions for this population showed benefits for both children and families (Guralnick, 1997; Spiker & Hopmann, 1997). IDEA had created a national program for early intervention and for early childhood special education and service provision had moved toward individual intervention plans that involved a combination of services and supports. A recent review (Spiker, Hebbeler, & Mallik, 2005) noted that the "constellation of services and supports might include:

- Information about the child's disability
- Ongoing health monitoring to meet both routine and specialized medical needs
- Individualized one-to-one services and therapies targeted to promote specific skill acquisition and improvements in functioning
- Parent education and training focused on optimal responsivity to promote the child's learning and participation in daily activities and routines
- Opportunities for interactions with peers in group settings" (p. 316–317).

The research documenting benefits of these kinds of services and supports have been extensively reviewed, including reviews that focus on specific types of disabilities (Guralnick, 1997, 2005b; Lord et al., 2005; Shonkoff & Meisels, 2000). Here again, many of the more recent studies document the effectiveness of specific interventions or services for specific outcomes or children (e.g., physical therapy for children with motor delays), or applied behavior analysis (ABA) teaching methods (described below), or strategies for promoting optimal parent-child interactions by providing parents with information about children's specific disability or delay and early development, by modeling of stimulating interactions, and by providing positive emotional support (Dunst, Trivette, & Jodry, 1997; Kelly, Booth-LaForce, & Spieker, 2005; Spiker, Boyce, & Boyce, 2002). Implementing rigorous study designs (e.g., randomized trials) for a population for whom individualized services are required by law raises many challenges, and even studies with random assignment using a treatment-as-usual control group are logistically difficult to implement fully when knowledgeable parents seek out potentially beneficial treatments and researchers cannot control treatment switching (described by Lord et al. [2005] in treatment studies about autism).

Four common areas of research are summarized briefly in the next sections to illustrate the types of efficacy studies that have been done.

Efficacy of Applied Behavior Analysis

The earliest studies from the 1960s to the 1980s mainly examined effects of behavior modification or stimulus-response approaches, also known as applied behavior analysis (ABA; Gardner, 2006). ABA has been extensively researched, with many studies showing how ABA techniques can help establish behaviors as well as consolidate and generalize them, using reinforcement principles and stimulus-response models of learning (Cooper, Heron, & Heward, 2007). These kinds of studies were highly controlled investigations of specific practices, not a type of service or a program. Many of these early efficacy studies focused on discrete behaviors of individuals that often were decontextualized, and these results have been criticized for leading to skills learned in this way did not generalize and were not easily used by the child in everyday situations.

More recent ABA approaches that have been the focus of efficacy studies involve more contextualized learning and focus on more meaningful behaviors such as errorless learning, chaining, functional analysis, naturalistic teaching, and pivotal response training (Koegel & Koegel, 2006). For instance, pivotal response training, particularly developed for use with young children with autism but applicable to all young children with disabilities, aims to intentionally teach children key behaviors that help them "learn to learn," emphasizing a child's motivation to learn by explicitly teaching behaviors relevant for initiating and maintaining social interactions, using joint attention skills, being responsive to multiple cues, and learning other attention and self-regulation behaviors (Koegel & Koegel, 2006). This and other recent naturalistic learning approaches (1) emphasize teaching functional behaviors in natural settings rather than using isolated, rote learning approaches; (2) have a large and growing research base to support their efficacy for promoting children's early academic, language, and social skills; and (3) have as an explicit goal supporting the inclusion of young children with disabilities in settings with typical peers (Wolery, 2000). It is also noteworthy that many of the ABA studies focused on a single type of disability, such as autism; many focus on a specific curriculum; and some practices are supported by single subject study designs.

Efficacy of Interventions with Parents

Strategies for working with parents have been the focus of many studies because it is well recognized that the amount of time that children actually receive a professionally delivered intervention is small compared to the amount of time and the number of learning opportunities that parents have with their young children. As described above, some of the early EI and ECSE programs were parent training programs, teaching parents how to apply ABA methods with their children (at the time referred to as behavior modification; reviewed by Spiker & Hopmann, 1997). Based on a large body of basic research about how children's earliest interactions with adults provide the basis for their language acquisition and cognitive development, more recent studies show positive impacts of parent-child interaction intervention models to promote children's language, communication, and cognitive development (Mahoney & Perales, 2005; Roper & Dunst, 2003; Warren, 2000; Yoder & Warren, 2004). A review of effectiveness studies concluded that there is strong evidence that highly responsive adult-child interactions promote language acquisition and learning (Mahoney, Boyce, Fewell, Spiker, & Wheeden, 1998). Parent training studies also showing the effectiveness of strategies to help parents learn effective ways to handle and manage children's behavior to prevent or remediate behavior problems that interfere with learning (Webster-Stratton, 1997).

Efficacy Studies about Practices for Promoting Language, Communication, and Social Development

Because language and communication delays and difficulties are common across most young children with disabilities, and these skills are essential for school and life success and to promote the goal of full participation (inclusion), practices and strategies to address them have been the subject of a great number of studies. The earliest studies examining how to promote speech and communication skills tended to focus on interventions to teach children sounds, words, etc., and use operant or stimulus-response training methods. Recent advances in understanding of prelinguistic and language and communication acquisition have led the field away from using decontextualized, nonfunctional approaches for teaching and supporting young children's communication skills. The rich research base about prelinguistic communication with infants and toddlers has emerged relatively recently. Research also has demonstrated that the amount and quality of language input are important for children's language development (Hart & Risley, 1995). Furthermore, the movement toward inclusion in settings with typical peers gives children with disabilities opportunities for peer interactions that are beneficial to acquiring and using language. Drawing on this basic developmental research, newer studies have demonstrated the positive impact of strategies that support highly responsive and functional conversations, both with peers and adults, in natural contexts in promoting children's communication and cognitive skills (McCathren, Yoder, & Warren, 1995; Roper & Dunst, 2003) Many of the findings from parent-child interaction interventions (described above) are relevant to how teachers interact with young children in classroom settings.

Efficacy Studies about Inclusive Educational Programming

Many recent studies have looked how to promote participation of young children with disabilities in inclusive settings (Guralnick, 2001, 2005b). The inclusion of children with disabilities in programs that serve typically developing children is perhaps the most remarkable change in education over the past several decades—brought about by parent advocacy and a legislative requirement that children with disabilities are to be educated in the least restrictive environment (DEC/NAEYC, 2009; Fuchs & Fuchs, 1994). Inclusion gives young children with disabilities access to the general early childhood curriculum, typical peers, and more of the typical activities available to other children, holding a promise of achieving better child outcomes.

Beginning in the 1980s, experimental inclusion programs began to demonstrate that it was possible to offer inclusive programs and that children with disabilities could make good progress in them (Bricker, 2000; Guralnick, 2005a). By the 1990s, some research was demonstrating how inclusive early childhood programs could be implemented successfully (e.g., Wolery & Wilbers, 1994). A review of 22 studies found that preschool-age children with disabilities have better outcomes on standard measures of development, social competence, play behavior, and engagement when served in inclusive rather than segregated settings (Buysse & Bailey, 1993). These findings are supported by more recent data as well (Guralnick, 2001). Others have argued that the evidence base for the efficacy of inclusive programs to produce good child outcomes is still relatively meager, although the practice has proliferated (Bricker, 2000). Responding to the myriad of definitions of inclusion in the research literature, a recently released joint position statement by the Division for Early Childhood and the National Association for the Education of Young Children (DEC/NAEYC, 2009) defines inclusion as consisting of (1) access, i.e., a wide range of typical environments and use of universal design to support full access; (2) participation, i.e., suggested approaches to support and promote the child's full participation, such as embedded instructional approaches; and (3) supports, i.e., infrastructure to support staff, such as appropriate professional development opportunities and specialized services in the setting. Currently, many infants, toddlers, and preschoolers with disabilities participate in a wide range of early care and education programs, some of which also serve typically developing children (e.g., center-based and family-based child care, Head Start, state-funded preschool programs) and some of which serve children with disabilities exclusively (e.g., school-based preschool special education programs). More research is needed about the effectiveness of any of these kinds of programs to improve child outcomes over the short and long term. A recent research study showed that a significant number of children with mild developmental delays who were fully included in preschool and kindergarten were not in an inclusive placement by first and second grade (Guralnick, Neville, Hammond, & Connor, 2008).

Implications of Efficacy and Effectiveness Studies for Cost-Effectiveness Research

This brief review suggests that at a general level, we know a great deal about how to intervene to change the developmental trajectories of young children with delays and disabilities. There is still much to be learned about tailoring interventions or practices to particular types of children or to particular settings with an as yet unknown level of intensity. Much of what is known focuses on specific services or practices, often studied with specific populations. Other studies yield child outcome data based on one feature of the program (e.g., receiving services in an inclusive preschool program). We have a strong theory for developing new interventions and a good overall picture of what works but that still needs more evidence about the application to the full range of children with delays and disabilities. Furthermore, much of the research is focused on a practice or intervention strategy, not a complete program model.

A critical and as yet unanswered question is the extent to which what we have learned from efficacy studies is reflected in the implementation of EI and ECSE programs around the country. The types of interventions, services, or practices that have been studied represent experiences that children *may* have in the real world (Hemmeter, 2000), but we do not know the extent to which children are actually having them. Many findings are based on highly controlled experimental or quasi-experimental studies that show what *can* work under ideal conditions. More research is needed to learn how typical practitioners implement evidence-based practices in a typical program and the kind of outcomes achieved in these circumstances. As described earlier, EI/ECSE is not a singular "program" in the sense that it is one consistent set of interventions that can be described with precision so they are replicable. In addition, children receive combinations of services that can vary considerably across groups of children, making it hard to define and therefore study the "treatment." Finally, different levels of outcomes attainment are appropriate for different populations (e.g., what can be expected for children with mild versus severe delays in functioning). Taking these differences into account in any cost-benefit analysis is necessary and reasonable, and similar to cost-benefit analysis in medicine, which takes into account the types and severity of a condition when examining costs of health care and health outcomes (Murray, Evans, Acharya, & Baltussen, 2000).

LOOKING AT THE COSTS AND OUTCOMES OF SERVICES FOR YOUNG CHILDREN WITH SPECIAL NEEDS

Data on costs of services is interesting, but these data alone provide limited information for decision making in policy or practice (Barnett & Escobar, 2002). Similarly, identifying and implementing effective practices and program models is critical for making short- and long-term differences in children's lives. The true power in designing effective programs comes from combining information on costs with information on effective practices so that resources can be allocated wisely.

The need for research on cost-effectiveness is widely acknowledged and has been for many years. In 1984, Senator Orrin Hatch wrote about the limited resources and difficult decisions that must be made in serving young children with disabilities. He asserted that cost-effectiveness must be a criterion in deciding how best to serve these children (Hatch, 1984). "Is the system cost-effective for the type and level of early intervention services provided for the eligible population?" was one of the key questions for Part C implementation identified by a group of evaluation professionals (Roberts et al., 1999). It is hard to argue with the importance of implementing cost-effective services. Unfortunately, the research relating costs to outcomes of programs or practices for children with disabilities is relatively sparse, and much of it is dated or not methodologically sound. Our knowledge about what works has been advancing; our knowledge of what works at what cost remains rather primitive.

One of the largest reviews of cost-effectiveness studies in EI and ECSE was conducted by Barnett and Escobar (1988). They reviewed 15 early studies of cost-benefit or cost-effectiveness of programs for young children with disabilities and found significant methodological flaws in nearly all of them, including omitting important elements from the cost analysis. They concluded their review by noting that the existing evidence provided a weak basis for making decisions on economic grounds about early intervention and called for methodologically stronger studies that follow standard economic analysis procedures.

One of these early studies compared the cost and outcomes of half-day and full-day programs for matched pairs of children in seven half-day and eight full-day classrooms (Taylor, White, & Pezzino, 1984). The study concluded that half-day programs were more cost-effective for children with cognitive impairments, and that full-day programs were more cost-effective for children with communication impairments. Conclusions about the effectiveness of the classroom were based on the performance of two children in each classroom, and no information was collected about the quality of the instruction or the qualification of the personnel in any of the classrooms. In addition, as noted by Barnett and Escobar (1988), the length of day was confounded with other program differences, and the study drew conclusions based on differences that were not statistically significant and were too small to be meaningful.

A few published studies have compared the costs of two specific services for specific types of children. In a prospective randomized trial comparing a large group community-based parent training program versus a clinic-based individual parent training program for children with disruptive behavior problems, better child behavioral outcomes were found for the community-based program. A cost analysis with matched groups of 18 participating families found the community-based intervention was more than six times as cost effective as the clinic-based treatment (Cunningham, Bremner, & Boyle, 1995). Likewise, another study that compared costs and outcomes of parent training versus clinic-based treatment for preschoolers with speech delays found no difference on costs (when parent time was excluded from the cost analysis), but the parent training program resulted in better child outcomes (Eiserman, McCoun, & Escobar, 1996).

A study conducted by Taylor, White, & Kusmierek (1993) in the late 1980s provides a good example of the challenges in conducting good cost-effectiveness research on important program features with this population. This study used random assignment to examine the benefits of more intensive early intervention services. One group was assigned to the typical EI program of one hour a week, and the experimental groups were assigned to three hours of service a week for 24 weeks. Not surprisingly, the three-hour program cost nearly three times as much as the usual program of one hour per week. The researchers collected data verifying the comparability of the two groups of children (although they did not provide information on their disabilities). They also videotaped treatment sessions, from which they determined that the interventions being provided represented best practice. The study found no difference in child outcomes across the two levels of intensity. Although this study was carefully executed from a methodological perspective, the design is inconsistent with the principle of individualized services. What went on during the session might have met the standard of best practice, but assigning all families the same amount of service would not be considered best practice. It is quite possible that in both the experimental and control groups, some families were receiving more or less service than they needed. Randomly assigning families to an arbitrary amount of service bears no resemblance to actual practice, so the findings are of limited utility to early intervention as it is practiced in the real world.

The rise in the number of young children being diagnosed with autism or autism spectrum disorders and the high cost of some intervention approaches has led to a few recent studies examining the costs of providing services to this population. For instance, a recent analysis of data from Texas estimated that providing an average of three years of intensive discrete trial training to preschoolers with autism would save about $208,000 per child when compared with the costs of 18 years of special education (Chasson, Harris, & Neely, 2007). Using data from Pennsylvania, the costs of three years of intensive behavioral treatments for children with autism between ages 2 and 5 were estimated to be between $33,000 and $50,000 per year (Jacobson, Mulick, & Green, 1998). These same researchers went on to do a cost-benefit analysis in which they assumed that 40–50 percent of the treated children achieved normal functioning by school entry, based on one widely cited randomized study (Lovaas, 1987). Their analysis estimated that the lifetime cost savings would range from about $650,000 to about $1 million per child.

Some cost-effectiveness work has been carried out on methods of identifying children in need of special services. Cost-effectiveness data and arguments have been put forward to support investments in early and periodic developmental screening (American Academy of Pediatrics Committee on Children with Disabilities, 2001; Squires, Nickels, & Eisart, 1996). Most available data addresses actual costs of developmental screenings, but are limited in showing cost benefits (Dobrez et al., 2001; Glascoe, Foster, & Wolraich, 1997). As with any type of screening service, the rationale is that by identifying a condition earlier, it can be effectively treated, thus saving the future costs associated with the condition (Murray et al., 2000). For children with mild delays detected early, the expected benefit of developmental screening is earlier access to beneficial early intervention services, which in turn will prevent the development of more significant delays or disabilities, lead to a much improved or even typical developmental trajectory prior to entering kindergarten, and avoid the increased costs associated with special education. For children with more significant delays, early detection and service receipt is considered to prevent the development of even more significant delays and give these children and their families the specialized assistance needed to maximize their development (Farran, 1990; 2000).

An example of a cost-effectiveness study of identification methods compared the costs and results of four methods of identifying developmental problems in young children (Glascoe, Foster, & Wolraich, 1997). They estimated the costs for each of the methods, collected data on how successful each was in correctly identifying children with problems, and then projected out the long-term savings associated with each method. They concluded that none of the methods was superior with regard to long-term benefits, but that the use of a two-item questionnaire to identify parents' concerns was far less costly because it required less time for physicians to administer and interpret. As the researchers point out, this kind of analysis requires making many assumptions, especially around the percentage of children who will have a given level of disability, future outcomes such as high school graduation rates for certain populations with disabilities, and whether they will require group homes as adults. Verifying that a less expensive screening method is no less effective than a more costly approach for the short-term outcome of detection of developmental problems rests on far fewer assumptions.

As with developmental screening, cost-effectiveness arguments have been made for newborn and periodic hearing screening, but with limited actual cost-benefit data (Mehl & Thomson, 1998). Early detection of hearing impairment or deafness should lead to referral to appropriate EI services, and earlier treatments with assistive devices, which in turn should promote more optimal language acquisition (Yoshinaga-Itano, 2004). Because early childhood is a critical period for language acquisition, it is predicted that anything that promotes a more typical early language acquisition trajectory will have beneficial effects on preventing subsequent school failure and later poor occupational performance. Especially with universal newborn screening, however, the limited available data are mixed in supporting arguments of lifetime cost savings, partly because severe and profound deafness detected in the newborn period is such a low-incidence condition, and many infants later identified with a congenital moderate-to-severe hearing loss actually were born with normal hearing and progressed to have hearing loss in early infancy (Karen, Helfand, Homer, McPhillips, & Lieu, 2002; Mehl & Thomson, 1998; Yoshinaga-Itano, 2004). Two studies of newborn-hearing screening have reported cost savings for the procedure. Mehl and Thomson (1998) used data on nearly 42,000 newborns screened in Colorado to conclude that all costs associated with newborn hearing screening would be recovered by the state after 10 years. Using a hypothetical birth cohort of 80,000 infants and data assembled from many different sources, Karen et al. (2002) concluded that newborn hearing screening was more cost-effective than no screening or selective screening because it resulted in better outcomes and reduced costs. As these authors note, better evidence is needed because studies have not yet quantified the true impact of early intervention on language production and subsequent productivity. Screening high-risk newborns in neonatal intensive care units (NICUs) has been suggested as a more cost-effective approach given the greater chance of secondary disability for this population (Yoshinaga-Itano, 2004). A stronger cost-benefit case has been made for periodic hearing screening throughout early childhood to detect conductive hearing losses that can usually be completely corrected and for which EI services can set the child back on a normal developmental trajectory for language development (Yoshinaga-Itano, 2004).

RECENT DEVELOPMENTS WITH IMPLICATIONS FOR STUDYING COST-EFFECTIVENESS

The review of information on cost-effectiveness for services for young children with disabilities indicates that there is much more we need to know. New contributions to the knowledge base may come in the future from state agencies. The last several years have seen substantial growth in state capacity to report data on outcomes for young children with disabilities. Spurred by a requirement from the federal government, all states have undertaken to implement statewide procedures for measuring the progress of children who receive EI or ECSE services. This development has occurred independently of, but simultaneously with, strong federal support for building longitudinal data systems in states to track children's progress across time, and some states are opting to include early childhood programs in their databases. The combination of these two forces has the potential to produce an ongoing source of data on child outcomes and, in states with sophisticated data systems, cost of these services as well, which sets the stage for future cost-effectiveness analyses.

As part of ongoing accountability, the federal government requires data on outcomes for all federally funded programs. Not unique to the federal government, the importance of promoting and monitoring outcomes is widely recognized across a variety of public and private funding sources (Hogan, 2001; Morley, Vinson, & Hatry, 2000). Since the early 1990s, all federal programs have been required by the Government Performance and Results Act (GPRA) to report on the outcomes being achieved by their program. Despite this requirement, no data on outcomes for two federal programs serving young children with disabilities, Part C (early intervention for birth to 2-year-olds) and Part B Preschool Grants Program (early childhood special education for 3- to 5-year-olds) of IDEA were reported for many years. No data collection mechanism was in place that could regularly produce data on child outcomes, nor was it clear how such data collection could ever be implemented given the numerous challenges associated with assessing a population that was very young and extremely heterogeneous in development (National Research Council, 2008). To better align spending with demonstrated program effectiveness, the federal Office of Management and Budget instituted a new review process in 2002 that involved giving scores to programs based on the kinds of data the program had available. Both the Part C and the Part B Preschool Grants Program received a score of zero for results and accountability and a summative assessment of "Results Not Demonstrated." Given that the rationale for the review was to guide future budgeting decisions, the outcome of this review led the federal agency responsible for overseeing these two programs to immediately undertake action to obtain data on child outcomes. The federal government required that each state provide data on progress toward three child outcomes (social relationships, acquisition of knowledge and skills, and the taking of appropriate action to take needs) for all children receiving services through EI or ECSE programs. States submitted data to address this requirement for the first time in 2007. As states build their measurement systems, they have been able to report data on a higher percentage of children participating in these two programs with each subsequent year. More detailed information about the data requirements and state approaches to the data collection can be found in Hebbeler, Barton, and Mallik (2008) and Hebbeler and Rooney (2009), and at –http://www.the–ECO-Center.org.

Once state measurement systems are fully developed, data on outcomes for young children with disabilities will be available for over one million children nationally. These data will be available for each state and for local programs within states. Since some state databases also include data on cost of services, calculating the cost-effectiveness of services for children in a variety of programs in some states could be a relatively straightforward analysis. The availability of good data on child outcomes will allow programs to carry out the requirement of IDEA 2004 for states to monitor on child outcomes. The child outcomes data has the potential to help identify weak areas in the state system of services; the data could pinpoint less effective programs or weak components of the statewide system such as insufficient support for promoting children's independence through assistive technology. It also has the potential to be misused in some of the same ways that accountability data has been misused in K–12 education, which is why states and programs have been cautioned on appropriate interpretation and use (Early Childhood Outcomes Center, 2004) The burgeoning capacity of states to reach conclusions about cost-effectiveness is not imminent and depends on the quality of the outcomes data and the availability of cost data in the states. A recent survey of states found that only 20 of the 38 states responding had data on the amount of services delivered in early intervention (IDEA Infant and Toddlers Coordinators Association, 2009), suggesting it will be many years before states routinely are able to link data on service costs to outcomes. As states build their systems for ongoing child outcomes measurement and move to better and more thorough information on services, the groundwork is being laid for the creation of much-needed information about the cost-effectiveness of services, Unlike the cost-effectiveness information of the past, which was time-limited and available only for a small set of program models or features, this will be ongoing information available from year to year for use in building more effective and efficient services delivery systems.

One other emerging trend with the potential to substantially increase the ongoing availability of data on outcomes is the development of longitudinal data systems in education. Supported by federal funds, nearly all states are now undertaking to build data systems that allow the state education agency to track student progress across years (Data Quality Campaign, 2008). More recently, states are moving to add information from early childhood programs to these data systems (Early Childhood Data Collaborative, 2010). A small number of states can already track children from early intervention through high school graduation. Longitudinal data systems that link EI and ECSE information to K–12 will allow states to calculate the proportion of children who no longer need special services and track their educational achievement in future years as well as address a variety of questions about the relationship between program participation in early childhood and long-term outcomes. This kind of information also will provide the necessary information for economic analyses that examine cost savings associated with early childhood services or look at the cost-effectiveness of alternate programming approaches provided before age 5.

CONCLUSIONS

The strong interest of policymakers and the general public in knowing more about the costs and outcomes of a full range of social service, health and education programs is likely to continue. As there has been for many years now, there is a pressing need to move beyond justifying budget requests for programs for children with disabilities with anecdotal evidence and generic research on brain development or even efficacy studies of what can work. We need data on how funded programs are improving outcomes and what kinds of approaches are cost-effective. Although we would want to believe that all components of the service delivery system are working in a highly effective manner for all children and families being served, it is not likely to be the case. And if it is not the case, then the only way to address this situation is with better information to pinpoint and address weaknesses. Both families and taxpayers are entitled to services that are cost-effective.

This overview of what is known about costs, efficacy, and cost-effectiveness of programs for young children with disability reveals a persistent need for new and better information. Although there are several challenges to conducting good studies in this area, that is no reason not to make progress in this area. The need for the information is not lessened by challenges such as the diversity of the population, mandated individualized services, and the variety of service delivery approaches. We have tried to elucidate the distinctions between the knowledge of what works that is acquired in controlled settings, which constitutes our research literature on efficacy, and the knowledge of how these practices are implemented in programs across the country. We need to continue to do more research to validate new promising practices and identify the children and families with whom they are successful. We also need to do much more to learn about what can work, what is being implemented, and what is working in the hundreds of early intervention and early childhood special education programs across the country. We need ongoing data on the outcomes children are realizing through their participation in these programs. Collecting this information will not involve random assignment to conditions, nor should it, because we need information on the outcomes being realized in programs as they operate day to day. The efficacy literature demonstrates that programs *can be* effective. The current need is for ongoing data to identify which programs are and are not effective. Information on child outcomes is needed at many levels to support good decision making by teachers and other practitioners, administrators, and policy makers.

Cost of programs, services, and practices is another area about which we currently know very little. For cost data to be usable and useful, it needs to be current, which means it needs to be produced regularly. Cost data on programs from 5 or 10 years ago might be useful for a onetime exploration of what is driving costs, but we would argue that both outcomes and cost data need to be tracked from year to year. The cost-effectiveness data that results from combining these two pieces of information may be a long way off, but represent the strongest kind of information for effective program management. Currently, we have no way of knowing which of our EI and ECSE dollars are good investments and which are not. There are far too few resources and far too many families who need quality services and supports for this to be acceptable.

Calling for cost-effectiveness to strengthen our investments in programs for young children is not the same as calling for a cost-benefit analysis to justify those investments. Barnett and Escobar (2002) commented that the time had come for analysis of programs for children with environmental risks to move from showing that programs are economically efficient to looking at how programs can produce the greatest benefit at the lowest cost. Similarly, the question for services for children with disabilities should not be whether the short- and long-term outcomes justify the investment (although the data would indicate that the answer to this question is yes). The critical cost question for programs for young children with disabilities is, how do we provide effective services for the greatest number of children at the least cost? This should not be misconstrued as a justification for automatically providing the least expensive services because a low-cost (or high-cost) service that does not result in a good outcome is not cost-effective. Examining cost-effectiveness means looks at the amount of gain achieved for a given level of investment, which is what decision makers need to know to make choices among options. Obtaining valid data on cost-effectiveness will not be easy, but if we do not start investing soon to build the infrastructure in states to collect it, another 25 years will go by and the field will still be writing about the need for data on cost-effectiveness.

The European Academy of Child Disability presents an interesting position on the effectiveness of services: "Health providers have a responsibility to try to measure the effectiveness of any programs set up for children with disabilities and to identify which treatments are ineffective. On the other hand the availability of certain services such as early intervention is now an accepted right, even though appropriate evaluation methods may be lacking" (McConachie, Smyth, & Bax, 1997; Blackman, 2000, p. 14). We know enough to know that programs for young children with disabilities can make a substantial difference in their lives, and for that reason alone, these programs need to be funded. Now we need to learn enough to ensure that every program and service lives up to that potential.

REFERENCES

American Academy of Pediatrics Committee on Children with Disabilities. (2001). Developmental surveillance and screening of infants and young children. *Pediatrics, 108*, 192–196.

Anderson, L. M., Shinn, C., Fullilove, M. T., Scrimshaw, S. C., Fielding, J. E., Normand, J., et al. (2003). The effectiveness of early childhood development programs: A systematic review. *American Journal of Preventive Medicine, 24*(3S), 32–46.

Bailey, D. B., Jr., Bruder, M. B., Hebbeler, K., Carta, J., deFosset, M., Greenwood, C., et al. (2006). Recommended outcomes for families of young children with disabilities. *Journal of Early Intervention, 28*(4), 227–251.

Barnett, S. W., & Hustedt, J. T. (2005). Head Start's lasting benefits. *Infants & Young Children, 18*(1), 16–24.

Barnett, W. S. (2000). Economics of early childhood intervention. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed., pp. 589–612). New York: Cambridge University Press.

Barnett, W. S., & Escobar, C. M. (1988). The economics of early intervention for handicapped children: What do we really know? *Journal of Early Intervention, 12*(2), 169–181.

Barnett, W. S., & Escobar, C. M. (2002). Research on the cost effectiveness of early educational intervention: Implications for research and policy. *American Journal of Community Psychology, 17*(6), 677–704.

Barnett, W. S., & Masse, L. N. (2007). Comparative benefit-cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review, 26*(1), 113–125.

Belfield, C., Nores, M., Barnett, W. S., & Schweinhart, L. J. (2006). The High/Scope Perry Preschool Program: Cost-benefit analysis using data from the age-40 followup. *Journal of Human Resources, 41*(1), 162–190.

Blackman, J. A. (2000). Early intervention: A global perspective. *Infants and Young Children, 15*(2), 11–19.

Bricker, D. (2000). Inclusion: How the scene has changed. *Topics in Early Childhood Special Education, 20*(1), 14–19.

Buysse, V., & Bailey, D. B. (1993). Behavioral and developmental outcomes in young children with disabilities in integrated and segregated settings: A review of comparative studies. *Journal of Special Education, 26*, 434–461.

Chambers, J. (1991, Fall). A cost analysis of the federal program for early intervention services. *Journal of Education Finance, 17*, 142–171.

Chambers, J. G., & Parrish, T. B. (1994). Modeling resource costs. In S. Barnett & H. Walberg (Eds.), *Cost analysis for educational decision making*. Greenwich, CT: JAI Press.

Chasson, G., Harris, G., & Neely, W. (2007). Cost comparison of early intensive behavioral intervention and special education for children with autism. *Journal of Child and Family Studies, 16*(3), 401–413.

Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied behavior analysis* (2nd ed.). Prentice Hall.

Cunningham, C. C., Bremner, R., & Boyle, M. (1995). Large group community-based parenting programs for families of preschoolers at risk for disruptive behavioral disorders: Utilization, sot effectiveness, and outcomes. *Journal of Child Psychology and Psychiatry, 36*, 1141–1159.

Currie, J., & Thomas, D. (1995). Does Head Start make a difference? *American Economic Review, 85*(3), 341–364.

Data Quality Campaign. (2008). Measuring what matters: Creating longitudinal data systems to improve student achievement Retrieved from http://www.dataqualitycampaign.org/files/DQC_measuring_what_matter

DEC/NAEYC. (2009). Early childhood inclusion: A summary. Chapel Hill: University of North Carolina, FPG Child Development Institute.

Dobrez, D., Sasso, A. L., Holl, J., Shalowitz, M., Leon, S., & Budetti, P. (2001). Estimating the cost of developmental and behavioral screening of school children in general pediatric practice. *Pediatrics, 108*, 913–922.

Dunst, C. J., Trivette, C. M., & Jodry, W. (1997). Influences of social support on children with disabilities and their families. In M. J. Guralnick (Ed.), *The effectiveness of early intervention*. Baltimore: Paul H. Brookes Publishing.

Early Childhood Data Collaborative. (2010). Building and using coordinated state early care and education data systems: A framework for state policy makers. Retrieved from http://www.dataqualitycampaign.org/files/DQC%20ECDC%20WhitePaper%20FINAL%20online.pdf

Early Childhood Outcomes Center. (2004). Uses and misuses of data on outcomes for children with disabilities. Retrieved from http://www.the-eco-center.org

Eiserman, W. D., McCoun, M., & Escobar, C. M. (1996). A cost-effectiveness analysis of two alternative program models for serving speech-disordered preschoolers. *British Medical Journal, 312*, 1655–1658.

Erickson, M. (1992). An analysis of early intervention expenditures in Massachusetts. *American Journal on Mental Retardation, 96*(6), 617–629.

Escobar, C. M., Barnett, W. S., & Goetze, L. D. (1994). Cost analysis in early intervention. *Journal of Early Intervention, 18*(1), 48–63.

Farran, D. C. (1990). Effects of intervention with disadvantages and disabled children: A decade review. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early intervention* (2nd ed., pp. 201–539). Cambridge: Cambridge University Press.

Farran, D. C. (2000). Another decade of intervention for children who are low income or disabled: What do we know now? In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed., pp. 510–548). New York: Cambridge University Press.

Fuchs, D., & Fuchs, L. (1994). Inclusive schools movement and the radicalization of special education reform. *Exceptional Children, 60*, 294–309.

Gallagher, J. J., Clayton, J. R., & Heinemeier, S. E. (2001). Education for four-year-olds: State initiatives. Chapel Hill: University of North Carolina.

Gardner, W. I. (2006). *Behavior modification in mental retardation*. New York: Aldine De Gruyter.

Gibson, D., & Harris, A. (1988). Aggregated early intervention effects for Down's syndrome persons: Patterning and longevity of benefits. *Journal of Mental Deficiency Research, 32*, 1–17.

Glascoe, F. P., Foster, E. M., & Wolraich, M. L. (1997). An economic analysis of developmental detection methods. *Pediatrics, 99*(6), 830–837.

Guralnick, M. J. (1989). Recent developments in early intervention efficacy research: Implications for family involvement in P.L. 99-457. *Topics in Early Childhood Special Education, 9*, 1–17.

Guralnick, M. J. (2001). Connections between developmental science and intervention science. *Zero to Three: The Science of Early Childhood Development, 21*, 24–29.

Guralnick, M. J. (2005a). Inclusion as a core principle in the early intervention system. In M. J. Guralnick (Ed.), *The developmental systems approach to early intervention* (pp. 59–69). Baltimore: Paul H. Brookes Publishing.

Guralnick, M. J. (Ed.). (1997). *The effectiveness of early intervention*. Baltimore: Paul H. Brookes Publishing.

Guralnick, M. J. (Ed.). (2001). *Early childhood inclusion*. Baltimore: Paul H. Brookes Publishing.

Guralnick, M. J. (Ed.). (2005b). *The developmental systems approach to early intervention*. Baltimore: Paul H. Brookes Publishing.

Guralnick, M. J., & Bricker, D. (1987). The effectiveness of early intervention for children with cognitive and general developmental delays. In M. J. Guralnick & F. C. Bennett (Eds.), *The effectiveness of early intervention for at-risk and handicapped children* (pp. 115–173). New York: Academic Press.

Guralnick, M. J., Neville, B., Hammond, M. A., & Connor, R. T. (2008). Continuity and change from full-inclusion early childhood programs through the early elementary period. *Journal of Early Intervention, 30*(3), 237–250.

Hart, B., & Risley, T. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore: Paul H. Brookes Publishing.

Hatch, O. G. (1984). Environmental constraints affecting services for the handicapped. *Topics in Early Childhood Special Education, 4*(1), 83–90.

Hebbeler, K., Barton, L., & Mallik, S. (2008). Assessment and accountability for programs serving young children with disabilities. *Exceptionality*(16), 48–63.

Hebbeler, K., Levin, J., Perez, M., Lam, I., & Chambers, J. (2009). Expenditures for early intervention services. *Infants and Young Children, 22*(2), 76–86.

Hebbeler, K., & Rooney, R. (2009, October). Accountability for services for young children with disabilities and the assessment of meaningful outcomes: The role of the speech-language pathologist. *Language, Speech, and Hearing Services in Schools, 40*, 446–456

Hebbeler, K., Spiker, D., Morrison, K., & Mallik, S. (2008). A national look at the characteristics of Part C early intervention services. *Young Exceptional Children Monograph Series No. 10*.

Heckman, J. J., & Masterov, D. V. (2004). The productivity argument for investing in young children. Washington, DC: Invest in Kids Working Group, Committee for Economic Development.

Hemmeter, M. L. (2000). Classroom-based interventions: Evaluating the past and looking toward the future. *Topics in Early Childhood Special Education, 20*(1), 56–61.

Hogan, C. (2001). The power of outcomes: Strategic thinking to improve results for our children, families, and communities (p. 13). Washington, DC: National Governors Association.

Howes, C., Burchinal, M., Pianta, R., Bryant, D., Early, D., Clifford, R., et al. (2008). Ready to learn? Children's pre-academic achievement in pre-kindergarten programs? *Early Childhood Research Quarterly, 23*(2), 27–50.

Hummel-Rossi, B., & Ashdown, J. (2002). The state of cost-benefit and cost-effectiveness analyses in education. *Review of Educational Research, 72*(1), 1–30. doi: 10.3102/00346543072001001

IDEA Infant and Toddlers Coordinators Association. (2009). Part C Implementation: State challenges and responses Retrieved from http://www.ideainfanttoddler.org/pdf/09_Annual_Survey_Report-State_Challenges.pdf

Jacobson, J. W., Mulick, J. A., & Green, G. (1998). Cost-benefit estimates for early intensive behavioral intervention for young children with autism—general model and single state case. *Behavioral Interventions, 13*, 201–226.

Karen, R., Helfand, M., Homer, C., McPhillips, H., & Lieu, T. A. (2002). Projected cost-effectiveness of statewide universal newborn hearing screening. *Pediatrics, 110*, 855–864.

Karoly, L. A. (2005). County-level estimates of the effects of a universal preschool program in California. Santa Monica, CA: RAND Corporation.

Karoly, L. A., & Bigelow, J. H. (2005). The economics of investing in universal preschool education in California (p. 235). Santa Monica, CA: RAND Corporation.

Karoly, L. A., Greenwood, P. W., Everingham, S. S., Hoube, J., Kilburn, M. R., Rydell, C. P., et al. (1998). Investing in our children: What we know and don't know about the costs and benefits of early childhood interventions. Santa Monica, CA: RAND Corporation.

Karoly, L. A., Kilburn, M. R., Bigelow, J. H., Caulkins, J. P., & Cannon, J. (2001). Assessing costs and benefits of early childhood intervention programs: Overview and application to the Starting Early Starting Smart Program. Santa Monica, CA: RAND Corporation.

Karoly, L. A., Kilburn, M. R., & Cannon, J. S. (2005). Early childhood interventions: Proven results, future promise. Santa Monica, CA: RAND Corporation.

Kauerz, K. (2001). Starting early starting now: A policymaker's guide to early care and education and school success (pp. 27). Denver, CO: Education Commission of the States.

Kelly, J. F., Booth-LaForce, C., & Spieker, S. J. (2005). Assessing family characteristics relevant to early intervention. In M. J. Guralnick (Ed.), *The developmental systems approach to early intervention* (pp. 235–265). Baltimore: Paul H. Brookes Publishing.

Koegel, R. L., & Koegel, L. K. (2006). *Pivotal response treatments for autism*. Baltimore: Paul H. Brookes Publishing.

Lee, V. E., & Burkam, D. T. (2002). Inequality at the starting gate: Social background differences in achievement as children begin school. Washington, DC: Economic Policy Institute.

Levin, H. M. (1983). *Cost-effectiveness: A primer*. Beverly HIlls, CA: SAGE Publications.

Levin, H. M., & McEwan, P. J. (2000). *Cost effectivenss analysis: Methods and applications*. Thousand Oaks, CA: SAGE Publications.

Levin, J., Perez, M., Lam, I., Chambers, J. G., & Hebbeler, K. M. (2004). National Early Intervention Longitudinal Study: Expenditure Study. Menlo Park, CA: SRI International.

Lord, C., Wagner, A., Rogers, S., Szatmari, P., Aman, M., Charman, T., et al. (2005). Challenges in evaluating psychosocial interventions for autistic spectrum disorders. *Journal of Autism and Developmental Disorders, 35*(6), 695–708.

Lovaas, O. I. (1987). Behavioral treatment and normal intellectual and educational functioning in autistic children. *Journal of Consulting and Clinical Psychology, 55*, 3–9.

Mackey-Andrews, S. D., & Taylor, A. (2007). *To fee or not to fee: That is the question!* (NECTAC Notes, No. 22) Chapel Hill: University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

Macy, D. J., & Schafer, D. S. (1985). Real-time cost analysis: Application in early intervention. *Journal of Early Intervention, 9*(2), 98–104.

Mahoney, G., Boyce, G., Fewell, R. R., Spiker, D., & Wheeden, C. A. (1998). The relationship of parent-child interaction to the effectiveness of early intervention services for at-risk children and children with disabilities. *Topics in Early Childhood Special Education, 18*, 5–17.

Mahoney, G., & Perales, F. (2005). Relationship-focused intervention with children with pervasive developmental disorders and other disabilities: A comparative study. *Journal of Developmental and Behavioral Pediatrics, 26*, 77–85.

McCathren, R. B., Yoder, P. J., & Warren, S. F. (1995). The role of directives in early language intervention. *Journal of Early Intervention, 19*, 91–101.

McConachie, H., Smyth, D., & Bax, M. (1997). Services for children with disabilities in European countries. *Developmental Medicine and Child Neurology, 39*, 5.

Mehl, A. L., & Thomson, V. (1998). Newborn Hearing Screening: The Great Omission. *Pediatrics, 101*(1), e4.

Morley, E., Vinson, E., & Hatry, H. P. (2000). A look at outcome measurement in nonprofit agencies. Washington, DC: Urban Institute.

Murray, C. J. L., Evans, D. B., Acharya, A., & Baltussen, R. M. P. M. (2000). Development of WHO guidelines in generalized cost-effectiveness analysis. *Health Economics, 9*(3), 235–251. doi: 10.1002/(SICI)1099-1050(200004)9:3<235::AID-HEC502>3.0.CO;2-O

National Governors Association. (2005). Building the foundation for bright futures: Final report of the NGA Task Force on School Readiness. Washington, DC: National Governors Association.

National Research Council. (2008). Early childhood assessment: Why, what, and how? Committee on Developmental Outcomes and Assessments for Young Children, Catherine E. Snow and Susan B. Van Hemel,(Eds.). Board on Children, Youth and Families, Board on Testing and Assessment, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies.

National Research Council and Institute of Medicine. (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press.

National Research Council and Institute of Medicine. (2009). Strengthening benefit-cost analysis for early childhood interventions: Workshop summary *A. Beatty, Rapporteur. Committee on Strengthening Benefit-Cost Methodology for the Evaluation of Early Childhood Interventions, Board on Children, Youth, and Families. Division of Behavioral and Social Sciences and Education*. Washington, DC: National Academies Press.

Odom, S. L., Hanson, M. J., Lieber, J., Marquart, J., Sandall, S., Wolery, R., et al. (2001). The costs of preschool inclusion. *Topics in Early Childhood Special Education, 21*(1), 46–55.

President's Commission on Excellence in Special Education. (2002). A new era: Revitalizing special education for children and their families. Washington, DC: U.S. Department of Education.

Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2002). Age 21 cost-benefit analysis of the Title I Chicago Child-Parent Centers. *Educational Evaluation and Policy Analysis, 24*(4), 267–303.

Roberts, R. N., Innocenti, M. S., & Goetze, L. D. (1999). Emerging issues from state level evaluations of early intervention programs. *Journal of Early Intervention, 22* (2), 152–163.

Roper, N., & Dunst, C. J. (2003). Communication interventions in natural environments: Guidelines for practice. *Infants and Young Children, 16*, 215–226.

Scarborough, A., Spiker, D., Mallik, S., Hebbeler, K. M., Bailey, D., & Simeonsson, R. (2004). A national look at children and families entering early intervention. *Exceptional Children, 70*, 469–483.

Scarborough, A. A., Hebbeler, K. M., & Spiker, D. (2006). Eligibility characteristics of infants and toddlers entering early intervention in the United States. *Journal of Policy and Practice in Intellectual Disabilities, 3*(1), 57–64.

Schweinhart, L. J. (2004). The High/Scope Perry Preschool Study through age 40: Summary, conclusions, and frequently asked questions. Ypsilanti, MI: High/Scope Educational Research Foundation.

Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). Lifetime effects: The High/Scope Perry Preschool Study through age 40 (p. 18). Ypsilanti, MI: High/Scope Press.

Shonkoff, J. P., & Meisels, S. J. (Eds.). (2000). *Handbook of early childhood intervention* (2nd ed.). New York: Cambridge University Press.

Spiker, D., Boyce, G., & Boyce, L. (2002). Parent-child interactions when infants and young children have disabilities. In L. Gidden (Ed.), *International Review of Research in Mental Retardation* (Vol. 25, pp. 35–70). San Diego, CA: Academic Press.

Spiker, D., & Hebbeler, K. (1999). Early intervention services. In M. Levine, W. B. Carey, & A. C. Crocker (Eds.), *Developmental-Behavioral Pediatrics* (3rd ed., pp. 793–802). Philadelphia, PA: W. B. Saunders Company.

Spiker, D., Hebbeler, K., & Mallik, S. (2005). Developing and implementing early intervention programs for children with established disabilities. In M. J. Guralnick (Ed.), *The developmental systems approach to early intervention* (pp. 305–349). Baltimore: Paul H. Brookes Publishing.

Spiker, D., & Hopmann, M. R. (1997). The effectiveness of early intervention for children with Down Syndrome. In M. J. Guralnick (Ed.), *The effectiveness of early intervention* (pp. 271–306). Baltimore: Paul H. Brookes Publishing.

Squires, J., Nickels, R. E., & Eisart, D. (1996). Early Detection of Developmental Problems: Strategies for Monitoring Young Children in the Practice Setting. *Journal of Developmental and Behavioral Pediatrics, 17*, 420–427.

Tarr, J. E., & Barnett, W. S. (2001). A cost analysis of Part C early intervention services in new jersey. *Journal of Early Intervention, 24*(1), 45–54. doi: 10.1177/105381510102400107

Taylor, C., White, K. R., & Pezzino, J. (1984). Cost-effectiveness analysis of full-day versus half-day intervention programs for handicapped preschoolers. *Journal of Early Intervention, 9*, 76–85.

Taylor, M. J., White, K. R., & Kusmierek, A. (1993). The cost-effectiveness of increasing hours per week of early intervention services for young children with disabilities. *Early Education and Development, 4*(4), 238–255.

Temple, J. A., & Reynolds, A. J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child-Parent Centers and related programs. *Economics of Education Review, 26*, 126–144.

Wagner, M., Blackorby, J., Cameto, R., Hebbeler, K., & Newman, L. (1993). The transition experiences of young people with disabilities: A summary of findings from NLTS. Menlo Park, CA: SRI International.

Warfield, M. E. (1994). A cost-effectiveness analysis of early intervention services in Massachusetts: Implications for policy. *Educational Evaluation and Policy Analysis, 16*(1), 87–99. doi: 10.3102/01623737016001087

Warren, S. F. (2000). The future of early communication and language intervention. *Topics in Early Childhood Special Education, 20*, 33–37.

Webster-Stratton, C. (1997). Early intervention for families of preschool children with conduct problems. In M. J. Guralnick (Ed.), *The effectiveness of early intervention*. Baltimore: Paul H. Brookes Publishing.

Wolery, M. (2000). Behavioral and educational approaches to early intervention. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed., pp. 179–203). New York: Cambridge University Press.

Wolery, M., & Wilbers, J. S. (Eds.). (1994). *Including children with special needs in early childhood programs*. Washington, DC: National Association for the Education of Young Children.

Yoder, P. J., & Warren, S. F. (2004). Early predictors of language in children with and without Down syndrome. *American Journal of Mental Retardation, 109*, 285–300.

Yoshinaga-Itano, C. (2004). Levels of evidence: Universal newborn hearing screening (UNHS) and early hearing detection and intervention systems (EHDI). *Journal of Communication Disorders, 37*, 451–465.

Zill, N., Resnick, G., Kim, K., O'Donnell, K., Sorongon, A., McKey, R. H., et al. (2003). Head Start FACES 2000: A whole-child perspective on program performance (fourth progress report). Washington, DC: U.S. Department of Health and Human Services.

About the Editor and Contributors

EDITOR

Steven Eidelman, MBA, MSW, is the University of Delaware's H. Rodney Sharp Professor of Human Services Policy and Leadership. Mr. Eidelman also has an academic appointment as the University of Delaware's first Robert Edelsohn Chair in Disabilities Studies. He holds joint faculty appointments in the School of Urban Affairs and Public Policy and the Department of Individual and Family Studies. He has served as executive director of both the Association for Retarded Citizens of the United States and the Joseph P. Kennedy Jr. Foundation. Mr. Eidelman is well known for his support to families and individuals with disabilities and for his broad national and international network in the field of disabilities.

CONTRIBUTORS

Lizanne DeStefano, PhD, is Professor in Quantitative and Evaluative Research Methodologies in Educational Psychology at the University of Illinois, Urbana-Champaign. She has done research on the evaluations of initiatives such as NCLB, Head Start, the National Assessment of Educational Progress, Part H of IDEA, the transition requirements of IDEA, Goals 2000 legislation, and the National Youth Sports Program. She uses both qualitative and quantitative research methods to evaluate the impact of policies in a local scale. Dr. DeStefano is currently director of the I-STEM Education Initiative at the University of Illinois to promote students' interest and performance in science, technology, engineering, and mathematics.

Joan C. Eichner, MPA, MPH, is the Children's Policy Director at the University of Pittsburgh Office of Child Development (OCD). She has been involved with maternal and child health, mental health services, homeless and housing services, and international development in the public and nonprofit sectors. In her current position, Ms. Eichner supports the work of the Policy Initiatives Division at OCD, which seeks to change policy and practice to improve outcomes for children and families by informing policy makers of relevant research, best practices, and evaluation results. She currently works on a range of projects in early childhood, including mental health, early intervention, young children experiencing homelessness, and strategic planning and communications. These duties combine her training in public health and public administration with her dedication to working in partnership with families and communities.

Susan A. Fowler, PhD, is Professor in Special Education at the University of Illinois Urbana-Champaign. Her research interests are the development of intervention strategies to enhance young children's language, social, and cognitive development and the development of guidelines and practices to help communities and programs coordinate delivery of services to children and families. Dr. Fowler has coauthored and implemented curriculums such as "Spark!" for the development of early literacy.

Christina Groark, PhD, is a mother of three children, one of whom has special needs. Her MEd and PhD are in education for young children. She is Co-Director of the University of Pittsburgh Office of Child Development and Associate Professor in the School of Education at the University of Pittsburgh. Her major areas of scholarly expertise include the design, implementation, and management of collaborative service intervention for infants and young children, children with disabilities; and practice and policy pertaining to at-risk children and families. She is known internationally for her work with institutions for children without permanent parental care. Dr. Groark is coauthor of *The Effects of Early Social-Emotional and Relationship Experience on the Development of Young Orphanage Children* (2008), a Monograph of the Society for Research in Child Development, and is primary editor of *Evidence-Based Practices and Programs for Early Childhood Care and Education* (2007). She has also written extensively on early care and education, the integration of developmental scholarship into practice and policy, and university-community collaborations. Her research in interventions to improve the lives of institutionalized children and the Long-Term Effects of Early Social-Emotional Experience is funded by NIMH and by private sponsors like Half the Sky Foundation and Whole Child International. Her research has been developed in orphanages in Latin America, Russia, and recently in China. Dr. Groark is the recipient of the University of Pittsburgh's 2005 Chancellor's Award for Public Service and the University of Pittsburgh School of Education's 2009 Faculty Research Award.

Kathleen Hebbeler is part of the Early Childhood Outcomes (ECO) Center. The ECO Center is a collaborative effort of SRI (Stanford Research Institute) International, the University of North Carolina's Frank Porter Graham Child Development Institute, RTI International, and the University of Connecticut. ECO provides national leadership in assisting states with the implementation of high-quality outcome systems for early intervention and early childhood special education programs.

Susan P. Maude, PhD, is an Associate Professor in the Department of Human Development and Family Studies, College of Human Sciences at Iowa State University. Her research interests include inclusive personnel preparation, program evaluation in early intervention and early childhood special education, and innovative ways to evaluate diversity within programs. She is past-president of the Division for Early Childhood (DEC) at the Council for Exceptional Children. DEC is a national organization dedicated to promoting policies and practices that aid the development of young children with special needs.

Michaelene M. Ostrosky, PhD, focuses much of her research on the social and emotional development of young children with special needs. Her research interests focus on (1) facilitating positive attitudes of kindergarteners toward their peers with disabilities, (2) promoting the social and communicative behavior of young children with disabilities, and (3) preparing personnel in early childhood special education.

Oleg Palmov, PhD, is Director of Infant Clinical Psychology Training and Associate Professor at the Department of Social Adjustment and Psychosocial Support in the Faculty of Psychology at St. Petersburg State University (Russian Federation). His primary research interests are infant mental health, children with disabilities, and interventions for infants and young children.

Beth Rous, PhD, is Professor of Educational Leadership Studies at the University of Kentucky. She is coauthor with Barbara Smith of a seminal chapter called *Policy in Early Childhood Education and Early Intervention: What Every Early Childhood Educator Needs to Know*. Dr. Rouss has worked on topics such as preschool accountability systems, transition to public preschool for young children with disabilities, and family stress and resources. She is part of the Human Development Institute at the University of Kentucky, a center for excellence in developmental disabilities education, research, and service.

Bruce K. Shapiro, MD, is Professor of Pediatrics at the Johns Hopkins University School of Medicine and the Arnold J. Capute, MD, MPH Chair in Neurodevelopmental Disabilities. He is Vice President of Training and Associate Director of the Maternal and Child Health Training Program, "Leadership Education Excellence in Caring for Children with Neurodevelopmental and related Disabilities" (LEND). He is also Director of the Kennedy Krieger Institute/Johns Hopkins University Neurodevelopmental Disabilities Residency Program. His research focuses on identification, assessment, and therapy of neurodevelopment disorders.

Barbara J. Smith, PhD, is Research Professor at the School of Education and Human Development University of Colorado, Denver. Dr. Smith has served as Executive Director of the Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC). She has also served as Assistant Executive Director at the Early Learning Institute in Pittsburgh, Pennsylvania. Dr. Smith has wide experience in early childhood education programs, career development and service delivery for children. Dr. Smith is coauthor of the *DEC Recommended Practices in Early Intervention/Early Childhood Special Education* (2000). She has received several grants for research in socio-emotional interventions, special education and foundations of early learning.

Donna Spiker, PhD, is Program Manager of the Early Childhood Program at SRI (Stanford Research Institute) International. Dr. Spiker is a developmental psychologist with extensive experience designing and conducting research and evaluations on the effects of early intervention, early care and education, and school readiness programs for infants and young children with disabilities and their families. Dr. Spiker is principal investigator of the evaluation of the St. Paul Early Childhood Scholarship Pilot Program, the Pre-Kindergarten

Allowances Project for the Minnesota Early Learning Foundation, and the Illinois Early Childhood Block Grant Program for the Illinois State Board of Education. She previously codirected the Statewide Data Collection and Evaluation of First 5 California Funded Programs, focusing on evaluation of the School Readiness Initiative and the Special Needs Project. She codirected the National Early Intervention Longitudinal Study (NEILS), the first national study of early intervention for infant and toddlers with disabilities.

Bahira Sherif Trask, PhD, is Professor in the Department of Human Development and Family Studies at the University of Delaware (UD) and holds a joint appointment at the Center for Community Development and Family Policy in UD. She is interested in the global context in which family processes unfold. Her current research is funded by the Annie E. Casey Foundation to examine the interrelationship between family, work, and gender roles as well as intergenerational relationships between adult children and their parents from the perspective of family support and community economic development.

Tweety Yates, PhD, received her doctorate from the University of Illinois. Dr. Yates's research interests include parent-child interaction and personnel development issues in early childhood. Her research has focused on the validity and feasibility of a parent-child relationship-based model of early intervention in culturally and geographically diverse settings. She is also involved in training and evaluation of an early literacy staff development program with preschoolers living at or below poverty.

This page intentionally left blank

Advisory Board

Heidi M. Feldman, MD, PhD, is the Ballinger-Swindles Endowed Professor of Developmental and Behavioral Pediatrics at Stanford University School of Medicine. She also serves as the Medical Director of the Developmental and Behavior Pediatric Programs at Lucile Packard Children's Hospital. Dr. Feldman received her BA in Psychology (1970), summa cum laude, and her PhD in Developmental Psychology (1975) from the University of Pennsylvania. She received her MD from the University of California, San Diego (1979). Dr. Feldman has memberships in several professional societies such as the Society for Research in Child Development, the Society for Pediatric Research, and the American Academy of Pediatrics. She has served as President at the Society for the Developmental Behavioral Pediatrics. Her research focuses on developmental-behavioral pediatrics, language development in young children, and language and cognition after prematurity. She has published more than 50 peer-reviewed articles in journals like the *New England Journal of Medicine, Science, Brain and Language, Child Development, Journal of Behavioral Developmental Pediatrics, Developmental Neuropsychology,* and *Pediatrics*. She is one of the editors of the current edition of the premier textbook in her field, *Developmental-Behavioral Pediatrics* (4th ed.), published in 2009. She has served as grant reviewer for the National Institutes of Health (1992–1997 and 2008–2012) and an abstract reviewer for the Pediatric Academic Societies. Dr. Feldman has held several academic appointments: Professor at the Medical Center Line, Stanford University (2006 to present), Professor in Pediatrics, University of Pittsburgh (2000–2006), and Faculty Member at the Center for the Neural Bases of Cognition at the University of Pittsburgh/Carnegie Mellon University (2003–2006). Dr. Feldman has received several awards such as Best Doctors in America (2007–2008 and 2009–2010), Academy of Master Educators, University of Pittsburgh School of

Medicine (2006), Outstanding Alumna, University of California San Diego (2003), Ronald L. and Patricia M. Violi Professor of Pediatrics and Child Development, University of Pittsburgh (2001–2006), Excellence in Education Award, University of Pittsburgh School of Medicine (2000), and the Chancellor's Distinguished Teaching Award (1999).

Marilou Hyson, PhD, is a consultant in early child development and education and an Affiliate Faculty member in Applied Developmental Psychology at George Mason University. Formerly Associate Executive Director and Senior Consultant with the National Association for the Education of Young Children (NAEYC), Marilou contributed to the development of many position statements on issues including early learning standards, professional preparation standards, early childhood mathematics, and curriculum/assessment/program evaluation. She is the author of the recent book *Enthusiastic and Engaged Learners: Approaches to Learning in the Early Childhood Classroom*, published by NAEYC and Teachers College Press. Two book chapters on early childhood professional development and higher education systems were published in 2010. Internationally, Marilou consults in Indonesia, Bangladesh, Bhutan, and Vietnam through the World Bank and Save the Children. In the United States, Marilou consults with organizations including the Families and Work Institute, the Finance Project, the National Center for Children in Poverty, and the Society for Research in Child Development. Prior to joining NAEYC, Marilou was an SRCD Fellow in the U.S. Department of Education and Professor and Chair of the University of Delaware's Department of Individual and Family Studies. The former editor-in-chief of *Early Childhood Research Quarterly*, Marilou's research and publications have emphasized young children's emotional development, parents' and teachers' beliefs and educational practices, issues in linking research with policy and practice, and early childhood teacher preparation.

Robert Silverstein, JD, is a principal in the law firm of Powers Pyles Sutter & Verville, P.C., and he also serves as the director of the Center for the Study and Advancement of Disability Policy. Mr. Silverstein received his BS in economics, cum laude, from the Wharton School, University of Pennsylvania in 1971. He received his JD in 1974 from Georgetown University Law Center. His main areas of interest are public policy issues and the policymaking process focusing in the areas of disability, health care, rehabilitation, employment, education, social security, and civil rights. In his capacity as staff director and chief counsel to the U.S. Senate Subcommittee on Disability Policy and other positions (1986–1997), Mr. Silverstein was the behind-the-scenes architect of more than 20 bills enacted into law, including the Americans with Disabilities Act (ADA), Rehabilitation Act (1992 Amendments), the Early Intervention Program for Infants and Toddlers with Disabilities (1986), and the Individuals with Disabilities Education Act Amendments (1991, 1997 Amendments). He has presented keynotes speeches before national and state organizations and trained leaders and others in more than 40 states regarding various public policy issues and the police making process. He has more than 75 papers, articles and policy briefs on public policy issues from a disability perspective published in journals such as *Behavioral Sciences* and *the Law, and Iowa Law Review*. Mr. Silverstein has assisted federal, state, and local policymakers and key stakeholder groups to translate research into consensus public policy solutions addressing identified needs.

Sue Swenson is an experienced nonprofit and government leader in the field of advocacy and support for people with developmental disabilities and their families. She is interested in the application of modern management and marketing techniques to help public systems better know and serve the people they are intended to help, with a special interest in interdisciplinary applications and international collaborative efforts. Mrs. Swenson is a frequent public speaker and enthusiastic participant in forums designed to improve the lives of citizens with disabilities. She worked for The Arc of the United States as CEO. She also served as Executive Director of Joseph P. Kennedy, Jr., Foundation. She was appointed by the Clinton White House to serve as Commissioner of the Administration on Developmental Disabilities, U.S. DHHS, and served as a Kennedy Public Policy Fellow at the U.S. Senate Subcommittee on Disability Policy. Mrs. Swenson received her AB in humanities in 1975, and an AM in humanities (1977) from the University of Chicago and an MBA from the Carlson School of Management at the University of Minnesota (1986). She has three adult sons, one of whom has developmental disabilities.

Jane E. West, PhD, currently serves as Senior Vice President for Policy, Programs, and Professional Issues at the American Association of

Colleges for Teacher Education (AACTE). West has written broadly on special education, disability policy and teacher preparation. She served as the staff director for the U.S. Senate Subcommittee on Disability Policy in the early 1980s under the chairmanship of Sen. Lowell P. Weicker. She currently leads AACTE's engagement in the education policy discussion related to teacher preparation, the Elementary and Secondary Education Act and the Higher Education Act.

Index

This page intentionally left blank

Early Childhood Intervention

Early Childhood Intervention: Shaping the Future for Children with Special Needs and Their Families

Volume 1: Contemporary Policy and Practices Landscape

Volume 2: Proven and Promising Practices

Volume 3: Emerging Trends in Research and Practice

Early Childhood Intervention

Shaping the Future for Children with Special Needs and Their Families

Volume 2

Proven and Promising Practices

Susan P. Maude
Editor

Christina Groark, set editor

PRAEGER
AN IMPRINT OF ABC-CLIO, LLC
Santa Barbara, California • Denver, Colorado • Oxford, England

Library of Congress Cataloging-in-Publication Data

Early childhood intervention : shaping the future for children with special needs and their families / Christina Groark, set editor.
p. cm.
Includes bibliographical references and index.
ISBN 978–0–313–37793–8 (hard copy : alk. paper) — ISBN 978–0–313–37794–5 (ebook)
1. Children with disabilities–Education (Preschool)—United States. 2. Children with disabilities—Services for—United States. 3. Child development—United States. 4. Child welfare—United States. I. Groark, Christina J.
LC4019.2.E25 2011
371.9–dc22 2011011997

ISBN: 978–0–313–37793–8
EISBN: 978–0–313–37794–5

15 14 13 12 11 1 2 3 4 5

This book is also available on the World Wide Web as an eBook.
Visit www.abc-clio.com for details.

Praeger
An Imprint of ABC-CLIO, LLC

ABC-CLIO, LLC
130 Cremona Drive, P.O. Box 1911
Santa Barbara, California 93116-1911

This book is printed on acid-free paper ∞

Manufactured in the United States of America

For Paul, my son, and all children with special needs who deserve the best start in life that society in general, policy makers, professionals, and families can give them, and to those who advocate for them, thank you.

Contents

Preface and Acknowledgments

This series of three volumes is about special services known as *early intervention* or *early childhood special education* (EI/ECSE) provided to young children with special needs and their families. As the terms imply, these services provide support early in a child's life, even as early as birth, until the age of school entry. Specifically, early intervention as found in Part C of the IDEA 2004 Statute (P.L. 108-446) is defined as health, educational, and/or therapeutic services that are provided under public supervision and are designed to meet the developmental needs of an infant or toddler who has a developmental delay or a disability. At the discretion of each state, services can also be provided to children who are considered to be *at risk* of developing substantial delays if services are not provided. These services must be provided by qualified personnel and, to the maximum extent appropriate, must be provided in natural environments including the home and community settings in which children without disabilities participate. Early childhood special education (ECSE), as found in Part B, Section 619 of the IDEA, intends for smooth transition of a child from EI to ECSE. It stipulates that the local education agency will participate in the transition planning of a child from early intervention (Part C) to early childhood special education for a preschool-aged child the year she turns 3 years of age. The child may receive all the early intervention services listed on her service plan until her third birthday. Then she must be assessed as eligible for ECSE services

Why is this field important? First, it is scientifically known that early childhood is a time of significant brain development and substantial growth in every domain of all children's development. Second, it is widely accepted that at this time, all learning takes place in the context of relationships, and that families are central to these relationships. Therefore, for better child outcomes, short and long term, families

must be involved at all levels. Third, professionals serving eligible children and families must be on the same page with the families, the children, and each other by coordinating their work and being focused on the skills that are important in the individual child's life. Fourth, this field is important because it demonstrates a connection between instruction and developmental outcomes that benefit children with or without disabilities. For example, the design of certain curricula, individualized educational programs, universal design for environments, tiered teaching methods, and other practices in these volumes are good strategies for all children, not only those with special needs.

But why attend to this particular population of children and families here and now? The prevalence of children with special needs worldwide as well as nationally is increasing. In 1991–1992, the prevalence of children with disabilities in the United States was estimated at 5.75 percent (http://www.cdc.gov/mmwr/PDF/wk/mm4433.pdf). In a more recent review (*Pediatrics* [2008], *121*, e1503–e1509) by Rosenberg, Zhang, and Robinson, the prevalence of developmental delays of children born in the United States in 2001 and eligible for Part C early intervention was indicated at 13 percent.

This growing prevalence also points to economic and public health concerns. Developmental delay, when attended to appropriately earlier in life, is shown to be lessened and thereby alleviate costs to the public. Typically, the estimated lifetime cost for those born in 2000 with a developmental disability is expected to total (based on 2003 dollars) $51.2 billion for people with intellectual disabilities, $11.5 billion for people with cerebral palsy, $2.1 billion for people who are deaf or have hearing loss, and $2.5 billion for people with vision impairment (http://www.cdc.gov/ncbddd/dd/ddsurv.htm). Early services work to significantly reduce these costs.

Also, as society, the economy, and all aspects of life are becoming more globally interdependent, it is our responsibility to help all children reach their potentials and contribute positively to our future. Our society needs a trained, talented, and diverse workforce. We cannot afford to lose the potential of such an important and large sector of children.

In addition to growing prevalence and the need for a diverse workforce, special needs affect all types of families. There is no culture, ethnic group, gender, geographic area, or socioeconomic status group that does not include children with special needs. Special needs and disabilities are inordinately diverse in terms of diagnosis, variability within a diagnosis, intensity, spectrum of characteristics, age of impact, multiplicity, and combinations of disabilities. Further, all children, typically developing or not, need some individualized attention, instruction, and care. They are not little adults. They learn by different styles and at different rates.

Because of this diversity and the importance of the development of this cohort of children, the editors worked diligently to be sure that the most current and best available research is combined with professional experiences, wisdom, and values; clinical expertise; and family-child perspectives. Although no rock was left unturned in the selection of topics and contributors, there was some difficulty in selecting topics. The advisors, editors, and publishers felt strongly that this series is to be of utility to a variety of professionals, parents, practitioners, policy makers, service trainers, students, academics, and scholars, including those not directly related to this field (e.g., a lawyer who is interested in policy, a parent who wants to know about the best supports for her child). Although we strongly intended to have the three volumes provide breadth to the readers, we still wanted them to be as comprehensive as possible. Once the topics were agreed upon, authors were easy to select because we invited the best in the field who could communicate the issues in an accurate, precise, and understandable way. Therefore, information was gathered from experience and scientific evidence by the best in the fields of early intervention and early childhood special education policy and law, medicine and health sciences, and education and child welfare, among others.

So the reader will find that the scope of this series is broad but still covers the critical components of early intervention and early childhood special education. It is organized into three volumes in such a way that readers can skim through each to find the areas of particular interest to them. The chapters within the three volumes are intended to answer key questions regarding how this field works. For instance, how do we identify children needing early intervention or early childhood special education and recognize them as early as possible? Where does this detection and subsequent service take place? Who works in early intervention, and what is their training? What is the families' role in all of this, and what are their rights? How does that role differ in early intervention compared to early childhood special education? Which programs, or what parts of programs, work best, and for whom? What does it cost to provide this service, and how effective is it? What are still some of the unknowns of this field (which is relatively young compared to other fields of study)?

Specifically, Volume 1, *Contemporary Policy and Practices Landscape*, begins with a historical perspective of this field. It then relates state

policies and various attempts to implement them and international laws and sample country responses to the care, education, and development of children with disabilities. This volume also considers who provides these services; their training, background, and experiences; and evaluation of programs for quality and cost-effectiveness. Policies regarding children with special needs nationally and internationally tell us the rights of children and families. Sometimes they even tell us what should be provided and when. However, they do not tell us *how* to implement quality programs; thus, the need for Volume 2.

You will see, therefore, that the chapters in Volume 2, *Proven and Promising Practices in Early Intervention/Early Childhood Special Education*, cover the best available practices that are currently used and studied throughout the field of early intervention. These chapters include information on programs such as Early Head Start and Head Start and new, exciting model strategies and techniques in intervening with children with challenging behaviors, mental health diagnoses, sensory processing, and others. We were fortunate to find the best professionals in the fields of early intervention and early childhood special education, including individuals from occupational therapy, speech and language pathology, psychology, policy development, technology use with children, early literacy and math, teacher education, English-language learning, and specialists in visual and hearing impairments. Yet there is always room for new knowledge and improvement. That is what we hope we captured in Volume 3.

Volume 3, *Emerging Trends in Research and Practice*, creatively takes the reader into the realm of possibilities. It helps the reader think about needs of expanding or emerging populations such as culturally and linguistically diverse families and the need for schools to be prepared for learners with a wide range of needs and abilities. This volume also invites reflection on issues that are not totally resolved, like crossing systems in the delivery of services, how do we get over the financial and administrative silos in these public systems, and how do we get professionals and bureaucrats to work together to cross these systems? However, this volume also provides solutions to current issues that should be considered, advocated for, or debated, such as the Recognition and Response tiered model of instruction.

Finally, the chapters in Volume 3 point us in the direction of future research and trials of models and strategies. For instance, we need to make the best use of technology and research-based practices. Another example includes child progress monitoring and accountability. Monitoring and accountability have evolved over the years, and better

practices actually may include simpler procedures. But are we capturing the complexities of teaching and learning? Do we really understand the needs of children with special needs and how to best engage their families and integrate a variety of professional recommendations for the most effective program? Finding these answers will demand a lot from professionals (e.g., to follow professional practices such as DEC-NAEYC), from researchers (e.g., to develop and test evidenced based practices), and from the public in general (e.g., to advocate).

All three volumes contain special features like matrices, graphs, and diagrams to stimulate readers not only in what is, but in what could be. They are different from other works in that they provide the state of the art in the field while considering the antecedents and the future prospective in the field. They are intended to be appealing to anyone interested in children, especially children with special needs, and to provide enough information to continue and grow that interest.

* * *

I would like to thank many people for their contributions to the creation, writing, editing, and production of this series. First, the volume editors, Steven Eidelman, Susan P. Maude, and Louise A. Kaczmarek, all of whom are first-rate professionals, child advocates, and early interventionists whom I relied upon heavily for chapter ideas, finding the best authors in the field, volume editing, writing chapters for the volumes, and fabulous contributions to the entire enterprise. There would be no series without them.

Second, my assistants, Mary Ellen Colella, Amy Gee, Mary Louise Kaminski, and Kaitlin Moore, who kept me organized, edited me and reedited me, and checked details when I could no longer see the trees through the forest.

In addition, thank you to our illustrious advisers. They came from so many different professions with the highest level of understanding of the nature of the children in these services and of what is needed by our readers. I appreciate their willingness to share their expertise openly and candidly.

And to my students, Amber Harris-Fillius, Claudia Ovalle-Ramirez, Robin Sweitzer, and Wen Chi Wang, thank you for their thorough reviews of the chapters. I learned a lot from them.

Finally, thank you to my family: Brian, Patti, Stephanie, and Paul, for teaching me about children and families and for their patience and encouragement throughout this work.

Chapter 1

Early Intervention—IDEA Part C: Service Delivery Approaches and Practices

Lynda Cook Pletcher and Naomi Younggren

THE CHILDREN AND FAMILIES

AJ is the single dad of Damien, and they both live with AJ's mother. AJ's mother has expressed concern to AJ that Damien, now 14 months old, is not talking or walking. She feels that compared to other children, Damien is "behind." After seeing a brochure for the Happy Steps program, she gave information to AJ to schedule a free evaluation of Damien's development. AJ called Happy Steps and spoke with an intake coordinator, who gave him information about Happy Steps and how to schedule a screening of Damien's overall development. If the screening indicates there may be delays, Damien will be referred for a more in-depth evaluation. Based upon those results, Damien and his family may be eligible for services and supports either through early intervention or other community programs. AJ then made an appointment for a developmental screening of Damien at the family home.

For the past two years, 2-1/2-year-old Jessica has received early intervention services to help her and her family adapt to her hearing loss. Jessica wears aids in both ears and now uses whole sentences in both verbal and signed communication. Although her services were first at home, she also receives services now at the same child care center she attends with her baby sister. A primary service provider (PSP) from the early intervention program, a speech language pathologist (SLP), visits with the family monthly. They (family and PSP) discuss Jessica's Individualized Family Service Plan (IFSP) outcomes and how things are going, as well as identifying new outcomes and activities. The PSP also makes consultative visits to the child care center three times a month to assist Jessica's service providers on her IFSP activities. There, he models activities for the staff, helps them design learning activities, and works directly with

Jessica as she engages in play with her peers. Altogether, they have begun to plan for her transition out of early intervention into preschool special education when Jessica turns 3 years old.

These are just two examples of the many types of families and children who receive early intervention services under the Individuals with Disabilities Education Act (IDEA) Part C Infants and Toddlers program. In 2006, the families of approximately 298,000 infants and toddlers were enrolled in Early Intervention programs across the United States (Goode, Lazara, & Danaher, 2008). This chapter will further discuss these key underpinnings to the section of IDEA that supports our very youngest children and their families.

CONCEPTUAL FRAMEWORK: PRINCIPLES AND POLICIES, PRACTICES, AND PROGRAM DESIGN

Figure 1.1 shows a conceptual framework of the Early Intervention system under Part C of IDEA and the organizational content for this

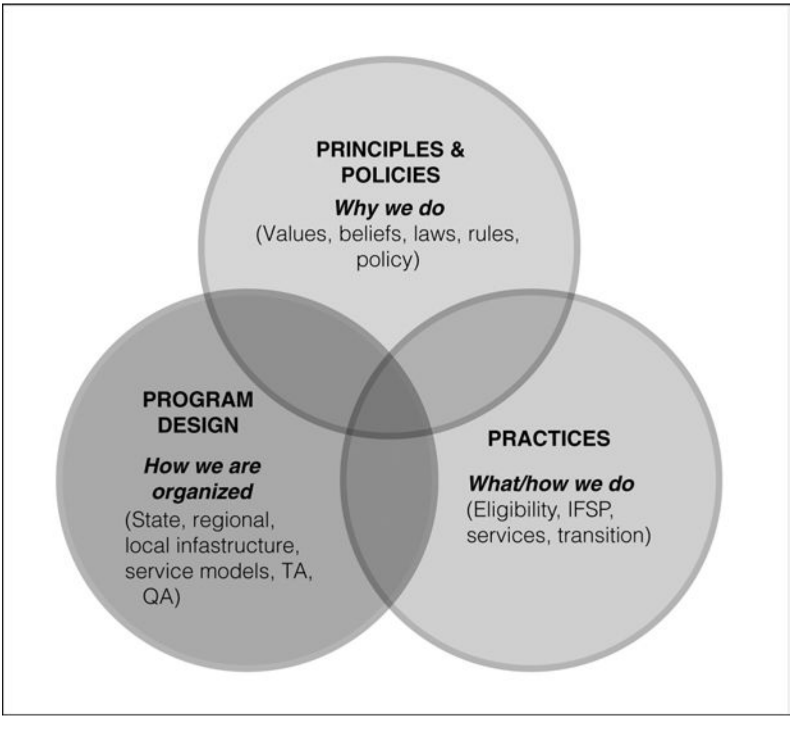


Figure 1.1 Early Intervention System Framework.

chapter. Collectively, the system is designed to achieve positive impacts, also known as desired results, for children like Damien and Jessica and their families.

The three concentric circles signify the system's necessary components. The top circle representing *Principles and Policies* is comprised of the values, beliefs, laws, and rules that define *why* a state Part C program delivers the services it provides. Values and beliefs should influence programs and practices. In turn, principles and policy should facilitate demonstration of essential values and beliefs.

The practices circle represents the *ways* in which service providers work with children and families. Practices are the day-to-day interactions between a service provider and a family, as well as broader practices used by the state for activities such as child-find, assessment, or other activities related to service delivery. Practices also demonstrate *what* a system does and what children and families actually receive as they participate in early intervention services. The values and beliefs of the early intervention system and the federal and state policies all directly influence practices that are operationalized within homes and communities.

The program design circle encompasses *how* a state or local program is organized to deliver services. There is wide variation from state to state and even within states as to their organization and administrative structures. However, the federal law does require specific systemic components that must be in place for a state to receive federal funding for early intervention, but allows for flexibility in how these programmatic functions are carried out.

External to these three core components are contextual features such as current research and evidence, funding reductions or increases, and new laws or regulations, which can have an impact on these intermingled early intervention system components. For example, new research and evidence can drive changes in practices, which simultaneously influence reflection and revision of values and beliefs and necessitate revision of the policies and procedures that are guided by those ideals. Concurrently, organizational structures might require realignment to complement the desired new practice approach. The momentum of such change also demands ongoing professional development to promote the knowledge, skills, dispositions, and confidence of service providers to implement such changes in service delivery approaches.

In this chapter, we examine the driving federal policy, major key principles, and resulting practices for approaching the delivery of services to infants, toddlers, and families enrolled in state early intervention programs. More than 40 years of research, demonstration projects, and direct service provision have contributed to variations in the way services are organized and delivered under the Individuals with Disabilities Education Improvement Act Part C (IDEA, 2004) and the Early Intervention Program for Infants and Toddlers with Disabilities and their Families. The intent of this chapter is not to promote one particular service delivery model or approach, but rather to supply the reader with pertinent information to understand service delivery approaches widely used today and to realize the influences of policy, practice, and research in their promotion.

PRINCIPLES: VALUES AND BELIEFS

Individual values and beliefs of service providers, administrators, and family members influence what they feel is a good or bad idea. People are shaped by their assumptions and expectations (Manning, Curtis, & McMillen, 1996). Often, events such as being exposed to new life experiences, gaining new knowledge, putting beliefs into practice, and engaging in self-reflection can influence individual discovery. Changing personal values and beliefs is not easy. This is important to recognize as the legislation, themes, approaches, and models explored in this chapter have evolved over the past three decades and are heavily value-laden and call for personal change. The changes in early intervention service delivery has been fueled by the articulation of values and beliefs through research, publications, training events, demonstration projects, position statements from advocacy groups, and families sharing personal stories. Changing practice is in part confounded by what an individual thinks about the ideas at a core level.

POLICIES: FEDERAL LEGISLATION

In 1968, almost 20 years prior to the federal legislation that created the Program for Infants and Toddlers with Disabilities, the Bureau of Education for the Handicapped (BEH), the precursor to the current Office of Special Education Programs (OSEP), provided competitive federal dollars to fund 20 centers across the country. These centers used the funds to explore and demonstrate best practice ideas and to develop models for working with young children with disabilities (Gallagher, Danaher, & Clifford, 2009). These efforts marked the beginning of what continues today as competitive federal grant opportunities for research, model demonstration projects, and technical assistance, all contributing toward the pool of sound research supporting evidence-based practices.

During this same time period, with an emphasis provided by President Johnson's War on Poverty, other federal bureaus and divisions promoted significant legislation affecting young children, including the Head Start and Economic Opportunity Act (1965) and the Early and Periodic Screening Diagnosis and Treatment Act (Title XIX of the Social Security Act, 1967). Federal funding in these areas added emphasis on the importance of helping young children to "get a good start" on their health and development, thereby providing prevention and treatment services for the most vulnerable populations. Federal funds were used to establish the network of University Disability Centers, once referred to as University Affiliated Programs (UAPs), and now called the University Centers for Excellence in Developmental Disabilities (UCEDD). The Division of Maternal Child Heath provided funding for hospital programs around the country for children with disabilities, thereby establishing the Children's Special Health Clinics (CSHC) network. Although these important programs focused on life span issues of the population with disabilities, they also provided valuable research, demonstration models, and services for very young children with disabilities.

In the following decades, federal dollars and interest in young children with disabilities, and families, continued to increase. This created a plethora of research, treatment options, and new ways of providing services outside institutional settings. These early programs and centers were instrumental in developing many of the underlying themes that became the foundational principles for the initial legislation and subsequent reauthorizations. This initial legislation (Part H of Public Law 99-457), passed in 1986, set in place the system of services for infants and toddlers with disabilities (birth to age 3) and their families. The 1997 Amendments renamed the legislation the Individuals with Disabilities Education Act (IDEA), and the Infants and Toddlers section was moved from Part H of the legislation to Part C of the bill. In 2004, IDEA was once again reauthorized and renamed the Individuals with Disabilities Education Improvement Act (IDEIA). The Infant and Toddlers section remained in Part C of the Act.

Unique Features of the Legislation

A number of features in the federal legislation support the direction taken by particular approaches to service delivery. It is important to understand these features of the law in order to have the broad view of what early intervention services are to be and provide before exploring specific concepts and practice models. The following section highlights a few of the unique features of IDEA Part C, early intervention services.

Variation in State and Local Design

From its inception, Part C was not intended to be a new and separate program. The intent of the law was to use federal dollars to fill gaps by creating coordinated, interagency systems building upon what was already in place within each state. Federal dollars are used to pay for the services that are not provided by another federal or state program such as Head Start; Title V; Early Periodic Screening, Diagnosis, and Treatment (EPSDT); Child Health Specialty Clinics (CHSCs); Supplemental Social Security Insurance (SSI); Medicaid; Women, Infants, and Children (WIC) Program; or special education services provided by the state education agency. Another variation found among the states applies to the lead agency requirement of the law. The governor from each state is required to name one state agency to be the single line of authority responsible for the implementation, maintenance, and oversight of the system. Lead agencies could be the Department of Education, Health, Developmental Disabilities, Human Services, or a combination of departments and bureaus. The lead agency and the partners involved in providing services vary from state to state.

Who Receives Services?

Children *and* families are the focus of Part C. The law specifies this dual focus by stating that "services means services that are designed to meet the developmental needs of each child eligible . . . *and the needs of the family* related to enhancing the child's development" (IDEA Regulations, 1999, 34 C.F.R. § 303.12 [a] [1]; emphasis added). Eligibility for the program is required, and each state defines its own eligibility criteria. At a minimum, states must serve children who demonstrate a state-defined measure of delay in one or more areas of development, or have a known condition that has a high probability of resulting in a later delay. The term early intervention, used to describe the policy and services of Part C, reinforces and recognizes the critical importance of providing assistance as soon as possible.

Over time, the focus on helping families enhance their child's development has evolved. In the 1970s, parents often played a subordinate role in early intervention as the professionals took charge (Peterander, 2000). In the 1980s, parents became recognized as co-therapists following the professionally prescribed regime of treatment. Partnership became the focus in the 1990s and into the twenty-first century. Today, a focus remains on building quality relationships with families and recognizing that it is through this relationship that effective early intervention services are provided (Kelly & Barnard, 1999; McWilliam, 2010; Rush, Shelden, & Hanft, 2003; Turnbull & Turnbull, 2001).

The law specifies the active participation of families in all aspects of service delivery. Parents are listed as a primary referral source and can ask for an eligibility evaluation without having to have a professional make the referral. The Federal regulations introduce the term *family-directed* (20 U.S.C. 635 [a] [3]) as families are to be involved in the evaluation and assessment of their child as well as identification of their own needs and concerns. Families are listed as team members and are active participants in determining services during the Individualized Family Service Plan (IFSP) meeting. Procedural safeguards support parent rights to receive appropriate, individualized services as the law stipulates. Therefore, families as well as the child are key recipients of services.

What Services Are Included?

There are 16 specified early intervention services that each state system must make available to children and their families. Multidisciplinary teams, with active parent participation, determine how to address the identified concerns and document the agreed-upon services on the IFSP. The general role of all service providers includes consulting with parents and other community partners, as well as providing developmental services to the child. Table 1.1 provides a listing of the services, based on the needs of the child and family as outlined on their IFSP, specified in the law. Table 1.2 provides a list of the professionals that may provide those services.

Every child and family receives service coordination beginning at referral and continuing until the child exits early intervention. Service coordination is an active, ongoing process that involves helping families gain access to early intervention and other needed community

Table 1.1 Early Intervention Services

I. Family training, counseling and home visits
II. Special instruction
III. Speech-language pathology and audiology services, and sign language and cued language services
IV. Occupational therapy
V. Physical therapy
VI. Psychological services
VII. Service coordination
VIII. Medical services for diagnostic or evaluation purpose only
IX. Early identification, screening and assessment services
X. Health services necessary to enable the child to benefit from other Early intervention services
XI. Social work
XII. Vision
XIII. Assistive technology devices and AT services
XIV. Transportation and related cost that are necessary to enable the child and child's family to receive another services listed above

Source: 20 U.S.C.S. 1432(E).

services. Service coordination activities include assisting the family to be part of the entire process from referral through evaluation, eligibility determination, IFSP development, service delivery, and transition.

Where Services Occur

All services the child receives are to be provided in the *natural environment*, described as the "home or community settings in which children

Table 1.2 Qualified Personnel in Early Intervention

I. Special educators
II. Speech language pathologists and audiologists
III. Occupational therapists
IV. Psychologist
V. Social workers
VI. Nurses
VII. Registered dietitians
VIII. Family therapist
IX. Vision specialists including ophthalmologists and optometrists
X. Orientation and mobility specialist
XI. Pediatricians and other physicians

Source: 20 U.S.C.S. 1432(F).

of the same age without disabilities participate" (20 U.S.C. 632 [4] [G]). This term, supported by the concept of full inclusion, appeared in the original legislation in 1986. Services go to where each child and family is actively engaged within their own community. This may include the family's home, grandparents' home, child care center, preschool, park, or other community settings. This construct of natural environments extends beyond the location of service provision to the methodology of using natural family and community routines and activities as opportunities for children's learning (Dunst & Bruder, 1999; Dunst, Trivette, Humphries, Raab, & Roper, 2001; Hanft, Rush, & Shelden, 2004; McWilliam, 2000; Sandall, McLean, & Smith, 2000; Tisot & Thurman, 2002). All of these environments are thought to be rich in learning opportunities from which children with disabilities can benefit. The concept of natural environment as more than a location of service provision is explored later in this chapter.

How Services Are Provided

The services and supports needed by very young children and their families are delivered from state health, human services, and education programs. These could be public and/or privately funded agencies and from formal (e.g., programs, agencies, organizations) and informal (e.g., family members, friends, churches) sources of help. No single professional or program can be the sole source of meeting the needs of the child and family. Infants and toddlers at risk for or with disabilities need the combined expertise from a variety of professionals, disciplines, and types of agencies (Bruder & Bologna, 1993). The expectation in the law is that service providers within and across the specified agencies and programs work as a team with the family in meeting both the child's and the family's identified needs. Teams (made up of two or more disciplines and the family) evaluate the child, conduct the IFSP team meeting, develop the IFSP, provide direct and ongoing services, and meet at least every six months and annually to evaluate and rewrite the IFSP.

MAJOR FOUNDATIONAL CONCEPTS UNDERGIRDING EARLY INTERVENTION PRACTICES

As the field of early intervention has evolved over the past three decades, a number of key concepts have resulted from contributions in research, advances in practice, and modifications in policy. Although each are interrelated, they also have individual influences on current thinking guiding practice. The following section briefly addresses the major key concepts that represent a major shift in the design and direction of the service system over the last 20 years, based upon research and evidence and supported by the intent of the federal legislation.

FAMILY-CENTERED PRACTICES

The term *family-centered* generally implies the use of "a set of interconnected beliefs and attitudes that shape program philosophy and behavior of personnel as they organize and deliver services" (Pletcher & McBride, 2000, p. 1). This term appears in almost all help-giving fields with slightly differing definitions (Adams & Nelson, 1995; Allen, Brown, & Finlay, 1992; Cohen & Syme, 1985; Kretzmann & McKnight, 1993; Schorr, 1988). However, there are common descriptions, including terms such as strengths-based, consumer-driven, family support, empowerment, proactive service delivery, competency-focused, partnerships, collaborative relationships, and family-driven, that distinctly define family-centered practices in early intervention (Baird & Peterson, 1997; Dunst, 2002; McWilliam, 2010; Mahoney & Wheeden, 1997; McWilliam, Snyder, Harbin, Porter, & Munn, 2000; Pletcher & McBride, 2000).

Family-centered practices draw from social system theory, ecological perspective to human growth and development, positive proactive help-giving, and empowerment principles. Dunst, Trivette, and Deal (1988) developed an early intervention model in which service providers use specific help-giving practices that are tied to positive results. These practices include skills such as building trust and rapport with families, using active reflective listening, providing open and positive communication, displaying nonjudgmental attitudes about the family, providing assistance that is wanted or desired by the family, and helping the family learn or display capabilities and new competences. In addition to the use of specific skills of positive help-giving, family-centered early intervention practices provide assistance that are based upon family-identified needs and concerns, use specific family strengths and functioning styles, and employ both formal and informal support available to the family from their own community to mobilize resources to meet the unique needs of the child and family (Dunst, Johanson, Trivette, & Hamby, 1991; Pletcher, 1997).

Building upon the work of Dunst and his colleagues, other researchers and authors also describe family-centeredness as a set of principles or specific attitudes and beliefs. These descriptions include treating families with respect; tailoring supports and services to each family; being flexible, and responsive to family concerns, priorities and cultures; building upon strengths; including families as equal partners; providing information in clear, concise ways; and using the families' activities and interests to encourage child learning (Bruder, 2000; Bruder & Dunst, 2008; Jung & McWilliam, 2005; McWilliam et al., 2000).

RELATIONSHIP-BASED APPROACH

Working with families who are caring for infants and toddlers is all about relationships. Every domain of development is affected by the caring and nurturing relationships that happen in the early childhood years (Shonkoff & Phillips, 2000). These relationships first apply to immediate family members but then extend to others, including family members, friends, child care providers, and other significant people in the child's immediate community. The relationship-based approach is built upon the premise that all children learn and grow from supportive relationships with family and caregivers. In turn, families and caregivers grow and learn from supportive relations with service providers and other community members. This approach focuses on early learning theory and theories of social and emotional development in young children (Greenspan & Wieder, 1998; Kelly & Barnard, 1999; Mahoney, Boyce, Fewell, Spiker, & Wheeden, 1998).

There are similarities between relationship-based and family-centered practices as both approaches have common foundations. Many of the skills that service providers use with families to build positive relationships are similar to those described in family-centered practices. Service providers use strategies that support parents in their relationships with their child as the vehicle for intervention. Service providers support parents' competence and confidence to increase their child's learning and participation in daily life (Bruder & Dunst, 2000). In essence, to be family-centered requires relationship-based practices, and to have relationship-based practices, one must be family-centered.

NATURAL ENVIRONMENTS

The term *natural environment* was first introduced in the original 1986 federal legislation to refer to a location where early intervention services should be provided, the home or community setting, and to state that infants and toddlers should not be separated from their same-age peers without disabilities. Prior to the passage of initial legislation, federally funded research studies and model demonstration projects—often housed on university campuses—demonstrated the benefits of inclusion and reinforce the premise that young children with disabilities did not need to be removed from their home or community and placed in special purpose schools or private clinics to benefit from help, as was often the norm in 1986. The evidence obtained from these studies and projects guided and shaped policy in support of inclusion. It is not a choice or a philosophical belief for early intervention programs to provide services in natural environments; it has been a legal requirement since 1986. Only when the child's goals cannot be achieved satisfactorily in the home or community setting can another location be used. When this does occur, there must be written justification on the IFSP as to why this other setting is more appropriate for meeting the outcome or goal.

The construct of natural environments extends beyond the location of service provision to using natural family and community routines and activities as opportunities for children's learning. Traditional intervention services were child-centered and typically occurred within the context of lesson plans designed and implemented by educators and therapists (Mahoney & Filer, 1996; McBride & Peterson, 1997; Peterander, 2000; Weston & Ivins, 2001). The provision of early intervention services in natural environments involves working in partnership with families and caregivers to encourage naturally occurring activities that promote learning and to apply agreed-upon development-enhancing modifications that fit into existing family or child care everyday routines and typical activities. Conceptualized in this way, families, caregivers, and early intervention service providers work side by side to discover and to build upon children's interests that occur naturally throughout the day.

Moving services out of already established clinics or programs into a family's home or their community presents challenges for service providers and for parents. Professional organizations such as the American Speech-Language-Hearing Association (ASHA), American

Physical Therapy Association (APTA), American Occupational Therapy Association (AOTA), and Infant and Toddler Coordinator Association (ITCA) have developed clear statements and position papers endorsing the benefits of providing services in natural environments (ITCA, 2000, Pilkington, 2007; Vanderholf, 2004; Woods, 2008a, 2008b). However, early intervention service providers continue to describe challenges, such as time spent driving, visits to homes and neighborhoods they feel are not safe, availability of team members for consultation, transporting equipment, and feeling that the activities they provide in a family's home are not as effective as those they could provide in a clinic (Campbell, Sawyer, & Muhlenhapt, 2009). Administrators describe challenges in supervising staff, providing professional development, rewriting policy, and funding difficulties also attributed to the limitations of or barriers in providing services in natural environments (Campbell et al., 2009).

Parents generally express satisfaction with services provided in natural environments as it is often more convenient (Campbell et al., 2009). Doing so minimizes the need to take children to many appointments in a variety of places. Parents understood that natural environments provided many opportunities for learning but, most importantly, that the home and community afford the child and family with full inclusions, places to make friends, and opportunities to become active participants in community life (Campbell et al., 2009).

ACTIVITY-BASED APPROACH

In an activity-based approach, behavioral learning principles are used to encourage children to interact in meaningful daily activities that have the specific purpose of helping a child to gain, generalize, strengthen, and use skills to meet functional goals and objectives (Pretti-Frontczak & Bricker, 2004). The activities are child-directed with multiple learning opportunities embedded into the *real* daily activities in which the child is involved. The activity-based approach follows the child's lead rather than directing a child through adult-created and adult-presented activities designed to address specific instructional objectives or a sequence of curriculum goals in a preset order.

In an activity-based approach, the learning objectives are designed for each child based upon the individual child's strengths, needs, and interests. Research supports that children's learning and development occurs more rapidly when their interests engage them in social and nonsocial interactions. This provides them with opportunities to practice existing abilities, explore their environments, and learn new competencies through all opportunities that occur naturally throughout each child's day (Dunst, Hamby, Trivette, Raab, & Bruder, 2000; Hanft & Pilkington, 2000; McWilliam, 2010).

NATURAL LEARNING OPPORTUNITIES

Natural learning opportunities help families and service providers understand that services provided in natural environments are not just about the locations where the service provider goes, but what occurs in those places constitutes meaningful engagement and learning for the child (Bronfenbrenner, 1979). Dunst and Bruder (1999, 2002) have conducted extensive research on the effects of personal interactions and environmental settings on children's opportunities for learning. They have helped the early intervention field recognize that families' lives are filled with natural opportunities for a child's learning (Dunst et al., 2000). Using natural learning opportunities also reinforces learning in contexts where the competencies are necessary and desired (Bricker, Pretti-Frontczak, & McComas, 1998; Dunst, Bruder, et al., 2001; Woods, Kashinath, & Goldstein, 2004).

The use of natural learning opportunities shifts the focus from interventionists working directly with the child and implementing professionally prescribed activities, to interventionists partnering with parents and caregivers to identify and enhance opportunities occurring within the family's and caregivers' daily activities. By supporting families to embed the child's learning goals within the family routines and activities, the frequency of intervention extends beyond periodic sessions with the early intervention service providers (Mayhew, Scott, & McWilliam, 1999). Mayhew and colleagues specifically reinforce the concept that "all intervention occurs between visits" (p. 16). This focus reinforces family involvement and heightens families' confidence and competence, which, in turn, positively influences the entire family (Ketelaar, Vermeer, Helders, & Hart, 1998).

FUNCTIONAL OUTCOMES AND GOALS

Functional outcomes represent integrated skills across the developmental domains. Functional outcomes improve the child's ability to participate in activities that are relevant to the child and family, capitalize on natural motivations, and lead to practical improvements in child and family life. Identifying functional outcomes require understanding of the family's routine-based concern (e.g., mealtime is difficult and hectic because it is hard to feed the twins; bedtime is a challenge because he will not stay in his bed) or outcomes they want to accomplish. Listening to the family's descriptions of their routines and activities provides valuable information about what is most important to the family and helps to plan intervention that is functional, realistic, and relevant to the family (Bernheimer & Keogh, 1995; Dunst et al., 2000; McCormick & Noonan, 2002; Roper & Dunst, 2003; Schuck & Bucy, 1997).

For children involved in child care, it is also indispensable to take the time to learn about the caregiver routines and any routine-based concerns they may have. Involving caregivers in the development of the IFSP is vital for success in identifying and developing appropriate and "doable" strategies to accomplish key outcomes. Through their participation, caregivers can provide valuable input, thereby assisting with the buy-in needed to accomplish the agreed-upon strategies. Without their investment and involvement, it is difficult to ascertain if strategies will be implemented. Acknowledging and capitalizing on caregivers' expertise is a central construct needed to include them as valued team members.

To ensure development of a functional IFSP, outcomes must be grounded on family priorities and framed in the context of family life, not based upon the child's developmental deficits from standardized evaluation. IFSP outcomes that are written to address functional goals look different from traditional service-driven outcomes. The early intervention services listed on the IFSP are specific to the outcomes and provide information, resources, and support to the family and other caregivers.

TEAM-BASED SERVICE DELIVERY

Teamwork is a cornerstone component of early intervention because by design, it represents multiple professionals and agencies coming together to meet the diverse needs of eligible infants and toddlers and their families. The interrelated nature of early intervention requires that support personnel and agencies work together while embracing each family they meet as equal members of the team

(Sandall et al., 2000). To achieve this collaboration, multidisciplinary, interdisciplinary, and/or transdisciplinary teaming models are structures most frequently implemented when delivering early intervention services.

A multidisciplinary team is characterized as a group of professionals working independently of each other, yet sharing a common goal (Gargiulo & Kilgo, 2000; Woodruff & McGonigel, 1988). The professionals work as specialists focusing on domain-specific aspects of the child (e.g., the speech therapist designs and delivers services focused on the communication goals for the child, while the physical therapist separately attends to the child's gross motor goals). Service delivery is often professionally driven, with the professionals identifying the problems and designing the ameliorating intervention. Family input is primarily for sharing information specific to the child, rather than giving ideas, solving problems collaboratively, or discussing concerns. In this model, professionals are essentially the key decision makers, and intervention focuses on the child.

The difference between the multidisciplinary and interdisciplinary teaming models is most evident in the interaction among team members (Gargiulo & Kilgo, 2000; Woodruff & McGonigel, 1988). In the interdisciplinary team, the professionals conduct independent evaluations but come together to share results. Intervention strategies are collaboratively designed but separately implemented by domain-specific specialists (e.g., the physical therapist [PT] supports the child on his/her crawling; the speech and language pathologist [SLP] supports the child on his/her requesting food by pointing). Although the family is more readily involved as a team member, its input remains secondary to that of the professionals. This model sees families as involved, but it is limited in the application of family-centered practices.

The transdisciplinary model involves professionals sharing roles and seeing the child as a whole within the context of the family (Gargiulo & Kilgo, 2000; Mayhew et al., 1999; Woodruff & McGonigel, 1988). Within this type of teaming model, it is believed that sharing the expertise of all team members, including the family, provides a well-rounded approach without fragmenting services by professional specialty area or developmental domain (Dinnebeil, Hale, & Rule, 1999). The family on the transdisciplinary team is valued as an active member with a recognized and respected decision-making role.

Transdisciplinary team members accept and build upon each other's knowledge and skills. Often the term *role release* is used in describing the actions of team members, as any member of the team may be working with the child and family or with other caregivers. Members of a transdisciplinary team cross professional discipline boundaries to achieve service integration by consulting or coaching one another. They do not *abandon their* discipline, but blend specific skills with other team members to focus on achieving integrated outcomes.

One member on a transdisciplinary team works the most frequently with the family. In the approaches described later in this chapter, this person is referred to as the primary service provider (PSP). This individual works collaboratively with the other team members to integrate information to deliver efficient and comprehensive services to a child and family. The assignment of a primary service provider to a specific child and family should be based upon the IFSP outcomes. They must have access to all other team members on a regular basis to receive information, consultation, and coaching from their other team members related to child and family outcomes and intervention strategies. The use of a PSP on a transdisciplinary team is not a *watered-down* version of services but, rather, a method that emphasizes service delivery that is unified around functional family needs, uses specialists as effectively as possible, and allows for families to form a close and helpful relationship with one primary person (McWilliam, 2004).

The dual focus in early intervention of providing services to young children and assisting families requires service providers to understand and use adult learning principles as they work with family members and caregivers. Adult learning principles are also important for team members to use with one another and to use in the design of staff development activities. Principles of adult learning theory focus on practices such as involving adults in all aspects of learning, including planning, practicing, evaluating, and reflecting, which lead to mastery (Trivette, 2009).

For adults, all life experiences (including mistakes) provide opportunities for learning. Adult learning can be formal or informal, planned or unplanned, and can take place in an endless array of settings. Adults' desires to learn new skills or strategies for handling certain situations are often influenced by external occurrences, such as having a child with a disability or a need to learn new skills to participate on a transdisciplinary team. Adult learning is an interactive process, which not only encompasses the relationship between a *teacher* and *learner*, but also the environmental influences and the social situation at the particular time (Knowles, 1980). Many early intervention service providers have not received formal coursework or experiences in their personnel preparation programs about adult learning. Yet, it is essential to gain an understanding of how adults learn to engage families and other caregivers or team members in acquisition and use of new skills.

COMMUNITY OF PRACTICE—CONSENSUS THINKING: AGREED-UPON PRINCIPLES

A national community of practice (CoP) was formed in 2005 to study the various service delivery approaches and models advocated by lead researchers in early intervention and to develop a consensus set of evidence-based practices (Buysee & Wesley, 2006). The purpose of this work was to focus not on the differences in the models and approaches, but on the points of agreement, and to provide national guidance in the form of agreed-upon principles and practices. The workgroup developed a mission statement and articulated seven key principles as the necessary foundation to support the system of family-centered early intervention (see Table 1.3).

Table 1.3 includes the mission of early intervention services and key principles developed by this workgroup. Table 1.4 further clarifies one of the seven key principles noted in Table 1.3: the role of the primary service provider. This table identifies the key concepts behind the principle and provides a sample of indicators or what it might "look like/doesn't look like" in practice.

MOST COMMONLY NAMED APPROACHES OR MODELS FOR DELIVERING EARLY INTERVENTION SERVICES

Terminology Confusion

The field of early intervention currently uses various words to describe how early intervention services are structured and delivered. A myriad of terminology is also used to discuss the changes state systems and programs are making or would like to make to advance their service delivery structure and practices. Just as Peterson (1987) noted about early childhood and early childhood special education programs can vary across the state, city, and/or the hallway from one another, so do the terms and practices used in early intervention vary across and often within states. This discrepancy adds to the confusion about what is being operationalized. Furthermore, sometimes a term such as "model"

Table 1.3 Mission of Early Intervention Services and Key Principles

Mission

Part C early intervention builds upon and provides supports and resources to assist family members and caregivers to enhance children's learning and development through everyday learning opportunities.

Key Principles

- Infants and toddlers learn best through everyday experiences and interactions with familiar people in familiar contexts.
- All families, with the necessary supports and resources, can enhance their children's learning and development.
- The primary role of a service provider in early intervention is to work with and support family members and caregivers in children's lives.
- The early intervention process, from initial contacts through transition, must be dynamic and individualized to reflect the child's and family members' preferences, learning styles and cultural beliefs.
- IFSP outcomes must be functional and based on children's and families' needs and family-identified priorities.
- The family's priorities, needs and interests are addressed most appropriately by a primary service provider who represents and receives team and community support.
- Interventions with young children and family members must be based on explicit principles, validated practices, best available research, and relevant laws and regulations.

Source: Workgroup on Principles and Practices in Natural Environments (2008b).

is used, and other times the word "approach," "concept," "philosophy," or "theme" is used to describe the particular ways a state system or program delivers their early intervention services.

State-Named Approaches

In 2009, the National Early Childhood Technical Assistance Center (NECTAC) gathered information from states describing their early intervention approaches or models in practice or in development (Pletcher, 2009). This information was gathered through a review of state Web sites, documents, and results from a survey sent to all state Part C coordinators asking them to name currently endorsed practice models or models toward which they were considering moving. Each state coordinator was given the opportunity to review and validate compiled state-specific information for accurate representation. States could name more than one approach if there was not a statewide endorsement of one particular approach. The aggregate of this

Table 1.4 Exemplar of One of the 7 Principles: Looks Like/Does Not Look Like

---

The primary role of the service provider in early intervention is to work with and support the family members and caregivers in a child's life.

Key Concepts

- EI service providers engage with the adults to enhance confidence and competence in their inherent role as the people who teach and foster the child's development
- Families are equal partners in the relationship with service providers
- Mutual trust, respect, honesty, and open communication characterize the family–service provider relationship

This principle DOES look like this

- Using professional behaviors that build trust and rapport and establish a working "partnership" with families
- Valuing and understanding the service provider's role as a collaborative coach working to support family members as they help their child; incorporating principles of adult learning styles
- Providing information, materials, and emotional support to enhance families' natural role as the people who foster their child's learning and development

---

Source: Workgroup on Principles and Practices in Natural Environments (February 2008c).

information, presented in Table 1.5, provides a comprehensive look at how states describe their service delivery approach. This table reports the approaches identified by states and frequency of occurrences. As indicated, the primary service provider approach is the most frequently cited as either an approach under investigation by a state or used at varying degrees as a practice within the state.

All states that mentioned endorsing a particular approach, commented that it was *not* standard or consistent practice across the state. Based upon these data, it appears that rather than adopting one particular model, states are adapting multiple concepts and various subcomponents of a range of approaches to make practices work within their state structures. States reporting similar words in their named approaches (e.g., primary service provider) may in fact have differing practice interpretations, perhaps depending upon which national leader has been assisting the state in policy and/or professional development efforts. In the next section, several of the nationally recognized approaches or models will be briefly explained.

Twenty-three states did not name a specific approach, yet their Web sites and statewide professional development materials included

Table 1.5 Service Delivery Approaches Identified by Part C Coordinators

State-Named Approaches	Frequency
Primary Service Provider	8
Primary Service Provider/Coaching Model	6
Transdisciplinary Team with a Primary Service Provider	6
Consultative Team Model	4
Multidisciplinary Team Model	2
RBI with a Primary Service Provider	2
Everyday routines and activities	2
Relationship-based approach	1
Direct Therapy–consultative model	1
Interdisciplinary Model with independent providers or vendor system	1
Early Intervention Teams (EIT) with a Primary Service Provider approach	1
Everyday Routines and Activities and Places (ERAP)/Transdisciplinary Team	1
No approach named	23

Source: Pletcher (2009).

reference to specific concepts or practices, such as family-centered, relationship-based, transdisciplinary teaming, routines-based interview (RBI), routines-based assessment, functional outcomes, eco-mapping, and use of the CoP principles described earlier in this chapter. Many of these terms appear as specific descriptors included in the nationally recognized approaches described below.

FIVE MOST COMMON RECOGNIZED OR USED APPROACHES OR MODELS

The five approaches or models and their components explored in this section are the ones most frequently mentioned in the previous NECTAC-sponsored survey of states (2009). Please note, these are not the only approaches of or models for working with children and families in early intervention, nor is it our intent to imply endorsement of any particular approach. All of these approaches have foundational links to the major principles discussed earlier in this chapter; therefore, similar concepts and words are evident. However, each approach has distinct practices, tools, or processes that define how it is put into practice in the context of early intervention. Recognizing that each of the approaches is built upon a strong line of research and many supporting and defining principles, it would be impossible to address all the nuances of these highly regarded approaches in the context of this chapter. We believe it is important to provide the reader with a brief overview of each model or approach as well as resource links for learning more about the specifics of each model or approach presented.

Approach #1: Primary Coach Approach to Teaming or PSP with Coaching

Hanft, Rush, and Shelden (2004) are credited with describing the primary coach approach to teaming, or the PSP with coaching approach, in their research and publication *Coaching Families and Colleagues in Early Intervention* (2004). Shelden and Rush (2009) define the primary coach approach as "the use of a geographical based team, where one member is selected as the primary coach (to the family), receives coaching support from other team members and provides direct support to the parents and other care providers using coaching and natural learning environments practices to strengthen parenting competence and confidence and promote child learning and development" (p. 2). This approach is further described as a family-centered, capacity-building method of intervention with young children who have disabilities or developmental delays. In addition, there is a significant emphasis on natural learning environment practices and functional outcomes. The two major definers of this approach, coaching and primary coach, are described in the next section.

Coaching

The methodology of "coaching" is focal to this approach. Hanft et al. (2004) reinforce the value of a coaching approach and define it as "an interactive process of observation, reflection, and action in which a coach promotes, directly and/or indirectly, a learner's ability to support a child's participation in family and community contexts" (p. 4). The early interventionist works side by side with the family or other caregivers, to focus on building the confidence and competence of the parent/caregiver to ultimately identify, refine, and reflect on development-enhancing strategies so that they can be used throughout the family's daily activities. Emphasis on respecting parents and caregivers as adult learners and applying principles of adult learning are cornerstone to this model, which reinforces a support-based approach that empowers families and caregivers. It is important to note that any team member or service provider can use coaching strategies in their work, not only with families and other caregivers, but also with colleagues.

Primary Coach

There is one team member who works most closely with all the family members and other caregivers, called the primary coach. This person can be a team member of any discipline. In partnership with the family, the primary coach works collaboratively with other members of the team to coordinate consultation and joint visits and to receive coaching support as needed from other team members. This ensures that each family has the right mix of direct and/or indirect access to all team members. Intervention is recognized as a dynamic practice requiring active involvement of the coaching and collaborating team members to facilitate creative solutions by pooling the knowledge and expertise of all partnership members (Hanft et al., 2004; Turnbull & Turnbull, 2001). The reader is also directed to http://www.coachinginearlychildhood.org/index.php to learn more about the specifics of this model.

Approach #2: Family-Centered Intervention in NATural Environments (FACINATE)

The Family-Centered Intervention in NATural Environments (FACINATE) model, developed by McWilliam (2010), is grounded by philosophy and research and designed for practical application. Although FACINATE was not specifically named as a state approach, several components associated with the model were named (e.g., RBI, eco-mapping, routine-based intervention). This model contains the following five components and associated practices.

1. *Understanding the Family Ecology*: The eco-map is the practice used to implement this component. An eco-map is a visual illustration of who is in the family's life and the degree of support (or stress) they provide. It is used to identify all the support networks available to the family.
2. *Functional Intervention Planning*: The Routines Based Interview (RBI) is a detailed interview focusing on the family and their unique mix of routines and activities that can be used to promote functional growth and development of the child. Its three purposes are to develop a list of functional outcomes, to assess child and family functioning, and to establish a positive relationship with families (McWilliam, Casey, & Sims, 2009). When the RBI is implemented as designed, it results in a list of concrete goals and outcomes for the child that can be used to write the IFSP outcomes.
3. *Integrated Services*: Within the FACINATE model, the primary service provider (PSP) is the assigned professional who provides ongoing support to the family with backing and assistance from a team of other professionals, in the form of consultation and joint visits. The PSP, who can be a generalist or a specialist, ultimately addresses the IFSP outcomes with the family.
4. *Support-Based Home Visits*: During ongoing visits with the family, the PSP uses the Vanderbilt Home Visiting Script (VHVS) (McWilliam, 2010) to provide emotional, material, or informational support to the family. The VHVS offers a template for service providers to use in conjunction with the IFSP functional outcomes and activities.
5. *Collaborative Child Care Consultation*: This component of the model refers to the support between the early intervention service providers and the child care staff in the program where the child is enrolled. The goal of consultation is to model incidental teaching methods and embedding interventions within daily routines in the early care and education setting, thus increasing child engagement and learning (McWilliam & Casey, 2008).

The reader is also directed to http://www.siskin.org/www/docs/112.180 to learn more about this model.

Approach #3: Therapists as Collaborative Team Members for Infant/Toddler Community Services (TaCTICS), Family Guided Approaches to Early Intervention (FACETS), and Family Guided Routines Based Intervention (FGRBI)

These three models were developed by Dr. Juliann Woods and build upon family-centered practices through natural routines and by collaborative teaming. The first two models, *TaCTICS* (*T*herapists *a*s *C*ollaborative *T*eam members for *I*nfant/*T*oddler *C*ommunity *S*ervices) and *FACETS* (*F*amily-guided *A*pproaches to *C*ollaborative *E*arly-intervention *T*raining and *S*ervices) reinforce the values that families are the center point of intervention, and children learn functional skills through daily routine activities and interactions. These models support team collaboration, including cross-agency integration. They acknowledge the importance of understanding sociocultural diversity as service providers work with families. Professional development resources and topical modules provide practical tools for service providers and can be found online at http://tactics.fsu.edu and http://www.facets.lsi.ku.edu.

The third model developed by Woods, *FGRBI* (*F*amily *G*uided *R*outines *B*ased *I*ntervention) draws upon the resources included in TaCTICS and FACETS and adds five distinct processes with resources for each process (Bricker & Cripe, 1992; Cripe & Venn, 1997). This model integrates embedded intervention with the day-to-day challenges of implementing interventions that meet the spirit of natural environment legislation. The basic premises of the five processes are as follows:

1. *Introduction of Natural Environments and Welcoming the Family*: Within this process, the interventionist welcomes the family, introduces the early intervention steps, and describes and defines how daily routines can be used to promote children's learning.
2. *Routines Based Assessment in Natural Environments*: The assessment process includes gathering information about families' daily routines and children's activities. In doing so, the interventionists gain a concrete understanding of the family's concerns, priorities, and resources.
3. *Linking Assessment to Intervention*: Using the information gathered through the routines based assessment, the team develops a plan that addresses the priorities that are most meaningful

and pertinent to the child and family. The outcomes are contextually relevant to the family's routines and activities, and learning opportunities correspond to the family's current events and interactions.

4. *Involving Caregivers in Teaching and Learning*: This process reinforces the importance of meeting parents and caregivers where they are, respecting their individual learning styles, and creating opportunities to actively engage them in the teaching and learning that is a natural part of early intervention.
5. *Monitoring Progress*: Continuous monitoring ensures that intervention is effectively meeting the dynamic needs of the child and family. Without progress monitoring, the team runs the risk of intervention slippage away from family needs and priorities.

Information and staff development resources for this model can be found at http://fgrbi.fsu.edu.

Approach #4: Everyday Routines and Activities

Dunst and Bruder (1999, 2002) organized their ideas from social system and activity-learning theory for conceptualizing a way of using everyday family and community opportunities, experiences, and events to help young children with disabilities develop everyday knowledge and skills. Figure 1.2 conceptualizes this model and extends beyond the narrow focus of *locations* represented at the top of the triangle, to *activity settings*, at the midsection, and then to the wealth of *learning opportunities*, at the broad base of the triangle. Within this framework, the focus of intervention moves from delivering service provider-directed and child-centered intervention to promoting children's functional participation in development-enhancing activity settings.

Locations are defined as the physical places and social contexts in which the child and family find themselves each day. Each location provides for multiple activity settings for learning. Activity settings are defined as happening whenever a child is in a particular situation where people, materials, or objects in those settings either encourage or discourage a child from "doing something" (Dunst & Bruder, 1999). Activity settings can be identified in everyday family routines such as mealtimes, bedtimes, or through special routines such as going to the beach or weekly swimming lessons. Activity settings offer many more opportunities for learning and for enjoyable mastery of a new skill through meaningful practice (Dunst, Bruder, Trivette, Raab, &

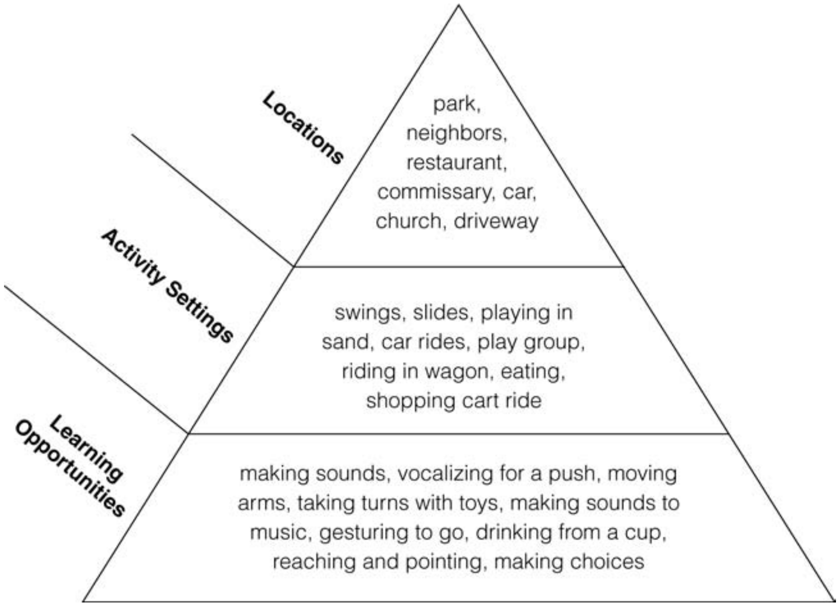


Figure 1.2 Learning opportunities in everyday locations and activities (http://www.ssa.gov/OP_Home/ssact/title19/1900.htm); family and community as a source of learning (http://www.everydaylearning.info/lov1-2php).

McLean, 2001). The learning opportunities that happen in activity settings can be planned or happen spontaneously. Figure 1.2 provides exemplars of a plethora of learning opportunities that can emerge in activity settings.

Research conducted by Dunst and Bruder found that although all families have activity settings and routines, they are not all the same. Family routines, activities, and the places where they spend time are unique to each family. Children experience different kinds of learning opportunities depending on where they live, the cultural and rituals of their families, and the unique activities that different families participate in and enjoy (Dunst, Trivette, et al., 2001). Therefore, the triangle framework representing everyday routines, activities, and learning opportunities will be unique for each family and will be different over time as changes occur in the child's life and their family's life.

Early intervention service providers can use this concept as a tool as they work with families to identify the places families go, the activity settings within these locations, and the potential learning opportunities afforded to their child. Everyday family and community settings are the real-life natural environments for each family. The Everyday Children's Learning Opportunities Institute provides a broad range of information on young children's everyday learning opportunities and natural learning environments. More information about the institute and additional resources can be found at http://www.everydaylearning.info/index.php.

Approach #5: Community of Practice (CoP): The Agreed-upon Practices

While each of the above-mentioned approaches share similarities, they each advocate different tools and processes to implement the particular model or approach. The Community of Practice (CoP), previously explained in this chapter, brought the nationally recognized researchers who developed the models presented with other key stakeholders to focus on the commonalities of delivering services. The third document produced by this group, "The Agreed-upon Practices," is built upon the work outlined in their first two companion documents (see Tables 1.3 and 1.4) and should be utilized in conjunction with them to be fully understood. This third document reflects an extensive list of model neutral implementation practices. Model neutral means that the practices do not align with or endorse any one particular model or approach; rather, they reflect the consensus opinion of the nationally recognized workgroup members. Although not an exhaustive list of everything that should happen while a family is in early intervention, and not intended as a sequential checklist, the practices suggest a flow of best practice–endorsed activities, beginning with the first contacts between the family and the service provider through the family's transition out of Part C services. All together, the document suggests 37 practices and 166 activities to support the provision of quality early intervention services in natural environments.

Table 1.6 provides an example of 4 of the 10 suggested practices included in section three of the document entitled "Ongoing intervention with families and other caregivers." Even within this partial example, it is possible to see many of the foundational principles defined earlier in the chapter as well as a blending of implementation practices from various models and approaches just described.

Table 1.6 Example from Agreed-Upon Practices

Section 3: Providing Ongoing Intervention

1. Build on or establish trust and rapport.
- Before each visit, reflect on your own beliefs and values and how they might influence your suggestions and strategies with this particular family or caregiver.
- Use communication styles and social behaviors that are warm and welcoming and respectful of family culture and circumstances.
- Conduct yourself as a guest in the family's home or caregiver's setting.
- Respectfully provide complete and unbiased information in response to requests or questions.
- Be credible and follow through on plans you made with the family.
- If you don't know the answer to a question, tell the family you do not know but will find out for them. Tell them when you will get back to them with the information.

2. During the first visit, review the IFSP and plan together how the time can be spent.
- Describe the practical aspects of a visit and what the family or caregiver can expect. For example: the length of the typical visit, that other people are always welcome at the family's invitation, the variety of places in which visits can occur, the program's cancellation policy, etc.
- Describe examples of visits in various home and community settings where the family participates. You might want to offer to share clips from commercial or videos produced by your program.
- Invite the family to reflect on their experience with the IFSP process to date and share any concerns or questions.
- Review the IFSP document and assessment information.
- Consider each agreed-upon outcome—is it what the family is still interested in? Prioritize again, if necessary, where to begin; change wording if needed; provide any explanations to help family understand purpose, etc.
- Discuss how outcomes, activities, and strategies can be a starting place for each home visit.
- Clarify who will work on each outcome—family, friends, other caregivers, service providers.
- Talk about community activities and events that can be used to support practice and mastery for the specific outcomes.
- If not previously done, ask the family to sign the IFSP, consent forms, and any other necessary documentation.
- Provide information about family-to-family support and parent groups that are available.

3. For ongoing visits, use the IFSP as a guide to plan how to spend the time together.
- Begin each visit by asking open-ended questions to identify any significant family events or activities and how well the planned routines and activities have been going.

(*Continued*)

Table 1.6 (Continued)

- Ask if there are any new issues and concerns the family wants to talk about. Explore if these concerns need to be addressed as new outcomes; if so, plan an IFSP review.
- Decide which outcomes and activities to focus on during the visit.

4. Participate with the family or other caregivers and the child in the activity and/or routine as the context for promoting new skills and behaviors.

- Offer a variety of options to families for receiving new information or refining their routines and activities, such as face-to-face demonstrations, video, conversations, written information, audios, CDs, diaries, etc.
- Gather any needed toys and materials and begin the selected activity or routine.
- Listen, observe, model, teach, coach, and/or join the ongoing interactions of the family and child.
- Encourage the family to observe and assess the child's skills, behaviors, and interests (a continual part of ongoing functional assessment). For example, ask the family if behaviors are typical, if they've seen new behaviors (suggesting emerging skills), or how much the child seems to enjoy the activity.
- Use a variety of consulting or coaching strategies throughout the activity, including: observing, listening, attending, acknowledging, expanding, responding, probing, summarizing, etc.
- Reflect with the family on what went well, what they want to continue doing, and what they would like to do differently at the next visit.

Source: Workgroup on Principles and Practices in Natural Environments (February 2008a).

CONSIDERATIONS OR CHALLENGES FOR IMPLEMENTING A PARTICULAR STATEWIDE MODEL OR APPROACH

Exploring and implementing these approaches is all about change. Although there is an abundance of literature about change, it is not our intent in these final paragraphs to review system change theory. Rather, this concluding section shares a few thoughts about implementing and sustaining statewide change of new practices. "Change" can be thought of as a verb encompassing all the actions necessary for developing and adopting new ideas associated with an alternative practice and for establishing reorganization necessary to support the changes (Smale, 1998). Implementation of change is all about people; what they believe and value, what they understand and can do in practice, and how they feel supported to manage the required changes. Changing a service delivery approach and putting in place all the infrastructures needed to support the change and sustain implementation is no quick or simple task (Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005; Smale, 1998).

"Implementation" is the terminology and science of putting a new idea, model, or practice into actual use at a program level. Fixsen et al. (2005) define implementation as "a specific set of activities designed to put into practice an activity or program of known dimensions" (p. 5). They define six stages of implementation, which include: exploration and adoption, program installation, initial implementation, full operation, innovation, and sustainability. Each stage has specific activities or processes. If a state is endorsing a particular approach and desiring all early intervention programs to use this endorsed approach when delivering services, the state would need to carefully address each of these six stages.

Taking a model that has been put into practice in one program or location and replicating it broadly throughout a geographical area or state is referred to as *going to scale* or *scaling-up*. This too often requires changes in program design, new policy or even laws, and new funding mechanisms to support the changes (Harris, 2010; Weiss & HFRP, 1988). As states move to adopt or adapt a new service delivery approach, it will require a working knowledge of both implementation and scaling-up procedures if their efforts are to improve their service delivery system and result in positive sustainable change.

Whether it is one particular agency or an entire state that is perusing service delivery change, it is essential to keep the Early Intervention System Framework (see Figure 1.1) clearly in mind as the three interconnected circles, Principles, Practices, and Program Design, must be examined, addressed, and aligned to develop and/or maintain an effective and coherent system. Any change in one component will impact the other components. Programs or states will need to clearly articulate the purpose and supporting principles of their early intervention system to service providers, families, referral sources, and other community partnership agencies. Statements such as those proposed by the consensus work of the CoP may prove helpful as programs or states embark upon service delivery change.

As noted above, this work will require multifaceted actions. From a principles and policies perspective, there will likely be a need to realign or even rewrite state rules and regulations that support the direction of their work. At a practices level, there will be a need for many concrete examples of practice and procedural guidance on what the approach will *look like* or *not look like* as it is put into practice. This will require ongoing professional development and support on the tools suggested by the approach being adopted and/or on the use of best practices described in the CoP Agreed-upon Practices documents. Early intervention service providers will not only need ongoing opportunities to gain and refine their knowledge and skills for their day-to-day work with children and families; they will also need ongoing support, mentoring, reflective supervision, and encouragement to put these practices into action competently and confidently within the context of early intervention processes from referral through transition.

Finally, at a systems design level, both local and state early intervention programs will need adjustments to support the changes in principles and practices. Team delivery, consultation time, new funding structures to support the changes in service delivery, new public awareness materials, supervision, and ongoing professional development are just a few of the program design system components that will need attention. Collectively, early intervention system principles, practice, and program design must be grounded on research-based evidence and function harmoniously if children like Damian and Jessica and the millions of other current and future families participating in early intervention are to truly benefit from early intervention services.

We believe the complexity and ultimate value of service delivery system change can be summed up by a final comment made by a State Part C Coordinator at the 2009 National Early Childhood Conference in the session on "Service Delivery Models" when she challenged others by stating, *"This is no easy task to implement change in practice consistently across the state. This will take years. You must plan carefully and make that plan known to others throughout the state. It is hard but very exciting work. To know that we will have service providers using practices that have years of research and evidence supporting them, based on values and beliefs we feel are fundamental, and that all families will receive services and supports consistently across our state will be worth it in the end. Yes!!"* (Part C Coordinator).

REFERENCES

Adams, P., & Nelson, K. (Eds.) (1995). *Reinventing human services; community-and family-centered practice*. New York: Aldine de Gruyer.

Allen, M., Brown R., & Finlay, B. (1992). *Helping children by strengthening families: A look at family support programs*. Washington, DC: Children's Defense Fund.

Baird, S., & Peterson, J. (1997). Seeking a comfortable fit between family-centered philosophy and infant-parent interaction in early intervention: Time for a paradigm shift? *Topics in Early Childhood Special Education, 17*(2), 139–164.

Bernheimer, L. P., & Keogh, B. K. (1995). Weaving interventions into the fabric of everyday life: An approach to family assessment. *Topics in Early Childhood Special Education, 15*(4), 415–433.

Bricker, D., & Cripe, J. W. (1992). An activity-based approach to early intervention. Baltimore: Paul H. Brookes.

Bricker, D., Pretti-Frontczak, K., & McComas, N. (1998). *An activity-based approach to early intervention* (2nd ed.). Baltimore: Paul H. Brookes.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Bruder, M. B. (2000). Family-centered early intervention: Clarifying our values for the new millennium. *Topics in Early Childhood Special Education, 20*(2), 105–115.

Bruder, M. B., & Bologna, T. M. (1993). Collaboration and service coordination for effective early intervention. In W. Brown, S. K. Thurman, & L. Pearl (Eds.), *Family-centered early intervention with infants and toddler: Innovative cross disciplinary approaches* (pp. 103–127). Baltimore: Paul H. Brookes.

Bruder, M. B., & Dunst, C. J. (2008). Factors related to the scope of early intervention service coordinator practices. *Infants & Young Children, 21*, 176–185.

Buysee, V., & Wesley, P. W. (2006). *Evidence-based practice in the early childhood field*. Washington, DC: Zero to Three.

Campbell, P. H., Sawyer, B., & Muhlenhaupt, M. (2009). The meaning of natural environments for parents and professionals. *Infants and Young Children, 22*(4), 264–278.

Cohen, S., & Syme. S. L. (Eds.) (1985). *Social support and health*. New York: Academic Press.

Cripe, J. W., & Venn, M. L. (1997). Family-guided routines for early intervention services. *Young Exceptional Children, 1*(1), 18–26.

Dinnebeil, L. A., Hale, L., & Rule, S. (1999). Early intervention program practices that support collaboration. *Topics in Early Childhood Special Education, 19*(4), 225–235.

Dunst, C. J. (2002). Family-centered practices: Birth through high school. *Journal of Special Education, 36*(3), 139–147.

Dunst, C. J., & Bruder, M. B. (1999). Family and community activity settings, natural learning environments, and children's learning opportunities. *Children's Learning Opportunities Report, 1*(2).

Dunst, C. J., & Bruder, M. B. (2002). Valued outcomes of service coordination, early intervention, and natural environments.Exceptional Children, *68*, 361–375.

Dunst, C. J., Bruder, M. B., Trivette, C. M., Raab, M., & McLean, M. (2001). Natural learning opportunities for infants, toddlers, and preschoolers. *Young Exceptional Children, 4*(3), 18–25.

Dunst, C. J., Hamby, D., Trivette, C. M., Raab, M., & Bruder, M. B. (2000). Everyday family and community life and children's naturally occurring learning opportunities. *Journal of Early Intervention, 23*(3), 151–164.

Dunst, C. J., Johanson, J., Trivette, C. M., & Hamby, D. (1991). Family-oriented early intervention policies and practices: Family-centered or not. *Exceptional Children, 58*.

Dunst, C. J., Trivette, C. M., & Deal, A. (1988). *Enabling and empowering families: Principles and guidelines for practice*. Baltimore: Paul H. Brookes.

Dunst, C. J., Trivette, C. M., Humphries, T., Raab, M., & Roper, N. (2001). Contrasting approaches to natural learning environment interventions. *Infants and Young Children, 14*(2), 48–63.

Fixsen, D., Naoom, S. F., Blasé, D. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature*. University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231).

Florida State University, Department of Communication Disorders. (n.d.). *Family Guided Routines Based Intervention (FGRBI)*. Retrieved from http://fgrbi.fsu.edu

Gallagher, J. J., Danaher, J. C., & Clifford, R. M. (2009).The evolution of the national early childhood technical assistance center. *Topics in Early Childhood Special Education*, *29*(1), 7–23.

Gargiulo, R. M., & Kilgo, J. L. (2000). *Young children with special needs: An introduction to early childhood special education*. Albany, NY: Delmar.

Goode, S., Lazara, A. & Danaher, J. (Eds.). (2008). *Part C updates* (10th ed.). Chapel Hill: University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

Greenspan, S. I., & Wieder, S. (1998). *The child with special needs: Encouraging intellectual and emotional growth*. Reading, MA: Perseus Books.

Hanft, B. E., & Pilkington, K. O. (2000). Therapy in natural environments: The means or end goal for early intervention. *Infants and Young Children, 12*(4), 1–13.

Hanft, B. E., Rush, D. D., & Shelden, M. L. (2004). *Coaching families and colleagues in early childhood*. Baltimore: Paul H. Brookes.

Harris, E. (2010, Spring). Six steps to successfully scale impact in the nonprofit sector. *The Evaluation Exchange, Harvard Family Research Project XV*(1).

Individuals with Disabilities Act of 1986, 20 U.S.C. § 1400 *et seq* (Part H). Retrieved from http://codes.lp.findlaw.com/uscode/20/33/I/1400

Individuals with Disabilities Act Regulations, 1999, 34 C.F.R. § 303.400–460. Retrieved from http://www.nectac.org/idea/303regs.asp

Individuals with Disabilities Education Act of 2004, Pub. L. No 99-457, 20 U.S.C. § 1436. Retrieved from http://codes.lp.findlaw.com/uscode/20/33/III/1436

Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. § 1400 *et seq*. Retrieved from http://www.wrightslaw.com/idea/idea.2004.all.pdf.

Individuals with Disabilities Education Improvement Act of 2004, Pub. L. No. 101 -476, 20 U.S.C. §§ 1400 *et seq*.

ITCA. (2000). *Position paper on the provision of early intervention services in accordance with federal requirements on natural environments*. IDEA Infant Toddler Coordinators' Association Board of Directors, April 3, 2000.

Jung, L. A., & McWilliam, R. A. (2005). Reliability and validity of scores on the IFSP rating scale. *Journal of Early Intervention, 27*(2), 125–136.

Kelly, J. F. & Barnard, K. E. (1999). Parent education within a relationship-focused model. *Topics in Early Childhood Special Education*, *19*(3), 151–157.

Ketelaar, M., Vermeer, A., Helders, P. J. M., & Hart, H. (1998). Parental participation in intervention programs for children with cerebral palsy: A review of research. *Topics in Early Childhood Special Education, 18*(2), 108–117.

Knowles, M. (1980). *The modern practice of adult education: From pedagogy to andragony.* Chicago: Associated Press/Follett.

Kretzmann, J. P., & McKnight, J. L. (1993). *Building communities from the inside out: A path towards finding and mobilizing a community's assets*. Chicago: ACTA Publications.

Mahoney, G., Boyce, G., Fewell, R. R., Spiker, D., & Wheeden, C. A. (1998). The relationship of parent-child interaction to the effectiveness of early intervention services for at-risk children and children with disabilities. *Topics in Early Childhood Special Education*, *18*(1), 5–17.

Mahoney, G., & Filer, J. (1996). How responsive is early intervention to the priorities and needs of families? *Topics in Early Childhood Special Education, 16*(4), 437–457.

Mahoney, G., & Wheeden, A. (1997). Parent-child interaction—the foundation for family-centered early intervention practice: A response to Baird and Peterson. *Topics in Early Childhood Special Education, 17*(2), 165–184.

Manning, G., Curtis, K., & McMillen, S. (1996). *Building community: The human side of work*. Cincinnati, OH: Thomas Executive Press.

Mayhew, L., Scott, S., & McWilliam, R. A. (1999). *Project INTEGRATE: A training and resource guide for speech and language pathologists*. Chapel Hill: Frank Porter Graham Child Development Center, University of North Carolina.

McBride, S. L., & Peterson, C. (1997). Home-based early intervention with families of children with disabilities: Who is doing what? *Topics in Early Childhood Special Education, 17*(2), 209–233.

McCormick, L., & Noonan, M. J. (2002). Ecological assessment and planning. In M. M. Ostrosky & E. Horn (Eds.), *Young Exceptional Children Monograph Series No. 4 Assessment: Gathering meaningful information* (pp. 47–60). Longmont, CO: Sopris West.

McWilliam, R. A. (2000). It's only natural . . . to have early intervention in the environments where it's needed. In S. Sandall & M. M. Ostrosky (Eds.), *Young Exceptional Children Monograph Series No. 2: Natural environments and inclusion* (pp. 17–26). Denver, CO: Division for Early Childhood of the Council for Exceptional Children.

McWilliam, R. A. (2004). Enhancing services in natural environments. Retrieved from http://www.nectac.org/~ppts/calls/2004/partcsettings/mcwilliam.ppt

McWilliam, R. A. (2010). Support-based home visiting. In R. A. McWilliam (Ed.), *Working with families of young children with special needs* (pp. 203–236). New York: Guilford Press.

McWilliam, R. A. & Casey, A. M. (2008). Engagement of every child in the preschool classroom. Baltimore: Paul H. Brookes.

McWilliam, R. A., Casey A. M., & Sims, J. (2009). The routines-based interview as method for gathering information and assessing needs. *Infants and Young Children, 22*(3), 224–233.

McWilliam, R. A., Snyder, P., Harbin, G. L., Porter, P., & Munn, D. (2000). Professionals' and families' perceptions of family-centered practices in infant-toddler services. *Early Education and Development, 11*(4), 519–538.

Peterander, F. (2000). The best quality cooperation between parents and experts in early intervention. *Infants and Young Children, 12*(3), 32–45.

Peterson, N. L. (1987). *Early intervention for handicapped and at-risk children; An introduction to early childhood special education*. Denver, CO: Love.

Pilkington, K. (2007). American Occupational Therapy Association (AOTA). *Side by side: Transdisciplinary early intervention in natural environments*. Retrieved from http://www.aota.org/Pubs/OTP/1997-2007/Features/2006/f-040306.aspx?css=print

Pletcher, L. C. (1997). *Family centered practices: A training guide*. Chapel Hill, NC: ARCH National Resource Center.

Pletcher, L. C. (2009). *Survey of state approaches to service delivery and materials developed*. National Early Childhood TA Center. Retrieved from http://www.tacommunities.org/getfile/view/id/1005/cid/5009/p/folder_5186 http://www.tacommunities.org/document/list/p/%252Ffolder_5186

Pletcher, L. C., & McBride, S. (2000). *Family-center services: Guiding principles and practices for delivery of family centered services*. Retrieved from http://nectac.org/topics/families/famctrprin.asp

Pretti-Frontczak, K., & Bricker, D. D. (2004). An activity-based approach to early intervention (3rd ed.). Baltimore: Paul H. Brookes.

Roper, N., & Dunst, C. J. (2003). Communication intervention in natural learning environments guidelines for practice. *Infants and Young Children, 16*(3), 215–226.

Rush, D. D., Shelden, M. L., & Hanft, B. E. (2003). Coaching families and colleagues: A process for collaboration in natural settings. *Infants and Young Children, 16*(1), 33–47.

Sandall, S., McLean M. E., & Smith, B. J. (2000). *DEC recommended practices for early intervention/early childhood special education*. Longmont, CO: Sopris West.

Schorr, E. B. (1988). *Within our reach: Breaking the cycle of the disadvantaged*. New York: Doubleday.

Schuck, L. A., & Bucy, J. E. (1997). Family rituals: Implications for early intervention. *Topics in Early Childhood Special Education, 17*(4), 477–493.

Shelden, M. L., & Rush, D. D. (2009). Checklist for implementing a primary-coach approach to teaming. FIPP CASE tools, 5(1) Center for the Advanced Study of Excellence in Early Childhood and Family Support Practices, Family Infant and Preschool Program, J. Iverson Riddle Developmental Center, Morganton, NC. Retrieved from http://www.fippcase.org/casetools/casetool_vol5_no1.pdf

Shonkoff, J., & Phillips, D. (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press.

Smale, G. (1998). *Managing change through innovation*. London: The Stationery Office.

Social Security Act. (1965). Title XIX, § 1900. Retrieved from http://www.ssa.gov/OP_Home/ssact/title19/1900.htm

TaCTICS: Therapists as Collective Team members for Infants/Toddler Community Services, Project TaCTICS. (n.d.). Retrieved from http://tactics.fsu.edu

Tisot, C. M., & Thurman, S. K. (2002). Using behavior settings theory to define natural settings: A family-centered approach. *Infants and Young Children, 14*(3), 65–71.

Trivette C. M. (2009). Participatory adult learning profession development strategies. Conference presentation at the 9th Annual Early Childhood Inclusion Institute, Chapel Hill, NC.

Turnbull, A., & Turnbull, R. (2001). *Families, professionals, and exceptionality collaborating for empowerment* (4th ed.). Columbus, OH: Merrill Prentice Hall.

University of Kansas Life Span Institute. (n.d.). Family-guided approaches to collaborative early-intervention training and services (FACETS). Retrieved from http://www.facets.lsi.ku.edu

Vanderholf, M. (2004). American Physical Therapy Association (APTA). *Maximizing your role in early intervention*. Retrieved from http://www.apta.org/AM/Template.cfm?Section=search&template=CM/HTMLDisplay.cfm&ContentID=8534

Weiss, H. B. and Harvard Family Research Project (HRFP). (1988). *Going to scale: Issues in the development and proliferation of community-based family support and education programs*. Cambridge, MA: Author.

Weston, D., & Ivins, B. (2001). From testing to talking: Linking assessment and intervention through relationships with parents. *Zero to Three*, *21*, 47–50.

Woodruff, G. & McGonigel, M. J. (1988). Early intervention team approaches: The transdisciplinary model. In J. Jordan, J. Gallagher, P. Hutinger, & M. Karnes (Eds.), *Early childhood special education: Birth to three* (pp. 163–182). Reston, VA: Council for Exceptional Children.

Woods, J. (2008a). American Speech-Language-Hearing Association (ASHA). *Providing early intervention services in natural environments*. Retrieved from http://www.asha.org/Publications/leader/2008/080325/f080325b.htm

Woods, J. (2008b). American Speech-Language-Hearing Association (ASHA). *Roles and responsibilities of speech language pathologist in early intervention*. Retrieved from http://www.asha.org/docs/html/GL2008-00293.html

Woods, J., Kashinath, S., & Goldstein, H. (2004). Effects of embedding caregiver-implemented teaching strategies in daily routines on children's communication outcomes. *Journal of Early Intervention, 26*(3), 175–193.

Workgroup on Principles and Practices in Natural Environments (February 2008a), *Agreed upon practices for providing services in natural environments*. OSEP TA Community of Practice—Part C Settings. Retrieved from http://www.nectac.org/topics/families/families.asp

Workgroup on Principles and Practices in Natural Environments (February 2008b), *Mission and key principles for providing early intervention services in natural environments*. OSEP TA Community of Practice—Part C Settings. Retrieved from http://www.nectac.org/topics/families/families.asp

Workgroup on Principles and Practices in Natural Environments (February, 2008c), *Seven key principles: Looks like/doesn't look like*. OSEP TA Community of Practice–Part C Settings. Retrieved from http://www.nectac.org/topics/families/families.asp

Chapter 2

Early Childhood Special Education Methods and Practices for Preschool-Aged Children and Their Families

Lynette K. Chandler, Robin Miller Young,
and Nasiah Cirincione Ulezi

HISTORICAL PERSPECTIVE OF EARLY CHILDHOOD SPECIAL EDUCATION

ECSE has roots in several fields, including special education for school-aged students with exceptionalities, behavior analysis, and early childhood education. It has been influenced by a variety of theories and philosophies regarding child development and learning and by initiatives to support the learning and development of young children.

Special Education and Behavior Analysis

Special education and behavior analysis research has documented the significant influence of the environment in promoting learning and development. Variables within the environment set the occasion for behavior to occur, and the consequences that follow behavior influence how well behavior is learned. Behavioral theorists emphasize the importance of positive consequences (positive reinforcement) in promoting skill acquisition, maintaining learned skills, and generalization of learned skills to different situations. Skills and behaviors that are followed by positive reinforcement are strengthened and will be more likely to occur again in similar environmental situations.

Behaviorists and special educators believe that adults and peers are critical components of the child's environment and that adults directly influence learning in two ways. First, they purposefully arrange environmental variables to draw out and then reinforce new and appropriate skills and behaviors (Chandler & Dahlquist, 2009). Second, adults directly teach and reinforce skills using research-based teaching strategies and adapting materials and activities to meet the needs of each child. Many of the research-based practices currently used in ECSE have been adapted from those employed with older individuals with disabilities and will be discussed later in this chapter. Examples of these are task analysis (Carter & Kemp, 1996), shaping (Peterson, 2004), tiered models of instruction (Stewart, Martella, Marchand-Martella, & Benner, 2005), positive behavior support (Carr et al., 1999), and universal design for learning (CAST, 2008).

Early Childhood Education

Early childhood education and the constructivist theory of learning have contributed much to the current practices in ECSE. Central to the theory is the belief that learning is an active, constructive process that occurs through self-initiated actions within activities and interactions with peers and adults. Children construct an understanding of and knowledge about their worlds through experiences and reflections about those experiences (Darragh, 2010; Grennon Brooks, n.d.). Several theorists have contributed to the theory. Piaget (1937/1954) believed that children are self-motivated to discover and construct knowledge from their own actions on and experiences within their world. Learning occurs through processes of assimilation and accommodation of new information that alters mental schemes or existing knowledge. As children interact with their environments, they assimilate new concepts into an existing scheme. When they acquire information that does not fit within the current scheme, they accommodate the new information, leading to new or expanded schemes. Piaget also described stages of cognitive development during early childhood, positing that each stage provides a foundation for subsequent learning. The role of the teacher or other practitioners within Piaget's approach is to develop effective physical environments to support assimilation and accommodation at each stage of learning.

John Dewey (2004) underscored the importance of using children's interests in effective teaching. He advocated for the use of child-centered curricula that built on children's interests and incorporated "hands-on" experiences rather than predetermined, inflexible, teacher-directed instruction. Dewey felt that it was important to teach children "how to learn" and problem-solving skills versus simply teaching academic content. The role of the practitioner is to observe, guide, and encourage as needed.

Maria Montessori believed that intelligence was influenced by children's interactions with their environments, and that sensory-based learning was especially critical for young children (Edwards, 2002). Montessori focused on the individualized nature of learning, recognizing that all children were capable of learning, but they needed to learn at their own pace. This could be accomplished by allowing children to repeat activities until concepts and skills were mastered. She described a strong relationship among children's innate drive to interact with their environment, adults' facilitation of learning, and the environment. The role of the practitioner is to observe individual children and prepare activities and materials for each child based on those observations (Hull, Goldhaber, & Capone, 2002; Malaguzzi, 1996).

Vygotsky explored sociocultural theory, which pointed to the importance of social interactions and interpersonal relationships in learning and development. He stressed the importance of adults and peers and reciprocal relationships in the child's environment. Vygotsky's focus on social relationships as well as information from attachment theory, which asserts that the quality of early relationships influences lifelong social competence, helped early childhood educators recognize positive social-emotional development as a significant outcome of early childhood. Another contribution from Vygotsky is the concept of the Zone of Proximal Development (ZPD): the distance between what a child can do independently and what a child can do with support or the next skill to be learned. The teacher's role is to guide and support learning through scaffolding (e.g., prompting, assistance, feedback) to help the child move from one level or skill to another. Vygotsky also believed that children with disabilities were capable of learning, and that they would learn best by participating in environments that were designed to facilitate learning for typically developing children (Gargiulo & Kilgo, 2005).

Compensatory Programs Initiatives

Toward the end of the twentieth century, the federal government provided funding for several programs for young children who were at risk for academic failure and their families. These compensatory programs were designed to minimize the effects of poverty and other risk factors on development and to promote success in school. Three well-known research initiatives are the Perry Preschool Project (High Scope, 2005), the Chicago Child-Parent Center (CPC) Program (Reynolds, 2008), and the Abecedarian Project (Campbell, Ramey, Pungello, Sparling, & Miller Johnson, 2002). Each of these initiatives provided center-based preschool programs for children living in poverty and evaluated the effects of their preschool experiences through high school and into adulthood. These programs documented positive short- and long-term effects. Children who participated in these programs had higher IQ scores and academic achievement, had fewer grade retentions, and received fewer special education services than children who did not receive preschool services. Evaluation of students in the Perry Preschool project at ages 27 and 40 revealed that these children had lower rates of teen pregnancy, fewer arrests, and use of social services, and they were more likely to graduate from high school, attend college, own a home, and have higher incomes and more positive work histories than children who did not participate in the program (Darragh, 2010). Moreover, the programs were cost-effective in terms of the amount of money invested in preschool and the outcomes obtained (Parks, 2000). For example, a recent study of prekindergarten (pre-K) programs in New Mexico estimated that $5.00 in benefits was generated for every dollar invested in pre-K programs (Hustedt, Barnett, Jung, & Goetze, 2009). Current research regarding preschool programs continues to document both short- and long-term benefits of high-quality preschool programs (Partnership for America's Economic Success, 2010).

In the 1960s, Head Start programs were designed to address multiple influences that can negatively impact child development. These comprehensive programs focused on nutrition, health, and safety; development across domains (e.g., physical, cognitive, social-emotional, communication, and adaptive) and academic areas (e.g., early literacy and math); parent involvement and support; economic issues; and other areas of family need (Peterson, 1987). Services were provided by multiple disciplines, including teachers, therapists, psychologists, and social services personnel. In 1972, federal law required Head Start programs to reserve 10 percent of their slots for children with disabilities. Head Start programs now have disability service plans that include strategies for identifying and meeting the needs of children with disabilities.

The compensatory programs demonstrated that early intervention can have a positive and enduring impact on child development and learning (Borman, n.d.). They also underscored the importance of involving parents as partners in their child's program and collaborative team-based service delivery, two values that guide ECSE today.

CURRENT INFLUENCES ON EARLY CHILDHOOD SPECIAL EDUCATION

ECSE incorporates philosophies, values, and practices from each of the fields and theories described above to create a distinct discipline that addresses the needs of young children who have or are at risk for developmental disabilities from birth to 8 years of age and their families. ECSE also is influenced by (1) federal and state laws and regulations; (2) federal, state, and local initiatives; (3) national organizations and their recommended practices, frameworks for learning, and position statements; and (4) research on effective practices.

FEDERAL AND STATE LAWS AND REGULATIONS AND INITIATIVES

Individuals with Disabilities Education Act

The primary federal legislation related to ECSE is the Individuals with Disabilities Education Act (IDEA). The IDEA law and clarifying regulations identify state requirements and responsibilities for providing a free and appropriate education (FAPE) to children and youth with disabilities, and delineate the rights of children with disabilities and their families. This chapter is limited to our discussion to those aspects of IDEA that influence early childhood special education practices at the preschool level (also see Council for Exceptional Children [CEC], 2006; IDEA, 2004).

IDEA establishes procedures and criteria for determining eligibility to receive special education and related services. States are mandated by IDEA to provide special education and related services to eligible children from ages 3 through 21. Special education services are defined as specially designed instructional services to meet the needs of the child and to allow access to the general education curriculum (e.g., adaptations and modifications of materials, teaching strategies, and goals and alternative assessment methods). Related services are additional supports that allow a child to benefit from special education services (e.g., speech, occupational, or physical therapy, assistive technology, transportation, and counseling).

Special education and related services can be delivered to preschool-aged children in a variety of early childhood settings, including community child care, Head Start programs, and preschool programs provided by local school districts or cooperatives (Dinnebeil, McInerney, & Hale, 2006). IDEA requires that special education and related services be delivered in the Least Restrictive Environment (LRE). LRE is defined as providing services to children with disabilities in settings that are as close as possible to the general education environment, that include peers who are typically developing, and that meet the needs of the individual child (Grisham-Brown, Hemmeter, & Pretti-Frontczak, 2005). The LRE decision is made by a team that includes school-based professionals and the child's parents or guardians. This team first reviews information obtained from assessment about the child's strengths and needs and then determines the annual developmental, educational, and early academic and behavioral goals to be addressed and the special education and related services that will be provided. Only then does the team determine which type of setting would best meet the needs of the child.

Although IDEA does not require that all children receive services in inclusive settings or programs (i.e., settings that blend children with disabilities and children who are typically developing into heterogeneous groups), the team must first consider if an inclusive setting would be appropriate for the child (i.e., is the child likely to make adequate progress on annual goals in an inclusive setting?) (CONNECT, 2009). If the team agrees that the child is not likely to make adequate progress in an inclusive placement, even with special education and related services and supports, then the team may consider a continuum of placement options such as dual placement in an inclusive classroom and a segregated classroom or resource room or full-time placement in a segregated classroom (Etscheidt, 2006). When an alternative placement option is identified as the LRE, the team must justify the placement decision and identify opportunities for the child to interact with peers who are typically developing.

IDEA requires teams to identify parent concerns related to their child and to consider those concerns when making decisions about the child's program. Teams must document parent participation in making decisions and describe procedures for informing parents about their child's progress. The team documents decisions about the frequency and type of special education and related services and the LRE on an Individualized Education Plan (IEP). The IEP also (1) identifies annual developmental, educational, and behavioral goals for the child; (2) documents the link between child goals and the general education curriculum and state standards; and (3) specifies how the team will evaluate child progress.

Finally, the use of person-first language as a recommended practice is reflected in the title of this law. Person-first language is based on the philosophy that individuals with disabilities are not defined by their disabilities. Disability is just one of many characteristics of an individual, and children with disabilities are more like their same-age peers than they are different. Person-first language dictates that when we refer to a child who has a disability, we refer to the child first instead of labeling the child by his or her disability (Snow, 2009). So, for example, a teacher would say that she has a child with autism in her class versus an autistic child. Person-first language has been embraced by early childhood special education and professional organizations such as the Division for Early Childhood as a recommended practice that focuses on the whole child and his or her abilities.

State Initiatives for Universal Preschool

Demonstrations of the effectiveness of early intervention provided by compensatory programs and current research demonstrating the effectiveness of high-quality preschool programs has led to *Preschool for All* or *Universal Preschool* initiatives across the country. Many states have developed or are developing state-sponsored programs for preschool-aged children. In 2008, more than 80 percent of 4-year-olds in the United States were enrolled in some type of preschool program. Almost 40 percent of those children attended public programs such as Head Start or school-based programs. Thirty-eight states currently provide state-funded preschool programs for almost 1.4 million 4-year-old children with and without disabilities (Barnett, Epstein, Friedman, Stevenson Boyd, & Hustedt, 2008). The growth of state-funded programs has provided new opportunities for serving children with disabilities in settings with peers who are typically developing or are at risk. For example, in 2007, almost half of the preschoolers with disabilities spent more than 80 percent of their day and received special education services in inclusive early childhood programs (IDEAdata, 2007).

The development of early learning standards also can be traced to the universal preschool or Pre-K movement and other federal initiatives. For example, Head Start developed the Child Outcomes Framework, which identifies skills, abilities, knowledge, and behaviors that young children should acquire before they enter kindergarten programs

(Head Start Bureau, 2003). The federally funded Good Start, Grow Smart initiative sought to improve program quality through the development of state standards for early learning and support for professional development (Grisham-Brown, Pretti-Frontczak, Hawkins, & Winchell, 2009). The No Child Left Behind law requires states to establish standards for early literacy and math for 4-year-old children.

Standards are statements of the knowledge and skills that children should achieve across developmental domains (physical, cognitive, communication, social-emotional, and adaptive) or academic content areas (e.g., early literacy, math, science) at various ages or grades (Brovoda, Leong, Payner, & Seminov, 2000). Standards guide (1) the identification of general education goals for all children, (2) the selection or development of early childhood curricula and teaching strategies to meet those goals, and (3) the development of assessment procedures to determine progress in meeting goals (McCormick, Grisham-Brown, & Hallam, 2007). Thirty-five of the 38 states with pre-K programs have developed early learning standards (Barnett et al., 2008).

NATIONAL ORGANIZATIONS

Two organizations have greatly influenced the philosophies and practices within early childhood special education. The National Association for the Education of Young Children (NAEYC) is the largest national organization focusing on early childhood education. It is "dedicated to improving the well-being of all young children, with particular focus on the quality of educational and developmental services for all children from birth through age 8" (NAEYC, 2010). NAEYC membership is available to individuals who "desire to serve and act on behalf of the needs and rights of all young children" (NAEYC, 2010). The Division for Early Childhood (DEC) of the Council for Exceptional Children is an international organization whose members include individuals who work with or on behalf of young children with disabilities and other special needs, birth through age 8, and their families. The mission statement indicates that "DEC promotes policies and evidence-based practices that support families and enhance the optimal development of young children who have or are at-risk for developmental delays and disabilities" (DEC, 2010).

Both NAEYC and DEC believe that early childhood education should be available to all children; children who are typically developing, children with special needs and/or who are at risk, and children with cultural and linguistic diversity. These two organizations frequently collaborate in advocacy and legislative efforts. They have developed several joint position statements and other publications, and often endorse publications and position statements developed by each organization.

Developmentally Appropriate Practice

NAEYC and DEC have developed two important documents that work together to guide the philosophy, values, and practices in ECSE. The first is Developmentally Appropriate Practice (DAP), written by NAEYC (Copple & Bredekamp, 2009). DAP provides a framework of principles and practices that promote learning and development for young children and that guide the development of early childhood programs and services. The goals of DAP are to teach in ways that "meet children where they are as individuals and as a group; and help each child reach challenging and achievable goals that contribute to his or her ongoing development and learning" (Copple & Bredekamp, 2006, p. 3). To meet these goals, DAP must be age appropriate, individually appropriate, and appropriate to children's social and cultural contexts.

Age appropriate refers to developing goals, providing experiences, and selecting teaching strategies based on knowledge of the scope and sequence of child development and likely interests of children across different ages. DAP preschool programs provide materials and activities that are of interest to 3- and 4-year-olds and that address skills that are typically attained during the preschool years. For example, children begin to develop early literacy skills such as rhyming, writing their name, and retelling a story during the preschool years. Therefore, it would not be developmentally appropriate to expect preschoolers to write an essay about a book they read. It would be developmentally appropriate, however, to ask children to talk about a field trip taken by the class or to provide materials that children can use to draw a picture about the field trip and write or scribble their name on their picture.

Individually appropriate practices are responsive to the unique needs of individual children with and without disabilities, regardless of their chronological age. There can be great variability across children in their interests and abilities, learning style, rate of learning, and amount of support needed to learn. Goals for learning and materials, activities, and experiences should address the range of interests and abilities of children in a program, and teaching strategies must provide the level and type of support needed to foster learning for individual children (Horn, Lieber, Sandall, Schwartz, & Wolery, 2002; Copple & Bredekamp, 2009). For example, while many of the 4-year-olds in a classroom enjoy playing together and sharing materials, a few children are not developmentally ready to share with their peers. Rather than forcing these children to share, the teacher provides each child with his or her own set of materials. She also plans activities that promote cooperation or turn-taking so that the children experience the joy of playing with peers. For instance, she introduces a board game, helps small groups of children make props for the class play, and praises children when they play together. Strategies and activities such as these will support children as they move from parallel (side by side) to cooperative play and sharing with peers (Chandler & Maude, 2009).

Culturally appropriate practices are responsive to the social and cultural contexts of the children in a program. Teachers learn about social, linguistic, and cultural contexts from children's families and by observing each child during daily activities and routines. They consider children's linguistic and cultural backgrounds and experiences as they develop activities and routines, select materials, and provide instructional and emotional supports (Copple & Bredekamp, 2006). For example, a teacher posts common words in Spanish in each center so that adults can use those words when interacting with a child who speaks Spanish.

DEC Recommended Practices

The Division for Early Childhood supports the use of DAP and believes that high-quality, developmentally appropriate environments and experiences are necessary for all children and should be the foundation of all early childhood programs. However, for some children, high-quality DAP environments and experiences may not be sufficient to meet their unique needs (Clawson & Luze, 2008; Horn et al., 2002). For these children, individualized strategies and varying levels and types of supports may be needed. DEC builds on the work of NAEYC and the DAP framework by providing a set of Recommended Practices for working with children with disabilities and children at risk (Sandall, Hemmeter, Smith, & McLean, 2005). The DEC Recommended Practices (DEC RPs) provide practitioners with guidelines and effective practices that can be used to meet the unique needs of children with disabilities and to support their families. DEC RPs are divided into five direct-service areas—Assessment, Child-Focused Practices, Family-Based Practices, Interdisciplinary Models, and Technology Applications—and two areas of indirect service—Policies, Procedures, and Systems Change and Personnel Preparation.

The DEC RPs are derived from research evidence regarding the effectiveness of specific practices, the experience or wisdom of practitioners and families regarding the effectiveness of strategies for which there is not yet sufficient research support, and core values regarding children and families. Some of these core values are (1) all children have the right to participate actively and meaningfully within their families and communities; (2) children have the right to participate in high-quality programs that provide individualized experiences to promote the development of each child; and (3) services and supports should be family-centered, recognizing the importance of the family in the child's life and the importance of family-professional relationships to achieving optional outcomes for children and their families. Examples of the DEC RPs will be presented later in this chapter.

There is general consensus between early childhood and early childhood special educators that DAP and DEC RPs are applicable to meeting the needs of all children within early childhood settings (Buysse & Hollingsworth, 2009; Odom & Wolery, 2003). Thus, the DAP guidelines and DEC RPs work together to support the needs of all young children, including those with developmental disabilities, children who are gifted, children at risk, and children who present social, cultural, and linguistic diversity. Both of these guidelines and practices, and a shared philosophy that values the right of all children to participate in experiences that maximize their learning and development, must be part of any program that serves preschool-aged children. This focus on meeting the needs of all children within their families and communities is congruent with the movement to provide supports and services in inclusive settings.

INCLUSION

In the past, children with disabilities were largely taught in segregated settings that served only children with disabilities. There were few opportunities for children with disabilities to participate in settings and activities with peers who are typically developing (Odom, 2000). In situations in which children did attend the same programs as their peers, they routinely were taken out of the classroom for varying amounts of time to receive special education services, or they were isolated from peers for large parts of the day to work on individual goals. Over time, practitioners, families, and researchers began to explore alternatives to segregated classrooms, calling for all children to have opportunities to participate in inclusive settings. Support for inclusion has increased in recent years, and today many children with disabilities participate in settings and activities together with peers who are typically developing, and they receive special education services in those inclusive settings (DEC/NAEYC, 2009). Although increasing numbers of children with disabilities have access to inclusive programs, full access to inclusive programs has not yet occurred (National Professional Development Center on Inclusion [NPDCI], 2007).

Inclusion is a core value that is supported by DEC and NAEYC. Both organizations believe that children with disabilities and special needs should have access to classrooms and programs that they would attend if they did not have a disability. Both organizations believe that all children should have access to the general education curricula, be included in meaningful experiences with same-age peers, and receive individualized supports to help them reach their full potential. Inclusion also is supported by IDEA legislation, which requires teams to consider inclusive settings when determining the LRE and to provide opportunities for children with disabilities to interact with peers who are typically developing if an inclusion setting is not selected. The effectiveness of inclusion has been confirmed by research documenting positive outcomes for children with and without disabilities, families, and practitioners who participate in high-quality inclusive programs (Guralnick, 2001; NPDCI, 2007; Odom, 2002; Odom, Schwartz, & ECRII Investigators, 2002).

DEC and NAEYC recently developed a joint position statement regarding early childhood inclusion (2009). The definition of inclusion from this position statement is presented in Box 2.1. The definition focuses on three features of inclusion: access, participation, and supports. *Access* refers to assuring that children and families have access to a range of learning environments and settings within their community; that they have opportunities to participate in daily activities, routines, and experiences; and that they have access to the general education curriculum. *Participation* refers to using individualized supports to help each child actively and meaningfully participate in the settings and activities to which they have access. The greatest benefits

Box 2.1 Definition of Inclusion

Early childhood inclusion embodies the values, policies, and practices that support the right of every infant and young child and his or her family, regardless of ability, to participate in a broad range of activities and contexts as full members of family, communities, and society. The desired results of inclusive experiences for children with and without disabilities and their families include a sense of belonging and membership, positive social relationships and friendships, and development and learning to reach their full potential. The defining features of inclusion that can be used to identify high-quality early childhood programs and services are access, participation, and supports (DEC/NAEYC, 2009, p. 2).

from inclusion occur when practitioners plan for and support participation; they promote a sense of belonging and membership, help children engage in positive interactions and develop friendships with peers, and foster the development of each child through individualized adaptations, accommodations, and supports (Chandler & Maude, 2009; Horn et al., 2002). Fiscal and administrative *supports* provide the foundation for inclusive programs that promote a shared vision and philosophy for inclusion and that provide resources and guidance to practitioners and families as they design, implement, and evaluate inclusive services.

Each of these features contributes to high-quality inclusive experiences for all children and families, as indicated in Figure 2.1, and they can be used for developing and identifying high-quality inclusive programs. Inclusive preschool programs may occur in a variety of settings (e.g., public school, community child care, and Head Start) and there can be considerable differences across programs based on resources, values, community standards, and personnel. There is no single model for developing an inclusion program or for delivering services within inclusive settings. The challenge for staff is to develop and maintain high-quality, developmentally appropriate programs that are individually appropriate and promote access and participation for all children. Fortunately, there are evidence-based strategies and practices within each of the defining features of inclusion to guide our efforts to develop high-quality inclusive programs.

Figure 2.1 Defining features of high-quality inclusive programs.

Access

Children with disabilities and those who are at risk for developing disabilities or experiencing problems in school are more alike than they are different from their same-age peers. They generally are interested in and learn from the same types of experiences, activities, and materials as preschoolers who are typically developing and have the same or similar learning needs and goals (Strain, Bovey, Wilson, & Roybal, 2009). Therefore, one of the first steps in developing high-quality programs is to provide all children with access to the learning environment, including the physical setting; general education curricula, materials, activities, and routines; teacher-guided instruction and experiences; and interactions with peers and adults. One of the most effective strategies for providing access to all children is universal design.

Universal Design

Universal design is a proactive practice employed in the field of architecture that considers the needs of diverse individuals in the conceptualization, design, and construction of products and environments so that they are accessible to those who might use them. For example, buildings are designed to include wide hallways, ramps, and elevators to accommodate wheelchairs and building elevators, and rooms often include Braille next to printed words and numbers so that individuals with vision impairments or who are blind can identify their floors and rooms. These same considerations are used to design preschool environments so that they are accessible to all children, including those with vision impairments, who are deaf/hard of hearing, have motor disabilities, or a combination of these. A universally designed setting provides all children with access to materials and all indoor and outdoor areas (Center for Community Inclusion & Disability Studies, 2007; Orkwis, 2003).

The practice of universal design also can be applied to educational activities and adult-guided instruction to address the diverse needs of children who may attend the program (Kame'enui & Simmons, 1999). The Universal Design for Learning (UDL) is a proactive approach that promotes access to and participation in the general education curriculum by considering the diverse abilities and needs of all children when developing centers, selecting materials, planning activities and routines, establishing expectations and learning goals for children, and identifying teaching and assessment strategies (CEC, 2005). The UDL approach is the opposite of a "one-size-fits-all" approach to education. Rather, it is based on differentiation; consideration of the differences between children and adjusting the curriculum, goals, and teaching strategies to meet the unique needs of each child. Differentiation allows teachers to respond to the learning needs of increasingly diverse classrooms of children.

In a UDL program, the teacher's job is to provide multiple and diverse paths to learning by (1) providing a variety of carefully selected materials, activities, and experiences; (2) developing and supporting alternative ways of using materials and participating in activities and routines; and (3) using a variety of instructional strategies that are responsive to the range of abilities, interests, and needs of children in their classrooms (Orkwis, 2003). As stated in the DEC/NAEYC joint position statement on inclusion (2009), UDL procedures help provide every child with access to learning environments, the general education curriculum, daily activities, routines, and experiences that provide opportunities for child-guided and teacher-guided learning.

Participation

While providing children with access to inclusive settings and experiences is an essential first step in developing high-quality inclusive programs, access alone does not guarantee that children will benefit from inclusive settings and experiences. Many children will need specialized and individualized instructional strategies and supports to help them actively and meaningfully participate in the settings and experiences to which they have access (Buysse & Hollingsworth, 2009; Wolery, 2005). This requires educators to be intentional in planning and providing instructional strategies and supports for all children, especially those with unique needs and abilities. Intentional teaching and other evidence-based strategies work together to promote participation for all children. These strategies are described in the sections that follow.

Intentional Teaching

Intentional teaching is based on the understanding that both children and teachers actively contribute to children's learning (Copple & Bredekamp, 2006). Intentional teachers use their knowledge about the scope and sequence of skill acquisition during the preschool years to identify goals for learning, and they select classroom activities and teaching strategies that will enable children to achieve those goals (Notari-Syverson & Sadler, 2008). This is the essence of intentional teaching. Intentional teachers first identify what to teach. Then they plan when, where, and how they will teach and support learning. Finally, they design a system for monitoring children's progress in meeting goals and using progress-monitoring outcomes to make decisions during subsequent planning (Grisham-Brown et al., 2005).

This is not to say that all experiences need to be planned and guided by adults. Intentional teachers recognize that children learn much from child-initiated exploration and engagement with materials and peers (Epstein, 2007; Wolery, 2005). For example, children learn many social, play, and communication skills such as taking turns, holding conversations, problem solving and persistence, and pretend play through engagement in child-initiated activities and interactions with peers during those activities. However, children also learn much from teacher-initiated and guided activities in which teachers use specific instructional strategies and supports to promote engagement and learning. For example, children learn many early literacy skills such as naming letters of the alphabet, identifying the sounds letters make, and how to write their name through adult-guided instruction and support in developmentally appropriate activities. An intentional teacher determines which type of skills are best learned through teacher-initiated and guided instruction and which type of skills are best learned through child-initiated exploration with strategic adult support. Intentional teachers use a blend of child-initiated and teacher-initiated and guided activities, and they vary these based on the content or skills being addressed as well as the unique needs of individual children (Copple & Bredekamp, 2009; Epstein, 2007). An important part of intentional planning and teaching is developing children's sense of belonging and positive social relationships with peers and adults (Ostrosky, McCollum, & SeonYeong, 2007). These, too, require active planning. Simply placing children with and without special needs in the same setting does not guarantee that they will interact with each other, be successful in their interactions, or acquire a sense of belonging. Adults must demonstrate positive attitudes regarding all children in the program; arrange opportunities for children to interact with each other; and provide guidance and support to make those interactions positive, effective, and mutually rewarding (Guralnick, 2001). Many children may benefit from teacher-guided instruction to facilitate learning positive social-emotional skills that are necessary for developing and maintaining reciprocal, satisfying relationships with peers and adults (Fox, Carta, Strain, Dunlap, & Hemmeter, 2010).

Embedded Instruction

This strategy builds on intentional teaching by strategically embedding instruction and opportunities for children to acquire and practice functional and meaningful skills within daily activities and routines throughout the day (NPDCI, 2007; Odom & Wolery, 2003). Embedded instruction reflects the belief (and evidence from research) that children learn some skills best when they are taught and practiced during authentic activities or contexts in which the skills are useful and should naturally occur and that provide natural reinforcement or logical consequences for learning (Pretti-Frontczak & Bricker, 2004; Wolery, 2005). Natural reinforcement or logical consequences are those events that logically follow a behavior and affect the future occurrences of a behavior. Consequences that are desired will increase future occurrences, and consequences that are punishing will decrease future occurrences of behavior. For instance, the natural consequence for Ann when she asks a peer to share is receipt of the desired item. On the other hand, the natural punishing consequence for Ann when she takes a friend's toy without asking might be that the child hits her.

Embedding instruction provides children with multiple opportunities to practice skills during a variety of activities and routines, including circle time, centers activities, caretaking routines, snack or mealtime, outdoor play, and teacher-planned activities (Chandler et al., 2008; Grisham-Brown et al., 2009). For example, children can practice counting during dramatic play when they count the number of play dollars needed to buy a pizza, during a group activity in which they count how many cups of flour are needed to make brownies, and when they count the number of circles on the dice and the number of spaces their pawn gets to move in a board game. In another example, children in the Bunny classroom practice early writing (or scribbling) when they sign in and out of the classroom at the beginning and end of the day, put their name on art work, and write a grocery list while playing in the housekeeping center. Opportunities to practice skills in a variety of activities and over time will strengthen skill acquisition and mastery, and promote generalization of the skill to new activities and routines.

Teachers often plan embedded activities by examining the daily schedule to determine which activities and routines could provide authentic opportunities to apply knowledge and practice important skills and behaviors. They then plan specific strategies and instructional procedures to assure that children have opportunities to practice skills during selected activities and routines (Pretti-Frontczak & Bricker, 2004; Sandall, Giacomini, Smith, & Hemmeter, 2006). This can be done for a class of children as well as for individual children. For example, Jodi has an IEP goal to talk to her peers. Her teacher, Mr. Burke, decides that this skill could be practiced during arrival, snack, and science-center time. Mr. Burke helps Jodi say hello to peers and adults when she arrives in the morning. As snack helper, Jodi asks each friend if they want crackers or cereal and then gives each peer the requested item. Finally, Mr. Burke limits the number of magnifying glasses in the science center and then models sharing by asking another child to share with him, and he praises peers when they ask each other to share the magnifying glass. If Jodi does not imitate these models, Mr. Burke reminds her to ask a friend to share.

Embedding also facilitates the teacher's ability to address multiple goals for one child as well as different goals for several children during activities. For instance, when the teaching assistant (TA) is in the block center, she helps Jacob work on his goal of color identification by asking for a red block or a blue block. She poses strategic questions to Enrique to help him describe what he is building. The TA prompts Wendy to interact with peers by suggesting she ask Enrique for a block, and she prompts Wendy to share when peers ask for materials that she is using. The TA also models oral language by describing what she and they are building, and she expands on the children's words (e.g., Jacob says "blue" when asked what color block he wants, and the TA says "here is a big blue block").

A final defining feature of embedded or activity-based practices is the provision of specialized services within the classroom setting. Rather than removing a child from the classroom to address IEP goals or working individually with a child in a segregated area of the classroom, early childhood special educators, therapists, and other specialists now are more likely to address IEP goals within the classroom during meaningful and functional activities (Childress, 2004). For example, the speech and language pathologist sits at Rory's table during snack and provides multiple opportunities for Rory to practice pronouncing "s"-blends correctly (e.g., sn-ack, sp-oon, and sc-oop). She also joins Rory in the book center and helps Rory and other children in the center pronounce and describe new vocabulary words.

Evidence-Based Instructional Strategies and Supports

Educators promote participation in the general education curriculum and daily activities and routines, acquisition of individualized (e.g., IEP) and general goals, and the development of positive social relationships and a sense of belonging by using evidence-based, specialized instructional strategies and supports (Odom et al., 2002). These are selected and individualized for each child based on the child's characteristics and learning style, current skills, and unique needs and abilities. Several of these are described in Box 2.2 (Chandler & Dahlquist, 2009; Chandler & Maude, 2009; Milbourne & Campbell, 2007; NPDCI, 2007; Odom & Wolery, 2003; Wolery, 2005).

Response to Intervention

A relatively new practice for promoting participation and supporting learning and development is Response to Intervention (RtI) (Barnett, VanDerHeyden, & Witt, 2007; VanDerHeyden & Snyder, 2006). RtI is a proactive, preventative, collaborative, multitiered assessment and instructional approach for identifying and meeting the needs of all children (Coleman, Buysse, & Neitzel, 2006). RtI programs are designed to "catch" children as early as possible who are at risk or have delays in developmental domains, early academic skills, and

Box 2.2 Evidence-Based Instructional Strategies to Promote Learning and Development

Instructional Strategy	**Definitions and Examples**
Accommodations and Modifications	Adjustments to and modification of the environment, activities and routines and tasks, materials, instructional strategies, and expectations and goals that maximize access and participation for each child. *Environment*: Ms. Carter rearranges furniture in the housekeeping area so that Serafina can move about the area with her wheelchair. *Activities, routines, and tasks*: Alec has a hard time paying attention and sitting through circle. So Ms. Nancy makes circle more active by adding movement opportunities and giving Alec frequent turns to participate. She also assures that he is one of the first children to move to activity centers to reduce waiting at the end of circle. *Materials*: Ms. Gingerich puts pictures of the steps to be followed in conducting the science experiment to the science center and she adds rubber grips to pencils so that children can better grasp the pencils as they record experiment results. *Instructional strategies*: Ms. Julia uses pre-teaching to help Les understand new vocabulary in a book that she will read to the whole class. She reads the book with Les the day before and sends the book home for Les's parents to read with her. *Expectations and goals*: Most children are expected to request objects using 3-5 word sentences (e.g., I want more red paint). The goal for Jared, whose primary language is Spanish, is to request in English by naming the object (e.g., paint).
Partial Participation	Adapting the degree to which a child participates in an activity or how a child participates in an activity. This strategy is

(*Continued*)

	based on the belief that children should not be excluded from an activity if they are not able to participate in the same way as other children. Rather, all children should be allowed to participate to some degree in all activities. For instance, Colleen, who has health problems, is not able to dance with her peers during the "stop and freeze when the music stops" activity. Rather than excluding Colleen from this activity, her teacher puts her in charge of starting and stopping the music.
Scaffolding	Providing the amount and type of assistance a child needs to acquire and practice a new skill or perform a task at a higher level. Scaffolding entails identifying what a child knows and is able to do, identifying the next skill the child should learn, and then providing support to help the child achieve the new skill or perform the skill at a higher level. Teachers provide the least amount and most helpful type of scaffolding that the child needs. As the child is able to do the skill independently, the teacher reduces the amount and type of scaffolding provided. Scaffolding includes *open-ended questions* to help a child make connections between events and problem-solve ("What is going to happen in this story? "How are we going to fix this?"); *expansions* of a child's utterances by adding new information; *feedback* that helps a child perform the skill correctly ("remember to ask your friend to play"); and *positive reinforcement* that provides a desired consequence following appropriate behavior and identifies appropriate skills or behavior ("That's great; you asked Al for help, and he helped you").
Prompts and Prompt Fading	Cues that provide assistance or information to support learning. Prompts can be provided before or during an activity. They

(*Continued*)

	may be *verbal* ("ask your friend to open the door"), *visual* (the teacher points to the item she requests, Luke follows the sequence card that shows a picture of each step in hand washing), *modeled* (the teacher claps two times as she says Sasha's name and tells children that "Sasha" has two parts (Sasha), *physical* (the teacher uses hand-over-hand assistance to help Mariah hold the fishing pole). Prompts also can be *combined* as they are in social stories that are developed to address specific problems a child might be experiencing. They use pictures (visual) and words (vocal, written) to describe a challenging social situation and what a child can try to do in that situation (Gray, 2000). For example, Mr. Bolen developed a social story with Shawn that describes how Shawn feels when a peer has his favorite toy, suggests that he can try asking his friend for a turn, and then shows Shawn and his friend taking turns with the toy. The story also indicates that if his friend says no, Shawn can try waiting or find a different toy to use. Teachers provide only as much prompting as is necessary to help the child be successful. They then withdraw or fade prompts as the child is able to perform the skill independently. Mr. Bolen and Shawn initially read his social story daily. When Shawn was consistently asking friends for a turn and waiting for a turn, Mr. Bolen faded the frequency of reading the story to every other day, then weekly, and so forth until it was no longer needed.
Naturalistic Prompting Strategies	This includes a variety of strategies in which adults use specialized prompting strategies to help children acquire and practice communication skills in the natural environment. *Incidental teaching* involves arranging the environment so that a child is

(*Continued*)

	likely to initiate, and then requesting an expanded or more sophisticated response. For example, the juice is visible during snack but out of reach of the child. Luke says "juice." The teacher says, "You want orange juice?" If Luke elaborates by saying "orange juice," the teacher gives him the juice. If he does not elaborate, the teacher prompts and then reinforces elaboration (e.g., "tell me orange juice"). The *Mand-Model strategy* often is used with children who do not initiate. The teacher asks the child a question or tells the child what to do and then waits for a response. If the child responds, the teacher provides reinforcement. If the child does not respond, the teacher models the skill and reinforces if the child responds to the model. For instance, the teacher sees Garret looking at the slide. She tells him to ask for help climbing the slide. If Garret asks for help, she helps him. If he does not ask for help, the teacher models, "I want help please." She helps Garret if he imitates her model. *Time delay* strategies begin with adults providing prompts until a child is able to perform a skill. After this, the adult waits for a specific amount of time before providing a prompt. For instance, the teacher prompts Hannah to request a ride on the swing. Once Hannah is able to do this, the teacher waits a few seconds before prompting Hannah to request a ride. As Hannah's requesting skills improve, the amount of time the teacher waits before prompting increases. Eventually, Hannah does not need a prompt to request rides on the swing.
Peer Mediation or Support	Peers provide support to help children participate in activities and routines. Peers may model skills or behavior and provide scaffolding and reinforcement. In some cases, peers are taught specific strategies

(*Continued*)

	to support their friends. For instance, Alexis uses a wheelchair, has poor grasping abilities, holds her head upright for short periods of time, and uses pictures to communicate. Alexis's teacher taught several peers specific strategies for interacting with Alexis, including responding to her requests when she points to pictures, laying materials flat on her tray so she can see them, and helping her with fine motor tasks such as turning the pages of a book.
Assistive Technology and Specialized Equipment	This includes a variety of materials and equipment that increase, maintain, or improve the capabilities of a child with disabilities. Assistive technology (AT) can include simple, low-cost materials such as adaptive grips that make it easier for children to grasp objects such as crayons and spoons, and the Picture Exchange Communication System (PECS), in which children use pictures to communicate with other individuals. AT also can include high-cost equipment such as touch screens that allow access to computer programs without operating a mouse or keyboard.
Shaping	Reinforcing small steps or successive approximations of a skill or behavior. Teachers identify a child's current skill and abilities and then build on these to achieve a final goal. For example, Sheela is able to participate in circle for about three minutes before she becomes disruptive and is removed from circle. The teacher identifies staying in circle for four minutes as her first goal. She allows Sheela to leave circle after four minutes, before she is disruptive. When Sheela is able to participate in circle for four minutes, the teacher gradually increases her expectations to 5, 7, 10 minutes, and so forth until finally, Sheela participates throughout the entire circle.

(*Continued*)

Task Analysis	Dividing a task into small steps, teaching one step at a time, and providing assistance with the remaining steps that are not currently being taught. For example, Ms. Valor develops a task analysis of hand washing (e.g., turn on the water, wet hands, put soap on hands, rub hands, rinse hands in water, turn off water, grab towel, and dry hands). She first teaches Grady to turn on the water and then helps Grady complete the remaining steps in the task. When Grady is able to turn on the water independently, Ms. Valor next teaches Grady the next step in the task analysis. As Grady is able to perform each step, Ms. Valor adds a new step to the sequence. By the end, Grady is performing each step in the task.

social-emotional skills, and to intervene early by providing additional instructional supports and strategies to meet children's needs (Buysse & Hollingsworth, 2009).

Many programs using RtI employ two or more tiers of instruction in which the intensity of supports and services and the frequency of progress monitoring increases with each ensuing tier (Young, Shields, & Chandler, 2009). RtI begins with Tier 1, which addresses early childhood standards or outcomes for all children. Tier 1 includes practices that are fundamental to high-quality early childhood programs, such as accessible environments, evidence-based and developmentally appropriate curriculum, embedded experiences, intentional planning and teaching, scaffolding, and child goals linked to early learning standards and progress monitoring outcomes (Chandler et al., 2008). Tier 1 also includes universal screening and progress monitoring to identify individual children who are not making adequate progress and might benefit from more intensive and frequent instruction and support provided through subsequent tiers. Tiers 2 and 3 might include additional small-group instruction; additional practice on goals embedded within activities and routines; more teacher-initiated and guided instruction; modification of curriculum, materials, teaching methods, and goals; increased collaboration with and use of specialists; frequent progress monitoring; and collaborative problem-solving (VanDerHeyden & Snyder, 2006).

The RtI framework links goal identification, universal screening and progress monitoring assessment outcomes, and instruction through a collaborative problem-solving approach conducted by a team of practitioners and family members. Teams (1) examine child outcome data to determine progress; (2) analyze concerns for individual and small groups of children, develop individualized goals, and plan the type and intensity of instructional strategies and supports to be used in Tiers 2 and 3; (3) implement instructional strategies within tiers; and (4) examine child outcome data to determine child progress and next steps within the RtI program (Center for Response to Intervention in Early Childhood [CRTIEC], 2009).

Many preschool programs have implemented RtI models to address early language and literacy, early math skills, and social-emotional literacy. Currently, there is no single RtI model that has been adopted across programs in the United States. Many programs are developing RtI models (Buysse, Winton, & Zimmerman, 2007), some are adopting existing models such as Recognition and Response, and others are adapting models that have been implemented in elementary school programs (e.g., Illinois ASPIRE, 2010). It is up to individual programs to develop, adapt, or adopt an RtI model that best meets the needs of children, families, and staff and that makes best use of existing resources. Future guidance may come from the joint position statement on RtI that is being developed by DEC, NAEYC, and Head Start. An example of an RtI process for two children is included in Box 2.3.

Community-based and public school preschool programs should use the practices and strategies previously discussed to promote access to and meaningful participation in preschool settings for all children, including those with disabilities and who are at risk for developmental delays. However, the ability of staff to provide access and promote participation is largely dependent on the resources and support they receive from their administration and programs.

Support

Effective inclusion programs are built on a strong foundation of administrative infrastructure and program supports (DEC/NAEYC, 2009). Lieber and her colleagues (2002) identified several system-level supports that are critical to effective inclusion programs. These include (1) shared philosophy and vision regarding inclusion,

Box 2.3 The RtI Process at Happy Days Preschool

The Happy Days preschool has developed an RtI model to meet the needs of all children. For Tier 1, they provide a high-quality program using an evidence-based general education curriculum and activities designed to promote early language and literacy and early math skills and social-emotional development. After three months of participating in the Tier 1 curriculum, Reggie and Eric both were identified as not making adequate progress in early math skills because they scored below the 25% on the universal screening assessment. They were selected to receive Tier 2 instruction in addition to continuing to participate in Tier 1. The problem-solving team analyzed each child's strengths and needs and developed a Tier 2 plan that consisted of daily adult-guided small-group games that targeted early math skills and additional targeted opportunities to practice math skills were embedded throughout daily activities and routines. The boys' families also provided practice on early math skills during family activities and routines. The team collected weekly progress monitoring data during the math games and administered a general early math progress monitoring assessment every six weeks. They used information from weekly progress monitoring to make changes to Tier 2 interventions. For example, they added additional prompting strategies for Reggie during the math game and increased the number of embedded practice opportunities he received each day. At the end of the second six-week progress monitoring period, Eric had made great progress and the team decided that he no longer needed Tier 2 instruction. Reggie's progress was not as great as the team had hoped. As a result, they decided that Reggie would receive Tier 3 interventions. The team developed a Tier 3 plan that included teacher-guided instruction provided individually to Reggie on a daily basis. The team also modified goals for Reggie so that he was expected to learn a smaller number of early math skills. The team collected daily progress monitoring data and planned to administer the general progress monitoring assessment at the end of four weeks. At that point, the team would make decisions about next steps for Reggie. He might continue to receive Tier 3 intervention, return to Tier 2 instruction, return to Tier-1-only instruction, or be referred to determine eligibility for special education services.

(2) shared instructional approaches and strategies for teaching and supporting all children, (3) administrative support, (4) collaboration among team members, and (5) positive relationships with families.

Program Philosophy

A program-wide philosophy that celebrates inclusion is the core of a sound inclusive program. Shared philosophies, beliefs, and values regarding inclusion foster a sense of "ownership" across staff (DeStefano, Maude, Crews, & Mabry, 1992; Peterson, 1987). Program staff believe that all children and families belong and are welcomed members of the school and classroom, and that educating all children well is everyone's responsibility (DEC/NAEYC, 2009). A strong inclusion philosophy emphasizes that children with disabilities and who are at risk do not have to meet prerequisite developmental and educational skills and behavior before they are accepted into an inclusive program (Odom et al., 2002). Rather, programs and staff must be ready to teach all children based on the concept of social equity (Schwartz, Sandall, Odom, Horn, & Beckman, 2002). A program philosophy that supports inclusion also promotes similar beliefs regarding how children learn and the teacher's role in supporting learning for children with and without disabilities (Lieber et al., 2002). Staff hold similar beliefs about DAP and strategies to promote access and participation for all children as well as specialized knowledge to meet the needs of diverse children. A program philosophy also sets the stage for parent/family and staff relationships and family options for participation.

Administrative Support

Administrative support is the key to effective inclusion programs. Administrators provide leadership in establishing a program-wide philosophy and ensuring that the philosophy is reflected in all parts of the program, including the mission statement and action plan to support inclusion (Lieber et al., 2002; Odom et al., 2002). Administrators also are important to fostering positive attitudes and dispositions regarding diversity and inclusion. Administrator attitudes influence staff attitudes and acceptance of children with ability, linguistic, and cultural diversity. In turn, staff attitudes and acceptance influence the reactions of children and families.

Administrators are responsible for ensuring that staff are prepared to meet the needs of all children by providing or arranging for ongoing professional development followed with in-class coaching, mentoring, and/or consultation (Chandler & Maude, 2009; Odom, 2009). Administrators make sure that teams have sufficient time to engage in planning, collaboration, and evaluation (Horn & Jones, 2005). They also allocate fiscal and other resources and staffing patterns and assign children to classrooms based on the concept of natural proportions (Schwartz et al., 2002). Natural proportions suggest that the proportion of children with disabilities in the preschool classroom should match the proportion of individuals with disabilities in the general population. Finally, administrators develop and institutionalize evaluation systems to identify (1) the impact of the program on general child outcomes, (2) the impact of the program on individual children, (3) how well the curriculum and instructional strategies are implemented (fidelity), and (4) staff and family satisfaction (Hollingsworth, Able Boone, & Crais, 2009).

Collaboration

Many children with disabilities and children who are at risk for developmental delays are likely to receive services from a variety of staff including early childhood and early childhood special educators, bilingual educators, teaching assistants, and related services personnel. In some inclusive programs, classrooms may be co-taught by an early childhood educator and an early childhood special educator, with support provided by a number of teaching assistants. When this occurs, both teachers generally are responsible for working with all children, and both collaborate in planning the general education curriculum and individualized strategies for children.

More often than not, however, inclusive classrooms are staffed by an early childhood teacher and teaching assistants, and the special education teacher and related services personnel work as itinerant staff who provide services for a number of children across different programs, schools, and classrooms (Dinnebeil et al., 2006). During visits to a preschool setting, itinerant staff may work directly with one child or a small or large group of children, as well as provide consultation to early childhood classroom staff. When itinerant staff work directly with children, they typically do so for brief periods of time (e.g., Samantha receives speech therapy for 20 minutes, two times per week). If that were the only time that IEP or other individualized goals were addressed, it is unlikely that the dosage (40 minutes per week) would be sufficient to result in expected levels or rates of progress. One way to address this is for all team members to collaborate in developing plans for early childhood staff to employ specialized teaching strategies and to embed practice on IEP and other goals throughout daily activities and routines between itinerant visits (Childress, 2004; Dinnebeil et al., 2006; Lieber et al., 2002; McWilliam, 2005). This is consistent with the practice of embedding multiple opportunities to practice skills during meaningful and functional activities and routines throughout the day.

Collaboration in preschool programs should be reciprocal. Each member of the team, including family members, contributes to the development of child goals, instructional strategies, and evaluation of progress in meeting goals. Collaboration helps team members focus on the "whole child" and the use of skills within functional activities in the classroom setting rather than focusing only on their narrow area of expertise (e.g., motor skills, communication skills). Team members may share information, jointly plan lessons and adaptations for individual children, teach each other specific strategies, provide coaching and mentoring, and examine progress monitoring and assessment outcomes, engage in problem solving, and make decisions about goals and strategies (Chandler & Maude, 2009).

Collaboration is not always easy to do. The ability to function as an effective member on various teams is an essential skill for early childhood staff members. Team members must develop trusting relationships so they (1) are willing to share information with others about their area of expertise and teach others to implement specific strategies, (2) are flexible in adopting new roles and using new strategies, and (3) are able to give and receive feedback from one another. Collaboration also takes time, and as mentioned above, administrators must assure that teams have time to engage in team building and collaborative planning.

Collaboration with Families

The importance of collaborating with families and the development of positive relationships with families is supported by federal law (IDEA) and DEC and NAEYC. DEC promotes the use of a family-centered approach that recognizes that families are the constant in a child's life and that families and homes are the primary nurturing contexts for learning and development (Trivette & Dunst, 2005). Program staff should interact with families in ways that are respectful and responsive to cultural and linguistic diversity, socioeconomic and education backgrounds, and family beliefs, values, and priorities for their child and family.

Families and service providers should develop partnerships in which they work together to determine and achieve child and family goals. Families are important members of their child's team. They can provide valuable information about their child's strengths and needs, the family's priorities, and strategies that have been effective at home and in the community (Chandler & Dahlquist, 2009). In light of this, IDEA requires teams to consider parent concerns for their child when determining IEP goals, and it supports the parent's right to participate in making decisions about their child's program (Stowe & Turnbull, 2001). Families also have many opportunities to extend practice on goals from the preschool setting to home and community settings. This is supported by both IDEA and the DEC RPs. IDEA stipulates that families can request training to assist them in addressing their child's IEP goals, and the DEC RPs indicate that program staff should provide families with resources and supports that enable them to promote their child's development (Trivette & Dunst, 2005). The practice of embedding applies to teaching and providing practice on skills within home and community settings as well as classroom settings. Families and other team members can examine the activities and routines in which the family participates and embed practice on goals within those natural learning opportunities.

Family experiences with inclusion are more positive when (1) they are included as important members of the team and participate in making decisions about their child's program, (2) they receive information that is understandable (i.e., without jargon) and that helps them make informed decisions, (3) they feel that their child receives services that meet his or her needs, (4) they have options for participation versus expectations imposed by program staff, and (5) there is honest and ongoing communication between families and other team members (Beckman, Hanson, & Horn, 2002; Erwin, Soodak, Winton, & Turnbull, 2001).

Inclusion at the preschool level is successful to the extent that teachers and other practitioners, caregivers, and families are supported and have access to appropriate resources (Dinnebeil et al., 2006). When these supports are in effect, they lead to effective inclusive preschool programs. When they are not in effect, they may serve as barriers to providing access and promoting meaningful participation within inclusive programs (Chandler & Maude, 2009).

SUMMARY

Although inclusion is not available or provided for every preschooler with disabilities in the United States, the option to participate in inclusive programs to the extent that it is beneficial for the child and family is supported by federal and state laws and the DEC and NAEYC professional organizations. Research has documented that children with disabilities can and do benefit from participation in inclusive settings, as do children who are typically developing and children at risk (NPDCI, 2007; Odom, 2002). The outcomes for children with disabilities in early academic and developmental areas generally are equal to or exceed those obtained in self-contained settings, and some children make greater gains in communication, play, and social-emotional skills and appropriate behavior (Guralnick, 2001; Hollingsworth et al., 2009; Odom et al., 2002). As stated earlier, positive outcomes for children who participate in inclusive programs are not guaranteed. Optimal outcomes are most often associated with high-quality programs that provide systems-level supports to develop and sustain inclusion efforts and in which service providers actively plan for inclusion and employ the types of strategies and recommended and evidence-based practices that promote access and participation for children and families.

REFERENCES

Barnett, D. W., Epstein, D. J., Friedman, A. H., Stevenson Boyd, J., & Hustedt, J. T. (2008). *The state of preschool 2008: State preschool yearbook*. New Brunswick, NJ: Rutgers University, National Institute for Early Education.

Barnett, D. W., VanDerHeyden, A. M., & Witt, J. W. (2007). Achieving science-based practice through response to intervention: What it might look like in preschools. *Journal of Educational and Psychological Consultation, 17*, 31–54.

Beckman, P. J., Hanson, M. J., & Horn, E. (2002). Family perceptions of inclusion. In S. L. Odom (Ed.), *Widening the circle: Including children with disabilities in preschool programs* (pp. 98–108). New York: Teachers College Press.

Borman, G. D. (n.d.). *Compensatory education–United States*. Retrieved from http://education.stateuniversity.com/pages/1877/Compensatory-Education.html

Brovoda, E., Leong, D., Payner, D., & Seminov, D. (2000). *A framework for early literacy instruction: Aligning standards to developmental accomplishments and student behaviors* (Rev. ed.). Retrieved from http://www.mcrel.org/PDF/Literacy/4006CM_EL_Framework.pdf

Buysse, V., & Hollingsworth, H. L. (2009). Program quality and early childhood inclusion: Recommendations for professional development. *Topics in Early Childhood Special Education, 29*, 119–128.

Buysse, V., Winton, P., & Zimmerman, T. (Eds.). (2007). RtI goes to Pre-K: An early intervening system called recognition and response. *Early Developments, 11*, 6–10.

Campbell, F. A., Ramey, C. T., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science, 6*(1), 45–57.

Carr, E. G., Horner, R. H., Turnbull, A. P., Marquis, J. G., Magito-Mclaughlin, D., McAfee, M. L., et al. (1999). *Positive behavior support for people with developmental disabilities*. Washington, DC: American Association on Mental Retardation Monograph Series.

Carter, M., & Kemp, C. R. (1996). Strategies for task analysis in special education. *Educational Psychology*, 1469-5820, *16*(2), 155–170.

CAST. (2008). *Universal design for learning guidelines version 1.0*. Wakefield, MA. Retrieved from http://www.udlcenter.org/sites/udlcenter.org/files/UDL_Guidelines_v2%200-Organizer_0.pdf

Center for Community Inclusion & Disability Studies. (2007). *Growing ideas: Increase access: Universal design in early care and education*. Retrieved from http://www.ccids.umaine.edu/ec/growingideas/univdeslg.pdf

Center for Response to Intervention in Early Childhood. (2009). Tiered prevention model. Retrieved from http://www.crtiec.org/tiered_prevention_model

Chandler, L. K., & Dahlquist, C. M. (2009). *Functional assessment: Strategies to prevent and remediate challenging behavior in school settings* (3rd ed.). Columbus, OH: Merrill.

Chandler, L. K., & Maude, S. (2009). Teaching about inclusive settings and natural learning environments. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Practical approaches to early childhood professional development: Evidence, strategies, and resources* (pp. 207–226). Washington, DC: Zero to Three.

Chandler, L., Miller Young, R., Nylander, D., Shields, L., Ash, J., Bauman, B., et al. (2008). Promoting early literacy skills within daily activities and routines in preschool classrooms. *Young Exceptional Children, 11*, 2–16.

Childress, D. (2004). Special instruction and natural environments: Best practices in early intervention. *Infants and Young Children, 17*(2), 162–170.

Clawson, C., & Luze, G. (2008). Individual experiences of children with and without disabilities in early childhood settings. *Topics in Early Childhood Special Education, 28*, 132–147.

Coleman, M. R., Buysse, V., & Neitzel, J. (2006). *Recognition and response: An early intervening system for young children at-risk for learning disabilities*. Chapel Hill: University of North Carolina, FPG Child Development Institute.

CONNECT: The Center to Mobilize Early Childhood Knowledge. (2009). *Policy advisory: The law on inclusive education*. Chapel Hill: University of North Carolina, FPG Child Development Institute.

Copple, C., & Bredekamp, S. (2006). *Basics of DAP: An introduction for teachers of children 3 to 6*. Washington, DC: National Association for the Education of Young Children.

Copple, C., & Bredekamp, S. (Eds.). (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. (3rd ed.). Washington, DC: National Association for the Education of Young Children.

Council for Exceptional Children. (2005). *Universal design for learning: A guide for teachers and education professionals*. Upper Saddle River, NJ: Merrill/Prentice Hall.

Council for Exceptional Children. (2006). *CEC's comparison of IDEA 2004 regulations to 1996 regulations*. Arlington, VA: CEC. Retrieved from http://www.dec-sped.org

Darragh, J. (2010). *Introduction to early childhood education: Equity and inclusion*. Upper Saddle River, NJ: Pearson Education.

DEC/NAEYC. (2009). *Early childhood inclusion: A joint position statement of the Division for Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC)*. Chapel Hill: University of North Carolina, FPG Child Development Institute.

DeStefano, L., Maude, S. P., Crews, S. H., & Mabry, L. (1992). Using qualitative evaluation methods to identify exemplary practices in early childhood education. *Early Education and Development, 3*(2), 173–187.

Dewey, J. (2004). *Democracy and education*. New York: Macmillan. (Original work published 1916).

Dinnebeil, L., McInerney, W., & Hale, L. (2006). Understanding the roles and responsibilities of itinerant early childhood special education teachers through Delphi research. *Topics in Early Childhood Special Education, 26*, 153–166.

Division for Early Childhood (DEC). (2010). *DEC Mission Statement*. Retrieved from http://www.dec-sped.org

Edwards, C. (2002). Three approaches from Europe: Waldorf, Montessori, and Reggio Emilia. *Early Childhood Research and Practice, 4*(1). Retrieved from http://ecrp.uiuc.edu/v4n1/edwards.html

Epstein, A. S. (2007). *The intentional teacher: Choosing the best strategies for young children's learning*. Washington, DC: National Association for the Education of Young Children.

Erwin, E. J., Soodak, L. C., Winton, P. J., & Turnbull, A. (2001). "I wish it wouldn't all depend on me": Research on families and early childhood inclusion. In M. J. Guralnick (Ed.), *Early childhood inclusion: Focus on change*. (pp. 127–158). Baltimore: Paul H. Brookes.

Etscheidt, S. (2006). Least restrictive and natural environments for young children with disabilities: A legal analysis of issues. *Topics in Early Childhood Special Education, 24*, 167–178.

Fox, L., Carta, J., Strain, P. S., Dunlap, G., & Hemmeter, M. L. (2010). Response to Intervention and the Pyramid model. *Infants and Young Children, 23*(1), 3–13.

Gargiulo, R., & Kilgo, J. (2005). *Young children with special needs* (2nd ed.). Clifton Park, NY: Thompson/Delmar.

Gray, C. (2000). *The new social story book*. Arlington, TX: Future Horizons.

Grennon Brooks, J. (n.d.). Constructivism as a paradigm for teaching and learning. Retrieved from http://www.thirteen.org/edonline/concept2class/constructivism/index.html

Grisham-Brown, J., Hemmeter, M. L., & Pretti-Frontczak, K. (2005). *Blended practices for teaching young children in inclusive settings*. Baltimore: Paul H. Brookes.

Grisham-Brown, J., Pretti-Frontczak, K., Hawkins, S. R., & Winchell, B. N. (2009). Addressing early learning standards for all children within blended preschool classrooms. *Topics in Early Childhood Special Education, 29*, 131–142.

Guralnick, M. J. (Ed.). (2001). A framework for change in early childhood inclusion. In M. J. Guralnick (Ed.), *Early childhood inclusion: Focus on change*. (pp. 3–35). Baltimore: Paul H. Brookes.

Head Start Bureau. (2003). The Head Start path to positive child outcomes. Retrieved from http://www.hsnrc.org/CDI/pdfs/hsoutcomespath28ppREV.pdf

High Scope. (2005). *High Scope preschool study*. Retrieved from http://www.highscope.org/Content.asp?ContentId=219

Hollingsworth, H. L., Able Boone, H., & Crais, E. R. (2009). Individualized inclusion plans at work in early childhood classrooms. *Young Exceptional Children, 13*, 19–35.

Horn, E., & Jones, H. (2005). Collaboration and teaming in early intervention and early childhood special education. In E. Horn & H. Jones (Eds.), *Young Exceptional Children Monograph Series No. 6: Interdisciplinary teams* (pp. 11–20). Missoula, MT: Division for Early Childhood.

Horn, E., Lieber, J., Sandall, S. R., Schwartz, I. S., & Wolery, R. A. (2002). Classroom models of individualized instruction. In S. L. Odom (Ed.), *Widening the circle: Including children with disabilities in preschool programs* (pp. 46–60). New York: Teachers College Press.

Hull, K., Goldhaber, J., & Capone, A. (2002). *Opening doors: An introduction to inclusive early childhood education*. Boston: Houghton Mifflin.

Hustedt, J. T., Barnett, W. S., Jung, K., and Goetze, L. D. (2009). New Mexico Pre-K evaluation: Results from the initial four years of a new state preschool initiative. Retrieved from http://nieer.org/pdf/new-mexico-initial-4-years.pdf

IDEA: Individuals with Disabilities Education Improvement Act of 2004, Pub. L. No. 101-476, 20 U.S.C. §§ 1400 *et seq.*

IDEAdata. (2007). *Table 2-1:* Children ages 3 through 5 served under IDEA, Part B, by disability category, educational environment and state: Fall 2007. Retrieved from https://www.ideadata.org/arc_toc9.asp#Grants

Illinois ASPIRE (Alliance for School-based Problem-solving and Intervention Resources in Education). (2010). Retrieved from http://www.illinoisaspire.org

Kame'enui, E. J., & Simmons, D. C. (1999). *Toward successful inclusion of students with disabilities: The architecture of instruction: An overview of curricular adaptations*. Reston, VA: Council for Exceptional Children.

Lieber, J., Wolery, R. A., Horn, E., Tschantz, J., Beckman, P. J., & Hanson, M. J. (2002). Collaborative relationships among adults in inclusive preschool programs. In S. L. Odom (Ed.), *Widening the circle: Including children with disabilities in preschool programs* (pp. 81–97). New York: Teachers College Press.

Malaguzzi, L. (1996). *The hundred languages of children: Narrative of the possible*. Reggio Emilia, Italy: Reggio Children.

McCormick, K. M., Grisham-Brown, J., & Hallam, R. (2007). Embedding state standards and individualized instruction in young children's investigations. In E. Horn, C. Peterson, & L. Fox (Eds.), *Linking curriculum to child and family outcomes* (pp. 29–45). Missoula, MT: Division for Early Childhood.

McWilliam, R. (2005). Recommended practices: Interdisciplinary models. In S. Sandall, M. E. McLean, & B. J. Smith (Eds.), *DEC recommended practices in early intervention/early childhood special education* (pp. 127–146). Longmont, CO: Sopris West.

Milbourne, S. A., & Campbell, P. H. (2007). *CARA's Kit: Creating adaptations for routines and activities*. Philadelphia: Child and Family Studies Research Programs, Thomas Jefferson University.

NAEYC. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. Retrieved from http://www.naeyc.org/files/naeyc/file/positions/position%20statement%20Web.pdf

NAEYC. (2010). About NAEYC. Retrieved from http://www.naeyc.org/content/about-naeyc

National Professional Development Center on Inclusion (NPDCI). (2007). *Research synthesis points on early childhood inclusion*. Chapel Hill: University of North Carolina, FPG Child Development Institute.

Notari-Syverson, A., & Sadler, F. (2008). Math is for everyone: Strategies for supporting early mathematical competencies in young children *Young Exceptional Children, 11*, 2–16.

Odom, S. L. (2000). Preschool inclusion: What we know and where we go from here. *Topics in Early Childhood Special Education, 20*, 20–27.

Odom, S. L. (2009). The tie that binds: Evidence-based practice, implementation, science, and outcomes for children. *Topics in Early Childhood Special Education, 29*, 53–61.

Odom, S. L. (Ed.). (2002). *Widening the circle: Including children with disabilities in preschool programs*. New York: Teachers College Press.

Odom, S. L., Schwartz, I. S., & ECRII Investigators. (2002). So what do we know from all this? Synthesis points of research on preschool inclusion. In S. L. Odom (Ed.), *Widening the circle: Including children with disabilities in preschool programs* (pp. 154–174). New York: Teachers College Press.

Odom, S. L., & Wolery, M. (2003). A unified theory of practice in early intervention/early childhood special education: Evidence-based practices. *Journal of Special Education, 373*, 164–173.

Orkwis, R. (2003). *Universally designed instruction*. ERIC Clearinghouse on Disabilities and Gifted Education. Arlington, VA: ERIC/OSEP Special Project. Retrieved from http://www.ericdigests.org/2003-5/universally.htm

Ostrosky, M., McCollum, J., & SeonYeong, Y. (2007). Linking curriculum to children's social outcomes: Helping families support children's peer relationships. In E. Horn, C. Peterson, & L. Fox (Eds.), *Linking curriculum to child and family outcomes* (pp. 29–45). Missoula, MT: Division for Early Childhood.

Parks, G. (2000). The High/Scope Perry Preschool project. *Juvenile Justice Bulletin*. Retrieved from http://www.ncjrs.gov/pdffiles1/ojjdp/181725.pdf

Partnership for America's Economic Success. (2010). *The costs of disinvestment: Why states can't afford to cut smart early childhood programs*. Issue brief #13. PEW Center on the States. Retrieved from http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Partnership_for_Americas_Economic_Success/Cost_of_Disinvestment_brief_final.pdf?n=1454

Peterson, G. B. (2004). A day of great illumination: B. F. Skinner's discovery of shaping. *Journal of the Experimental Analysis of Behavior, 82*, 317–328. Retrieved fromhttp://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pmcentrez&artid=1285014

Peterson, N. L. (1987). *Early intervention for handicapped and at-risk children; An introduction to early childhood special education*. Denver, CO: Love.

Piaget, J. (1937/1954). *La construction du réel chez l'enfant/The construction of reality in the child*. New York: Basic Books.

Pretti-Frontczak, P., & Bricker, D. (2004). *An activity-based approach to early intervention* (3rd ed.). Baltimore: Paul H. Brookes.

Reynolds, T. (2008). Extended early childhood intervention and school achievement: Age 13 findings from the Chicago longitudinal study. Retrieved from http://ideas.repec.org/p/wop/wispod/1095-96.html

Sandall, S. R., Giacomini, J., Smith, B. J., & Hemmeter, M. L. (2006). *DEC Recommended Practices toolkit*. Missoula, MT: Division for Early Childhood.

Sandall, S. R., Hemmeter, M. L., Smith, B. J., & McLean, M. E. (2005). *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education*. Longmont, CO: Sopris West.

Schwartz, I., Sandall, S. R., Odom, S. L., Horn, E., & Beckman, P. J. (2002). "I know it when I see it": In search of a common definition of inclusion. In S. L. Odom (Ed.), *Widening the circle: Including children with disabilities in preschool programs* (pp. 10–24). New York: Teachers College Press.

Snow, K. (2009). *People first language*. Retrieved from http://www.disabilityisnatural.com/images/PDF/pfl09.pdf

Stewart, R. M., Martella, R. C., Marchand-Martella, N. E., & Benner, G. J. (2005). Three-tier models of reading and behavior. *Journal of Early and Intensive Behavior Intervention, 2*(3), 115–124.

Stowe, M. J., & Turnbull, H. R. (2001). Legal considerations of inclusion for infants and toddlers and preschool-aged children. In M. J. Guralnick (Ed.), *Early childhood inclusion: Focus on change* (pp. 69–100). Baltimore: Paul H. Brookes.

Strain, P. S., Bovey, E. H., II, Wilson, K., & Roybal, R. (2009). LEAP preschool: Lessons learned over 28 years of inclusive services for young children with autism. In *Young Exceptional Children Monograph Series No. 11: Quality Inclusive services in a diverse society*. Missoula, MT: Division for Early Childhood.

Trivette, C. M., & Dunst, C. J. (2005). DEC recommended practices: Family-based practices. In S. Sandall, M. E. McLean, & B. J. Smith (Eds.), *DEC recommended practices in early intervention/early childhood special education* (pp. 107–126). Longmont, CO: Sopris West.

VanDerHeyden, A. M., & Snyder, P. (2006). Integrating frameworks from early childhood intervention and school psychology to accelerate growth for all young children. *School Psychology Review, 35*, 519–534.

Wolery, M. (2005). DEC recommended practices: Child-focused practices. In S. Sandall, M. E. McLean, & B. J. Smith (Eds.), *DEC recommended practices in early intervention/early childhood special education* (pp. 71–106). Longmont, CO: Sopris West.

Young, R., Shields, L., & Chandler, L. K. (2009). Questions and answers on response to intervention: The emerging early childhood (EC) RtI movement: Promoting early schooling successes for three-to-five-year-olds. Council of Administrators of Special Education (CASE) *Journal of Special Education Leadership, 51*(1), 5–7.

Chapter 3

Services for Children with Special Needs in Head Start and Early Head Start

Amanda C. Quesenberry and Patricia Morris Clark

"AND HOW ARE THE CHILDREN?"

The hallmark of a strong and stable society can be seen in how it treats its children. This is epitomized through a traditional Masai greeting acknowledging the high value that the seminomadic African tribe places on their children. Because the Masai understand the well-being of their society depends upon the health of their children, even the fiercest warriors without children ask the question, "And How Are the Children?" The traditional answer is, "All the children are well" (O'Neill, 1991). The future of every great society depends on fostering the safety, health, and welfare of its children.

Although the United States is arguably the most powerful nation in the world, do we prioritize the needs of our youngest to ensure their health, safety, education, and overall well-being? Some would argue that attempting to meet the needs of our children is too expensive and is the responsibility of parents, not those of society. Ultimately though, who pays the cost when we as a society do not invest in the needs of our young children?

Research has shown that over time, investments in early care and education programs, especially those that target the needs of children with multiple risk factors such as special needs, families from low-income settings, households with one parent, etc. do, indeed, pay off (Lynch, 2005). Long-term studies of early childhood education programs like the Chicago Child-Parent Center Project, the Perry Preschool Project, and the Prenatal/Early Infancy Project show that everyone benefits when we invest in early childhood programs. Specifically, these studies found that when children participate in high-quality early childhood programs, they have greater academic success in school, are less likely to need special education services, have lower rates of dropout, are more likely to graduate from high school, obtain postsecondary education, become employed, make higher wages, and take part in less criminal acts (Karoly et al., 1998; Lynch, 2005; Masse & Barnett, 2002; Reynolds, Temple, Robertson, & Mann, 2002). In fact, the calculated benefit-cost analysis for each child participating in the Perry Preschool Project alone has been estimated at 17.01 to 1 (Schweinhart, 2004). That means that for every dollar spent on a child in that program, there was a return of over $17.00 in benefits to society. Given the overwhelming evidence that high-quality early childhood experiences for young children at risk are sound investments, it is hard to believe that we are still struggling to find adequate funding for programs such as Head Start, an early childhood program that serves nearly one million children living in poverty every year.

Head Start, the nation's only large-scale, comprehensive preschool program, has proven to be worth the investment over the past four decades. Services provided in Head Start are much more than those in a regular preschool program, including educational, medical, dental, nutritional, mental health, and family support to children and families living at or below poverty level and children with special needs. The main goal of Head Start has always been to lessen the effects of poverty on children and families who are at risk of delays (Zigler & Muenchow, 1992). Since the project was launched in 1965, over 25 million children have benefited from Head Start's comprehensive services (Administration of Children and Families [ACF], 2008a).

In the landmark book, *From Neurons to Neighborhoods*, Shonkoff and Phillips (2000) suggest that the first months and years of a child's life are critical to their later development. Environmental influences greatly impact brain development, especially in the first three years of life. They also explain that a child's health, development, and overall well-being are closely linked to the well-being of their parents. When children and families are living under stressful and perhaps dangerous conditions, this impacts the well-being of parents and children. Despite efforts to curb poverty and negative environmental influences, young children remain the poorest members of society in America, with 25.8 percent living in poverty (Children's Defense Fund, 2008). Research has shown that growing up in poverty significantly increases the odds that children will be exposed to environments and other circumstances that could negatively impact their overall well-being and later outcomes and school success (Brooks-Gunn & Duncan, 1997; Shonkoff & Phillips, 2000). In *From Neurons to Neighborhoods*, Shonkoff and Phillips call us to action by stating that:

> Striking disparities in what children know and can do are evident well before they enter kindergarten. These differences are strongly associated with social and economic circumstances and are predictive of subsequent academic performance. Redressing these disparities is critical, whose goals demand that children be prepared to begin school, achieve academic success, and ultimately sustain economic independence and engage constructively with others as adult citizens. (p. 5)

Fortunately, we know that there are programs that are successful in intervening to make a difference in the lives of children and families who face multiple risk factors. The most successful programs, however, are comprehensive and expensive (Shonkoff & Phillips, 2002).

Early childhood research has markedly increased over the past 40 years, especially in the areas of school readiness and quality early childhood programs. Long-term follow-up studies from other compensatory programs, including the HighScope Perry Preschool Project, Chicago Parent-Child Centers, and the Abecedarian Project, have provided documentation for the importance of high-quality early experiences in homes and classrooms. All three model programs involved children from low-income households who were primarily or entirely African American. They all had a parent education component and involved highly trained staff (Barnett, 2007). In an analysis of 10 major studies of preschool, Wat (2007) found that high-quality preschool sets the course for a lifetime of positive outcomes for children as well as families and entire communities. He also discovered that the teachers in these studies had bachelor's degrees or above and training in early childhood education, human development, or a related field.

According to a study conducted in 2003 by the National Institute for Early Education Research (NIEER), children attending high-quality preschools scored at least 31 percent higher in vocabulary assessments than their peers who did not attend preschool. Researchers have found that vocabulary scores have a high correlation with cognitive abilities and later success in reading (Barnett, Lamy, & Jung, 2005). Other studies have shown a higher graduation rate, by as much as 29 percent, for students who participated in high-quality preschool programs. Gilliam and Zigler (2004) found a 44 percent reduction in grade retentions and vast improvements in standardized test scores in reading and math for children attending high-quality preschool programs.

Head Start is the oldest federal preschool and is the last remaining project from President Johnson's War on Poverty launched in the mid-1960s. One reason for the program's success is its concentration on the family and individual needs of the parents. Besides assisting parents to go back to school, get a job, or learn new skills, Head Start has encouraged families to participate fully in their child's educational program (Zigler & Muenchow, 1992). Parents are encouraged not only to volunteer in their children's classrooms, but also to assist in operating the program (Reight-Parker, 2007).

In addition to parental involvement as a critical component of Head Start, community involvement and collaboration are also critical to the success of the Head Start model. One of the programs' greatest strengths and weaknesses lie in the flexibility in guidelines that allow each individual program to develop program delivery options and educational strategies based on the needs of the community (Zigler & Muenchow, 1992). The strength resides in the local program's ability to evolve over time, often changing the programmatic options available to meet the changing needs of the children and families in a service area. On the other hand, local flexibility can be perceived as a weakness because some feel that there is a lack of oversight at the state level.

Head Start began as an eight-week summer program for 3- to 5-year-olds who were primarily served in public school buildings and were typically operated by community action agencies or other local community organizations (Zigler & Muenchow, 1992). As more programs converted to the nine-month and half-day option, the need for space outside of public schools and more comprehensive curricula increased. Throughout the years, Head Start programs have continued to evolve to meet the needs of the children and families that they serve. Recently, additional funding and other considerations have been at the forefront as programs meet the needs of working parents and convert from part-day, part-year to full-day, full-year options. To be clear, major programmatic modifications cannot be made without approval; if a program decides it would like to modify their service delivery model, they must prove that the change would fulfill a substantial need in their community. Other branches of Head Start, including Early Head Start, Migrant and Seasonal, and American Indian Alaskan Native programs, also must follow these guidelines when making programmatic revisions. Of utmost importance is ensuring that the programmatic options that are available are meeting the needs of those within the community or service area.

This chapter will provide information related to services provided to children with special needs in Head Start and Early Head Start. The first portion of the chapter provides a historical view of Head Start and services for children with special needs from the 1960s through the present. The next section describes services provided for children with special needs in Head Start and Early Head Start. The following section will review research that has been done in Head Start and Early Head Start programs. Finally, the chapter ends with a discussion of future directions for Head Start and the field.

HISTORICAL PERSPECTIVES

The War on Poverty

The modern roots of early childhood intervention were born in the 1960s in an era of optimism, creativity, and broad public support for social services (Meisels & Shonkoff, 2000). Three important social issues coalesced under two presidents that would lay the foundation for early childhood education and intervention for the next 40 years. The three issues included: President John Kennedy's desire to prevent mental retardation, President Lyndon Johnson's quest to wipe out poverty, and a movement in the country to promote civil rights (Meisels & Shonkoff, 2000).

Given Kennedy's personal family history with mental retardation, this was an issue close to his heart. In 1961, Kennedy formed a commission to study issues surrounding mental retardation, including prevention and research, and in 1963, P.L. 88-156 was passed to provide funding through Title V of the Social Security Act for special projects for children with mental retardation. As a former teacher in a one-room schoolhouse in rural Texas, President Lyndon Johnson saw first-hand the effects of poverty and illness on children's learning. President Johnson shared views with the director of the Office of Economic Opportunity, Sargent Shriver. In 1964, the Economic Opportunity Act (EOA) of 1964 was passed by Congress and a year later, Head Start was born.

Project Head Start emerged in an era when many Americans believed poverty could be eliminated or, at least, the effects could be mediated with education (Meisels & Shonkoff, 2000). As a part of the

War on Poverty, President Johnson convened a panel of 14 early childhood and medical experts to create a comprehensive early childhood program, later to be known as Project Head Start, to combat impoverishment and the ensuing problems associated with it. It was thought that the circle of generational poverty contributed to mental retardation, and that by intervening with education and environmental changes, the cycle could be broken (Zigler & Valentine, 1979). The panel knew that children from low-income households can face immense barriers to success in school and later in life. All of these factors can put children behind before they can even begin school (Lybolt, Armstrong, Techmanski, & Gottfred, 2007). As one of the first compensatory programs in the 1960s, Head Start played a leading role in early childhood special education from the beginning without using the term "special education" (Garguilo & Kilgo, 2000). The compensatory education programs were created to offset the debilitating forces of poverty and "cultural deprivation" (Gearhart, Mullen, & Gearhart, 1993).

In its inception in 1965, Project Head Start was an eight-week summer pilot program directed toward the nation's poorest preschoolers. That summer, it served approximately 550,000 4- and 5-year-olds throughout the country (Garguilo & Kilgo, 2000). Teachers and other leaders quickly saw that eight weeks in the summer was not enough time to provide the "head start" they were hoping the children would get before entering kindergarten. Therefore, despite questions about whether or not there was enough funding or support to do so, Head Start changed to a nine-month program in most areas.

Head Start was designed to be a multifaceted program, offering children education, two meals a day, and psychological, social, medical, and dental care. Parents were encouraged to volunteer, create goals, learn about their children's development and nutrition, and continue their education or obtain a job. Families were referred to social services and resources as needed (Zigler & Muenchow, 1992). Although one of the founding principles for Head Start was to prevent mental retardation and raise IQ scores, in the early days of Head Start, no special efforts were made to serve children with special needs.

Throughout the remainder of the 1960s, Head Start rode a roller coaster of waxing and waning support. Two controversial and unique facets of Project Head Start were funding and administration. Unlike many other federal programs, Head Start was designed to be overseen by organizations in a community, many times a community action agency. By doing this, money was given directly to the local groups who were running the programs, bypassing the usual route through state government. Head Start administration also included parents and community members rather than state and local government or educational officials. Therefore, much of the power and funding in Head Start was given to minority groups. The Head Start funding and administrative structure remains controversial to this day (Zigler & Styfco, 2004).

Federal Support for Children with Special Needs

Although serving children with special needs was not a part of the original Head Start program design, President Johnson nevertheless encouraged Head Start programs to begin serving children with special needs. Then, in 1968, P.L. 90-538, the Handicapped Children's Early Education Assistance Act, was passed. This act provided funding for university education programs as well as early education experimental programs serving children with disabilities from birth through age 5 (Garguilo & Kilgo, 2000). Pilot and demonstration projects soon began to appear across the nation, which, in turn, produced home visitors to work with young children with special needs (Meisels & Shonkoff, 2000). Many Head Start sites offered training programs in home visiting, parent support, and quality early childhood education for children in underprivileged areas (Martin, 1989). These programs helped to meet the increasing demands for teachers who specialized in early childhood special education.

Then in 1972, P.L. 92-424, the Economic Opportunity Amendments (EOA), were passed, requiring all Head Start programs to serve children with identified special needs. This law laid the groundwork for other laws providing services to students with special needs (Zigler & Muenchow, 1992). Around the same time, Head Start began providing home visits to children in rural areas and in areas without public transportation through a program called Home Start (Garguilo & Kilgo, 2005). Similar to Head Start, this program focused on providing comprehensive services for families from low-income backgrounds and preschool children in the home setting.

The educational system in the United States would be forever changed with the passage of P.L. 94-142, the Education for All Handicapped Children Act, in 1975. This law required states to provide a free and appropriate public education (FAPE) for students over 6 years of age (Wright & Wright, 2003). Although states were not required to serve children under the age of 6, financial incentives were given to states to serve children from ages 3 to 5. At that time, little support was given to research or provide services for children under the age of 3.

Surviving Through Slashing of Social Service

The 1980s were dark years for federally funded children's programs. President Reagan campaigned on and carried through with promises to reduce the number of social services paid by the federal government. Basically, he believed that the state and local governments, rather than the federal government, should be providing direct services to citizens (Ginsberg & Miller-Cribbs, 2005). As a result, federal funding for many social service programs were cut drastically, or the programs were totally dismantled. Somehow, despite massive cuts to other federal programs, Head Start found its way into the Reagan administration's "safety net" of programs that continued to receive federal funds throughout his time in office.

In 1986, the Education for All Handicapped Children Act was amended to include more comprehensive and coordinated effort at the state level for children under the age of 3 and their families. Although this statute was not fully implemented until the early 1990s, it did provide further incentives to states to serve children ages 3 through 5 and established a foundation for services to be provided to children under the age of 3. Some argue that many of the provisions in P.L. 99-457 resulted from Head Start's success in serving young children with special needs (Zigler & Muenchow, 1992).

Public Support versus Individual Responsibility

The 1990s were the "glory days" for Head Start and early intervention. In 1990, when President George H. W. Bush entered office, he pledged full funding for Head Start, and soon after, the program received a budget increase of $2.4 billion. Throughout the decade, Head Start enjoyed bipartisan support. By 2000, funding levels had more than doubled, and the program was serving almost twice as many children. Part of the growth in funding and numbers came from the creation of Early Head Start.

Since the early days of Head Start in the 1960s, there were conversations about Head Start serving children under the age of 3. In the 1970s, Migrant Head Start programs began serving children under age 3, but the concept did not come to fruition until the 1990s (Lombardi & Bogle, 2004). On May 18, 1994, the Head Start Reauthorization Bill was signed, which included a "set-aside of Head Start funds to provide family-centered services for low-income families with very young children and for pregnant women" (Lombardi & Bogle, 2004, p. xiv). Over the summer of 1994, an Advisory Committee met a number of times to carefully plan the development and implementation of what became known as Early Head Start. Early Head Start espoused all of the founding principles of Head Start with a special focus on family involvement. In 1995, 68 Early Head Start programs were funded, with an appropriation of $106 million. Additional programs continued to be funded through the mid-2000s, with 741 programs in existence as of 2009.

The 1990s also brought welfare reform. In 1996, the Personal Responsibility and Work Opportunity Act was passed, which dramatically changed our nation's welfare system. This act eliminated the entitlement of federal aid to impoverished children and families, converting the system to a welfare-to-work format. Aid to Families with Dependent Children (AFDC) was changed to Temporary Assistance to Needy Families (TANF), offering a time-limited assistance to families for two years as parents found training and work.

Although this was meant to act as an incentive to some, it served as a hardship to parents with children with disabilities who were unable to find and pay for care for their children, especially after benefits ran out. Those who were impacted most were parents who had special needs themselves and their children who often had or were at risk for developmental delays. Children with disabilities and children at risk developmentally were affected the most as well as parents who had disabilities. Ohlson (1998) explained that the new system imposed harsh sanctions on families from low socioeconomic status who were already stressed by their situations. Besides reductions in funding for Social Security, Income Insurance, and redefined eligibility for Medicaid, funding was eliminated covering child care for parents participating in welfare-to-work or for those who were transitioning from welfare to school programs or to employment. Welfare reform also meant that thousands of parents who had been staying at home with their children were now required to go to work or school. For many families, child care became a patchwork of options that did not always include high-quality programs.

Even though some families were struggling to find high-quality child care options, early intervention received a major boost with the 1997 reauthorization of the Individuals with Disabilities Education Act (IDEA). For the first time ever, states were required to develop comprehensive and coordinated services for infants and toddlers with developmental delays. The act also mandated states to provide free and appropriate services to children ages 3 to 5 in the least restrictive environment. States were granted considerable freedom in program design and implementation, which led to a myriad of service delivery systems across the 50 states and territories.

Increased Accountability

We are nearing the end of another interesting decade in providing services to children at risk. The new millennium began with massive reforms to the American education system through the No Child Left Behind Act of 2001. No Child Left Behind impacted every level of education, including early childhood. In April 2002, President George W. Bush formally announced his plans regarding the early childhood programs in No Child Left Behind in a program called Good Start, Grow Smart (GSGS). GSGS outlines three major goals for early childhood programs: (1) strengthening Head Start, (2) partnering with states to improve early childhood education, and (3) providing information to teachers, caregivers, and parents (Department of Health and Human Services [DHHS] & Department of Education [DOE], 2006). As a result of GSGS, states were required to develop early learning standards for educating young children in the areas of language, literacy, and mathematics (National Association for the Education of Young Children [NAEYC], 2009). These standards were intended to provide a framework of indicators by which programs could judge the quality of the curriculum in their program, with the ultimate goal of implementing evidence-based practices to narrow achievement gaps often found among young preschool children (DHHS & DOE, 2006).

A significant focus of GSGS was to "strengthen Head Start." In the spring of 2003, the Head Start Act came up for reauthorization by Congress. For the next four years, Head Start programs stood in limbo as the House and Senate debated details of the Head Start Act. Finally, on December 12, 2007, President Bush signed P.L. 110-134, the Improving Head Start for School Readiness Act. This legislation ended the long and bitter debate over where Head Start would reside and if programs would continue testing all Head Start children with the National Reporting System. Head Start would remain a part of the Department of Health and Human Services, not in the Department of Education, and the act mandated that programs no longer administer or use data from the National Reporting System. Although the Head

Start Act of 2007 provides a number of new mandates for programs, just 14 days after signing it into law, President Bush signed an appropriations bill that significantly cut funding for Head Start rather than providing increases needed so programs could meet new requirements (Parrott, 2008).

Just as early care and education programs were feeling the major crunch of the economic downturn, in February 2009, President Obama signed P.L. 111-5 into law, the American Recovery and Reinvestment Act (ARRA). This bill included in the ARRA was a funding increase of $2.1 billion for Head Start, $1.1 billion of which is for Early Head Start expansion and $1 billion of which is to be allocated in accordance with the Head Start Act. In addition, as part of the FY 2009 appropriations process, Congress provided a $234.8 million funding increase for Head Start, of which up to 10 percent of awards was available for training and technical assistance for Early Head Start grants (Office of Head Start, 2009). In addition, over $2 billion was allotted to states through the Child Care Development Block Grants (CCDBG) to provide funding to improve quality in child care programs (National Association of Child Care Resource and Referral Agencies [NACCRRA], 2009). Early childhood special education programs gained nearly $1 billion, with Part B (Section 619) for preschool children receiving $400 million and Part C for infants and toddlers in early intervention receiving $500 million over two years (Samuels, 2009).

Many uncertainties lay ahead on the horizon for early childhood programs. Although record funding increases were born with the economic stimulus package, many states still face major budget challenges, which could cause cuts to early care and education programs. Debates on the reauthorization of IDEA and No Child Left Behind are sure to continue in the near future.

Advancements in the area of brain research with infants and young children offer even greater knowledge about the critical importance of early intervention for children with special needs or who are at risk, and preschool education to children's later cognitive, social, emotional, and physical development (Bowman, Donovan, & Burns, 2001; Shonkoff & Phillips, 2000; Whitehurst & Lonigan, 2001). This research, along with a rising number of children being cared for outside of the home, has placed early childhood education at the center of public and policy deliberations. This is especially true in regard to Head Start and public pre-K (Neuman, Copple, & Bredekamp, 2000; Pianta, Cox, & Snow, 2007; Scott-Little, Kagan, & Frelow, 2006;

Strickland & Riley-Ayers, 2007). As we discuss in the next section of this chapter, Head Start has long been a leader in the field for providing services to young children with special needs and for children who are at risk.

WHAT DO WE KNOW ABOUT SERVICES FOR CHILDREN WITH SPECIAL NEEDS IN HEAD START AND EARLY HEAD START?

Overview

Head Start was the first large-scale program to actively recruit, enroll, and serve young children with special needs (Zigler & Muenchow, 1992). Prior to 1972, most Head Start programs were not including children with special needs because there were no mandates or supports to do so. However, in 1972 with the passage of Public Law 92-424, the Economic Opportunity Amendments, all Head Start programs were required to reserve at least 10 percent of enrollment opportunities for children with special needs (Meisels & Shonkoff, 2000). At that time in our nation's history, very few programs were serving children with special needs in inclusive settings, and certainly none were including children on such a large scale (Zigler & Muenchow, 1992). Suddenly, a program that might be serving 379,000 children was now required to recruit and enroll 37,900 children with diagnosed special needs (ACF, 2008a). Local programs undertook this challenge, and by 1977, 13 percent of children enrolled in Head Start were children with diagnosed special needs (Health, Education, & Welfare [HEW] Report, 1978).

Because serving children with special needs in inclusive settings, such as Head Start classrooms, was a new concept, 14 Resource Access Projects (RAPs) were funded in 1976 by Head Start and the Office of Education's Bureau of Education for the Handicapped to support local programs in their efforts to serve young children with special needs (Zigler & Muenchow, 1992). These RAP programs were housed in universities and colleges across the country to provide training and technical assistance to teachers in Head Start programs. The staff at the RAP programs worked with professional organizations like the Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) to develop training manuals for Head Start teachers to support children with special needs enrolled in the program and their families (Meisels & Shonkoff, 2000; Zigler & Muenchow, 1992). Although RAP programs no longer exist, programs still work closely with regional training and technical assistance providers to ensure high-quality services are provided to children with special needs and their families.

Over time, Head Start has continued to provide inclusive services for young children with special needs. In 1995, Head Start expanded to begin providing services for infants, toddlers, and pregnant women through Early Head Start. Both Head Start and Early Head Start programs are also obligated to follow other federal laws of nondiscrimination, including the Americans with Disabilities Act (ADA) and the Individuals with Disabilities Education Act (IDEA). The Head Start Act (2007) requires that, beginning October 1, 2008, "not less than 10% of the total number of children actually enrolled by each Head Start agency and each delegate agency will be children with disabilities who are determined to be eligible for special education and related services, or early intervention services . . . by the state or local agency providing services under section 619 or part C of the Individuals with Disabilities Education Act [IDEA]" (p. 19).

All Head Start and Early Head Start programs are required to have a written Disabilities Service Plan that outlines how services are provided for children with special needs and their families (ACF, 1993). The purpose of this plan is to ensure "that all components of Head Start are appropriately involved in the integration of children with disabilities and their parents and that resources are used efficiently" (ACF, 1993, p. 257). Each Head Start and Early Head Start program must have a disabilities coordinator to make sure that the plan is updated annually and addresses all of the essential components of the plan, including (1) community involvement, (2) recruitment and enrollment of children with special needs, (3) the referral process, (4) identification and evaluation of children with suspected special needs, (5) planning and implementing services for children with special needs, and (6) transition of children from Head Start or Early Head Start into their next placement (OHS, 2008). Throughout the following sections, each of these areas will be discussed in further detail, citing examples of how Head Start and Early Head Start programs recruit, enroll, and serve children with special needs.

Community Involvement and Interagency Agreements

Oftentimes, services for children with special needs in early childhood programs can be disconnected and disorganized (Shonkoff & Phillips, 2000). For that reason, Head Start and Early Head Start programs are required to collaborate with local schools and organizations to provide appropriate services for children with special needs. Head Start programs must develop written interagency agreements with local education agencies (LEAs), and likewise, Early Head Start programs must partner with programs that provide early intervention (EI) services. LEAs and EI programs are ultimately responsible under IDEA to serve children with special needs in a given service area; however, Head Start and Early Head Start programs are required to partner with these programs to ensure that quality, seamless services are provided to the children enrolled in both programs in a timely manner.

Written interagency agreements between Head Start/Early Head Start programs and LEA/EI programs must include, but are not limited to:

> dates and times that are specific to (a) joint training of staff and parents, (b) procedures for referral for evaluations, (c) planning and implementation of Individualized Family Service Plans (IFSP) for children ages birth to three and Individualized Education Programs (IEP) for children three and over, (d) transition planning, (e) sharing resources, (f) Head Start's participation in Child Find efforts, and any other items agreed to by both parties. (OHS, 2008, p. 13)

Ultimately, the goal of all community partnerships in Head Start and Early Head Start programs is to guarantee that all agencies in a community or service area are working together to provide the highest level of comprehensive, developmentally and culturally appropriate services possible for the children and families who reside in a given area (ACF, 2008b).

Recruitment and Enrollment of Children with Special Needs

Because of the Head Start Act's requirements regarding the percentage of children with disabilities enrolled in Head Start and Early Head Start, programs must continuously and actively recruit children with special needs. Each program must have a recruitment plan that spells out efforts to recruit and enroll children with special needs, including children with significant special needs. When recruiting and enrolling children with special needs, a Head Start program

> must not deny placement on the basis of a disability or its severity to any child when: (a) the parents wish to enroll the child, (b) the child meets the Head Start age and income

> eligibility criteria, (c) Head Start is an appropriate placement according to the child's IEP, and (d) the program has space to enroll more children, even though the program has made ten percent of its enrollment opportunities available to children with disabilities. (ACF, 1993, p. 275)

Screening, Referral, and Evaluation

One way to enroll children with special needs in the program is to recruit children with identified special needs. However, because Head Start and/or Early Head Start may be the first program-based care a child receives, some children are identified with special needs after they are enrolled in the program. Within the first 45 days of entry into a Head Start or Early Head Start program, each child must take part in a series of developmental screenings to detect any concerns that may warrant further evaluations to determine if a child has a special need. The written interagency agreement between each program and the LEA or EI program should outline processes for timely evaluations that meet mandates described in IDEA.

Planning and Implementing Services for Children with Special Needs

Once a child is determined to have a special need, or if a child is enrolled in the program with a diagnosed special need, it is the responsibility of the Head Start or Early Head Start program to ensure that each child is "included in the full range of services normally provided to all children and provisions for any modifications necessary to meet special needs of the children with disabilities" are made (ACF, 1993, p. 259). A number of models for providing services to children with special needs in Head Start and Early Head Start have been used to ensure that comprehensive, individualized services are provided to all children. Ideally, children with special needs who are enrolled in Head Start or Early Head Start would receive specialized services, such as occupational, physical, or speech therapy, during daily routines and activities. In some cases, a child may spend a part of their day in the Head Start or Early Head Start program and another portion in a different program that provides specialized services.

When including children with special needs, early childhood programs must take into consideration the individual needs of each child and family as well as local, state, and national guidelines for developmentally and culturally appropriate practices. National organizations such as the Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) and the National Association for the Education of Young Children (NAEYC) have guidelines for supporting children with special needs in inclusive settings. In 2009, DEC and NAEYC released a joint statement, including the following definition of early childhood inclusion:

> Early childhood inclusion embodies the values, policies, and practices that support the right of every infant and young child and his or her family, regardless of ability, to participate in a broad range of activities and contexts as full members of families, communities, and society. The desired results of inclusive experiences for children with and without disabilities and their families include a sense of belonging and membership, positive social relationships and friendships, and development and learning to reach their full potential. The defining features of inclusion that can be used to identify high-quality early childhood programs and services are access, participation, and supports. (Division for Early Childhood [DEC]/NAEYC, 2009)

This definition reflects the importance of collaborative and coordinated supports to promote inclusion in early childhood settings. A key aspect of services for all children in Head Start, including those with special needs, is individualized services. Individualization refers to "tailoring an approach that best engages and supports each child's and family's Head Start experience" (OHS, 2008, p. 29). When individualizing for children with special needs, Head Start staff should be part of the team that develops goals and objectives for each child's IEP or IFSP. In addition to setting goals, the team should work together to determine strategies to meet these goals in the program and at home and develop a system of ongoing assessment to track child progress toward goals over time. See Chapter 10 for more information about inclusive options for young children.

Including a child with special needs in a Head Start or Early Head Start program requires collaboration among the program, the family, and the LEA/EI and other agencies who may serve the child. Head Start and Early Head Start staff must work in tandem with the LEA or EI program to coordinate schedules and to ensure that each child receives therapy or other needed services in the least restrictive environment in a timely manner. Ongoing professional development and support is to be provided to teachers and teaching assistants to best meet the needs of each child. Programs must also collaborate to determine how transportation will be provided between agencies. Within Head Start and Early Head Start, staff members are required to modify the curriculum, the environment, and materials as needed to best support and accommodate the optimal development of each child.

Supporting Families of Children with Special Needs

Head Start has always recognized the importance of family involvement. When developing the Head Start program in the mid-1960s, Urie Bronfenbrenner, a member of the National Advisory Council for the National Institute of Child Health and Human Development during that time, insisted that for any program for young children to be effective, it would have to involve the child's family and community (Zigler & Muenchow, 1992). Since then, family involvement has been one of the hallmarks of the program. Today, family involvement is still a central part of services to children in Head Start and Early Head Start, and is especially crucial when including a child with special needs. Family services, disabilities services, and other staff should receive professional development on communicating with families to help them understand their child's special needs and to be an advocate for themselves and for their child. Of course, the level of involvement and support will vary depending on the needs and wishes of each family.

Each Head Start program is required to complete a Family Partnership Agreement to help them collaborate with families according to their unique circumstances and desires (ACF, 2008b). As a part of the Family Needs Assessment, family members are often asked to set goals for themselves and for their child over the coming year. This plan, along with the child's IEP or IFSP, should be used to guide services that are provided to the child and family.

Transition Planning for Children with Special Needs

Comprehensive planning is needed to support children with special needs and their families as they transition into and out of Early Head Start and/or Head Start programs. When a child is transitioning into the Head Start program, the disability coordinator must ensure that the child's teacher/home visitor and other pertinent program staff receive professional development on how to best meet the individualized needs of the child and family. There are also a number of supports that can be provided to the parents of children with special needs entering Head Start. Staff members should (1) provide materials and information on how to best support the development of their child at home, (2) describe the goals and objectives in their child's IEP/IFSP if unclear, (3) inform parents of their rights under IDEA, and (4) refer parents to support groups if agreed upon with parents (OHS, 2008). During the time a child is enrolled in Head Start or Early Head Start, the goal is for parents to increase their own skills, knowledge, and confidence so they are better able to access resources and advocate for their child(ren).

Transition planning for children with special needs who will be exiting the program requires collaboration among the Head Start program staff, the parents, the other agencies providing services for the child and family, and the receiving program. Support for children and families through the transition process should be individualized to meet the needs and requests of each family. In some cases, exiting programs will arrange to go on visits to new programs with parents while other exiting programs take a more hands-off approach by sending packets of information (with parental permission) to the child's new program. Most importantly, Head Start programs should provide resources, materials, and opportunities for parents to better understand the options that are available to them and their child and support them through the process of moving from one program to another.

Summary

For over four decades, Head Start has been at the forefront of providing services to children with special needs. Although all Head Start and Early Head Start programs must follow federal, state, and local mandates, each program must develop a plan for providing services based on the unique needs of the children and families who reside in their communities. While a child is enrolled in a Head Start or Early Head Start program, teachers and other program staff collaborate with other agencies, supplying services to each child and family to ensure that appropriate, individualized services are provided that support the family's wishes for their child as well as the goals and objectives in the child's IEP or IFSP. The ultimate goal is for the children to grow and develop as a result of their time in the program and for parents to better understand their rights and responsibilities as their child enters school or other future educational opportunities.

RESEARCH IN HEAD START AND EARLY HEAD START

As long as Head Start has existed, so too have questions about its effectiveness. Indeed, over the years, Head Start has been referred to as the nation's largest educational experiment and as a national laboratory (Zigler & Muenchow, 1992). From the very earliest days, research has been carried out to determine the effectiveness of the program. Most frequently, effectiveness has been determined by some measure of child and/or family outcomes.

After the first cohort of children went through the eight-week summer course in 1965, the Center for Urban Education conducted a study on the children who attended Head Start in New York City (Zigler & Muenchow, 1992). At first, the results seemed promising. The children who had attended Head Start scored higher on measures of school readiness than did a group of similar children who had not attended Head Start. Unfortunately, after several months in the public school, the two groups of children scored similarly on an achievement test. This was the first of many studies of Head Start in which the impact of time spent in Head Start appears to fade over time. In 1968–69, the first large-scale evaluation of Head Start was conducted by the Westinghouse Corporation and Ohio University. Despite arguments from many that it was too early to conduct a study of this magnitude on such a new program, the study went forward. The study found, as with the Center for Urban Education study, that regardless of early gains, long-term effects were not detected by grade 3 (Cicerelli, Evans, & Schiller, 1969). This report sparked a debate that continues today: Does the impact of Head Start fade over time, or are the public schools failing our children?

Since the Westinghouse Report was released, thousands of studies have been conducted in Head Start programs across the country by individual researchers, university groups, and federally funded evaluators. Head Start has undeniably become a national laboratory for educating young children. In recent years, several large-scale evaluations of Head Start and Early Head Start have been conducted with federal funds through the Office of Planning, Research and Evaluation (OPRE) housed within the Administration of Children and Families (ACF). The main goals of OPRE are spelled out in their mission statement:

> OPRE is responsible for advising the Assistant Secretary for Children and Families on increasing the effectiveness and efficiency

> of programs to improve the economic and social well-being of children and families.
>
> In collaboration with ACF program offices and others, OPRE is responsible for performance management for ACF, conducts research and policy analyses, and develops and oversees research and evaluation projects to assess program performance and inform policy and practice. The Office provides guidance, analysis, technical assistance, and oversight to ACF programs on: strategic planning; performance measurement; research and evaluation methods; statistical, policy, and program analysis; and synthesis and dissemination of research and demonstration findings. (Office of Planning, Research and Evaluation [OPRE], n.d.)

Two longitudinal studies have unearthed substantial data on the long-term impacts of Head Start for children and families. These two studies are the Family and Child Experiences Study and the Head Start Impact Study.

The Family and Child Experiences Study (FACES) gathers data from a nationally representative sample of Head Start programs, classrooms, teachers, parents, and children using a large battery of measures to better understand the quality and impacts of Head Start (ACF, 2006b). Measures used in FACES are gathered through classroom observation, parental interview, direct child assessment, and teacher-completed questionnaires. Data collection for FACES occurs in waves as information is gathered from programs over time. The first cohort of FACES began in 1997, the second in 2000, the third in 2003, and the last cohort in 2006. Most recently, the summary report for the 2003 cohort was released, sharing findings related to the children, families, and classrooms in 63 Head Start programs across the country.

FACES 2003 findings indicate that children in Head Start enter the program with below-average skills in mathematics and early literacy. However, over the program year, children in the program make significant gains in early mathematics, early writing, and in expansion of vocabulary skills (ACF, 2006b). Children also showed considerable growth in letter recognition, recognizing an average of four letters at the beginning of the year and 10 before leaving the program. Finally, FACES findings also showed that most children in the cohort showed gains in levels of social skills demonstrated throughout the program year, especially in the area of cooperative classroom behavior.

The FACES 2003 report (ACF, 2006b) showed that the average family participating in the FACES 2003 study consisted of four members with a median household income of $13,200 per year. One-third of Head Start children live with two parents who are married, and a similar percentage of families speak languages other than English in the home. Over 26 different languages are spoken by families of children in Head Start. A majority of families taking part in the FACES study (74%) indicated that they read to their child three or more times per week. The study also found that children whose parents read to them every day had higher vocabulary scores than did children whose parents read to them less often. Further, findings reveal that parental involvement in school is related to the improved child outcomes in a number of academic and social indicators.

Regarding classroom quality, FACES 2003 findings indicated that overall Head Start classroom quality is good, scoring an average of 4.8 on a 7-point scale on the Early Childhood Environmental Rating Scale (ECERS). Ratings on the ECERS also showed that 80 percent of teachers encouraged the development of positive interactions with mutual respect between children and adults and that 70 percent of teachers facilitated positive interactions among children and their peers. Ratings also demonstrated that 75 percent of teachers had a high level of integration of children with special needs in the classroom as indicated in the *Provisions for Children with Disabilities* section on the ECERS. Findings indicated that "In the spring of 2004, 19% of Head Start children had a special need identified . . . and that teachers reported that children received a variety of services to meet their needs" (ACF, 2006b).

Another longitudinal study of the impact of Head Start over time is the National Head Start Impact Study. This congressionally mandated study was conducted in 84 nationally representative Head Start agencies with approximately 5,000 children, using parental interviews, direct child assessments, classroom observational assessments, and teacher ratings of children (ACF, 2005). As applications were accepted for these 3- and 4-year-olds, the children were randomly assigned either to a group of children who would receive Head Start services, or to a "non-Head Start" comparison group in which their parents could enroll them in any community-based preschool other than Head Start. Data collection began in 2002 and continued on through 2006, when the children in the study entered the first grade. In addition, a third-grade follow-up was conducted last year to track progress for these students over time. The major goals of the Impact study were "to determine on a national basis how Head Start affects the school readiness of children participating in the program as compared to children not enrolled in Head Start and to determine under which conditions Head Start works best and for which children" (ACF, 2005, para. 2).

A summary of findings after the first year of the Impact Study indicate that both 3- and 4-year olds in the Head Start group showed moderately significant positive impacts in several cognitive constructs, including pre-reading, pre-writing, vocabulary, and parental reports of their child's literacy skills. When looking at parenting practices, the study found that parents of the children in the 3-year-old group had small statistically significant positive impacts on parenting skills, including increased use of educational activities in the home and a decreased use of physical discipline with their children (ACF, 2005).

Although it is a much younger program, a number of large-scale longitudinal studies have also been conducted in Early Head Start. Most notably, the congressionally mandated Early Head Start Research and Evaluation Project (EHSREP) was launched in 1996, one year after the first Early Head Start programs were funded. This large-scale study included a thorough examination of the implementation of Early Head Start and the impact on child and family outcomes in 17 nationally representative programs (ACF, 2006c). In this study, over 3,000 children were randomly assigned to either a group that would receive Early Head Start services or a comparison group who could participate in any program other than Early Head Start. A series of measures, including direct child assessments, parent reports of child development, parental observations, and parent interviews, were assessed periodically over the time that children were in either the Early Head Start program or comparison group.

Findings from this study demonstrated that children who participated in Early Head Start scored higher on cognitive, language, and social emotional measures than children in the non–Early Head Start comparison group. Regarding family outcomes, the strongest positive impacts were found in African American families who enrolled during pregnancy and had low-to-moderate demographic risks. Only families at the highest level of demographic risks showed no positive gains in parenting skills. In addition to overall results for children and families participating in the ESHREP, several findings had specific relevance to children with special needs. The study found that children who participated in Early Head Start had fewer delays in language and cognitive functions than children in the comparison group. Also, children who were in Early Head Start were much more likely to receive Part C services for diagnosed developmental delays (ACF, 2006c).

As a part of the EHSREP, a follow-up study was conducted with the children and families two years after participation. After leaving Early Head Start, many children moved on to some form of preschool or a prekindergarten program. Of the children who participated in the Early Head Start program, 47 percent were enrolled in formal preschool programs at ages 3 and 4. This compared to 42 percent of children in the comparison group. The follow-up data showed that many of the positive impacts on child and family outcomes shown at the end of Early Head Start were still present two years later. The main areas of continued favorable impacts were in children's social emotional development and approaches to learning, parents' daily reading to their children, the overall home environment, and parent-child teaching activities (ACF, 2006c). African American parents whose children were enrolled in Early Head Start continued to demonstrate the most positive impacts from participating in the program. A fifth-grade follow-up study is currently underway with these children and families.

A number of other studies on the implementation and impact of Early Head Start are also in progress. Baby FACES (Family and Child Experiences Study), a longitudinal study with a cohort design, began in 2007 and will continue through 2012 (ACF, n.d.). This study builds on the findings from the EHSREP and uses a similar design as the Head Start FACES study. Another study building on these findings is the Survey of Early Head Start programs. This was the first of several descriptive studies to be conducted on the state of Early Head Start programs and how the program has changed over time to meet the needs of children and families. Research questions for this study included: (1) What are the characteristics of Early Head Start programs? (2) Who is served by Early Head Start programs? (3) What services do Early Head Start programs provide? (4) How are Early Head Start programs managed and staffed? (5) Do key program subgroups differ in their characteristics? If so, how? (ACF, 2006a, pp. xix–xx).

From their beginnings, both Head Start and Early Head Start have been examined closely to determine the impact the program has on outcomes for children and families. Large-scale studies like FACES, Baby FACES, the Head Start Impact Study, and the Early Head Start Research and Evaluation Project provide vital information on how Head Start and Early Head Start programs are continuously improving to meet the needs of the children and families in their programs. Over time, it will be critical to continue asking questions like these and others to get the most accurate depiction of how these programs are meeting the needs of the nation's neediest children and families.

FUTURE DIRECTIONS

Standing on Shaky Ground

Attempting to predict future directions is an extremely formidable task given the extremely uncertain times in which we are living. In an address to the joint session of Congress on February 24, 2009, President Barack Obama stated, "I know that for many Americans watching right now, the state of our economy is a concern that rises above all others. And rightly so . . . The impact of this recession is real, and it is everywhere" (Obama, 2009). As a result of the economic crisis, many state and local programs have been forced to slash budgets, which in turn have impacted services provided to the most disadvantaged among us. However, at the same time that many local and state budgets are diminishing, federal money has been flowing out to programs by way of the American Recovery and Reinvestment Act (ARRA).

President Obama signed P.L. 111-5 into law, the American Recovery and Reinvestment Act (ARRA), on February 17, 2009. The ARRA appropriated a total of $5.1 billion for the Administration for Children and Families (ACF), apportioned among the Child Care and Development Block Grant, Head Start, Early Head Start, and the Community Services Block Grant. This funding offered the opportunity for Head Start to collaborate with child care through cross training, implementing wraparound services, and other activities to benefit both programs by maximizing the dollars spent and helping families (OHS, 2009). Of this total figure, $2.3 billion was allocated to the Child Care and Development Block Grant to make up for shortfalls in state child care assistance programs for low-income families.

After years of budget cuts, increased federal appropriations came as welcome news for the Head Start community, especially in light of deep state and local budget cuts. Increases in Head Start funding through the ARRA appropriations provided opportunities to Head Start programs to convert part-day enrollment slots to full-day programs, which better accommodate working parents. As a result of increases in funding in Head Start and Early Head Start, record numbers of grant applications were submitted to the Office of Head Start in the summer of 2009 from organizations seeking money for newly funded Early Head Start programs as well as program expansion within current grantees.

Standing Firm on Our Promises to Young Children and Families

As a field, we have come a long way over the past 40 years. Every day, we learn new techniques and strategies to use when working with young children with special needs and their families. Even though we know more now than ever about how to best support the varying needs of children and families, we still face the challenge of bringing together multiple systems at the local, state, and federal levels to coordinate services and provide them in a timely manner. Moving forward, we must reflect on where we have been and take the lessons we have learned with us as we create supportive environments for young children and families. Inclusive programs for children at risk, like Head Start and Early Head Start, have long recognized the value of collaboration with community agencies, the importance of continuous professional development for staff members, and the crucial involvement of family in creating a successful program.

One successful collaborative model used to increase recruitment and enrollment of infants and toddlers with significant special needs in Early Head Start was the SpecialQuest professional development program. The first phase of this project, which was co-funded by the Office of Head Start and the Hilton Foundation, took place from 1997 through 2002, with the second phase occurring from 2003 through 2007. In this team-based model, Early Head Start programs were invited to attend a one-week professional development opportunity each year with a team of individuals from their service area.

In the final report from the first phase of SpecialQuest, 36 percent of participating Early Head Start programs reported enrolling children with special needs in at least 10 percent of their available slots (California Institute of Human Services [CIHS], 2002). Amazingly, at the end of SpecialQuest, 70 percent of participating programs had filled at least 10 percent of their slots with children with special needs. From 1997 through 2007, children and families in over 500 communities were positively impacted as a result of the SpecialQuest training program (CIHS, 2007). SpecialQuest provided a forum for these individuals from a community to work together to create inclusive environments for infants and toddlers with special needs.

Other collaborations that have been increasing Head Start teacher salaries as well as pushing higher education are the Head Start and public pre-K partnerships. Because of Head Start's track record working with children with disabilities and those who are at risk, public schools are increasingly seeking partnerships with Head Start. In these ventures, preschool classrooms offer a co-teaching model with Head Start and public school teachers working side by side and sharing the load. This offers benefits for everyone involved as scarce resources are combined from IDEA, Head Start, public school, professional development funding, and other sources of local, state, and federal dollars.

As we look to the future, it is imperative that we reduce the gap between research and practice by providing quality professional development opportunities for early childhood educators. This can be done by increasing opportunities for teachers to gain degrees and professional certification. In the 2007 reauthorization of the Head Start Act, new requirements were included for teacher qualifications. The act states that:

> [N]ot later than September 30, 2013, at least 50% of Head Start teachers nation-wide in center-based programs have (i) a baccalaureate or advanced degree in early childhood education; or (ii) a baccalaureate or advanced degree and coursework equivalent to a major relating to early childhood education, with experience teaching preschool-age children. (Head Start Act, 2007, p. 110)

In addition, the Head Start Act specifies that:

> [N]ot later than September 30, 2010, all teachers providing direct services to children and families participating in Early Head Start programs located in Early Head Start centers have a minimum of a child development associate credential and have been trained (or have equivalent coursework) in early childhood development. (Head Start Act, p. 93)

New requirements like these will mean that thousands of early childhood teachers will be entering early childhood education programs in the coming years. In addition to educating existing teachers, it is estimated that approximately 10,000 new Head Start and Early Head Start teachers will be needed as a result of program expansion funding from the ARRA. Finding and educating this many early childhood teachers in the time provided will be a real challenge.

To help prepare teachers for the anticipated 10,000 new positions available through ARRA, the Department of Education provided Teacher Quality Partnership (TQP) grants. The purpose of these grants included improving student achievement and the quality of new and prospective teachers by enhancing teacher preparation and professional development. To qualify for funding, partnerships had to develop among school districts, early childhood education, and higher education, especially in areas of high need (National Archives and Records Administration, 2009).

CONCLUSION

Over time, Head Start has remained true to its roots of providing a comprehensive program considering the whole child, including education, health, and nutrition, and working with families and encouraging their support. In this chapter, we have discussed the history of this program, the services provided to children and families, and the costs of these services, as well as evidence through research to tell us if these services make a difference in the lives of young children and their families. We began this chapter by discussing the real costs of not investing in quality care and education programs for children with multiple risk factors in our society. For those of us in the field of early childhood, on a daily basis we see the impacts on children and families who get “lost” in the system and do not get the supports and services they need. There is no question that our efforts are worth the investment; however, to leaders at local, state, and federal levels, these payoffs might not be as readily evident.

Some of these positive impacts can be measured by looking at tangible factors like academic success or school retention. However, others are less tangible and may take decades to come to fruition. What we do know now is that high-quality early intervention and education programs bring dividends to the children, families, communities, and the nation that far outweigh the costs associated with such programs (Lynch, 2005). The future of our society depends upon fostering the health and well-being of our children for tomorrow’s world because “today’s children become tomorrow’s citizens, workers, and parents. When we invest wisely in children and families, the next generation will pay that back through a lifetime of productivity and responsible citizenship" (National Scientific Council on the Developing Child, 2007, p. 1). When we fail to invest in the next generation, providing them the foundation needed for them to thrive, we put our future at risk. In 10 years, when we are asked, "How are the children?" we must answer, "All the children are well" (O'Neill, 1991).

REFERENCES

Administration for Children and Families. (1993). *Head Start performance standards and other regulations.*

Administration for Children and Families. (2005). Head Start impact study first year findings. Office of Planning, Research and Evaluation.

Administration for Children and Families. (2006a). Findings from the Early Head Start programs: Communities, programs and families. Office of Planning, Research and Evaluation.

Administration for Children and Families. (2006b). Friendly FACES. Office of Planning, Research and Evaluation.

Administration for Children and Families. (2006c). Research to practice: Preliminary findings from the Early Head Start prekindergarten follow up. Early Head Start Research and Evaluation Project. Office of Planning, Research and Evaluation.

Administration for Children and Families. (2008a). *Head Start fact sheets*. Retrieved from http://eclkc.ohs.acf.hhs.gov/hslc/About%20Head%20Start/dHeadStartProgr.htm

Administration for Children and Families. (2008b). *Head Start performance standards and other regulations*, Amended.

Administration for Children and Families. (n.d.). Overview of the Early Head Start family and child experiences study (Baby FACES). Office of Planning Research and Evaluation. Retrieved from http://www.acf.hhs.gov/programs/opre/ehs/descriptive_study/descriptive_overview.html#overview

Barnett, W., Lamy, C., & Jung, K. (2005). *The effects of state prekindergarten programs on young children's school readiness in five states*. New Brunswick, NJ: NIEER, Rutgers.

Barnett, W. S. (2007). Getting the measure of the mileage of preschool care. *Prevention Action*. Retrieved from http://www.preventionaction.org/research

Bowman, B., Donovan, M., & Burns, M. (2001). *Eager to learn*. Washington DC: National Academy Press.

Brooks-Gunn, J. & Duncan, G. J. (1997). Children and poverty. *The Future of Children*, *7*, 55–71.

California Institute on Human Services. (2002). Hilton/Early Head Start training program 2002 final evaluation report. Sonoma State University.

California Institute on Human Services. (2007). Five-year final report 2002–2007. Sonoma State University.

Children's Defense Fund. (2008). *Children in the United States fact sheet*. Retrieved from http://www.childrensdefense.org/child-research-data-publications/data/state-data-repository/cits/children-in-the-states-2008-all.pdf

Cicerelli, V. G., Evans, J. W., & Schiller, J. S. (1969). The impact of Head Start: An evaluation of the effects of Head Start on children's cognitive and affective development. *Report to the United States Office of Economic Opportunity by Westinghouse Learning Corporation and Ohio University*. Washington, DC: Government Printing Office.

Department of Health and Human Services & Department of Education. (2006). Good Start, Grow Smart: A guide to Good Start, Grow Smart and other federal early learning initiatives. Retrieved from http://www.acf.hhs.gov/programs/ccb/initiatives/gsgs/fedpubs/GSGSBooklet.pdf

Division of Early Childhood of the Council for Exceptional Children & the National Association for the Education of Young Children (DEC/NAEYC). (2009). *Early childhood inclusion. Joint position statement*. Retrieved from http://www.naeyc.org/files/naeyc/file/positions/DEC_NAEYC_EC_updatedKS.pdf

Garguilo, R. M., & Kilgo, J. L. (2000). *Young children with special needs*. Albany, NY: Delmar Thomson Learning.

Garguilo, R. M., & Kilgo, J. L. (2005). *Young children with special needs* (2nd ed.). Clifton Park, NY: Delmar Thomson Learning.

Gearhart, B., Mullen, R., & Gearhart, C. (1993). *Exceptional individuals*. Pacific Grove, CA: Brooks/Cole.

Gilliam, W., & Zigler, E. (2004). *State efforts to evaluate the effects of prekindergarten: 1977–2003*. New Haven, CT: Yale University.

Ginsberg, L. & Miller-Cribbs, J. (2005). *Understanding social problems, policies, and programs* (4th ed.) Columbia: University of South Carolina Press.

Head Start Act. (2007). 42 U.S.C. 9801 *et seq*.

Health, Education, and Welfare (HEW) Report. (1978). *Report of preschool education, 10*.

Karoly, L., Greenwood, P., Everingham, S., Hoube, J., Kilburn, R., Rydell, C. P., et al. (1998). *Investing in our children: What we know and don't know about the costs and benefits of early childhood interventions*. Washington, DC: Rand Corporation.

Lombardi, J., & Bogle, M. (2004). *Beacon of Hope: The promise of Early Head Start for America's youngest children*. Washington, DC: Zero to Three.

Lybolt, J., Armstrong, J., Techmanski, K., & Gottfred, C. (2007). *Building language throughout the year: The preschool early literacy curriculum*. Baltimore: Paul H. Brookes.

Lynch, R. G. (2005). Early childhood investment yields big payoff. *WestEd Policy Perspectives*. Retrieved from http://www.wested.org/online_pubs/pp-05-02.pdf

Martin, E. W. (1989). Lessons from implementing P.L. 99-142. In J. Gallagher, P. L. Trohanis, & R. M. Clifford (Eds.), *Policy implementation & P.L. 99-457* (pp. 19–32). Baltimore: Paul H. Brookes.

Masse, L., & Barnett, W. S. (2002). *A benefit cost analysis of the Abecedarian early childhood intervention*. New Brunswick, NJ: National Institute for Early Education Research, Rutgers University.

Meisels, S. J., & Shonkoff, J. P. (2000). Early childhood intervention: A continuing evolution. In J. P. Shonkoff and S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed., pp. 3–31). Cambridge: Cambridge University Press.

National Archives and Records Administration. (2009). Teacher quality partnership grant program. *Federal Register, 74*, 38592–38605.

National Association of Child Care Resource and Referral Agencies. (NACCRRA) (2009). *Economic stimulus briefing room*. Retrieved from http://www.naccrra.org/policy/economic-stimulus-briefing-room

National Association for the Education of Young Children. (2009). NAEYC position statement: Developmentally appropriate practice in early childhood programs serving children from birth through age 8. In C. Copple and S. Bredekamp (Eds.), *Developmentally Appropriate Practice in Early Childhood Programs* (3rd ed., pp. 1–31). Washington, DC: National Association for the Education of Young Children.

National Institute for Early Education Research. (2003). *Preschool Policy Matters: Investing in Head Start teachers*. New Brunswick, NJ: NIEER.

National Scientific Council on the Developing Child. (2007). *The science of early development: Closing the gap between what we know and what we do*. Boston: Center on the Developing Child, Harvard University.

Neuman, S., Copple, C., & Bredekamp, S. (2000). *Learning to read and write: Developmentally appropriate practices for young children*. Washington DC: NAEYC.

Obama, B. (2009). Remarks of President Barack Obama—as prepared for delivery, address to joint session of Congress, Tuesday, February 24th, 2009. Retrieved from http://www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress

Office of Head Start. (2008). *Orientation guide for Head Start disabilities services coordinators*. Retrieved from http://eclkc.ohs.acf.hhs.gov/hslc/Professional%20Development/Staff%20Development/Disabilities/OrientationGuide.htm

Office of Head Start. (2009). Head Start funding increase. *Early Childhood Learning and Knowledge Center.* Retrieved from http://eclkc.ohs.acf.hhs.gov/hslc/Program%20Design%20and%20Management/Head%20Start%20Requirements/PIs/2009/resour_pri_006_040209.html

Office of Planning, Research and Evaluation. (n.d.). About OPRE. Retrieved from http://www.acf.hhs.gov/programs/opre/about_opre.html#mission

Ohlson, C. (1998). Welfare reform: Implications for young children with disabilities, their families, and service providers. *Journal of Early Intervention*, *21*, 191–206.

O'Neill. P. T. (1991). *And How Are the Children?* Speech delivered at Unitarian Universalist Church, Framingham, MA.

Parrott, S. (2008). 2008 Omnibus appropriations bill cuts funding for Head Start: Bipartisan reauthorization bill enacted two weeks before omnibus was completed called for increased investment. Center on Budget and Policy Priorities. Retrieved from http://www.cbpp.org/files/2-5-08bud.pdf

Pianta, R., Cox, M., & Snow, K. (2007). *School readiness and the transition to kindergarten in the era of accountability.* Baltimore: Paul H. Brookes.

Reight-Parker, J. (2007). *Head Start in Maine*. Augusta, ME: Department of Health and Human Services.

Reynolds, A., Temple, J., Robertson, D., & Mann, E. (2002). Age 21 cost-benefit analysis of the Title I Chicago Parent Center. *Education Evaluation and Policy Analysis, 24*, 267–303.

Samuels, C. A. (2009). Stimulus providing big funding boost for early childhood. *Education Week, 28*(27), 8.

Schweinhart, L. (2004). *The High/Scope Perry Preschool study through age 40: Summary, conclusions, and frequently asked questions*. Ypsilanti, MI: HighScope Press.

Scott-Little, C., Kagan, S., & Frelow, V. (2006). Conceptualization of readiness and the content of early learning standards: The intersection of policy and research? *Early Childhood Research Quarterly, 21*, 153–173.

Shonkoff, J. P., & Phillips, D. A. (Eds.) (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press.

Strickland, D., & Riley-Ayers, S. (2007). *Literacy leadership in early childhood: The essential guide*. New York: Teacher's College Press.

Wat, A. (2007). *Dollars and sense: A review of economic analyses of pre-k*. Washington, DC: Pre-K Now.

Whitehurst, G. J., & Lonigan, C. J. (2001). Emergent literacy: Development from prereaders to readers. In S. B. Neuman & D. K. Dickensen (Eds.), *Handbook of early literacy research* (pp. 11–29). New York: Guilford Press.

Wright, W. D., & Wright, P. D. (2003). *Wrightslaw: Special education law*. Hartfield, VA: Harbor House Law Press.

Zigler, E. F., & Muenchow, S. (1992). *Head Start: The inside story of America's most successful educational experiment*. New York: Basic Books.

Zigler, E. F., & Styfco, S. J. (2004). *The Head Start debates*. Baltimore: Paul H. Brookes.

Zigler, E. F., & Valentine, J. (Eds.). (1979). *Project Head Start: A legacy of the War on Poverty*. New York: Basic Books.

This page intentionally left blank

Chapter 4

Building a Comprehensive Assessment System in Early Intervention/Early Childhood Special Education

Cornelia Bruckner, Mary McLean, and Patricia Snyder

Assessment has been defined as "a generic term that refers to the process of gathering information for the purpose of making decisions" (McLean, Wolery, & Bailey, 2004, p. 13). Considering what decisions will be made as a result of assessment is an important first step in any discussion of assessment practices or strategies. According to Shepard, Kagan, and Wurtz (1998), "The intended use of an assessment—its purpose—determines every other aspect of how the assessment is conducted" (p. 6). Practitioners in early intervention/early childhood special education (EI/ECSE) have a long history of conducting assessments to help inform decisions about eligibility for services, planning programs for intervention based on individualized goals and outcomes, and monitoring child progress toward those goals and outcomes. Recent innovations and issues in early care and education, general education, and special education, however, have resulted in changes in both the purposes and procedures for assessment in EI/ECSE. The purpose of this chapter is to provide an overview of traditional EI/ECSE assessment practices, identify recent innovations and issues that are influencing assessment practices for young children, and provide recommendations for facilitating an organized and comprehensive system for assessment as prompted by federal requirements.

TRADITIONAL ASSESSMENT FUNCTIONS IN EI/ECSE

Traditionally, five distinct functions or purposes of assessment have been identified in the EI/ECSE literature: (1) screening, (2) determining eligibility for early intervention or special education, (3) program planning, (4) monitoring child progress as a result of intervention, and (5) program evaluation or accountability (McLean, 2004). Federal and state laws, particularly the Individuals with Disabilities Education Act, have greatly influenced these functions of assessment for EI/ECSE. It should be noted that other federally or state-funded programs for young children, many of which also serve young children with disabilities, do not have the same requirements and, therefore, the primary purposes of assessment for those programs might be different. The brief review of each of the five functions of assessment below illustrates the various purposes for which assessment has traditionally been conducted.

Screening refers to a brief assessment designed to identify children who should be referred for further and more comprehensive assessment relative to development, behavior, hearing, vision, or health. Typically, data from screening is used to inform one of three decisions: (1) pass (screen "negative"), (2) do not pass (screen "positive"), or (3) need for follow-up screening or closer monitoring. The result of a "positive" screen often leads to a referral for further assessment to determine which children might need specialized equipment, services, or targeted instruction. For example, developmental screening is required within 45 days of enrollment for all children enrolled in Head Start. Some school districts provide developmental screening services to all young children residing within their catchment areas in an effort to identify those who need further assessment and who are in need of intervention as soon as possible. Some states offer periodic screening for all young children in the state who have been found to be at risk for developing a delay in their growth and development. Traditionally, screening of developmental, behavioral, or health status has been provided on a periodic basis.

Determination of eligibility for early intervention or early childhood special education is guided by federal law, specifically the Individuals with Disabilities Education Act (IDEA) (2004), which is further interpreted in state regulations. Federal law provides a general definition of which children are eligible for early infant/toddler services to age three (Part C of IDEA, Office of Special Education Programs & TA & D network, 2010b) and for early childhood special education preschool

Table 4.1 Categories of Eligibility for Infant/Toddler and Preschool Services under IDEA

Potential Categories of Eligibility for IDEA Part B, Section 619—Preschool	
Autism	Multiple Disabilities
Deaf-Blind	Orthopedic Impairment
Deaf	Specific Learning Disability
Developmental Delay	Speech or Language Impairment
Emotional Disturbance	Traumatic Brain Injury
Hearing Impairment	Visual Impairment/Blindness
Mental Retardation	
Potential Categories of Eligibility for IDEA Part C—Birth to Three	
Developmental Delay	
Diagnosed Condition	
At Risk	

services (Section 619 of Part B of IDEA, Office of Special Education Programs & TA & D network, 2010a). Three categories are delineated by federal law for Part C services, and 13 categories are delineated for Part B services (see Table 4.1 for a list of the categories for Part C and Part B, Section 619). States, in turn, are responsible for delineating more specific requirements for each category that conform to the federal definitions but provide specific guidelines for use by assessors to determine who is eligible and who is not eligible within their jurisdiction.

Variations in eligibility categories and eligibility determination systems exists across states, particularly with respect to whether and how the 13 Part B disability categories are applied (Danaher, Shackelford, & Harbin, 2004). For example, not all states include the category of developmental delay for preschool services. According to IDEA Part B, developmental delay can be a category for children between the ages of 3 and 9. Even among those states that do include a category of developmental delay, there is variation in the age range that is identified (Danaher, 2007). Most states require an assessment of the individual child's level of functioning relative to the typical functioning of same-aged peers as part of eligibility determination (Danaher, 2007; Shackelford, 2006). When developmental delay is used as an eligibility category either in Part C or for preschool children, eligibility criteria decisions typically are informed by a cutoff score designated either by standard deviation units below the mean or percent of delay in months by comparing an age equivalent score to chronological age. *Norm-referenced instruments* that consider a child's score relative to the score of a representative sample of children of the same age have traditionally been used for determining eligibility for early intervention or special education services.

Program planning assessment serves the purpose of informing decisions about the goals or outcomes to be specified on the individualized education program (IEP) for preschool children or the individualized family service plan (IFSP) for infants and toddlers, as well as special services to be provided and the service delivery format. Young children with disabilities should have access to and participate in the general preschool curriculum. Assessments used for program planning should help inform decisions about the individualized instruction or supports that a young child with disabilities needs to access and participate in the general preschool curriculum (Grisham-Brown, Hemmeter, & Pretti-Frontczak, 2005). Norm-referenced instruments typically are not designed for the purpose of informing decisions about individualized intervention goals or outcomes. *Criterion-referenced instruments*, however, help inform decisions about whether a child has met an established criterion level of performance in relation to skills that are deemed relevant and important. Criterion-referenced assessments provide data useful for informing decisions about "success or failure to meet some previously determined objective rather than providing information about the child's performance relative to other children his age" (Bailey, 2004, p. 34). Curriculum-based assessments (CBA), also referred to as curriculum-referenced assessments, are a specific type of criterion-referenced assessments that are directly aligned with a curriculum (Slentz & Hyatt, 2008). Curriculum-based assessments are used widely for informing decisions about program planning. Additional information about the child's disability-related needs as well as information about child and family routines and family or teacher priorities for intervention will also inform program planning decisions for a child, resulting in an individualized plan for intervention as designated by the IEP or IFSP.

Assessment for the purpose of *monitoring child progress* is also required by the Individuals with Disabilities Education Act. Several sources of data can be gathered and evaluated to inform progress-monitoring decisions. Goals and outcomes written on the IEP and IFSP must be written so that they are measurable. Child progress toward reaching the goals and outcomes must be reviewed with parents every six months for infants and toddlers, and every year for preschool children. This review serves as the basis for identifying changes that should be made in intervention goals, strategies, or services. Data from curriculum-based assessments, when administered repeatedly on a specified schedule (e.g., two to four times a year), can be used to inform decisions about progress related to curricular content. In recent years, the practice of gathering data more frequently on children's progress to inform decisions about their progress toward generalized outcomes has also been identified as important within a system of data-based decision making (Carta, Greenwood, Walker, & Buzhardt, 2010). A system referred to as curriculum-based measurement (CBM) that includes measures that are brief, targeted, and administered frequently are used to inform decisions about children's progress on key skill indicators that are associated with generalized outcomes. For example, Carta et al. describe a CBM measure related to a generalized movement outcome and how data from this measure might be used to inform decisions about child progress in relation to key skill indicators such as horizontal and vertical movements, throwing/rolling, and catching/trapping. CBM is useful for informing progress-monitoring decisions because it provides time-series information on the progress (level and slope of change) that individual children or groups of children are making. This approach to formative evaluation of child progress has also been referred to as "critical skills mastery" and is characterized by the assessment of specific skills that are sequenced according to difficulty within domains (Deno, 1986).

Program evaluation has been defined as the process of "systematically collecting, synthesizing, and interpreting information about programs for the purpose of assisting with decision making" (Snyder & Sheehan, 1996, p. 359). *Accountability* is a type of program evaluation and has been defined as the "systematic collection, analysis, and use of information to hold schools, educators, and others responsible for the performance of students and the education system" (Education Commission of the States, 1998, p. 3). Assessment for the purpose of accountability has been mandated by the most recent reauthorization of IDEA (2004). Prior to IDEA 2004, program evaluation in EI/ECSE was typically based on the requirements of funding agencies and often focused on assessing "process" variables such as hours of service, staff qualifications, or the ratio of the number of staff to the number of children served. The K–12 educational system, however, gradually came under increasing pressure to demonstrate results in the form of increased student achievement, and a similar requirement for demonstrating results for young children is in place for infants, toddlers, and preschoolers with disabilities under IDEA (Division for Early Childhood [DEC], 2007). At this time, however, a requirement for submitting child outcomes data for the purpose of accountability is not required by Head Start, by most state-funded early care and education programs, or by kindergarten or early elementary programs in the public schools.

Regardless of the purpose, the assessment process results in information that can be summarized and used to make decisions. The most common way to use information from assessment to make decisions is to evaluate scores or score patterns within a child (across subscales or time), across a group of children, or referenced to some external criteria (e.g., the performance of a norming group or academic standards). To compare information across subscales or groups of children, scores must be reported in a common metric. In the preceding sections, we talked about several metrics, including: met/not met as a criterion for evaluating progress on IEP goals, and progress toward generalized outcomes measured by reviewing change in scores within a child over time and referencing to expected performance. Many different metrics can be designed and used to summarize information and make decisions based on assessment results. In the next section, we will review some of the most common metrics and discuss the benefits and drawbacks of each.

METRICS FOR SUMMARIZING INFORMATION FROM ASSESSMENTS

When data are gathered through assessment, most frequently the data are based on a set of responses to individual items. The items often represent several different areas of development or constructs (e.g., motor, communication, social skills). Test developers combine items measuring similar constructs into sets. Each item in a set is considered to be an independent measure of the construct, and often the optimal measure of the construct is obtained by combining item responses across the item set. There are many different ways to combine a set of items, including adding them all together or computing the average item response. Test publishers often specify a preferred method for combining item responses, and this method is often linked to normative data. Those who administer assessments, interpret scores, and make decisions based on these scores need to understand how the test publisher or other users of the assessment have combined item responses, and they should use the same methods to score assessments.

Within EI/ECSE, a set of common metrics is used with many assessments. Any metric is based on item responses, and the quality of item responses determines the quality of the metric. As more items are included in an item set, the effects of a poorly designed item is diminished (Cronbach, 1951). Many metrics start with a raw score or the sum of the items within a set. The following section will describe two different types of metrics that can be derived from raw scores.

Transformed Scores

Raw scores can be transformed into metrics that provide the user with more information about a child's performance relative to the entire item set or relative to their previous performance on the same item set. The most common metrics of transformed scores are percent correct, average item response, and growth scores. *Percent correct* is the percentage of the items within the item set with correct responses. This metric ranges from zero to 100 percent and gives the user an idea of how close the child is to responding correctly to all the items. The benefit of this metric is that it is easily explained and interpreted by nontechnical users. The *average item response* is the sum of all item responses within the set divided by the highest possible score for the item set. The range of this metric is dependent on the range of the items. For example, for an item set where items can have a response between 0 and 5 and there are five items, the highest possible score would be 25, and the average item response would be determined by summing the response for all five items and dividing by 25. The average item score would range from 0 to 5. The benefit of this metric is that it is similar to the metric of the items. To the degree that the user understands how a child's ability is defined across different rating points in the item, she can interpret the average score.

Growth scores refer to a set of metrics that compare a child's performance to their own performance across time. For example, to determine whether a child is gaining new skills in preschool, many systems administer assessments at the beginning and the end of the school year and then compare scores between the two time points. To compare the scores, the change in raw scores or the sum of item responses at the end of the school year minus the sum of item responses at the beginning of the school year can be compared. Similarly, the change in average score or the average score at the end of the school year minus the average score at the beginning of the school year can be compared. The benefit of these growth metrics is that they can be easily combined across children or classrooms. All of the metrics just described share an important weakness: they do not take into account what is expected performance or growth. Without including information about expected performance, it is difficult to judge if the scores indicate sufficient acquisition or mastery of skills associated with the construct. To help inform decisions about a child's performance relative to expectations, referenced scores can be computed.

Referenced scores are scores that have been mapped to the performance of a reference sample or set of standards. It is critically important that users of these types of scores understand the characteristics of the sample or standards that were used for this mapping (American Education Research Association [AERA], American Psychological Association [APA], National Council on Measurement in Education [NCME], 1999). These referenced scores are only useful if the sample or standards used to derive them permit meaningful inferences and comparisons. Inferences and comparisons are meaningful if the characteristics of the sample or standards are relevant to your current context (e.g., the standards are based on constructs that you are currently teaching in your class, the children in the norming sample are representative of the children that you are assessing). Three types of referenced scores will be described: age equivalent scores, standard scores, and criterion referenced scores.

Age equivalent scores are typically a transformation of raw scores. Data are collected on a representative sample of children of different ages. The performance of children within different age groups is computed from this sample, and the expected raw score by age group is defined. The average performance is typically estimated using the median raw score of the norm group; however, it is often necessary to use statistical modeling to smooth the medians across age groups. An example of an assessment where the performance of a norming sample is used to create age equivalent scores is the Battelle Developmental Inventory, Second Edition (BDI-2; Newborg, 2005a, 2005b). For the BDI-2, data were collected on 2,500 children that represented the entire age range of the instrument and were representative of national demographics based on census regions. To calculate the age at which a raw score is typical, the observed median raw scores for each subdomain and each age group was plotted across ages and smoothed when necessary (Newborg, 2005a, 2005b). This information is typically presented as a table listing raw scores by the age or age range when that raw score is typically achieved. When item responses within an item set are totaled for an individual child, the child's raw score is located in the table described above and an age or age range is linked to that score. The benefit of this metric is that it is easily interpreted by users given the score is reported in months or years, which is an intuitive metric.

Standard scores are used to describe a child's functioning relative to a group of children that would be expected to be performing at the same level as the target child. For example, standard scores would compare the performance of a 3-year-old child to the performance of a representative sample of other 3-year-old children. Standard scores use the mean and the standard deviation of the representative sample to describe the expected performance and spread of performance within a group of children. It is important to note that the use of standard scores assumes that the distribution of raw scores in the comparison group was a normal distribution. Standard scores are often presented in a metric with a mean of 100 and a standard deviation of 15, although other forms of standard scores exist (e.g., standard score of 40 with standard deviation of 10). This makes it easy for users with an understanding of means and standard deviations to interpret standard scores. For example, if a child has a standard score of 70, it is understood that the child is performing two standard deviations (100 – [15 + 15] = 70) below the mean of the comparison group.

Criterion-referenced scores are scores that are referenced to a set of criteria. These scores are seen most frequently in standards-based assessment where it is being determined whether a child is meeting a set of standards or benchmarks appropriate for his age. The logic used to derive these scores is similar to that used for creating standard scores; however, instead of using the performance of a representative sample to determine the raw score expected for a group of children, the behavioral criterion defined by an external standard is used. It is important to note that these external standards are typically both empirical and theoretical. This is a benefit to the extent that the theory behind the external criteria is predictive of outcomes. Criterion-referenced scores are typically presented as either a pass/fail metric where a child meets or fails to meet a criterion or a range of scores that describe distinct proficiency levels—for example, at or above basic, at or above proficient, and at advanced (AERA, APA, NCME, 1999).

THE CHANGING LANDSCAPE OF ASSESSMENT PRACTICES

Recent influences in general education, special education, and early childhood care and education assessment practices have impacted assessment in EI/ECSE. Programs serving infants, toddlers, and preschoolers with disabilities feel the impact of these influences through changes in federal, state, and local requirements, through changes in the identification of recommended practice by professional organizations, and through new developments in published materials. Increased assessment requirements in an era of decreased funding for services have made it important to develop carefully and strategically an overall plan for quality assessment. Service providers might find that they must respond to very specific yet different assessment requirements for the various agencies that fund their programs. Increased pressure on providers to satisfy a myriad of assessment requirements has prompted assessors to question that cardinal rule of assessment that assessment instruments should be used only for the purpose for which they were developed. For example, Bricker, Squires, and Clifford (2010) recently discussed the need to expand the use of the ASQ screening tool to include eligibility-determination, program-planning, and progress-monitoring functions and the responsibilities that would accompany such decisions.

At the same time, research and changing models in general education and special education have resulted in new approaches to assessment that call into question the traditional purposes of assessment. For example, response-to-intervention models being used in preschool (e.g., Recognition and Response; Buysee & Wesley, 2006) has resulted in the need to redefine the purposes and recommended procedures for screening. The early work of the Early Childhood Research Institute on Measuring Growth and Development, which developed the Individual Growth and Development Indicators (IGDIs) (Greenwood et al., 2008) and the current work of the Center for Response to Intervention in Early Childhood (http://www.crtiec.org) have also influenced contemporary assessment practices related to screening and data-based decision making, including progress monitoring. Other issues and innovations that are influencing assessment practices for young children are also important to consider.

Role of Assessment in Standards-Based and Accountability Contexts

Stakeholders in early childhood education and early childhood special education attach clear accountability expectations to the programs that they participate in and fund (National Association for the Education of Young Children [NAEYC], 2003). Policy makers want to know the answers to questions such as "Do children who receive special education services perform better in elementary school than similar children that do not receive those services?" "Do children who receive early intervention meet educational standards in third grade?" To answer these and other questions, assessment systems that span birth through adulthood are needed. The challenges to implementing these systems are formidable, but solutions are a priority of both state and federal agencies (e.g., Race to the Top; U.S. Department of Education, 2009).

Standards-based education and accountability initiatives are shaping the types and frequency of assessments for children who are receiving services in early childhood settings. More and more programs are held accountable for the progress of children that receive their services. This progress is measured in different ways in different areas and for different types of children. To determine if children make sufficient progress, their progress must be measured and compared to a set of valid expectations. Some common metrics for looking at child progress include developmental status after receiving services (e.g., kindergarten readiness) and growth between the beginning and end of services. Expectations can be related to state standards for early childhood or amount of progress relative to similar children. Child progress information then needs to be summarized at the program level in a metric that can be used to judge the sufficiency of child progress in the program relative to some criterion or standard. States that are implementing standards-based early childhood education will need to know the number of children that are meeting the state standards. Accountability initiatives will often use a different metric, like the number of children that entered below age expectations that "close the gap." One important impact of standards-based and accountability assessment is the need for tests in early childhood that can be used to compare a child's functioning to age-level expectations. Assessments that have been used to meet this new purpose include those typically used for eligibility assessment, and fewer used for program planning. It is important to keep in mind recommended practices in assessment in EI/ECSE as large scale standards-based and accountability assessment are developed.

Impact of Standards-Based Education

In 2004, 41 states had early learning standards (Scott-Little & Kagan, 2004). Linking assessment to state standards ensures that children's learning is aligned to state expectations about what young children should know or be able to do. Assessment systems that measure children's progress toward standards can be used to monitor implementation of standards-based early education. This supports equality of educational expectations across regions in a state or across different classrooms. Many different approaches have been used to link assessment to standards for K–12. Currently, two primary approaches are used to assess children's learning as it aligns to state expectations. One method is to develop an assessment that is aligned to the state standards. This allows precise measurement of the achievement of standards using a method that is easily understood by consumers. The challenge to developing this type of instrument is putting together an instrument development team with the appropriate content and measurement expertise. Also, assessments that are directly aligned to standards will need to be revised as standards are revised, which can be an expensive process. A second method that can be used to measure children's learning as it aligns to state standards is to select an existing assessment or set of assessments that meet standards of best practices and cover the constructs included in the standards. The items from these assessments will be aligned to standards by reviewing the behaviors measured by the items and comparing them to the behaviors in the standards. This method allows states to use assessments that teachers and programs are familiar with and may already be using for a new purpose. One drawback of this method is the difficulty of computing one metric across several assessments.

Accountability Requirements

Beginning in 2006, all states were required by the Office of Special Education Programs to report on the progress that children birth to age 5 who participate in EI/ECSE attain across three child outcomes including: positive social emotional skills (including positive social relationships), acquisition and use of knowledge and skills (including early language/communication [and early literacy]), and use of appropriate behaviors to meet needs. For each of these outcomes, states report the percentage of children in each of five categories of progress, ranging from "did not improve functioning" to "maintained functioning at a level comparable to same-aged peers." When this requirement was released, many states had to rapidly mount a child outcomes measurement system. Currently, the Child Outcomes Summary Form (COSF; Early Childhood Outcomes Center, 2006) is used to summarize status and progress on the three outcomes described earlier by most states, including 41 (73%) states for Part C measurement and 36 (61%) for Part B

619 measurement (Office of Special Education Programs & TA&D network, 2010a, 2010b). The COSF is a judgment-based rating scale that is completed by the IEP of IFSP team based on information from other assessments.

Other states use the scores from commercially available assessments or state-developed tools to directly measure outcomes without using the COSF. For states that are using other tools, items from the assessments are aligned to the three OSEP outcomes, and these items are combined into three item sets representing each of the three OSEP outcomes. States using the COSF also refer to the crosswalks between items and OSEP outcomes as a tool for interpreting assessment information (Early Childhood Outcomes Center, 2006). These item sets are scored and referenced to some standard based on either the performance of a norm group or a set of external standards for performance, like early learning standards. The most frequently used assessments for Part B 619 are the Creative Curriculum Developmental Continuum used by 22 states and the BDI-2 used by 20 states (Office of Special Education Programs & TA&D network, 2010). The most frequently used assessments for Part C are Hawaii Early Learning Profile (HELP), used by 31 states, and the Assessment and Evaluation and Programming System for Infants and Children (AEPS), used by 23 states.

Increasing Diversity in Children and Families

The population of children and families in the United States who receive early childhood education or EI/ECSE services is increasingly diverse. The 2008 Kid's Count Data for the State of California, for example, shows that 50 percent of children birth through age 5 in the state of California are Hispanic or Latino (http://datacenter.kidscount.org). Children in early childhood programs mirror the racial, ethnic, cultural, linguistic, and socioeconomic diversity of the society in which they live. Early childhood programs are more likely than school-age programs to have children who have not yet learned to speak English and perhaps also to serve families who do not speak English. In some cities and parts of the country, the number of different languages that are spoken by children entering early childhood programs and their families creates a particular challenge for obtaining valid assessment information. Assessors need to be aware of the issues involved in assessing children who are culturally and linguistically diverse, and they also need to be aware of how to access the resources needed to obtain valid assessment information.

Specifying a Language for Assessment

Children who are learning a second language are a heterogeneous group. The degree of proficiency achieved in each language will depend on when and how extensively the child has been exposed to each of the languages. Some children in early childhood programs may have very little skill in English; others may have some skill in English but more skill in their home language. Still others may receptively understand some English but produce very little of it. In planning for appropriate assessment procedures, it is important to consider each child individually and to gather information prior to the assessment that will allow planning for the most individually appropriate assessment procedures.

The Individuals with Disabilities Education Act (IDEA) is clear about the procedures that are to be followed for evaluation to determine eligibility for special education services. Children are to be assessed in their dominant language. The dominant language is the language the child prefers to speak and speaks most proficiently at the time of the assessment (Roseberry-McKibben, 1994). According to IDEA, children who are English language learners (ELLs) who have been referred for evaluation to determine eligibility for special education services should first be assessed to determine their dominant language. Determining the dominant language is, however, frequently a complex undertaking that may require the skills of a speech and language pathologist working in conjunction with others. For young children, this process may require observation of the child in an environment where he or she is comfortable and likely to be uninhibited about speaking. In addition, it may be necessary to interview caregivers and family members about the child's typical language outside of the early childhood setting.

The effect of acquiring a second language on a child's cognitive, language, and social development can be complex. It is generally believed that learning a second language may enhance cognitive and social development (Ben-Zeev, 1977). However, it is also believed that the process of learning a second language may actually result in an interaction between the two languages that could reduce the child's proficiency in both languages at least temporarily (Schiff-Myers, 1992). As a result, it is recommended that children be assessed in both their home language and also in the second language so that information will be available from both conditions (California Department of Education, Special Education Division, 2007; Quinones-Eatman, 2001; Tabors, 2008).

Assessment Methods

A position statement developed by the Division for Early Childhood (DEC) for the purpose of providing recommendations for curriculum, assessment, and program evaluation specifies that assessment methods for young children should be "culturally and linguistically responsive" to limit bias in assessment (DEC, 2007, p. 11). Identifying appropriate assessment instruments and strategies for children from cultural and linguistic environments that differ from the mainstream society can be a challenge, but certainly must be addressed. Most instruments that are norm-referenced have not included children from culturally or linguistically diverse backgrounds in the norming population. As a result, bias is introduced into the outcome of the assessment. The assessor should consult the examiner's manual of the instrument being used to determine how appropriate it is for a particular child relative to culture and to language. If the child being assessed is different from the children included in the norming population, then the instrument scores should not be reported.

The use of observational rather than adult-directed assessment strategies would seem to be appropriate for reducing bias in assessment (Tabors, 2008). Most indicators that are included in criterion- or curriculum-referenced assessments have been derived from constructs of child development that were identified from research involving children growing up in mainstream society who speak English. While bias is perhaps less of a threat, it is still the case that the items or benchmarks being used to guide authentic assessment may not be a match culturally for the child. Similarly, observation of the child's language in authentic situations will need to be inclusive of both the home language and English to be most accurate and informative.

Recognition of the Importance of Assessment Procedures That Are Ecologically Valid

The field of EI/ECSE has been strongly influenced by an ecological model of human development, which considers the influence of the environment and various systems within the environment when planning intervention services for young children with disabilities and their families (Bailey & Wolery, 1992). The influence of the ecological model has been no less impactful on assessment practices for young children. In the past 25 years, assessment practices for young children have been transformed from highly structured, adult-directed assessment to assessment practices that rely on observational assessment of children in familiar environments over time (Bagnato, Neisworth, & Pretti-Frontczak, 2010). This change to ecologically valid assessment practices is evident in the standards and position statements of the major professional organizations, including the Division for Early Childhood (DEC) of the Council for Exceptional Children (DEC, 2007; Sandall, Hemmeter, Smith, & McLean, 2005) and the National Association for the Education of Young Children (NAEYC) (NAEYC, 2003).

Assessment that is based on observation of the child over time in the typical environment with familiar caregivers while engaged in real-life activities is referred to as "authentic assessment." As defined by Bagnato and Yeh-Ho (2006), "authentic assessment refers to the systematic recording of developmental observations over time about the naturally occurring behaviors and functional competencies of young children in daily routines by familiar and knowledgeable caregivers" (p. 16). The difficulties involved in the use of conventional norm-referenced tests with young children with disabilities (Neisworth & Bagnato, 2004) along with the realization that authentic assessment yields immediately useful and valid information for planning and evaluating intervention has led to a significant shift toward the use of authentic assessment strategies (Bagnato, 2007; Meisels, 2006). This shift has increased the need to ensure that assessors and service providers are knowledgeable and skilled in the behaviors required to conduct authentic assessments of children over time in typical environments and to gather information from parents and other care providers to be used in conjunction with ongoing observations.

Parents and Primary Caregivers as Part of the Assessment Team

Parents and primary caregivers observe and interact with young children over time and across a variety of settings. They are uniquely situated to observe continuity and discontinuity in child development and behavior across time, settings, and people. Although practitioners often acknowledge that, "parents [or primary caregivers] know a child best," assessment practices in EI/ECSE often contradict this adage. The roles parents and primary caregivers should or would like to assume in assessment often are not consistently enacted or explicitly discussed.

Gathering information from families and primary caregivers about child development and behavior is essential for making *ecologically* *valid* assessment decisions. As noted by Suen, Lu, Neisworth, and Bagnato (1993), given different perspectives and contexts in which development and behavior is observed, assessment data contributed by families or primary caregivers should be considered independent rather than interchangeable with data provided by others who are less familiar with the child. Convergent data between families or primary caregivers and others less familiar with the child might suggest consistency in child development and behavior across people and settings. Data that are not convergent should not be viewed as problematic; rather, they should set the occasion for focused discussions by families and practitioners about what types of decisions will be made based on the information that has been gathered and the assessment questions to be addressed.

Gathering information from families and primary caregivers is especially important when an assessor has limited contact with a child. For example, if the child attends an early childhood program and receives only related special education services, such as speech therapy, then the primary IEP service provider might find it useful to ask both the family and the general education teacher for their observations about the child's development and behavior. Asking parents to share their observations is also particularly useful for those skills the child might not demonstrate routinely in the early education or care setting. For example, a teacher or therapist is not likely to observe a child's self-care skills during bathing.

Ecologically Valid Assessment

Given variability in child development and behavior across time, people, and settings, parental and primary caregiver perspectives are likely to differ from assessment data gathered at a static point in time, by adults unfamiliar with the child, and in situations that might not be familiar to the child. As Uri Bronfenbrenner noted when characterizing the use of analogue or laboratory settings to study child development, child assessment conducted under these conditions represents "the science of strange behavior of children in strange situations with strange adults for the briefest possible period of time" (Bronfenbrenner, 1977, p. 513). Assessments conducted only under these conditions are not considered ecologically valid because they do not contribute information about child development and behavior beyond the immediate situation.

More than 20 years ago, Bailey (1989) characterized key components of ecologically valid assessment. He suggested that ecologically valid assessments are those that (1) involve parents as significant partners in assessment processes; (2) focus heavily on naturalistic observation of child behavior during everyday routines and activities and how these behaviors are integrated for functional use; (3) are nondiscriminatory by considering a child's learning history, cultural background, and family values; and (4) consider subsequent environments in which the child will participate and identify behaviors and skills likely to be needed by the child in these environments. These components are consistent with contemporary recommended assessment practices in EI/ECSE (Bagnato & Neisworth, 2005; DEC, 2007). Nevertheless, we have yet to implement fully ecologically valid assessment practices in EI/ECSE.

The Role of Families in Assessment

Despite the identified benefits of having data gathered from parents or primary caregivers inform assessment decisions, practitioners frequently question whether information provided by parents or primary caregivers about child development and behavior is reliable and valid. Reliability reflects the extent to which information is consistent, or free from error, including consistent across time or observers. Validity refers to the types of meaningful inferences that can be made from information or data provided. For example, language samples gathered from young children in authentic settings might permit meaningful (valid) inferences about a child's communication skills.

Two terms have historically dominated the empirical literature focused on examining the reliability and validity of parental perspectives about child development and behavior: overestimation and underestimation. The term *parental overestimation* initially appeared in empirical studies conducted from the early 1950s through the 1990s that examined parent and professional congruence (meaning consistency or agreement) about child developmental and behavioral status. Many of these studies reported that parents overestimated their child's developmental status or behavior when compared to estimates obtained from professionals (see Dinnebeil & Rule [1994] and Snyder, Thompson, & Sexton [1993] for a review of this research). These studies suffered from procedural or methodological limitations, however, and did not permit definitive conclusions about parental overestimation. For example, in many studies, different instruments were used by parents and professionals to report perspectives about child development or behavior. Parents often completed judgment-based rating scales designed to gather information about child development or behavior, while professionals administered a standardized test directly to the child. These variations in the instruments and approaches used to gather information introduced confounds that led researchers to suggest that parental overestimation might be an artifact of the methods used.

In the 1980s, Beckman (1984) and Gradel, Thompson, and Sheehan (1981) suggested that it might be equally likely that professionals *underestimate* child status, particularly when professionals only gather information at a single point in time in a standardized testing situation. In fact, Snyder et al. (1993) found that 73 pairs of primary caregivers and parents had very high levels of consistency and agreement about child development and behavior when they completed the same instruments in the same way and had repeated opportunities to observe the 73 children in the study sample over time. These findings suggest that not only are family observations reliable and valid, but they are an essential part of a comprehensive assessment process.

Do Family Observations Have to Agree with Professional Observations?

Although congruence (i.e., consistency or agreement) in observations might be important in some situations, contemporary perspectives in early childhood assessment suggest that both parents and professionals have important information to share about children. As Suen, Logan, Neisworth, and Bagnato (1995) noted, professional observations are reliable snapshots of children's behavior in certain settings (e.g., classrooms), whereas parental perspectives are based on a full-length feature film that provides rich information to enhance professional observations. Thus, rather than focusing on parental overestimation or professional underestimation, the value of each perspective for gaining a more complete and convergent picture of the child across people, settings, and time should be recognized.

IMPLICATIONS FOR BUILDING COMPREHENSIVE AND INCLUSIVE ASSESSMENT SYSTEMS

The previous sections of this chapter have focused on the changing landscape of assessment in EI/ECSE. The populations being assessed and the methods being used to conduct and understand assessments are changing and will continue to change. For the first time, as a result of federal accountability initiatives, states are faced with the challenge and the opportunity of building statewide systems of assessment in EI/ECSE to address accountability requirements. Building such a system provides states with the opportunity to consider assessment in general and also to attempt to develop an appropriate and useful system for purposes other than accountability. With budget cuts leading to reduced funding available to programs, any assessment system must be efficient and must provide information that can be used to information decision making at multiple levels from program planning to presenting progress data to the legislature. This final section will describe key components to consider in the development of assessment systems that are both efficient and useful.

The first step to developing a high-quality assessment system is to determine the purpose of the system and communicate that purpose to others (Early Childhood Outcomes Center, 2009). The purpose should include statements about why data are being collected and how data will be used. The purpose should also define who will use the data and for what purposes (e.g., providers will use assessment data to monitor progress on state standards; state agency will use the data to report on child outcomes to the legislature). The importance of collecting information about all components of the service delivery system should be considered. Decisions will be made about which components are critical, and other components may be phased in over time. Stakeholders are critical to determining priorities for the data elements, frequency of data collection, and service components to be included in the assessment system. Stakeholders can help set these priorities because they understand how the data elements manifest in the system and how the system will impact the service delivery system. Once the purpose has been developed, it should be made available to local administrators, providers, and the general public (e.g., on the Web, in family brochures, in training manuals), and comments should be systematically collected. Sharing the purpose will provide opportunities for people to react to the system, allowing adaptations to be made before the expensive work of systems development is underway.

Once the purpose and scope of the assessment system has been determined, it is important to decide on the data collection and transmission approach that best fits the assessment system and currently implemented data collection efforts and implement this approach (Early Childhood Outcomes Center, 2009). Recommended practices in assessing young children should be considered. To ensure that data are of high quality and not compromised by misunderstood procedures, policies and procedures must be clear and readily accessible to the people implementing the assessment system. Often this additional assessment requirement will be placed on staff that is already overburdened. To minimize the burden of tracking data collection and submission timelines on staff, it is important to make processes available that facilitate efficient and complete data collection (e.g., weekly reminders about deadlines, administrative reports that pinpoint data issues that must be resolved before data can be reported). To minimize the burden on staff and the children being assessed, it is important to ensure there is no duplication in collection of data elements and that timelines for all systems are aligned. Before a set of assessments and timelines are defined, those that are currently implemented across the settings where children are served should be reviewed (e.g., children served by preschool special education and Head Start). Existing assessment systems should be considered and incorporated as much as possible. As with all procedures, data collection and transmission procedures should be reviewed as needed based on needs of the field or state agency.

The final piece is to develop a comprehensive communication plan for interpreting, reporting, and disseminating data to relevant audiences, including families (Early Childhood Outcomes Center, 2009). This communication plan should include the potential audiences, tasks, timeline, frequency, and draft formats for reports. Representative stakeholders (e.g., families, providers, administrators) should be included in the process of review and interpretation of reports. It is important to prioritize reporting needs. It is often the case that once data become available, many different types of stakeholders become interested in having access to the data. The original purpose of the assessment system should be a guide in prioritizing reporting needs. For example, if it is important that the assessment system provides information that is helpful to teachers for program planning, reports that summarize individual child and classroom status and progress will be prioritized.

Although the process seems daunting, a well-planned and intentionally implemented assessment system will be well worth the effort. A system that allows stakeholders to quickly access summarized data relevant to the questions they want to answer will facilitate the use of information to improve services. A helpful tool that has been developed for implementing this process is the Early Childhood Outcome Center's Outcomes Measurement System Framework and Self Assessment (Early Childhood Outcomes Center, 2009). This includes a self-assessment that can be used to rate the level of implementation of 18 Quality Indicators identified as important for high-quality assessment and use of information by experts and stakeholders.

Selecting Appropriate Assessments for EI/ECSE

To aid readers in making decisions about assessments, we have developed the following checklist. It includes considerations that are described in more detail throughout the chapter. The reader should consider each item and how it will affect the end result of the assessment.

1) *What is the purpose of assessment?* Consider why you are conducting this assessment, there could be multiple purposes.
2) *What is the unit of assessment?* Given your purpose, what is the appropriate unit for assessment? For example, if the purpose is to examine program quality, classrooms may be the unit; if the purpose is to examine child progress in response to a new curriculum, children may be the unit.
3) *Who will complete the assessment?* Decide who within your network of resources is available to complete the assessment (e.g., care providers, parents, teachers, outside evaluators).
    a. Consider how this additional assessment work can be integrated with the responsibilities already held by the assessor.
    b. How long will it take to have the assessment administered with fidelity? Consider the match between the skills of the assessor and the training requirements of different assessments.
4) *What is the financial burden of the assessment?* Consider the costs of the assessment relative to benefits and compare to less expensive alternatives.
    a. Will you need to purchase test booklets?
    b. Will you need to pay for online subscriptions?
    c. What is the cost of training? Can it be done by program staff, or do outside experts need to conduct the training?
5) *Characteristics of the assessment unit*: Consider the natural variation present in the assessment unit. (For example, do the children that will be assessed speak multiple languages? Do the programs have differing levels of parent involvement?)
    a. Consider the appropriateness of the assessment across cultures including the effect of home language on scoring.
    b. Consider the flexibility of the assessment across settings.
6) *Alignment of assessment to best practices*: Does the assessment meet standards for best practices in EI/ECSE?
7) *How will information be summarized?* Consider how you will need to report the results of your assessment process, and make sure

that the scores from the assessment can be summarized in a way that is meaningful.

a. What audiences will need to use the information?
b. Does the assessment provide reports in a format understandable to lay people?
c. How will the information be combined? Ensure that the same information is gathered in the same way across all units that will be combined.
d. How will information be interpreted? Do you have the information you need to answer the questions you laid out in your vision for the assessment?

CONCLUSION

Assessment of young children with disabilities provides important information for parents, teachers, care providers, and stakeholders in EI/ECSE. Assessment is a tool that can used to inform decision making when it is conducted appropriately. In the design and implementation of an assessment system, users should consider the purposes for the system, the diversity of the population to be assessed, the alignment of administration procedures to best practices, and the impact of the process on the participants. In this chapter, we have highlighted current issues in assessment of young children with disabilities, including: new purposes for assessment, including families; assessing children who are culturally and linguistically diverse; accountability; and progress monitoring. We have presented information about current best practices in assessment for young children with disabilities.

Assessments are useful only if scores can be used for their intended purpose. Some purposes of early childhood assessment that were discussed in this chapter include (1) screening, (2) determining eligibility for early intervention or special education, (3) program planning, (4) monitoring child progress during intervention, and (5) program evaluation or accountability. Strategies were presented that make assessment systems more efficient, including include designing assessment systems that include all young children (including families in the assessment planning and implementation process), using assessments that are collaborative and developmentally appropriate, and regularly monitoring data quality. Information from well-implemented assessment systems provide information that can aid in making decisions that improve the lives of children and families.

REFERENCES

American Educational Research Association (AERA), American Psychological Association (APA), and the National Council on Measurement in Education (NCME). (1999). *Standards for educational and psychological testing*. Washington, DC: AERA.

Bagnato, S. J. (2007). *Authentic assessment for early childhood intervention*. New York: Guilford Press.

Bagnato, S., & Neisworth, J. (2005). Recommended practices in assessment. In S. Sandall, M. L. Hemmeter, B. J. Smith, & M. E. McLean (Eds.), *DEC recommended practices in early intervention and early childhood special education*. Longmont, CO: Sopris West.

Bagnato, S. J., Neisworth, J. T., & Pretti-Frontczak, K. (2010). *LINKing authentic assessment and early childhood intervention: Best measures for best practices* (4th ed.). Baltimore: Paul H. Brookes.

Bagnato, S., & Yeh-Ho, H. (2006). High-stakes testing of preschool children: Violation of professional standards for evidence-based practice. *International Journal of Korean Educational Policy, 3*(1), 23–43.

Bailey, D. (1989). Assessment and its importance in early intervention. In D. Bailey & M. Wolery (Eds.), *Assessing infants and preschoolers with handicaps* (pp. 1–21). Columbus, OH: Merrill.

Bailey, D. (2004). Tests and test development. In M. McLean, M. Wolery, & D. B. Bailey, Jr. (Eds.), *Assessing infants and preschoolers with special needs* (3rd ed., pp. 22–44). Upper Saddle River, NJ: Pearson, Merrill, Prentice Hall.

Bailey, D., & Wolery, M. (1992). An ecological framework for early intervention. In D. Bailey & M. Wolery (Eds.), *Teaching infants and preschoolers with disabilities* (2nd ed.). Englewood Cliffs, NJ: Merrill Prentice Hall.

Beckman, P. (1984). Perceptions of young children with handicaps: A comparison of mothers and program staff. *Mental Retardation*, *22*, 176–181.

Ben-Zeev, S. (1977). The influence of bilingualism on cognitive strategy and cognitive development. *Child Development, 48*(3), 1009–1018.

Bricker, D., Squires, J., & Clifford, J. (2010). Developmental screening measures: Stretching the use of the ASQ for other assessment purposes. *Infants and Young Children, 23*(1), 14–22. doi:10.1097/IYC.0b013e3181c816cc

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7), 513–530.

Buysee, V., & Wesley, P. (Eds.). (2006). *Evidence-based practice in the early childhood field*. Washington, DC: Zero to Three.

California Department of Education, Special Education Division. (2007). *Assessing children with disabilities who are English language learners: Guidance for the DRDP access and the PS DRDP-R for Children with IEPs*. Retrieved from the Desired Results *access* Project, http://www.draccess.org/pdf/guidancefordrdp/ELGuidance.pdf

Carta, J., Greenwood, C., Walker, D., & Buzhardt, J. (2010). *Using IGDIs: Monitoring progress and improving intervention for infants and young children*. Baltimore: Paul H. Brookes.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297–334.

Danaher, J. (2007, May). Eligibility policies and practices for young children under Part B of IDEA. *NECTAC Notes, 24*. Chapel Hill, NC: Frank Porter Graham Child Development Institute, National Early Childhood Technical Assistance Center.

Danaher, J., Shackelford, J., & Harbin, G. (2004). Revisiting a comparison of eligibility policies for infant/toddler programs and preschool special education programs. *Topics in Early Childhood Special Education, 24*(2), 59–67. doi:10.1177/02711214040240020101

Deno, S. L. (1986). Formative evaluation of individual student programs: A new role for school psychologists. *School Psychology Review, 15*, 358–374.

Dinnebeil, L., & Rule, S. (1994). Congruence between parents' and professionals' judgments about the development of young children with disabilities: A review of the literature. *Topics in Early Childhood Special Education*, *14*(1), 1–25. doi:10.1177/027112149401400105

Division for Early Childhood (DEC). (2007). *Promoting positive outcomes for children with disabilities: Recommendations for curriculum, assessment, and program evaluation*. Missoula, MT: Author.

Early Childhood Outcomes Center. (2006a). *Child outcomes summary form*. Retrieved from the Early Childhood Outcomes Center, http://www.fpg.unc.edu/~eco/assets/docs/Child%20Outcomes%20Summary%20Form_4-21-06-3.rtf

Early Childhood Outcomes Center. (2006b). *Introduction to the ECO "Crosswalks" of birth-to-five assessment instruments to early childhood outcomes*. Retrieved from the Early Childhood Outcomes Center, http://www.fpg.unc.edu/~eco/assets/pdfs/Crosswalk_intro.pdf

Early Childhood Outcomes Center. (2009). *Scale for assessing state implementation of a child outcomes measurement system*. Retrieved from the Early Childhood Outcomes Center, http://www.fpg.unc.edu/~eco/pages/frame_dev.cfm

Education Commission of the States. (1998). *Designing and implementing standards-based accountability systems*. Denver, CO: Author.

Gradel, K., Thompson, M. S., & Sheehan, R. (1981). Parental and professional agreement in early childhood assessment. *Topics in Early Childhood Special Education*, *1*(2), 31–39. doi:10.1177/027112148100100208

Greenwood, C. R., Carta, J., Baggett, K., Buzhardt, J., Walker, D., & Terry, B. (2008). Best practices in integrating progress monitoring and response-to-intervention concepts into early childhood systems. In A. Thomas, J. Grimes, & J. Gruba (Eds.), *Best practices in school psychology: V* (pp. 519–534). Bethesda, MD: National Association of School Psychologists.

Grisham-Brown, J., Hemmeter, M. L., & Pretti-Frontczak, K. (2005). *Blended practices for teaching young children in inclusive settings*. Baltimore: Paul H. Brookes.

Individuals with Disabilities Education Act (IDEA) of 2004, 20 U.S.C. § 1401D.

McLean, M. (2004). Assessment and its importance in early intervention/early childhood special education. In M. McLean, M. Wolery, & D. Bailey (Eds.), *Assessing infants and preschoolers with special needs* (3rd ed., pp. 1–21). Upper Saddle River, NJ: Pearson, Merrill, Prentice Hall.

McLean, M., Wolery, M., & Bailey, D. (2004). *Assessing infants and preschoolers with special needs* (3rd ed.). Upper Saddle River, NJ: Pearson, Merrill, Prentice Hall.

Meisels, S. J. (2006). *Accountability in early childhood: No easy answers*. (Occasional Paper No. 6). Retrieved from the Herr Research Center for Children and Social

Policy, http://www.erikson.edu/downloads/cmsFile.ashx?VersionID=3750&PropertyID=78

National Association for the Education of Young Children (NAEYC). (2003). Early childhood curriculum, assessment, and program evaluation: Building an effective, accountable system in programs for children birth to age 8. A joint position statement of the National Association for the Education of Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Department of Education (NAECS/SDE). Retrieved from http://www.naeyc.org/files/naeyc/file/positions/pscape.pdf

Neisworth, J. T., & Bagnato, S. J. (2004). The mismeasure of young children: The authentic assessment alternative. *Infants and Young Children*, *17*(3), 198–212.

Newborg, J. (2005a). *Battelle Developmental Inventory* (2nd ed.). Rolling Meadows, IL: Riverside.

Newborg, J. (2005b). *Battelle Developmental Inventory* (2nd ed.), *Examiners manual*. Rolling Meadows, IL: Riverside.

Office of Special Education Programs & TA & D network. (2010a). *Part B SPPAPR 2009 indicator analyses*. Retrieved from the Early Childhood Outcomes Center, http://leadershipmega-conf-reg.tadnet.org/uploads/file_assets/attachments/203/original_original_42635_PartB_Text.pdf?1280108682

Office of Special Education Programs & TA & D network. (2010b). *Part C SPPAPR 2009 Indicator Analyses*. Retrieved from the Early Childhood Outcomes Center, http://leadershipmega-conf-reg.tadnet.org/uploads/file_assets/attachments/460/original_Analysis_of_Part_C_Indicators_FINAL080910.pdf?1283446411

Quinones-Eatman, J. (2001). *Preschool second language acquisition: What we know and how we can effectively communicate with young second language learners*. Technical Report #5, Culturally and Linguistically Appropriate Services, Early Childhood Research Institute. Champaign: University of Illinois.

Roseberry-McKibben, C. (1994). Assessment and intervention for children with limited English proficiency and language disorders. *American Journal of Speech-Language Pathology, 3*(3), 77–88.

Sandall, S., Hemmeter, M. L., Smith, B., & McLean, M. (Eds.). (2005). *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education*.Missoula, MT: Division for Early Childhood.

Schiff-Myers, N. B. (1992). Considering arrested language development and language loss in the assessment of second language learners. *Language, Speech and Hearing Services in Schools, 23*(1), 28–33.

Scott-Little, C., & Kagan, S. L. (2004). *Reconsidering early care and education issues: Implications for the field*. Presentation for the National Association of Early Childhood Specialists in State Departments of Education, Anaheim, CA.

Shackelford, J. (2006). *State and jurisdictional eligibility definitions for infants and toddlers with disability under IDEA*. National Early Childhood Technical Assistance Center, *NECTAC Notes*, Volume 21, pp. 1-16. Chapel Hill: The University of North Carolina.

Shepard, L. A., Kagan, S. L., & Wurtz, E. (Eds.). (1998). *Principles and recommendations for early childhood assessments*. Washington, DC: National Educational Goals Panel.

Slentz, K. L., & Hyatt, K. (2008). Best practices in applying curriculum-based assessment in early childhood. In A. Thomas, J. Grimes, & J. Gruba (Eds.), *Best* *practices in school psychology: V* (pp. 519–534). Washington, DC: National Association of School Psychology.

Snyder, P. A., Thompson, B., & Sexton, D. (1993, January). *Congruence in maternal and professional early intervention assessments of young children with disabilities*. Paper presented at the annual meeting of the Southwest Educational Research Association (SERA), Austin. (Outstanding SERA paper for 1993, also presented in session [#25.17] for distinguished papers from regional research associations, American Educational Research Association, Atlanta, April 14, 1993.) ED 354 274

Snyder, S., & Sheehan, R. (1996). Program evaluation in early childhood special education. In S. L. Odom & M. E. McLean (Eds.), *Early intervention for infants and young children with disabilities and their families: Recommended practices* (pp. 359–378). Austin, TX: PRO-ED.

Suen, H. K., Logan, C. R., Neisworth, J., & Bagnato, S. (1995). Parent-professional congruence: Is it necessary? *Journal of Early Intervention, 19*, 243–252. doi:10.1177/105381519501900307

Suen, H. K., Lu, C. H., Neisworth, J. T., & Bagnato, S. J. (1993). Measurement of team decision-making through generalizability theory. *Journal of Psychoeducational Assessment, 11*(2), 120–132.

Tabors, P. O. (2008). *One child, two languages: A guide for preschool educators of children learning English as a second language* (2nd ed.). Baltimore: Paul H. Brookes.

U.S. Department of Education. (2009). *Race to the Top program: Executive summary* (white paper). Retrieved from U.S. Department of Education, http://www2.ed.gov/programs/racetothetop/executive-summary.pdf

This page intentionally left blank

Chapter 5

Sensory Processing: Tools for Supporting Young Children in Everyday Life

Winnie Dunn

There are many ways to support children and families so they thrive, develop, and get the most out of their lives together. Each approach that is based on evidence adds tools to the collection of strategies available to those who provide supports for children and families. Recently, sensory processing concepts have been getting an increasing amount of attention from professionals, researchers, and families. This increased interest has emerged from several sources. First, when we listen to families' stories, their children's reactions to sensory events (e.g., sounds, tastes, smells, touching) are woven through their stories. This style of reporting got the attention of professionals, who, trying to be responsive to a family's distress (e.g., "She will only eat soft foods with no texture; how will she get her nutrition?" or "He won't let me rock him") began considering ways to address sensory features of challenges in everyday life.

At the same time, advances in neuroscience and technology have enabled both basic science and applied science researchers to ask questions that target relationships between behavior and nervous-system activity. Knowing this relationship helps gain insights about why certain behaviors might exist or why certain interventions are helpful or not helpful (if the brain works a certain way, then interventions that are compatible with the brain's processing are likely to be more effective). Another factor influencing researchers was the environmental press of children moving from institutions to communities, then homes; this shift introduced complex reactions. When children were in institutions (or even separate classrooms or clinics for children with disabilities), we had more control over their sensory experiences. In community settings, the unpredictability of sounds, touch, etc., can trigger reactions that one does not observe in more controlled settings.

Therefore, a variety of events affecting behavioral responses to stimuli influence occupational therapists that have provided the research and practice leadership. Their work is now influencing interdisciplinary knowledge development to create greater understanding of the meaning of children's behaviors and a wider array of options for effective and innovative interdisciplinary approaches to serving children and families.

This chapter begins with an introduction to contemporary concepts of sensory processing, including a review of the research that supports these concepts. The next section provides a historical context for the development of sensory processing knowledge along with comparisons of traditional and contemporary practices that have a sensory processing emphasis. Finally, the last sections illustrate application of sensory processing concepts in early intervention and early childhood (EI/EC) services and provide examples of using sensory processing knowledge in home, school, and community contexts.

CONTEMPORARY CONCEPTS OF SENSORY PROCESSING

The contemporary principles of sensory processing are illustrated in Dunn's Model of Sensory Processing, seen in Figure 5.1 (Dunn, 1997). Anchoring this model are two underlying constructs: thresholds and

Neurological Threshold Continuum	Self-Regulation Continuum	
	Passive	Active
High	Registration	Seeking
Low	Sensitivity	Avoiding

Figure 5.1 Dunn's Model of Sensory Processing. Dunn, W. (1997). "The impact of sensory processing abilities on the daily lives of young children and families: A conceptual model." ***Infants and Young Children, 9(4),*** **23–35. Used with permission.**

self-regulation. The first construct is "neurological thresholds," which refers to the way the nervous system operates.

The entire nervous system reacts based on a balancing of excitatory and inhibitory inputs (Kandell, Schwartz, & Jessell, 2000). Each person has specific set points, or thresholds, that indicate a particular level at which a response occurs. Some people respond very quickly to sensory stimuli, while others have slower or delayed responses to the same stimuli. When responses are quick and frequent, we say that the person has "low thresholds" (i.e., it does not take very much input to activate the system); when responses are slow, we say the person has "high thresholds" (i.e., it takes a lot of input to activate the system).

The second underlying construct is "self-regulation," which refers to the way a person handles incoming sensory input. People tend to manage their own states by doing things to maintain a comfortable feeling. On one end of this continuum, people tend to let things happen around them and react (a passive approach to self-regulation), while at the other end of this continuum, people tend to engage in behaviors to control the input they receive (an active approach to self-regulation).

When we intersect these two constructs, four patterns emerge (see Figure 5.1). Seeking includes high thresholds and an active self-regulation strategy. Avoiding includes low thresholds and an active self-regulation strategy. Sensitivity represents low thresholds and a passive self-regulation strategy. Registration combines high thresholds and a passive self-regulation strategy. Each pattern represents a unique way of responding to sensory experiences in everyday life.

"Seekers" enjoy sensory input and find ways to get more. Their high thresholds mean they need a lot of input to get their thresholds to activate, and so they use active strategies to get enough input to meet their threshold needs. Seekers might make noises while playing; change positions a lot during an activity; like hats and accessories; select noisy, active, or intense play schemas; or love physical play.

"Avoiders" want as little sensory input as possible. They have very low thresholds, so it does not take much to feel overwhelmed. Avoiders find ways to minimize sensory input as their "active self-regulation" strategy. They might play in corners of the room or in another room when possible, have only a few clothing items that are okay to wear, withdraw (or cry) at family gatherings, or have very few preferred foods.

"Sensors" are very particular about their experiences. They notice many things that other people do not notice, which makes them precise, but noticing a lot can also be overwhelming. They are likely to have specific ways they want to get dressed or eat their food, play with a toy in only certain ways, be crabby with other children during play (because they need things to be in a certain pattern to stay within their thresholds), or notice sounds from another room that others do not hear.

People with "Registration" characteristics are called "Bystanders" because they fail to detect things that others are noticing. With high thresholds, many stimuli occur without their notice; this makes Bystanders very easygoing, but they might also forget materials in a group activity, miss the directions, seem more unkempt, or need to be called several times (and with touching) to get their attention.

As with all human characteristics, we explain these four patterns as if they are distinct categories, yet every person actually has some aspects of each pattern in their repertoire. A person might be a seeker for sounds, but an avoider for touch experiences. Knowing the person's patterns is the key to effective use of this model in practice (Dunn, 1999a, 2001).

Evidence Supporting the Concepts in Dunn's Model of Sensory Processing

Dunn's model of sensory processing emerged from research about how people respond to sensory experiences in their everyday lives (Brown & Dunn, 2002a; Dunn, 1999a, 2002b; Dunn & Brown, 1997; Dunn & Westman, 1997). Using the *Sensory Profile* assessments (Brown & Dunn, 2002; Dunn, 1999b, 2002, 2006a, 2006b) as the measure of a person's responsiveness to sensory experiences in everyday life, researchers report both patterns in the general population and in groups of people with disabilities.

The *Sensory Profile* assessments are parent/self reporting measures (i.e., children's parents report until they are 11 years old, then self-reporting occurs from age 11 through age 90). People respond to statements about sensory experiences in everyday life (e.g., "I like to walk barefoot in the grass") by saying how frequently the statement is true, using a five-point Likert-type scale (almost never to almost always).

Early studies involved a national sample of more than 1,000 children without disabilities. Occupational therapists had been asking families about their children's responses to sensory experiences as a routine part of their therapy assessments and intervention planning. However, since therapy was directed at children who were having difficulty, we only knew that many children with disabilities reacted frequently to sensory experiences. We did not know whether their peers without disabilities had similar or different responses. Therefore, these initial studies explored how peers without disabilities responded to the same sensory experiences to create a baseline performance expectation so we would know whether a child in therapy was reacting differently from peers.

Dunn (1999a) reported that children's responses were not only characterized by sensory systems (e.g., visual, touch, sound, etc.), which was expected, but could also be characterized by a pattern of responses that reflected thresholds and regulation. From this initial work, hypotheses were developed that evolved into Dunn's Model of Sensory Processing. This model was tested in subsequent studies of infants and toddlers (Dunn, 2002), adolescents, adults, and older adults (Brown & Dunn, 2002). The four patterns of sensory processing continued to emerge from factor analyses of these new populations, thus providing supporting evidence about these concepts.

Other researchers have provided evidence about the concepts in Dunn's model by comparing findings with physiological responses (e.g., Corbett, Schupp, Levine, & Mendoza, 2009; McIntosh, Miller, Shyu, & Hagerman, 1999; Schaaf, Miller, Seawell, & O'Keefe, 2003). They report that there is a complex relationship between sensory processing patterns and other physiological responses that indicate the status of the nervous system. Other researchers have used EEG technology and report that children with challenges in sensory processing as evidenced by *Sensory Profile* reporting have less ability to control sensory input when compared to peers without difficulties and seem to have a different pattern for developing sensory control mechanisms (Davies, Chang, & Gavin, 2009; Davies & Gavin 2007). Findings such as these suggest that we can ask about daily experiences and obtain information that indicates the status of other physiological mechanisms.

Consistent with the normative findings from Dunn (1997) and with patterns expected from a bell-curve distribution, Ben-Sasson, Carter, and Briggs-Gowan (2009) found that 16 percent of children with typical development 7–11 years old were bothered by touch or auditory sensations. Children in this "overly responsive" group had more dysregulation and less adaptive social behaviors than the rest of the sample. Gere, Capps, Mitchell, & Grubbs (2009) found similar patterns of sensitivity in children who are gifted. They linked the sensitivity to two other common characteristics of children who are gifted, their superior problem-solving ability, and their challenges with social relationships.

There is a growing body of evidence linking food preferences, eating, and feeding challenges with sensory processing. Children with typical development who were identified as "picky eaters" based on eating habits and scores on the *Sensory Profile* also had poorer appetites, had a more limited food repertoire, gagged, and bit their lips/cheeks more often when compared to peers (Smith, Roux, Naidoo, & Venter, 2005). In a comparison of children with Autistic Spectrum Disorder (ASD) to their siblings, children with ASD had significantly more eating problems primarily related to narrow food choices (Nadon, Feldman, Dunn, & Gisel, in press). Janvier and Rugino (2004) analyzed the records of a multidisciplinary feeding team and found that children grouped into "sensory-based feeding disorder" (SBFD), "sensory motor feeding disorder" (SMFD), and "nonsensory feeding disorder" (NFD). The children with the SBFD and SMFD had limited tolerance for taste, texture, and temperature of foods; children with SBFD were intolerant of mealtime structure; and children with SMFD had oral motor difficulties, such as having trouble moving food around in the mouth.

Researchers have also compared children with autism, Asperger disorder, Attention Deficit Hyperactivity Disorder (ADHD), and Fragile X syndrome to each other and peers without disabilities (Ermer & Dunn, 1998; Kientz & Dunn, 1997; Rogers, Hepburn, & Wehner, 2003; Tomchek & Dunn, 2007; Watling, Dietz, & White, 2001). They report that children with these disabilities have more intense reactions to sensory experiences than their peers without disabilities. Additionally, the groups of children with disabilities have different patterns from each other, suggesting that there are unique sensory patterns across these groups as well. Studies conclude that children with ADHD have significantly different sensory processing when compared to peers without ADHD (Dove & Dunn, 2009; Dunn & Bennett, 2002; Mangeot et al., 2001; Yochman, Parush, & Ornoy, 2004).

Others have reported that sensory processing patterns such as sensory seeking, sensory avoiding, and low registration occur more frequently in mental illness including obsessive compulsive disorder and schizophrenia (Brown, Cromwell, Filion, Dunn, & Tollefson, 2002; Reike & Anderson, 2009). Liss, Timmel, Baxley, and Killingworth (2005) found that parents with more sensory sensitivity also had more anxiety and depression. Atchison (2007) reports that there are sensory processing differences in children who have experienced trauma as well. The differences illustrate that matters of sensory processing in children with these disabilities is a legitimate area for consideration for research and practice.

A different approach is to link sensory processing with other aspects of children's performance. Minshew and Hobson (2008) linked sensory sensitivities with errors on perceptual tasks. There also appear to be relationships between sensory processing patterns and repetitive and stereotypic behaviors (Gabriels et al., 2008; Joosten & Bundy, 2008; Joosten, Bundy, & Einfeld, 2009; Wiggins, Robins, Bakeman, & Adamson, 2009; Zandt, Prior, & Kryios, 2009). Jasmin et al. (2009) reported a significant relationship between a person's level of reactivity to environmental stimuli, the tendency to avoid sensory input, and performance on daily living skills (e.g., overreacting to sounds might interfere with one's ability to get ready in the morning), even when cognition was controlled. Lane, Young, Baker, and Angley (2009) found a significant relationship between over-reactivity to sensory input (e.g., being overly sensitive to sounds, touch, etc.) and the "Maladaptive Behavior" scale on the Vineland Adaptive Behavior Scale. Active physical activities were a preference for Israeli children with atypical sensory processing patterns (Engel-Yeger, 2008). Sleep quality is also associated with sensory hypersensitivity in children who are typically developing (Shani-Adir, Rozenman, Kessel, & Engel-Yeger, 2009; Shochat, Tzischinsky, & Engel-Yeger, 2009).

Many studies report that children with ASD exhibit behaviors that reflect more intense sensory processing than peers. In a meta-analysis of 14 studies, Ben-Sasson, Hen, et al. (2009) reported that children with ASD exhibit both under- and over-responsivity to sensory experiences. Other authors also report significant differences in sensory processing patterns in children (Ashburner, Ziviani, & Rodgers, 2008; Cheung and Siu, 2009; Kern, Garver, Carmody, et al., 2007; Kern, Garver, Grannemann, et al., 2007) and adults with ASD (Crane, Goddard, & Pring, 2009; Kern, Garver, Grannemann, et al., 2007).

Ben-Sasson et al. (2007) compared 101 toddlers with autism with 100 typically developing toddlers and an additional 101 toddlers matched for mental age. Toddlers with ASD had significantly higher frequency of both under responsiveness and avoiding behaviors. This combined pattern of under-responding and avoiding was also reported by Dunn (2002). In another study, Ben-Sasson et al. (2008) examined the relationship between sensory processing patterns and social emotional status. They found that the 170 toddlers with ASD clustered into three groups of sensory patterns: low frequency of sensory symptoms (26%), high frequency of sensory symptoms (29%), and a combined pattern (45%). Children in the second and third groups had more negative emotions, depression, and anxiety than children in the first group, even when controlling for severity of ASD. The authors recommend that professionals consider the contribution of sensory processing to other aspects of ASD. Although it may seem contradictory at first, this pattern is visible in children's behavior. When one observes children with autism, there is a pattern of not responding to stimuli in the environment, and then something can trigger the child to notice and respond. The response can be very dramatic, with either intense aggression or withdrawal, both avoiding responses that get the child away from what is perceived to be dangerous or unfamiliar. This combination of failing to notice and overreaction upon noticing creates little room for engaging with the environment for learning. Knowing and managing a child's sensory needs throughout the day can mediate this dilemma of having very little time in the "ready-to-learn" state.

Other authors have examined specific sensory processing systems in children with ASD. Kern, Garver, Carmody, et al. (2007) reported that persons with ASD responded more frequently to movement sensations than matched controls. Jones et al. (2009) reported that a subgroup of adolescents with ASD (20%) were very sensitive to auditory discrimination tasks. In interviews with parents of children with and without ASD, they said they were more likely to associate their children's behaviors with sensory responses; food experiences were most common negative reports.

SENSORY PROCESSING AS A UNIVERSAL HUMAN EXPERIENCE

A very important and unexpected finding grew out of the sensory processing conceptual research. It began as a means for verifying that the right questions were being asked about children's experiences with sensory input to detect differences that mattered in everyday life. If every 5-year-old child reacted to touch in a certain way, that reaction should not be considered a marker of a problem. However, it became clear that responses to sensory events were on a continuum. Even though children with certain disabilities had more intense reactions, there were also a small number of children (and adults) in the typical population that also had those reactions (Dunn, 2008b). For example, Ben-Sasson, Carter, and Briggs-Gowan (2009) found that 16 percent of children with typical development between 7 and 11 years old were bothered by touch or auditory sensations. This is the expected estimate of children who would fall above the +1 standard deviation mark on the bell curve. Gere et al. (2009) found similar patterns of sensitivity in children who are gifted; this is a special group of children, but not a group we would consider "disabled." In fact, Gere et al. (2009) suggested that their sensitivity may be a reason why they have better problem-solving skills (i.e., they notice more details and relationships, so they have more options for solving problems). Therefore, it seems we must be more cautious about automatically concluding that there is a dysfunction or disorder based solely on one's patterns of sensory processing.

On the other hand, the challenges that matter to providers and researchers are those that interfere with the child's and family's everyday life. We all know someone among our family and friends who is sensitive to sound or touch, and most of the time these persons have found strategies for managing their circumstances so their sensitivity does not interfere with daily routines and general life satisfaction. When parents know their child is sensitive to sounds, parents might make sure there is a separate room as a play option when visiting family. This also means that we must consider the parent's, the teacher's, and the sibling's/playmate's sensory processing patterns as we apply this approach in our practices. Preschool teachers with different sensory processing patterns prioritized different child traits as the most "teachable pupils" (Coffelt, 2004), suggesting that an approach that considers the caregivers' sensory patterns along with the children's patterns might be most effective.

When we consider the body of work about sensory processing as evidence about the human experience rather than evidence only about disability, we also introduce new possibilities. Behaviors that might have been viewed as "dysfunctional" or "irritating" can now be viewed as "interesting" or "quirky" (Ali, 2007; Grinker, 2007) because more people understand how and why the behaviors occur, and they do not associate the behaviors with a disorder. Accessibility of buildings began as a way to include people with physical challenges; then all of us began to use these entry points (electronic doors, curb cuts) because they were easier for everyone. Perhaps if we make home, community, and school environments friendlier for all types of sensory processing patterns, there will be fewer triggers for those who have sensitivity or other patterns that might interfere.

HISTORICAL CONTEXT FOR SENSORY PROCESSING

Just as Arnold Gesell introduced the concept of looking at the evolution of children's developmental behaviors and milestones, A. Jean Ayres introduced the concept of using neuroscience knowledge to examine and interpret the meaning of certain behaviors in children with "minimal brain dysfunction." Early pioneers such as these opened the door to new ways of thinking and problem solving.

A sensory approach to considering the meaning of a child's behaviors evolved from the work of Ayres. She observed children who had "minimal brain dysfunction" and considered how to apply neuroscience knowledge to create new ways to provide therapy for these children (Ayres, 1972, 1979). Ayres's work involved gathering evidence from evaluating, observing, and serving children with differences in their responses to sensory experiences. Her research revealed groupings of behaviors that occurred more frequently than one would expect, and illustrated ways to address the life challenges a child faced with these different behavioral repertoires.

She used the term "sensory integration" to refer to these ideas and hypotheses in her research. Sometimes the term "sensory integration" is confusing when discussing these ideas with colleagues and parents, because sensory integration is also a term used in neuroscience to describe the principle about how the brain organizes sensory input. For neuroscientists, sensory integration is a neurological process of organizing sensory information from the body and environment (see Kandell et al., 2000). Ayres's research informed us about how children use information to respond appropriately to environmental demands (i.e., how they create "adaptive responses"). Her interventions tapped the children's motivation to play and interact; she also referred to this therapy approach as "sensory integration."

Ayres's work is built on three core concepts (Ayres, 1963, 1972, 1979; Clark, Mailloux, & Parham, 1985; Clark, Mailloux, Parham, & Bissell, 1992; Fisher, Murray, & Bundy, 1991; Kimball, 1999). First, a person's ability to take in and organize sensory input (i.e., sensory integration) is a foundation for being able to interact with the environment. Second, sensory integration provides the foundation for cognitive development and emotional regulation. Third, our daily routines are full of sensory experiences, and because they are useful patterns of behaviors (e.g., getting dressed, taking a bath), the sensory input within our routines supports cognitive and emotional development. A Sensory Integration approach is an application of sound neuroscience knowledge (see Kandell et al., 2000). Ayres did not create the neuroscience foundational knowledge; she built applied science hypotheses on them. Factor analytic studies revealed patterns of performance that are indicative of specific performance difficulties (Ayres, 1972; Ayres & Marr, 1991; Fisher et al., 1991). These early studies made it possible to understand the role of sensory experiences in behavior and performance.

Miller, Anzalone, Lane, Cermak, and Osten (2007) built on Ayres's work and proposed a taxonomy that they believe will enhance diagnostic specificity. Working with focus groups and the literature, they proposed three categories of "Sensory Processing Disorder." In their taxonomy, "Sensory Modulation Disorder" includes children who are over-responsive, under-responsive, or who seek/crave sensory input. "Sensory Based Motor Disorder" includes children who have challenges with posture and stability or who have difficulty planning movements (called "dyspraxia"). The third category, "Sensory Discrimination Disorder," refers to children who have difficulty identifying the similarities and differences needed to make more precise decisions about input and actions. This approach reflects an underlying belief that it is important to identify a "disorder," and that this precision (if it can be achieved) will lead to more useful research findings and development of effective interventions.

Not everyone believes that taking a "disorder" approach is best. Studies using the *Sensory Profile* assessments revealed that there are core concepts about sensory processing that apply to the general population, not just children with specific disabilities (Dunn, 2008a). This broader view is built on Ayres's research and illustrates how knowledge grows and is influenced by policy and service systems. We are serving children and families in very different contexts today than Ayres and her colleagues had available in hospitals and segregated schools, so we can also consider additional ways to extend our knowledge to be relevant to today's demands.

COMPARISON OF SENSORY APPROACHES IN THE LITERATURE

With all this debate, it is challenging for interdisciplinary colleagues and parents to figure out what to do about sensory approaches in their EI and EC programs. In occupational therapy, there is a "Practice Framework" that outlines the domain of concern in occupational therapy. This framework provides a structure for comparing a "sensory integration" approach with a "sensory processing" approach.

The emphasis of a *sensory integration approach* is on the child's skills, capacities, and challenges that are interfering with everyday life. Knowing a child's difficulties in sensory processing, a therapist would set out to change or fix these difficulties so the child could interact better. For example, if a child is very sensitive to movement, one might structure increasingly challenging movement activities so the child would improve his movement processing. The idea is that when the child's ability to respond to movement input is broader, then his ability to play and interact with the other children will also be better.

The emphasis of a *sensory processing approach* is on the child's contexts and activities in everyday life. In this approach, a therapist would consider how to adjust task demands, objects, room placement, and routines so that they supported the child's sensory processing strengths and minimized sensory processing challenges. The idea here is that when the context and activities are more "friendly" to the child's sensory processing patterns, then the child's ability to participate in everyday life activities at home and school will also increase.

SUMMARY REVIEWS OF SENSORY APPROACHES TO INTERVENTION

Baranek (2002) conducted a summary review of sensory and motor interventions for children with autism and provided nine recommendations for education based on her findings. She reported that because of the prevalence of sensory processing challenges for children with autism, professionals need to create environments that accommodate their unique sensory needs in the functional context of educational goals. Accommodations might take the form of changing performance expectations, modifying activities to reduce a potentially upsetting sensory experience, or bypassing challenging areas to increase participation success. Baranek also commented on the importance of children being part of their educational program as much as possible, and recommended applying intervention ideas within the context of inclusive education rather than in isolated, traditional treatment sessions. She also stated, "thus, best practice would suggest that functional activities integrated into daily routines within naturalistic contexts increase retention and generalization of skills" (p. 419). Baranek recommended a conservative approach to including specific individual sensory or motor treatments, suggesting a short-term approach with frequent progress monitoring to decide whether to continue or change approaches.

Pollock (2009) wrote an evidence brief about sensory integration, summarizing her review of the available literature. She reports about studies of what she calls "classical" sensory integration therapy (SIT; one-to-one intervention with a therapist in a clinical environment with special equipment); as research methodologies have become more rigorous, results have been less favorable to "classical SIT." She also states that there have been some positive effects when sensory processing approaches have been used to make sensory-based changes in the activities and contexts that support children's participation (e.g., to increase on-task behavior and decrease self-stimulatory behavior; see Fertel Daly, Bedell, & Hinojosa, 2001; Smith, Press, Koenig, & Kinnealey, 2005; VandenBerg, 2001). She summarized that this area continues to be debated and studied. She recommended that attention be given to adapting children's environments; educating families, teachers, and other team members; and creating clear, functional, and measurable goals that can be used to mark progress. Pollock also recommended that "classical SIT" be considered a trial to be evaluated for effectiveness with individual children until further evidence makes decisions more clear about this approach.

Both of these reviews recommend intervention approaches that are embedded in children's everyday lives. This approach is compatible with EI/EC literature about natural environment interventions (Dunst, Bruder, et al., 2001; Dunst, Hamby, Trivette, Raab, & Bruder, 2000; Dunst & Raab, 2004; Hanft & Pilkington Ovland, 2000), person- and family-centered care principles (Dempsey & Dunst, 2004; Dunst, 1997, 2002; Trivette, Dunst, Boyd, & Hamby, 1996) and capacity-building approaches (Rush, Shelden, & Hanft, 2003). Therefore, it is appropriate to examine how to integrate sensory processing evidence with other evidence-based approaches to more readily enhance outcomes for children whose sensory processing patterns interfere with participation.

APPLICATION OF SENSORY PROCESSING CONCEPTS FOR EI/EC PRACTICES

Sensory Processing Knowledge as Part of Interdisciplinary EI/EC Practices

The *Workgroup on Principles and Practices in Natural Environments* (2008) reviewed current interdisciplinary literature and identified key evidence-based principles for serving children and families in natural environments. They recommended that for children to have the best functional outcomes, services need to be provided in the exact places that children live, play, and learn and need to be embedded into the routines of their everyday lives. They indicated that providers need to focus on children and family strengths and interests and work to build the capacity of the family and other providers to support the child across developmental periods. Parents and children profit from guidance that is directed at improving everyday participation. For example, parents were successful at finding and providing opportunities for their young children with ASD after only six sessions of review and practice (Vismara, Colombi, & Rogers, 2009).

Effective interventions must be built on an accurate appraisal of what is interfering with participation. A sensory processing approach intersects with these principles by focusing specialized knowledge on children's and families' routines, strengths, and capacities. Sensory processing knowledge provides additional insights into what might be interfering with the child's ability to participate with the family and at school. For example, if a child is a picky eater, it might be because the child is expressing independence or trying to be defiant. It might also be that the child is sensitive to some of the sensory aspects of food, including the texture, temperature, flavor, or smell of the food (Smith, Roux, et al., 2005). When we know sensory processing patterns might be a factor, we have the chance to make sure that we interpret the child's behavior precisely.

For example, to examine the relationship between sensory processing patterns and daily life activities, researchers examined play patterns in 53 preschool children without disabilities. They wanted to determine whether there were differences in play schemas for children with different sensory processing patterns (Mische-Lawson & Dunn, 2008). They coded body positions and toys across several play periods (i.e., five-minute coded observation periods adding up to 30 minutes per child). Children with more "avoiding" patterns from the *Sensory Profile* also had significantly fewer body positions during play. Children with more "seeking" characteristics were more likely to play with miniature pretend toys or vehicles. They suggest that therapists may need to take children's sensory processing patterns into account when planning activities.

Preschool teachers may also approach their work differently based on their sensory processing patterns (Coffelt, 2004). Sixty-seven preschool teachers completed the Adolescent Adult Sensory Profile and the Teachability Questionnaire, which asks what student traits are most important for teaching in the classroom. Teachers with extreme "seeking" patterns expected students to exhibit a high degree of personal/social traits (e.g., friendly, sense of humor, empathetic) and had lower expectations for demonstration of school-appropriate behaviors (e.g., follows directions, enjoys schoolwork). Teachers with extreme "avoiding" patterns had lower expectations of students across all areas. The authors suggest that therapists might need to provide related services based on both the child's and teacher's sensory processing patterns.

SITUATING SENSORY PROCESSING KNOWLEDGE WITHIN CORE PRINCIPLES

Researchers have tested hypotheses about the application of sensory processing concepts within children's natural environments (Fertel Daly et al., 2001; Schilling & Schwartz, 2004; Schilling, Washington, Billingsley, & Deitz, 2003; Stephenson & Carter, 2009; VandenBerg, 2001). Summarizing the neuroscience literature, some of these authors explain the organizing features of certain kinds of sensory input. For example, sensation in the muscles and joints (called proprioception) and firm touch on the skin (called touch pressure input) are part of the discriminatory sensory system (Kandell et al., 2000). This means that these sensory inputs contribute to maps of the body, muscles, and joints in the brain; it also means that these sensory inputs do not add to levels of arousal that might be distracting to a person (Dunn, 1998).

With this background, researchers proposed that children who are distracted, or who have trouble focusing, might profit from increased "discriminatory" input to their skin, muscles, and joints during activities that require focused attention. One application of "discriminatory" touch pressure and proprioceptive input has been the use of a weighted vest. Researchers have applied different amounts of weight for different amounts of time to children with ADHD (VandenBerg, 2001) and ASD (Cox, Gast, Luscre, & Ayers, 2009; Deris, Hagelman, Schilling, & DiCarlo, 2006; Fertel Daly et al., 2001; Morrison, 2009). The single subject designs revealed that some children improved attention and work product or decreased self-stimulatory behaviors that interfered with participation. Critiques of these studies point out that not everyone improved with this intervention (Morrison, 2009; Stephenson & Carter, 2009); figuring out who profits from this intervention will increase precision of evidence-based practices.

Other authors have applied the same neuroscience principles to seating interventions for children with ADHD and ASD (Schilling, 2006; Schilling et al., 2003; Schilling & Schwartz, 2004). Sitting on a flexible surface, such as sitting on a ball chair (an exercise-type ball with a stand to steady it on the floor) provides natural opportunities for the child to make body adjustments without leaving one's seat. Comparing regular chairs to ball chairs, researchers reported that children were more attentive and productive when using the ball chairs. In one of the studies, the teacher indicated that she would like to continue using the ball chairs, and children without disabilities indicated that they could pay better attention when using the ball chairs.

The weighted vests and ball chair studies provide examples of interventions that reflect sensory processing concepts and are applied in the natural environment to support children's participation. Additional work of this nature will be needed to document which children, activities, and circumstances generate the best functional outcomes.

ILLUSTRATIONS OF SENSORY PROCESSING CONCEPTS APPLIED IN "CHILDREN'S ROUTINES"

Sasha's Parents Want Her to Play with Her Cousins

Sasha's parents want Sasha to play with her cousins who live nearby. Sasha is 20 months old, and the cousins are 18 and 30 months old. When the families get together to play, before long, Sasha becomes irritable and then gets more aggressive, and has to be separated from the other two children. Mom and dad are really frustrated about the situation because family ties are very important to them. Both sets of parents have been excited to have children of similar ages and to live nearby so they can foster these strong bonds throughout their children's childhood.

The parents get connected with the local Infant Toddler (I/T) Service System, and a provider visits their home. The I/T services decided that an occupational therapist would be the primary provider for this family after reviewing initial information. The occupational therapist visits the home to get to know the parents and Sasha, completes the

Asset-Based Context Matrix (ABC) (Wilson, Mott, & Batman, 2004) and plans a time to visit when the cousins are coming over. With the information from this initial visit, Sasha and her family qualify for services; the occupational therapist asks the early educator and the behavior specialist to participate on Sasha's team.

Since the parents' primary concern is Sasha interacting successfully with her cousins, the team focuses on all the possible reasons why these interactions are unsuccessful now. They generate developmental, behavioral, and sensory processing ideas based on the parents' descriptions, and the educator and behaviorist coach the occupational therapist about what to look for during her visit with the cousins and Sasha's play time. The occupational therapist also takes the Infant Toddler Sensory Profile (ITSP) (Dunn, 2002) so the parents can complete the questionnaire and provide additional information about possible reasons why Sasha is struggling to play with her cousins. Table 5.1 illustrates what the team might generate as hypotheses from different conceptual frameworks.

During the next visit, the occupational therapist observed the cousins playing together. Sasha was clearly excited to see her cousins, and they went to the play area together. They played with blocks, all contributing to a structure; the older child continued to monitor the block placements, "improving" the stability as they went. Sasha's first outburst occurred when the structure collapsed and the blocks

Table 5.1 Examples of Ideas Generated about Sasha's Behavior

Behavior of concern: Sasha gets irritable and aggressive when playing with cousins

Framework for thinking	*Possible reason for behavior*	*What we might do to support Sasha's participation*
Developmental	The play is too advanced for her developmental level	Adjust the play routines to include Sasha's competence and interests
Behavioral	She wants attention or control over the toys/situation	Create options for her to choose; model sharing, taking turns
Sensory Processing	She is overwhelmed by sounds, or touch, or movements	Identify what sensory mechanisms are challenging and make adjustments in play routines to accommodate Sasha's needs

showered onto the three of them. The other two shrieked with delight; Sasha began to cry. The adults calmed her and the situation and redirected the children into more structured parallel play for the rest of the visit.

Reporting back to the team, it seemed that the play was developmentally appropriate for Sasha, and the occupational therapist reported that Sasha had offered some blocks to her cousin, suggesting she was learning to share. The blocks falling on her, and the sounds of the children and the blocks, seem to be the trigger for Sasha to get irritable. Combining this observation with the ITSP findings led the team to hypothesize that Sasha might need some adjustments based on her sensory processing needs. The ITSP revealed that Sasha was more "sensitive" than other children, and that touch and sounds were more challenging for her than movement, visual, taste, or smell.

At the next visit, the occupational therapist shared her observations about all the things Sasha did well and how well they had structured the situation for the children. They also discussed the findings from the ITSP and the hypothesis about Sasha's sensitivities with the parents. With this information, the parents offered some additional examples of Sasha being sensitive, including at the grocery store, getting dressed and bathed, and at the park. They generated ideas together about how to rearrange challenging situations to reduce how much sound and touch she has to manage. For example, they discussed what toys the cousins could play with that would not be as noisy as the blocks.

They also discussed her favorite clothing items and what made them Sasha's favorites. The parents realized that Sasha likes more formfitting clothing like tights and other stretchable pieces. She did not have trouble with diapers but was not transitioning to panties very well. They discussed finding alternatives that were firm and evenly fitted to her skin to reduce irritability that can occur with loosely fitting undergarments (which stimulate the light-touch receptors that trigger more arousal [see Dunn, 1998; Kandell et al., 2000]). Since the parents understood this new reason why Sasha might become irritable, they could look at all their life routines in a new way.

Across time, the parents became more aware of the situations and circumstances that were challenging for Sasha and immediately began to problem-solve how to adjust factors in Sasha's favor. As Sasha had more successful experiences, she became more flexible as well; her repertoire of adaptive strategies increased as her parents enabled her to have more successful participation.

Peter's Teachers and Parents Need Him to Be Successful at Preschool

Peter is 4 years old, and he attends a neighborhood preschool program. The teachers and parents are increasingly concerned about Peter's activity level during the day. As he has grown and become more mobile, it seems that he cannot find enough ways to move nor is there enough time to satiate his movement needs. His movement is starting to interfere with his ability to engage with age-appropriate toys, tabletop activities, and interacting with peers in both structured and free-play situations. The parents and teacher both enjoy Peter, and they are concerned that his cognitive and emotional development might be at risk if they do not learn how to support Peter properly. The preschool has an occupational therapist who serves as a consultant for the program, and they get parents' permission to ask for her guidance.

The occupational therapist comes to the school to meet the teacher and observe Peter. She also calls the mother prior to the visit to find out the parents' ideas about the situation. Since she serves as a consultant, the occupational therapist is familiar with the curriculum and overall routines of the preschool. They employ a strengths-based model, which identifies and builds on children's abilities and skills to support their participation in age-appropriate activities.

His teacher marvels at Peter's creativity with his body. She explains that she can suddenly see Peter hanging upside down from a table or laying on a counter with his upper body cascading over the edge to look into the shelves (rather than walking up to them and looking in like the other children). He has a hard time sticking with activities, even those that the teacher would say are his preferred activities, such as playing soccer outside. His mother reports that Peter "jettisons" everywhere when he is moving, and when he wants to watch TV, he always finds some interesting way to place his body, such as dangling over the arm of the couch to watch upside down. She also says that getting ready in the morning is a nightmare for her because Peter keeps leaving his room to "fly" or "hop" somewhere else.

The occupational therapist observes some of these same behaviors when she visits the preschool. She also retrieves the ABC Matrix (Wilson et al., 2004) the parents and teacher completed together at the beginning of the year. She leaves the Sensory Profile School Companion (SC), a version of the questionnaire for teachers to complete about their students, for the teacher to complete and sends the *Sensory Profile* (Dunn, 1999b, 2006a) home for the parents to complete. These standardized tests can provide validity evidence for the observations and interview data already collected.

The parents, teacher, and occupational therapist meet one afternoon when the parents are coming to get Peter from preschool. This fits their work schedules and provides an opportunity to talk when Peter is still in his after-school group activities. They begin by discussing all of Peter's endearing and helpful characteristics. He is curious and enthusiastic about life and is always ready to try new things. He learns quickly, except when moving interferes with his attention to tasks. Other children want to play with Peter and seek him out during activities. The teacher comments that even with all the movement that interferes, he still seems to hear what is going on; he can answer questions and repeat what someone else said. This surprised the teacher at first, because she could not imagine that Peter was listening in the group. Parents laugh because Peter will repeat directions from his grandma about slowing down and he will say "Slow down, Peter" as he changes to slow-motion moving momentarily.

The occupational therapist summarizes the SP and SC by showing the parents and teacher that they agree about Peter's sensory processing patterns (sometimes the SP and SC are somewhat different, reflecting the importance of the school and home contexts for supporting or interfering with performance; see Dunn [2006b, 2008a] for explanation and details about this measure). It was no surprise to the teacher and parents that Peter seeks movement input much more than other 4-year-olds.

The occupational therapist explained that Peter's particular pattern of seeking seems to emphasize sensory input to the receptors in the muscles and joints that respond to pushing and pulling (i.e., the proprioceptive system). When Peter hangs upside down, jumps, and hops, he is introducing intense input to his body; jumping presses the joints and muscles together, while hanging pulls them apart because of the force of gravity. His father says he plays tennis and gets those sensations when his feet hit the pavement and when he slams the ball across the net. His mother comments that she insists that dad play tennis because he is unbearable without it. The occupational therapist points out that dad playing tennis is his way of getting the proprioceptive input just like Peter is hanging and jumping right now.

As they discuss further, the teacher, parents, and occupational therapist brainstorm ways for Peter to get extra sensory input throughout the day and ways to adjust those situations so he can get the input he needs without disrupting his participation. Table 5.2 illustrates an

Table 5.2 Portion of Peter's Activity Analysis to Determine Sensory Processing Options

Time	*What Peter is typically doing*	*What Peter currently does to get movement/ joint input that interferes with participation*	*Options for meeting sensory needs within these activities*
7:30 a.m. (home)	Getting up Getting ready for school Eating breakfast	Gets up quickly when called Runs up and down the halls, fleeing from bedroom where clothes are	Set up clothing in different parts of the house so Peter has to move a lot to gather his underwear, socks, shoes, etc. Place clothing in less convenient areas (e.g., higher on shelves) so he has to stretch to get them, activating his muscles and joints within the "getting dressed" routine
8:30 a.m. (transition)	Driving to preschool	Looks out windows Pushes feet against front seat	Place a cooler or other solid object under Peters feet so he has something to push against while sitting in his car seat
9:00 a.m. (preschool)	Good morning routine Structured cognitive activity Snack Free play Creative expression	Very fidgety in chairs, on carpet squares, disrupting lessons Leads physical play with other children	Have Peter sit on a movable inflated cushion in his chair so he can "fidget" without getting up as often Provide a "standing" place for Peter during morning routine Give Peter the book or easel to hold (the extra weight of the objects provides proprioception by pulling the muscles/joints apart as he holds the objects)
Noon	Lunch	Tries to leave lunch area frequently Eats very little	Have Peter help with passing out drinks, etc., by holding the full tray (weight) and moving around the table to serve others Use the moving cushion on his chair while he is eating

activity analysis of a typical day with suggestions for the parents and teacher to try to keep Peter on track. As the year progressed, the teacher and parents began to understand Peter's sensory processing needs and how these either supported or interfered with Peter's participation at school and home. Each time the occupational therapist checked in with them, they had more stories about ways they had made adjustments to support Peter. For example, the parents signed him up for karate lessons. They observed that these lessons created a structure for Peter's sensory needs, so instead of looking chaotic and random, he began to "practice his karate" a lot. They also included a seat cushion in Peter's school routines when he entered public school; Peter began to notice that it was a helpful strategy for him in class as well.

These two case studies provide a brief version of how sensory processing knowledge can be embedded into the children's routines to enhance outcomes. As stated earlier, sensory processing is intertwined with other approaches to support children in their natural environments, making these interventions consistent with other current interdisciplinary evidence-based practices for EI/EC services.

Table 5.3 provides a few examples of strategies that can be used in everyday life activities to support children's participation using a sensory processing approach. You will notice familiarity in the activities because they are good activity options for young children in general. Detecting the sensory processing aspect of activities enhances professionals' ability to design individually tailored interventions that meet children's precise needs as they participate in their daily life activities and routines.

Table 5.3 Examples of Ways to Support Children's Participation Based on Sensory Processing Patterns

Ideas for supporting participation for children who SEEK sensation	*Ideas for supporting participation for children who do not REGISTER sensation*
• Use soaps with textures imbedded in them to increase sensation to the skin • Place favorite toys in harder to get places to increase climbing, crawling, etc. • Paint one wall with chalkboard paint so the child has chances to touch the	• Provide toys that make sounds while playing with them so the child gets more input • Have child look for things as you shop or run errands to increase visual interest • Encourage barefoot play on a variety of surfaces (carpet, tile, wood, grass)

(*Continued*)

Table 5.3 (Continued)

chalk, feel the texture of the wall when drawing on it • Add texture to handles and other toy surfaces so the child gets more touch input	to activate sensory input to the child's feet • Place mirrors at floor level to provide opportunity for visual feedback about play
Ideas for supporting participation for children who AVOID sensation	*Ideas for supporting participation for children who are SENSITIVE about sensation*
• Create play area with space away from other children to decrease sensory chaos during play • Use unscented products to clean toys to reduce the smell sensations for the child • Select undergarments with wide bands that fit evenly against the skin to decrease irritation that may come from thin elastic edges • Have seating available so young children don't have to be held all the time; holding children provides continuously changing input to the skin and may be overwhelming • Place plain sheets over toy shelves to reduce visual distractions	• Let the child pick own wash cloth to find one that the child can tolerate on the skin • Keep shades drawn and add light sparsely to reduce the light the child has to manage • Notice where vents blow in your home and direct them away from the child's seating or play areas to reduce the breeze on the child's skin • Limit the time you spend in large family gatherings because these situations are full of unpredictable sensory experiences that can overwhelm the child

Source: Excerpts from Dunn, W. (2008). *Living sensationally understanding your senses*. London: Jessica Kingsley Publications. Used with permission.

SUMMARY

Sensory processing is one of several perspectives for understanding and interpreting children's behaviors. Sensory processing can be overlooked because it is so intricately part of the overall human experience. Evidence reveals that there are four sensory processing patterns for people across the life span (seeking, avoiding, sensitivity, and registration); although everyone has certain patterns of sensory processing in their repertoire, children and adults with specific disabilities seem to experience a more intense version of these patterns in their everyday lives. The intensity of their sensory responses can interfere with their activities throughout the day. When professionals and families understand how sensory responses guide a child's experiences, more options emerge for supporting the child's participation.

Evidence does not currently support the use of segregated sessions for classical sensory integration therapy. Rather, interdisciplinary literature guides us to think about how to embed sensory processing strategies into children's and families' routines to support participation in settings where it matters and where the child gets more chances to practice. More research is needed to specify precisely which children, conditions and settings are best for the application of sensory processing knowledge in these imbedded routines.

REFERENCES

Ali, L. (2007). You and your quirky kid. *Newsweek*, September 17.

Ashburner, J., Ziviani, J., & Rodger, S. (2008). Sensory processing and classroom emotional, behavioral, and educational outcomes in children with autism spectrum disorder. *American Journal of Occupational Therapy, 62*(5), 564–573.

Atchison, B. J. (2007). Sensory modulation disorders among children with a history of trauma: A frame of reference for speech-language pathologists. *Language, Speech, and Hearing Services in Schools, 38*(2), 109–116.

Ayres, A. J. (1963). The development of perceptual motor abilities: a theoretical basis for treatment of dysfunction. *American Journal of Occupational Therapy, 17*, 221–225.

Ayres, A. J. (1972). *Sensory integration and learning disorders*. Los Angeles: Western Psychological Services.

Ayres, A. J. (1979). *Sensory integration and the child*. Los Angeles: Western Psychological Services.

Ayres, A. J., & Marr, D. (1991). Sensory integration and praxis tests. In A. Fisher, E. Murray, & A. Bundy, *Sensory integration theory and practice* (p. 203). Philadelphia, F. A. Davis.

Baranek, G. T. (2002). Efficacy of sensory and motor interventions for children with autism. *Journal of Autism and Developmental Disorders, 32*(5), 397–422.

Ben-Sasson, A., Carter, A. S., & Briggs-Gowan, M. J. (2009). Sensory over-responsivity in elementary school: Prevalence and social-emotional correlates. *Journal of Abnormal Child Psychology, 37*(5), 705–716.

Ben-Sasson, A., Cermak, S., Orsmond, G. I., Tager-Flusberg, H., Carter, A. S., Kadlec, M. B., & Dunn, W. (2007). Extreme sensory modulation behaviors in toddlers with autism spectrum disorders. *American Journal of Occupational Therapy, 61*(5), 584–592.

Ben-Sasson, A., Cermak, S. A., Orsmond, G. I., Tager-Flusberg, H., Kadlec, M. B., & Carter, A. S. (2008). Sensory clusters of toddlers with autism spectrum disorders: Differences in affective symptoms. *Journal of Child Psychology and Psychiatry, 49*(8), 817–825.

Ben-Sasson, A., Hen, L., Fluss, R. Cermak, S. A., Engel-Yeger, B., & Gal, E. (2009). A meta-analysis of sensory modulation symptoms in individuals with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 39* (1), 1–11.

Brown, C., & Dunn, W. (2002). *The Adult Sensory Profile*. San Antonio, TX: Psychological Corporation.

Brown, T., Cromwell, R., Filion, D., Dunn, W., & Tollefson, N. (2002). Sensory processing in schizophrenia: Missing and avoiding information. *Schizophrenia Research 55*(1–2), 187–195.

Cheung, P., & Siu, A. (2009). A comparison of patterns of sensory processing in children with and without developmental disabilities. *Research in Developmental Disabilities*, August 6.

Clark, F., Mailloux, Z., & Parham, D. (1985). Sensory integration and children with learning disabilities. In P. Pratt & A. Allen (Eds.), *Occupational Therapy for Children* (p. 384). St. Louis, MO: Mosby.

Clark, F., Mailloux, Z., Parham, D., & Bissell, J. C. (1992). Sensory integration and children with learning disabilities. In P. Pratt & A. Allen (Eds.), *Occupational Therapy for Children* (pp. 457–507). St. Louis, MO: Mosby.

Coffelt, K. (2004). The relationship between sensory processing patterns and expectations of students' performance in preschool teachers. *Occupational Therapy Education*. Kansas City, MO: University of Kansas. Master of Science in Occupational Therapy.

Corbett, B., Schupp, C., Levine, S., & Mendoza, S. (2009). Comparing cortisol, stress and sensory sentivitity in children with autism. *Autism Research, 2*(1), 39–49.

Cox, A. L., Gast, D. L., Luscre, D., & Ayers, K. M. (2009). The effects of weighted vests on appropriate in-seat behaviors of elementary-age students with autism and severe to profound intellectual disabilities. *Focus on Autism and Other Developmental Disabilities, 24*(1), 17–26.

Crane, L., Goddard, L., & Pring, L. (2009). Sensory processing in adults with autism spectrum disorders. *Autism 13*(3), 215–228.

Davies, P., Chang, W., & Gavin, W. (2009). Maturation of sensory gating performance in children with and without sensory processing disorders. *International Journal of Psychophysiology, 72*, 187–197.

Davies, P., & Gavin, W. (2007). Validating the diagnosis of sensory processing disorders using EEG technology. *American Journal of Occupational Therapy, 61*(2), 176–189.

Dempsey, I., & Dunst, C. J. (2004). Helpgiving styles and parent empowerment in families with a young child with a disability. *Journal of Intellectual and Developmental Disability 29*(1), 40–51.

Deris, A. R., Hagelman, E. M., Schilling, K., & DiCarlo, C. F. (2006). Using a weighted or pressure vest for a child with autistic spectrum disorder. Retreived from http://www.eric.ed.gov/PDFS/ED490780.pdf

Dove, S., & Dunn, W. (2009). Sensory processing patterns in learning disabilities. *Occupational Therapy in Early Intervention, Preschool and Schools, 2*(1), 1–11.

Dunn, W. (1997). The impact of sensory processing abilities on the daily lives of young children and families: A conceptual model. *Infants and Young Children, 9*(4), 23–35.

Dunn, W. (1998). Implementing neuroscience principles to support habilitation and recovery. In C. Christiansen & C. Baum, *Occupational therapy: Achieving human performance needs in daily living*. Thorofare, NJ: Slack.

Dunn, W. (1999a). *The Sensory Profile*. San Antonio, TX: Psychological Corporation.

Dunn, W. (1999b). *The Sensory Profile Manual*. San Antonio, TX: Psychological Corporation.

Dunn, W. (2001). The sensations of everyday life: Theoretical, conceptual and pragmatic considerations. *American Journal of Occupational Therapy, 55*(6), 608–620.

Dunn, W. (2002). *The Infant Toddler Sensory Profile*. San Antonio, TX: Psychological Coorporation.

Dunn, W. (2006a). *Sensory Profile School Companion*. San Antonio, TX: Psychological Corporation.

Dunn, W. (2006b). *Sensory Profile Supplement*. San Antonio, TX: The Psychological Corporation.

Dunn, W. (2008a). Harnessing teacher's wisdom for evidence based practice: Standardization data from the Sensory Profile School Companion. *Journal of Occupational Therapy, Schools, and Early Intervention, 1*(3–4), 206–214.

Dunn, W. (2008b). *Living sensationally understanding your senses*. London: Jessica Kingsley Publications.

Dunn, W., & Bennett, D. (2002). Patterns of sensory processing in children with attention deficit hyperactivity disorder. *Occupational Therapy Journal of Research, 22*(1), 4–15.

Dunn, W., & Brown, C. (1997). Factor analysis on the Sensory Profile from a national sample of children without disabilities. *American Journal of Occupational Therapy, 51*(7), 490–495.

Dunn, W., & Westman, K. (1997). The sensory profile: The performance of a national sample of children without disabilities. *American Journal of Occupational Therapy, 51*(1), 25–34.

Dunst, C. J. (1997). Conceptual and empirical foundations of family-centered practice. In R. J. Illback, C. T. Cobb et al. (Eds.), *Integrated services for children and families: Opportunities for psychological practice* (pp. 75–91). Washington, DC: American Psychological Association.

Dunst, C. J. (2002). Family-centered practices: Birth through high school. *Journal of Special Education, 36*(3), 139–147.

Dunst, C. J., Bruder, M. B., Trivette, C. M., Hamby, D., Raab, M., & McLean, M. (2001). Characteristics and consequences of everyday natural learning opportunities. *Topics in Early Childhood Special Education, 21*(2), 68–92.

Dunst, C. J., Hamby, D., Trivette, C. M., Raab, M., & Bruder, M. B. (2000). Everyday family and community life and children's naturally occurring learning opportunities. *Journal of Early Intervention, 23*(3), 151–164.

Dunst, C. J., & Raab, M. (2004). Parents' and practitioners' perspectives of young children's everyday natural learning environments. *Psychological Reports, 94* (1), 251–256.

Engel-Yeger, B. (2008). Sensory processing patterns and daily activity preferences of Israeli children. *Canadian Journal of Occupational Therapy, 75*(4), 220–229.

Ermer, J., & Dunn, W. (1998). The sensory profile: A discriminant analysis of children with and without disabilities. *American Journal of Occupational Therapy, 52* (4), 283–290.

Fertel Daly, D., Bedell, G., & Hinojosa, J. (2001). Effects of a weighted vest on attention to task and self stimulatory behaviors in preschoolers with pervasive developmental disorders. *American Journal of Occupational Therapy, 55*(6), 629–640.

Fisher, A., Murray, E., & Bundy, A. (1991). *Sensory integration theory and practice*. Philadelphia, PA: F. A. Davis.

Gabriels, R., Agnew, J., Miller, L. J., Gralla, J., Pan, Z., Goldson, E., et al. (2008). Is there a relationship between restricted, repetitive, stereotyped behaviors and interests and abnormal sensory response in children with autism spectrum disorders? *Research in Autism Spectrum Disorders, 2*(4), 660–670.

Gere, D., Capps, S., Mitchell, D., & Grubbs, E. (2009). Sensory sensitivities of gifted children. *American Journal of Occupational Therapy, 63*(3), 288–295.

Grinker, R. (2007). *Unstrange minds: Remapping the world of autism*. Cambridge, MA: Basic Books.

Hanft, B., & Pilkington Ovland, K. (2000). Therapy in natural environments: The means or end goal for early intervention? *Infants and Young Children, 12*(4), 1–13.

Janvier, Y., & Rugino, T. (2004). Characteristics of sensory based feeding disorders and sensory motor feeding disorders in children. *Journal of Developmental and Behavioral Pediatrics, 25*(5), 381.

Jasmin, E., Couture, M., McKinley, P., Reid, G., Fombonne, E., & Gisel, E. (2009). Sensori-motor and daily living skills of preschool children with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 39*(2), 231–241.

Jones, C., Happe, F., Baird, G., Simonoff, E., Marsden, A., Tregay, J. et al. (2009). Auditory discrimination and auditory sensory behaviours in autism spectrum disorders. *Neuropsychologia*, June 21.

Joosten, A., & Bundy, A. (2008). The motivation of stereotypic and repetitive behavior: Examination of construct validity of the motivation assessment scale. *Journal of Autism and Developmental Disorders, 38*(7), 1341–1348.

Joosten, A., Bundy, A., & Einfeld, S. (2009). Intrinsic and extrinsic motivation for stereotypic and repetitive behavior. *Journal of Autism and Developmental Disorders, 39*(3), 521–531.

Kandell, E., Schwartz, J., & Jessell, T. (2000). *Principles of neural science*. New York: McGraw Hill.

Kern, J. K., Garver, C. R., Carmody, T., Andrews, A. A., Trivedi, M. H., & Mehta, J. A. (2007). Examining sensory quadrants in autism. *Research in Autism Spectrum Disorders, 1*(2), 185–193.

Kern, J. K., Garver, C. R., Grannemann, B. D., Trivedi, M. H., Carmody, T., Andrews, A. A., & Mehta, J. A. (2007). Response to vestibular sensory events in autism. *Research in Autism Spectrum Disorders, 1*(1), 67–74.

Kientz, M. A., & Dunn, W. (1997). Comparison of the performance of children with and without autism on the Sensory Profile. *American Journal of Occupational Therapy, 51*(7), 530–537.

Kimball, J. (1999). Sensory integrative frame of reference. In P. Kramer & J. Hinojosa (Eds.), *Frames of reference for pediatric occupational therapy* (pp. 169–204). Baltimore: Williams & Wilkins.

Lane, A., Young, R., Baker, A. E., & Angley, M. T. (2009). Sensory processing subtypes in autism: Association with adaptive behavior. *Journal of Autism and Developmental Disorders, 40*(1), 112–122.

Liss, M., Timmel, L., Baxley, K., & Killingworth, P. (2005). Sensory processing sensitivity and its relation to parental bonding, anxiety and depression. *Personality and Individual Differences, 39*, 1429–1439.

Mangeot, S. D., Miller, L. J., McIntosh, D. N., McGrath-Clarke, J., Simon, J., Hagerman, R., & Goldson, E. (2001). Sensory modulation dysfunction in children with attention-deficit-hyperactivity disorder. *Developmental Medicine and Child Neurology, 43*(6), 399–406.

McIntosh, D., Miller, L., Shyu, V., & Hagerman, R. (1999). Sensory modulation disruption, electrodermal responses and functional behaviors. *Developmental Medicine and Child Neurology, 41*(9), 608–615.

Miller, L., Anzalone, M., Lane, S., Cermak, S., & Osten, E. (2007). Concept evolution in sensory integration: A proposed nosology for diagnosis. *American Journal of Occupational Therapy, 61*(2), 135–140.

Minshew, N., & Hobson, J. (2008). Sensory sensitivities and performance on sensory perceptual tasks in high functioning individuals with autism. *Journal of Autism and Developmental Disorders, 38*(8), 1485–1498.

Mische-Lawson, L., & Dunn, W. (2008). Children's sensory processing patterns and play preferences. *Annuls of Therapeutic Recreation, 17*, 1–14.

Morrison, E. (2009). A review of research on the use of weighted vests with children on the autism spectrum. *Education, 127*(3), 323–327.

Nadon, G., Feldman, D., Dunn, W., & Gisel, E. G. (in press). Mealtime problems in children with autism spectrum disorder and their typically developing siblings: A comparison study. *Autism*.

National Early Childhood Technical Assistance Center (NECTAC). (2008). Workgroup on principles and practices in natural environments. Retrieved from http://www.nectac.org/topics/families/families.asp

Pollock, N. (2009). Sensory integration: A review of the current state of the evidence. *OT Now, 11*(4), 6–10.

Reike, E., & Anderson, D. (2009). Adolescent/adult sensory profile and obsessive-compulsive disorder. *American Journal of Occupational Therapy, 63*(2), 138–145.

Rogers, S., Hepburn, S., & Wehner, E. (2003). Parent report of sensory symptoms in toddlers with autism and those with other developmental disorders. *Journal of Autism and Developmental Disorders, 33*(6), 631–642.

Rush, D., Shelden, M., & Hanft, B. (2003). Coaching families and colleagues: A process for collaboration in natural settings. *Infants and Young Children, 16*(1), 33–47.

Schaaf, R., Miller, L., Seawell, D., & O'Keefe, S. (2003). Children with disturbances in sensory processing: A pilot study examining the role of the parasympathetic nervous system. *American Journal of Occupational Therapy, 57*(4), 442–449.

Schilling, D. (2006, Spring). Alternative seating devices for children with ADHD: Effects on classroom behavior. *Pediatric Physical Therapy, 18*(1), 81.

Schilling, D., Washington, K., Billingsley, F. F., & Deitz, J. (2003). Classroom seating for children with attention deficit hyperactivity disorder: Therapy balls versus chairs. *American Journal of Occupational Therapy, 57*(5), 534–541.

Schilling, D. L., & Schwartz, I. L. (2004, August). Alternative seating for young children with autism spectrum disorder: Effects on classroom behavior. *Journal of Autism and Developmental Disorders, 34*(4), 423–432.

Shani-Adir, A., Rozenman, D., Kessel, A., & Engel-Yeger, B. (2009). The relationship between sensory hypersensitivity and sleep quality of children with atopic dermatitis. *Pediatric Dermatology, 26*(2), 143–149.

Shochat, T., Tzischinsky, O., & Engel-Yeger, B. (2009). Sensory hypersensitivity as a contributing facrot in the relation between sleep and behavioral disorders in normal school children. *Behavioral Sleep Medicine, 7*(1), 53–62.

Smith, A., Roux, S., Naidoo, N. T., & Venter, D. (2005). Food choices of tactile defensive children. *Nutrition, 21*(1), 14–19.

Smith, S., Press, B., Koenig, K., & Kinnealey, M. (2005). Effects of sensory integration intervention on self-stimulating and self-injurious behaviors. *American Journal of Occupational Therapy, 59*, 418–425.

Stephenson, J., & Carter, M. (2009). The use of weighted vests with children with autism spectrum disorders and other disabilities. *Journal of Autism and Developmental Disorders, 39*(1), 105–114.

Tomchek, S., & Dunn, W. (2007). Sensory processing in children with and without autism: A comparative study utilizing the Short Sensory Profile. *American Journal of Occupational Therapy, 61*(2), 190–200.

Trivette, C. M., Dunst, C. J., Boyd, K., & Hamby, E. (1996). Family-oriented program models, helpgiving practices, and parental control appraisals. *Exceptional Children, 62*(3), 237–248.

VandenBerg, N. (2001). The use of a weighted vest to increase on-task behavior in children with attention difficulties. *American Journal of Occupational Therapy, 55* (6), 621–628.

Vismara, L., Colombi, C., & Rogers, S. (2009). Can one hour per week of therapy lead to lasting changes in young children with autism? *Autism, 13*(1), 93–115.

Watling, R., Dietz, J., & White, O. (2001). Comparison of Sensory Profile scores of young children with and without autism spectrum disorders. *American Journal of Occupational Therapy, 55*(4), 416–423.

Wiggins, L., Robins, D., Bakeman, R., & Adamson, L. B. (2009). Brief report: Sensory abnormalities as distinguishing symptoms of autism spectrum disorders in young children. *Journal of Autism and Developmental Disorders, 39*(7), 1087–1091.

Wilson, L., Mott, D., & Batman, D. (2004). The asset-based context matrix: A tool for assessing children's learning opportunities and participation in natural environments. *Topics in Early Childhoold Special Education, 24*(2), 110–120.

Yochman, A., Parush, S., & Ornoy, A. (2004). Responses of preschool children with and without ADHD to sensory events in daily life. *American Journal of Occupational Therapy, 58*(3), 294–302.

Zandt, F., Prior, M., & Kryios, M. (2009). Similarities and differences between children and adolescents with autism spectrum disorder and those with obsessive compulsive disorder: Executive functioning and repetitive behaviour. *Autism, 13*, 43–57.

Chapter 6

Teaching English-Language Learners: Proven Strategies and Instructional Practices

Susan M. Moore and Clara Pérez-Méndez

THE CHILDREN IN OUR WORLD

Understanding our changing world in early care and education demands recognition of the growth of a multicultural plurality and the growth in linguistic diversity among our youngest children. It is fact that among all children in the United States, more than one in five speak a language other than English at home (Federal Interagency Forum on Child and Family Statistics, 2010). Early care and education providers need also note that the fastest-growing population in the United States is young children ages birth to 6 of foreign-born immigrants; 96 percent of these children are also U.S. citizens. Among children in immigrant families, it is estimated that 72 percent speak a language other than English at home (Capps, Michael, Ost, Reardon-Anderson & Passel, 2004). In 2007, about 16.4 million children, or more than one in five children in the United States, had at least one immigrant parent (Matthews & Ewen, 2010).

Although it is recognized and documented that the ability to speak two languages has many advantages in terms of cognitive, academic, social, and economic benefits (August & Hakuta, 1997; Bialystok, 2001; Genesee, Paradis, & Crago, 2004; Hakuta, 1986; Lindholm-Leary, 2005; Yoshida, 2008), it is also recognized that linguistic diversity can be a barrier to access and equity in early childhood education (Barrera, 1993; Barrera, Corso, & Macpherson, 2003; Moore & Pérez-Méndez, 2006). This complexity can be overwhelming to parents and family members who want what is best for their children. If no one in the household speaks English well, the family is likely to encounter difficulties, accessing child care or early education programs, talking with children's teachers, and accessing health and other early intervention services (Hammer, Lawrence, & Miccio, 2007; Moore & Pérez-Méndez, 2006; Shields & Behrman, 2004). Data indicate that among children in immigrant families, 26 percent live in linguistically isolated households where no one age 14 or older has a strong command of the English language (Shields & Behrman, 2004). Current research also provides evidence that it should no longer be assumed that just because a child is identified with a disability, they cannot benefit from learning more than one language (Genesee et al., 2004; Kohnert, 2008; Tabors, 2008). Growing evidence implies that maintaining home language regardless of disability may strengthen a child's ability to transfer to learning a second language, while enhancing connections to culture, heritage, and communication with family, and establishing a strong self-identity (Espinoza, 2008; Genesee et al., 2004; Kohnert, Yim, Nett, Kan, & Duran, 2005; Pérez-Méndez & Moore, 2004; Restrepo et al., 2010; Winsler, Diaz, Espinoza, & Rodriguez, 1999). Parents and family members need information to make informed decisions about the languages their children will learn (Pérez-Méndez & Moore, 2004).

A key challenge in early childhood is to support each and every child in their development of learning languages and developing literacy by addressing their learning needs, including in this effort the increasing number of children who speak languages other than English. At the same time, it is critical to identify and provide early intervention to those who also may have a disability. This requires careful and accurate identification of early language challenges that might signal or identify a language disability from those language differences associated with influencing factors of dual language learning. To distinguish a language difference from a disability, one must understand factors and patterns of second-language acquisition and typical bilingual behaviors (Kohnert, 2008; Moore & Pérez-Méndez, 2006; Tabors, 2008) as well as the sociocultural and historical factors (Sánchez, 1999a; Sánchez & Thorp, 2008) that can influence the learning of languages and development of literacy among young dual language learners.

A critical piece of this challenge is also to prevent as well as reverse a long-standing history of misidentification, overrepresentation, and underrepresentation of linguistically and culturally diverse learners in our school systems. In a seminal study, Dunn (1968) found that a significantly high proportion of minorities and/or children from lower SES backgrounds (60–80%) were identified as in need of special education services. Unfortunately, a disproportionate representation persists, despite the attention of the Office of Civil Rights and the U.S. Department of Education (Artiles, Rueda, Salazar, & Higareda, 2005; Artiles & Trent, 1994; Artiles, Trent, & Palmer, 2004; Gersten & Woodward, 1994; Guiberson, 2009; Ortiz & Yates, 1983). It is necessary to recognize the realities of our changing world and adopt a "cultural lens" (Sánchez, 1999a; Sánchez & Thorp, 2008) through which to view the cultural, linguistic, and ability diversity and strengths of our youngest children. This will enable early care and education providers to successfully share important information with families about current research in bilingualism and international adoption. It will also help providers implement culturally and linguistically responsive teaching strategies with each and every child during the early childhood years.

The purpose of this chapter is to highlight the changing demographics here in the United States, implications for practice, what we know from research, what are some of the myths and misconceptions regarding second language acquisition and/or English-language learners, and proven strategies that can help all diverse children and their families.

DEMOGRAPHICS: CURRENT AND FUTURE TRENDS

If current trends continue, the demographic profile of our earliest learners will change dramatically as we strive to address the developmental and early education needs of our early childhood population. The PEW Research Center (Passel & Cohn, 2008) projects the racial and ethnic mix of our population will look quite different in 2050, with a significant increase in the Hispanic and Asian populations. Projections are based on trends over the past 50 years, during which immigration patterns of both authorized and unauthorized groups have influenced the profile of our early childhood population. In 2005, new immigrants and their U.S.-born descendants accounted for 51 percent of the population increase. It is projected that from 2005 to 2050, 82 percent of the population increase will be related to new immigration.

An examination of the demographic changes currently underway across the United States provides a context and rationale for identifying key strategies that address the needs of the growing number of young children who may or may not have variations in abilities, and who are learning English as a second language. In 2000, it was predicted that the growth of populations from culturally and linguistically diverse backgrounds in the United States would supersede all prior growth in demographic statistics. At that time, it was estimated that one out of five children would be exposed to a language other than English in their homes during their early childhood years. In 2000, 47 million (18%) in the United States spoke a language other than English or another language in addition to English, including numerous students who were learning English as a second language (U.S. Census, 2000). In 2001, approximately 4.6 million students were learning English as a second language in U.S. schools, representing an increase of 105 percent since 1990, and it was estimated that 79 percent of these students spoke Spanish (Goldstein, 2004; Kindler, 2002).

In fact, in 2007, 21 percent of school-age children in the United States spoke a language other than English at home, and 5 percent of school-age children both spoke a language other than English at home and were reported to have difficulty speaking English. Sixteen percent of school-age Asian children and 18 percent of school-age Hispanic children both spoke another language at home and had difficulty with English. About 6 percent of school-age children not only spoke a language other than English at home, but lived in a linguistically isolated household. A linguistically isolated household is one in which all persons age 14 or over speak a language other than English at home and no person age 14 or over speaks English "very well." In 2008, 56 percent of U.S. children were white, non-Hispanic; 22 percent were Hispanic; 15 percent were black; 4 percent were Asian; and 5 percent were "all other races." The percentage of children who are Hispanic has increased faster than that of any other racial or ethnic group, growing from 9 percent of the child population in 1980 to 22 percent in 2008. By 2050, it is projected that one in four children in the United States will be of Hispanic origin (Federal Interagency Forum on Child and Family Statistics, 2010). It is important to consider that a high percentage of children who enter school from non-English-speaking homes speak Spanish. However, over 300 different languages are spoken or represented in the U.S. population, and nearly 6 percent of the U.S. population does not speak English (Capps et al., 2004; Hernandez, 2004). Adoption of children from foreign countries has also increased significantly. Over 126,000 visas were issued between 2001 and 2006, with close to 20,000 visas issued in 2006 alone (U.S. Department of State, 2009). Although numbers of internationally adopted children have not continued to markedly increase, implications for education do continue. The composition of our early childhood population reflects these changes. It is critical to address linguistic and cultural variables impacting our young dual-language learners and to understand the current and future demands upon early childhood educators and providers to successfully address their learning needs.

IMPLICATIONS FOR PRACTICE

Early childhood educators and specialists have long recognized the importance of understanding child development as the foundation for addressing the learning needs of all children. This implies our early childhood provider workforce must also understand the development and implications for learning for very young children from a variety of different cultures or who speak languages different from their own (Anderson, 2004; Barrera, 1993; Gay, 2002). Early childhood educators and specialists need to understand patterns of second-language acquisition (SLA), factors influencing dual-language learning (Genesee, 2008), as well as abilities to distinguish language differences from disorders (Genesee et al., 2004; Kohnert, 2008; Moore & Pérez-Méndez, 2003; Tabors, 2008). To do this, they must be familiar with current research about bilingualism and dual-language learners and consider all background variables when providing culturally responsive early learning opportunities. This involves sharpening of focus through use of a "cultural lens" to identify the strengths and resilience of each and every young learner in the context of their family, culture, language, and abilities (Sánchez & Thorp, 1998; Sánchez & Thorp, 2008; Westby, 1990, 2009). According to these authors, it is critical for educators to explore the meaning of culture and dimensions of cultural diversity for each and every child and family they work with. Educators and specialists are charged with linking authentic assessment to instruction and/or intervention as needed and can also be a conduit for families to information that informs decision making about language learning, school programs available, and community resources and support (Moore & Pérez-Méndez, 2003, 2006).

Changes in preservice and in-service personnel preparation of early care and education providers and specialists are needed to insure their development and ability to implement current research and evidence-based practices (Buysse, Castro, & Peisner-Feinberg, 2010; Maude, Catlett, Moore, Sánchez, & Thorp, 2006; Maude et al., 2010; NAEYC, 1995; Winton, McCollum, & Catlett, 2008). Most importantly, early education providers and specialists will best serve the youngest population of learners by developing an "additive disposition" toward linguistic diversity in their practice with both children and families (Gay, 2000, 2002). Genesee, Paradis, and Crago (2004) as well as Kohnert and Derr (2004) describe this as contexts where there is substantial support for continued development of a child's first language and maintenance as the child acquires a second language.

Gay (2000) underscores and expands this concept by calling for a "sea change" or paradigm shift from a deficit model of identifying children "at risk" for failure to a strengths-based view of children who come to a program rich in a cultural legacy and who are capable of becoming competent learners. This reframing of persistent viewpoints and attitudes, that speaking a language other than English is a "problem," and that these children are "at risk" for educational success, shifts the focus from changing the lives of children and families to "looking toward" how we respond as educators to this challenge. When reframed, an early childhood educator or specialist can focus on providing responsive teaching strategies by designing supportive environments, creating meaningful and engaging learning areas and activities, developing a plan and schedule that promotes child engagement and success, planning for transitions, maintaining clear expectations, and supporting and enhancing children's learning of languages, literacy, and their social-emotional development (Milagros-Santos, Cheatham, & Ostrosky, 2006; Tabors, 2008).

Establishing connections and partnerships with home by listening to families' stories (Sánchez, 1999; Westby, 1990, 2009), as well as information, priorities, and concerns about their children in the context of their cultural and/or linguistic backgrounds (Division for Early Childhood [DEC], 2002; Lynch & Hanson, 2003; Moore, Pérez-Méndez, & Boerger, 2006), will enhance trust and ongoing communication. In this context, information about current research regarding bilingualism and educational choices can be shared with parents and family members and considered when making decisions about what languages their children will learn.

WHO ARE THE CHILDREN?

José. *At the age of 3, José came to his early childhood setting speaking Spanish as his first language. This was his first experience with English as he was the child of an immigrant family who spoke only Spanish in their home, although both parents were learning English as a second language. Although he had* *been born in the United States, up until this time he had been cared for by his grandmother who spoke only Spanish, so he had limited exposure to English. He appeared shy and withdrawn and had a difficult time separating from his mother during his first days and weeks in this new setting. His parents were confused as they wanted José to be a successful learner and do well in school. They considered speaking to José only in English as they thought he would learn it more quickly and be better prepared for first grade when the time came. However, they value their cultural heritage and did not want their son to lose connections with his culture and heritage as well as with his grandmother. They had to put him in preschool because she was elderly and was now having health concerns that prevented her from caring for him all day at home. Yet, his parents wanted him to learn English so he could be successful in his country of birth.*

Kim. *Kim came to his early childhood toddler group program based upon a referral from People's Clinic citing concern about his delays in language development. His family also had concerns as they reported he was not learning as fast as his older brothers and sisters. They reported he was not talking as well and he was very slow to learn new words in both Korean and English. They reported he was learning Korean as his first language, as they spoke this language at home, although he was exposed to some English because his older siblings were all learning English at school, and his father spoke English fluently. His parents thought he just might be slower to learn because he was "confused," since he really had no time to learn Korean before they came to the United States when he was 6 months old. They want him to be exposed to more English in an early childhood setting to see if he can learn English now that he is 2 years old. They are not sure if they will be returning to Korea after Kim's father completed his PhD program, yet expressed it is important to sustain their Korean language so their children could also maintain connections to their culture, extended family of grandparents, aunts, uncles, cousins, and friends who spoke Korean. They are concerned that this decision is interfering with Kim's acquisition of English and that he will have difficulty learning both languages.*

Dara. *Dara, a healthy and precocious child, was adopted by her American parents from China when she was two years old, but was reportedly having difficulty learning her Chinese language while still in her orphanage in China. Her parents brought her home where she quickly began to attempt to use English words because that was the only language spoken in the family. She discontinued using any Chinese words by the end of her first month in her new home. Her parents quickly sought out information and advice as her emerging English was often unintelligible to her parents and sister and to those who did not know her outside the family. She was obviously very bright and often made her intent known through gestures (such as head nods* *and shakes, pointing, and getting objects herself). She seemed quick to pick up English in terms of understanding but had significant difficulty being understood using her new language. Her parents were referred to an early intervention program (Part C), but she received services only for a short period of time before she turned 3 and was transitioned to district supports for preschool.*

To learn more about the learning needs of these children in the classroom, their early childhood educators and specialists need to know what current research tells us about dual language learners and internationally adopted children. They need to understand the influencing factors that should be considered as they discover how these children are learning language(s) and apply this information to promoting each child's development in all areas.

WHAT WE KNOW FROM RESEARCH FINDINGS

Children who are bilingual possess a wide range of language proficiencies that are dynamic and change over time. This makes studying children who are bilingual more difficult than studying children who are monolingual (Bialystok, 2009; Espinoza, 2008; Genesee et al., 2004; Kohnert, 2008). Factors such as type of language learning, simultaneous or sequential; or age, amount of exposure, and interaction with a second language, can all influence patterns of learning a second language. Additional factors related to the biological and cognitive capacity, motivation, and personality of a young child can also influence how a child responds to learning a second language or more than one language, just as these factors can influence how a child learns a first language.

Given basic biological capacity, a social interactionist approach would suggest all children are capable of learning languages they are exposed to through responsive interactions and a language- and literacy-rich environment provided by parents, care providers, and teachers. However, various patterns may emerge based upon both internal and external influencing factors. External factors that also may impact a significant portion of young language learners include poverty, single-parent families, poor teaching, adoption at an older age, language barriers to accessing information, and/or early care and education. As noted, children learning more than one language or a second language present a wide range of language proficiencies that are dynamic and change over time. Children exposed to learning more than one language, as well as children who are adopted and thus no longer exposed to their first language, present complexities that demand thoughtful and intentional examination. As professionals, we need additional research to truly understand implications for educational reform (August & Hakuta, 1997; August & Shanahan, 2006; Genesee et al., 2004; Snow, 2006).

Research to date indicates factors such as type of acquisition, timing and age of exposure, and interaction in a second language, as well as internal factors that the child brings to the learning situation, influence the pattern of learning. External factors such as the sociocultural context for learning languages can also significantly influence the heterogeneity of patterns identified. For example, simultaneous learners, or those exposed to more than one language from birth, can demonstrate acquisition that results in different or similar developmental patterns and language behaviors as their monolingual peers (Patterson & Pearson, 2004; Pearson & Fernandez, 1993). Sequential learners of more than one language, those that are exposed to a new language after they have begun to learn their first language, also demonstrate a wider range of variability in rates and stages of language acquisition (Genesee et al., 2004; Kayser, 2008; Kohnert & Medina, 2009; Nicoladis & Genesee, 1997, Roseberry-McKibbin, 2003, Tabors & Snow, 2001).

Internal factors such as language aptitude, motivation, and strength of first language may all influence rate of learning a second language. External factors, such as exposure to comprehensible and intentional input through conversational interactions and participatory engagement of parents, is critical in learning a new language as well as maintaining language proficiency once achieved. Age of exposure, amount of use in first and second languages, language use with siblings, and other family members, language of play, and general language ability all can influence rate and variability (Nicoladis & Genesee, 1997). Other variables, such as adult language practices in the home, languages siblings use, language of instruction, access to languages (language community) and exposure to languages through media, need to be considered (Patterson & Pearson, 2004). However, it is critical to note that this information tells us more about what might be influencing emerging patterns in the development of languages and how to support the learning of language(s) versus focusing on the faulty interpretation that exposure to more than one language is a cause of language delay (Espinoza, 2008; Genesee, 2008; Restrepo, 1998). See Figure 6.1 for more information about internal and external influencing factors.

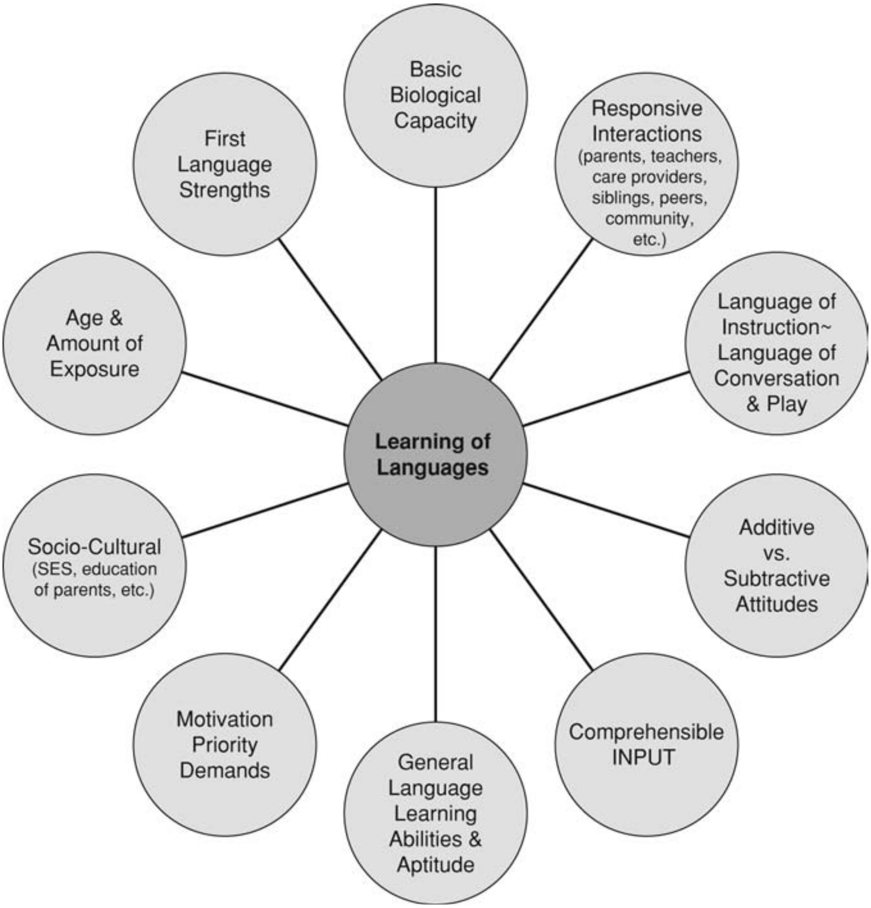


Figure 6.1 Internal and external: Influencing factors to learning of languages.

LEARNING MORE THAN ONE LANGUAGE IN EARLY CHILDHOOD

Many dual language learners in U.S. preschools or early care and education programs present themselves as sequential learners of English as their second language. Evidence suggests that anyone learning more than one language sequentially (after being exposed to their first language) follows certain stages/phases when meaningfully exposed to a second language (Krashen, 1982). These include silent receptive/comprehension, early production, speech emergence, intermediate fluency, and advanced fluency approaching proficiency. This basic continuum was later modified and applied to preschool children by Tabors (2008) based upon an ethnographic study of preschool-age children in a multilingual setting. Both of these authors, as well as many others (Cummins, 1989), describe the "silent period" or nonverbal phase followed by an early production phase and later productive language use similar to the increase in length and complexity of learning a first language. Cummins (1989), in particular, notes that oral language proficiency or basic interpersonal communication skills in a second language does not guarantee full linguistic proficiency in terms of listening, speaking, reading, and writing necessary for success in academic learning.

In the case of young sequential dual language learners, Tabors (2008) notes differences in how young children might adapt or cope with immediate exposure to a second language as the language of instruction in an early childhood setting. Some children are observed to continue to speak their first language for a short time until they realize they are not understood or it is "different." Other children might immediately become nonverbal while they listen and observe and try to "crack the code" of what is being said. Children who are motivated and feel comfortable "risking" may quickly imitate and use shortened phrases or words they hear to get results (e.g., "go home now," "my turn," "more please"). Children often begin use of "formulaic" speech and language (e.g., "I don't want to") that is a "prefabricated" chunk before they know the meaning of each word (Tabors, 2008). With time, exposure, and support, children are observed to demonstrate a syntactic understanding of the second language and move forward beyond the "chunks" to create and generate their own sentences that express their ideas and convey meaning. With more exposure and support, they become knowledgeable about more abstract vocabulary, and many eventually emerge as proficient in their second language. This resonates with the experience of many monolingual speakers who visit a different country and are immersed in a situation in which they cannot speak the language. Many might react by withdrawing, listening, and observing, yet eventually "risk" in an emergent way, speaking the unfamiliar language to become "conversational" in their new environment. Gradually, with use and exposure, proficiency continues to develop given consideration to the influencing factors that impact the learning of a second language.

With any second-language learner, certain bilingual behaviors emerge, such as first "language loss" associated with reduced exposure and interactions in the "first language." Language loss can be transitional during a period of inter-language, during which children may demonstrate semi-bilingualism; or it may be permanent if the first language is not supported and sustained, such as in the case of older children who are adopted into an English-speaking family and have no further exposure to their first language (Anderson, 2004; Wong Fillmore, 1991). It is critical to note that children who are adopted often present very distinct patterns from those children who continue to be exposed to more than one language and cannot be compared to those children who are truly becoming bilingual (Hwa-Froelich, 2007).

Many children who are learning a second language demonstrate cross-linguistic influence; transfer/interference from the first language may be exhibited as the second language is being learned. Findings suggest sequential learners bring conceptual, semantic, and morphological knowledge from their first language to learning a second language (August & Shanahan, 2006). More research is needed to completely understand and document exactly how the concepts of transfer and/or interference support learning of languages. "Code switching" or "code mixing," the use of words from both languages in the same sentence, is commonly observed in bilingual speakers (Genesee, 2008; Genesee et al., 2004; Roseberry-McKibbin, 2003). In the case of a young sequential learner, these behaviors demonstrate a child's language-learning aptitude to discover how two different "codes" work. These behaviors are now considered typical and do not signal a delay, deficit, or disorder. Table 6.1 captures behaviors you might see consistent with continuity of second-language acquisition stages and phases of preschool-age sequential learners and responses by conversational partners and teachers that support ease of transition to higher levels and continued growth in second language acquisition.

MYTHS AND MISCONCEPTIONS

Will children learn a second language easily and effortlessly like "sponges," soaking up the new language through exposure alone?

Tabors and Snow (2001) suggest one of the most widespread and harmful myths impacting early care and education is that very young children will learn a second language automatically, quickly, and easily. It is assumed they do not need any special attention support, just exposure. Yet, the question remains, if left to their own learning

Table 6.1 Stages and Phases

The following stages with characteristic behaviors may be observed in young children who are dual-language learners. Suggested specific strategies for incorporation into classroom practices at the universal level are adapted from Tabors (2008) and Oster, McDonnell, and Jayaraman (2009). Recommended strategies are based upon keen observation of child behaviors and language level and are designed to support the child's ease with transition to high levels of second-language acquisition within a social context of predictable routines and engaging activities.

Stage: Home Language Use:

Observations: The child:

- Speaks to others in their home language yet slowly realizes he/she is not understood.
- May imitate nonverbal behaviors of others
- May experience rejection by peers
- Comprehension of English words is limited
- May develop nonverbal methods of communicating (gesture, leading, pantomiming)
- May exhibit signs of stress and appear withdrawn, overwhelmed, frustrated, and sad
- May begin to say "yes and no" or just shake head to indicate choices when asked

Response: Teachers and conversational partners can:

- Learn basic words in child's home language to help child comprehend and eventually engage in play and structured activities at nonverbal level
- Provide predictable classroom routines and use visual cues (pictures, props, real objects), especially as you introduce new words making input comprehensible
- Provide yes and no choices and initially reduce demands for verbal responses
- Spend extra one-on-one time to build trust and allow child to "take time" when overwhelmed, by creating a "safe haven" (e.g., book corner, quiet space, cozy corner)
- Use repetition in natural ways emphasizing key words
- Respond and encourage the child's home language speech attempts
- Facilitate the child's entry into play activities and serve as an interpreter for peers
- Focus on concepts that transcend culture, like family, food, animals, dance, etc.
- Respond to observed stress with comfort
- Design an environment that responds to and incorporates the culture of the child for all to share, such as familiar photos, books, toys, songs
- Engage and communicate with family members to learn more about the child

Silent Period/ Nonverbal:

(*Continued*)

Table 6.1 (Continued)

Observations: The child:

- Stops talking but may continue nonverbal communication attempts with gesture
- Demonstrates response to patterns and sounds of new language
- Responds to and demonstrates increased understanding of key vocabulary of new language
- Produces only a few utterances yet uses physical responses to make requests, protest, or initiate play with peers
- Relies heavily on contextual cues such as pictures and gestures of others and may appear to understand more of the new language as a result of imitating others and responding to contextual cues

Response: Teachers and conversational partners can:

- Use predictable routines to increase comfort level
- Continue to ask yes/no questions with minimal demand for verbal response
- Use props, real objects, and pictures to teach new words and concepts
- Repeat new words in various contexts
- Slow speech down to provide extra processing time
- Pre-read books in small group or one-on-one to introduce new vocabulary
- Continue communication with family to check on understanding and learn more about child's culture, routines, and likes and dislikes
- Provide prerecorded books in child's first language for use in the classroom
- Plan high-interest activities that build on child's prior knowledge
- Use secure, quiet places or activities that do not demand language use when child appears overwhelmed.

Telegraphic or Formulaic Language Use:

Observations: The child:

- Typically uses 1–2 word responses or short phrases ("I don't know"; "I need to go potty")
- Understands more vocabulary in new language
- With continued exposure to new language, will repeat words from conversations (but may not understand)
- Uses short phrases that include words from both languages (code switching)
- Continues to rely on contextual cues and familiar routines
- May often mispronounce words yet begins to discern segments
- May use emerging new language for socialization purposes

Response: Teachers and conversation partners can:

- Encourage and respond to all attempts to use new language
- Create safe environments to practice emerging skills
- Refrain from correcting but model correct usage
- Continue to make all input in new language comprehensible through use of contextual cues and daily or familiar routines
- Repeat words and phrases used

(*Continued*)

Table 6.1 (Continued)

- Reduce demands by providing additional processing time when asking questions and watch for behaviors that suggest stress or overload
- Ask questions that require one or two word responses and then model expansions of language use incorporating new vocabulary
- Encourage and set up "low-risk" social dialogues with peers and adults
- Facilitate peer support and interactions and connections to home

Productive Language Use

Observations: The child:

- Constructs short but grammatically correct sentences in the new language
- Sometimes demonstrates incorrect word use, word order, and pronunciation, especially as attempts longer utterances
- Learns new vocabulary every day; still relies on contextual cues to discern full meaning, but to a lesser extent
- Demonstrates stronger receptive language/comprehension of new language
- Can use words in social interactions and gradually improves use of academic language
- Continues to demonstrate increased proficiency as exposed to language and literacy rich environments and social interactions, but needs continued support to develop full academic language
- May become increasingly sensitive to mistakes

Response: Teachers and conversational partners can:

- Ask more open-ended questions to describe, compare, retell, predict.
- Continue to use comprehensible input to expand oral proficiency in new language
- Use and build on child's prior knowledge
- Describe more abstract and complex concepts in a meaningful context (e.g., before/after; same/different; etc.)
- Ask more cognitively demanding questions to engage child in high order thinking skills
- Provide opportunities for child to share knowledge and demonstrate level of growing proficiency in new language
- Maintain high expectations for age-appropriate performance and learning
- Maintain communication and connections with home to support activities that promote learning and enhance development

curve, are their needs being addressed in an optimal learning environment? Snow (2006) also notes that although there are a small number of studies that address bilingual children in the preschool period, those studies, for the most part, do not address questions related to the design of optimal learning environments that take into account the time and support to learn a second language. Many authors (Espinoza, 2008; Genesee et al., 2004; Moore & Pérez-Méndez, 2006; Sánchez & Thorp, 2008; Tabors, 2008) point out the need for starting slowly with low demands for production of language when supporting young dual-language learners. Some children need supports to overcome the "affective filter" of fear and anxiety that can accompany stepping into an unfamiliar setting and not understanding the language (s) being used. Sánchez (1999b) and Sánchez and Thorp (1998) further elaborate that in settings where only one language is allowed to flourish and home languages are explicitly or implicitly devalued, young children who are linguistically diverse often experience emotional reactions as their home language is eliminated. They can be frustrated by the linguistic discontinuity between home and early education settings. Early childhood educators and specialists need to use strategies that clearly communicate that their setting is a safe, warm, and comforting environment, conducive to exploration and discovery that respects the languages and cultures represented by the children present. Strategies such as learning a few words of the child's first language and open respect and exposure to all children to both cultural and linguistic diversity in an authentic and meaningful way will often increase the feelings of a "safe place" and enhance learning of a second language.

Do children have to "give up" their first language to rapidly learn and become proficient in a second language, especially when the second language is the language of instruction?

Snow (2006) provides evidence that young children can and will learn a second language through supportive social interactions in an *additive environment* that also recognizes that children do not have to give up their first language to learn a second. Actually, there is emerging research that suggests eliminating first languages actually results in lowered performance in overall learning and academics (Espinoza, 2008; Genesee, 2008; Sánchez & Thorp, 2008). More importantly, culture and language are considered the building blocks of self-identity and connection to family. Elimination of language and often the associated cultural heritage, as critical components of growth and development in young children, may in fact lead to negative consequences of discontinuity with language and learning, disconnection with family, and disenfranchisement from community and heritage (Krashen, 1999; Nieto, 2000; Sánchez & Thorp, 2008; Tabors, 2008; Tatum, 2003; Wong Fillmore, 1991).

Will learning two languages during the early years overwhelm, confuse, and/or delay a child's learning of English?

Nicoladis and Genesee (1997) speak to this issue by explicitly noting that nothing in scientifically based research would suggest the infant brain is not capable of learning two languages. In fact, studies provide evidence that young simultaneous learners of two languages can reach similar milestones in terms of perception, babbling first words, and growth in both understanding and ability to use two languages given an appropriately supportive environment (Kuhl, 2004; Patterson & Pearson, 2004; Pearson & Fernandez, 1993). Espinoza (2008) also contradicts this myth by citing examples from recent studies that suggest dual-language learners are not only capable of learning more than one language, but there are extended benefits in terms of brain plasticity that result (Mechelli et al., 2004). It is widely accepted that the benefits truly outweigh any short-term disadvantages as long as learning of both languages is fully supported. Learning of two languages does not cause a language delay.

Is there one or "a best way" to learn a second language?

Many believe the myth that the "best way" to learn a second language is to give up the first language while learning the second. In fact, this can compromise the learner, because "language loss" of the first language can produce contradictorily negative outcomes in terms of loss of self-esteem, connections to home and heritage, among other consequences (Wong Fillmore, 1991). Reviews of current research indicate that not only is giving up the first language neither necessary nor sufficient to learn another language, but it may be contraindicated in many situations resulting in lowered abilities in both languages (Genesee et al., 2004; Kohnert et al., 2005; Winsler et al., 1999). More recent research reviews indicate that "dual language programs" may be a preferred method of instruction (Espinoza, 2008; Lindholm-Leary, 2005). It is important to note that additional research is needed to determine results, amount of immersion, and conditions when one type of dual-language program is preferred over another. Specific types of dual-language programs, such as two-way immersion, integrate native English speakers and native speakers of another language and follow a systematic pattern of instruction in both languages. Barnett and colleagues (2007) compared a two-way immersion program to a monolingual English immersion program in preschool. Children in the two-way immersion program maintained growth patterns in both languages, whereas those in the monolingual English program gained only in English. It is important to note that there was no significant difference between groups in outcomes for English, but the two-way immersion group outperformed their counterparts in Spanish. Another variation involves heritage-language programs that mainly enroll students who are dominant in English but whose parents, grandparents, or other ancestors spoke the partner language. This model is prevalent for indigenous populations attempting to revitalize their language of heritage closely connected to tribal culture, life ways, and beliefs. It is important to recognize that sometimes there is no choice, and parents must place their children in schools with English instruction only. It is critical that early childhood educators increase awareness of patterns of language learning and address the learning needs of each and every child regardless of language of instruction.

REFRAMING MYTHS AND MISCONCEPTIONS

In analyzing the extant literature and emerging science related to dual-language learners, it is important to reframe prior myths and misperceptions into positive tenets that can drive evidence-based practice in early childhood education. Espinoza (2008) concludes there are several basic propositions that provide a foundation for encouraging the design of optimal early education learning environments that support dual-language learners. Recognizing that all children are capable of learning two languages, that language differences are in fact differences and not delays, and that bilingualism can be considered an asset are foundational concepts for changing early childhood practices. For too long, professionals have considered learning English as a second language as a "problem" that children bring to the classroom or, at the very least, that this signals a "risk" factor that negatively impacts learning. This belief may have more to do with other factors of influence such as poverty, or an unresponsive educational system with teachers who do not recognize the scientific findings related to the benefits of bilingualism and fail to understand how children can learn more than one language. Research claims young children can also benefit academically, socially, and emotionally from systematic support for the continued development of their first language, especially during the early years, from birth to age 8, when they are mastering sounds, structure, and functions of languages. This information is important to consider when determining evidence-based practices in early care and education for each and every child.

REFRAMING PRACTICE: FOCUS ON THE UNIVERSAL LEVEL

A "multitiered framework" or model of instruction and intervention has been used to describe how early care and education providers can design and scaffold learning opportunities for each and every child in their setting. The multitiered model has been used by many authors who use different terms in its application. Response to Intervention, or RtI (Burns, Appleton, & Stehouwer, 2005; Gersten et al., 2008), has been used to identify those children in kindergarten, first grade, and second grade who may demonstrate difficulties in learning to read. This model has been proposed and implemented to identify specific areas such as phonemic awareness, vocabulary, phonics, fluency, and comprehension (National Institute of Child Health and Development [NICHD], 2000) that can be improved by targeted intervention to allow children to succeed in establishing conventional reading abilities. The "pyramid model" (Hemmeter, Ostrosky, & Fox, 2006) and multitiered instruction have also been used to focus on prevention and early identification and direct implementation of strategies to address social and behavioral challenges in young children and students through positive behavior supports. These models have also been applied to early care and education (Coleman, Buysse, & Neitzel, 2006) to identify at an earlier age the pre-academic or learning challenges that many children face in establishing the foundations of language and literacy that impact later learning (see Figure 6.2).

As depicted in Figure 6.2, the *Universal Level* involves the foundation for early learning with active parent/family participation in which all children receive research-based, high-quality learning opportunities and curricula that incorporate ongoing universal screening, and progress monitoring. Expectations are taught; children gain world knowledge and learn developmentally appropriate information, including the foundations in language and literacy that support later conventional reading and writing. Interaction between child and adults as well as child to child are integrated into early leaning. The *Roadmap to Pre-K RTI: Applying Response to Intervention in Preschool Settings* (Coleman, Roth, & West, 2009), produced by the National Center for Learning Disabilities, reviews current practices regarding RTI for Pre-K. Across applications, data are used to inform teaching and individualize needs for each and every child. This includes universal strategies that specifically address the learning needs of young dual-language learners consistent with standards defined by state, federal, and professional organizations, such as the Division for Early Childhood of the Council for Exceptional Children (DEC/CEC) and the National Association for Education of Young Children (NAEYC).

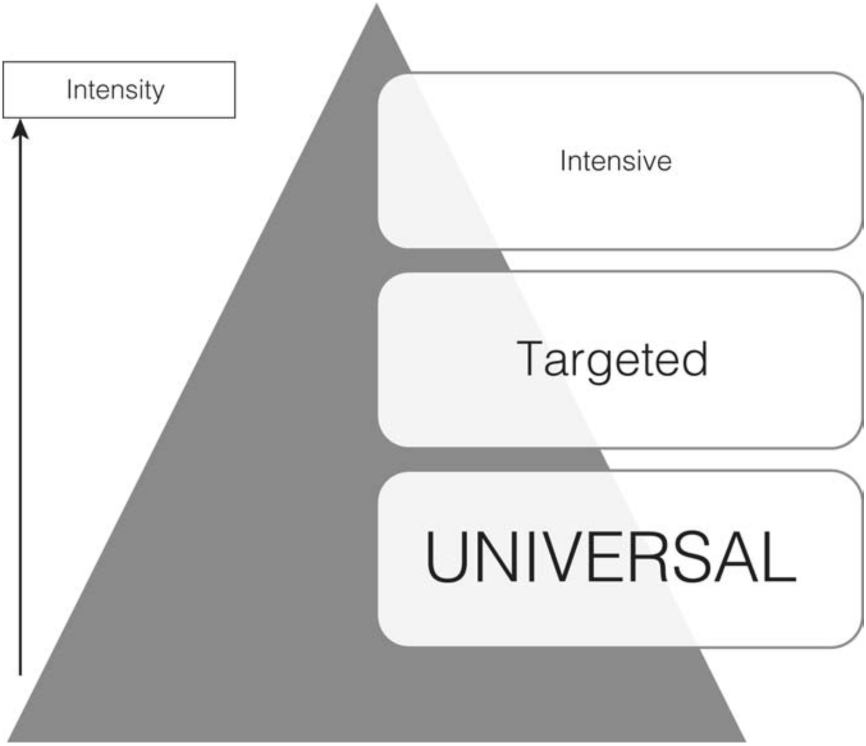


Figure 6.2 Tiered approach.

At the *Targeted Level*, children who are struggling in specific areas that might include academic, language, or social challenges, receive support for targeted challenges determined by data collected through observation. This involves staffing patterns that support the classroom teacher in problem solving and developing individualized learning goals and a plan for implementation. This might involve supplemental curriculum and instruction to the individual child or small groups of children. Assessing success of the instructional strategies, rate of child progress, and when to make changes in the individualized learning plan are integral to this process.

Need for Increased Intensity and Further Assessment

For those children who continue to struggle in specified areas, a staffing pattern that enables a specialized team to assist in the classroom with both intensive support for a child and for the classroom teacher, including the development, implementation, and evaluation of individualized instructional strategies. Data can then determine the need in some cases for referral for further in-depth assessment (e.g., Child Find; Mental Health Services). This three-tiered framework focuses on insuring that research-based and evidence-based practices in early education are integrated into all programs serving young children, including specific strategies designed to meet the needs of young dual-language learners at all three levels.

KEY STRATEGIES TO ENHANCE LEARNING OF YOUNG DUAL-LANGUAGE LEARNERS

Each and every child demonstrates variance in how they might respond as a simultaneous or sequential learner of more than one language. It is important to engage parent participation in determining how children, especially dual-language learners, can benefit from recommended practices and strategies at the universal level of a multi-tiered model. Refer to Table 6.1 for specifics regarding behaviors that might be observed in the preschool classroom or other early childhood setting with specific recommended practices to enhance growth and development of second-language learning.

José was reticent to leave his mother's side when he was dropped off at his preschool where English was the language of instruction. Even though his English-speaking teacher welcomed him with open arms, he initially withdrew from his teacher and the other children, most of whom spoke English. He would sit quietly, most often playing by himself, while observing all that went on around him. At snack time, he would respond by nodding if offered juice and crackers, and would sometimes point and gesture to indicate he wanted more, but was hesitant to engage or enjoy conversations with teachers or other children and would often gaze out the window with a solemn stare. When approached by other children to play, he would shake his head no and retreat to solitary play, while watching all that was going on around him. He would hold it together until his mother would reappear at the end of the session to pick him up and he would run into her arms speaking Spanish words with seeming relief. She would hold him and speak to the teacher about his day in English and often asked him questions about his day in Spanish. He would respond with whispered words and head nods and anxiously wait, sometimes with tears, until she was ready to leave. After a week of limited engagement and interaction, his teachers began to wonder if something was *wrong with him. They tried over and over again to engage and include him in activities and play, but he would not respond. He seemed somewhat anxious, but was content to listen and to observe others; yet he played by himself. The other children began to ignore him and no longer attempted to include him in their play. His mother became increasingly distressed when told he was not joining in. Although he seemed content, he was not engaging in activities and play, but continued to watch and listen.*

Are there specific strategies José's teachers could initiate that would help him adjust to his new preschool? What do they need to know? How can they find out? First, it would appear that they may need to know where José is in terms of both first- and second-language acquisition. Refer to Table 6.1. They know he has limited exposure to English in his home as both parents converse in Spanish, although they are learning English. However, his primary caregiver for three years has been his "abulita" (grandmother), who speaks only Spanish. It is necessary and helpful to learn more about his language learning in Spanish as well as his specific amount of exposure to English to better understand his behavior. Learning about the culture and the linguistic environments of each and every child in the classroom provides teachers with the information they need to create safe, comfortable settings for children "to risk" learning English as a second language. In reviewing the literature on stages and phases of learning a second language, his English-speaking teachers might assume he is "just in the silent/nonverbal period" and will "come around" with additional time and exposure to English in his classroom. However, there is danger in assuming this is the case until they explore with his parents all the factors that may be influencing his behaviors. During conversations with teachers, his parents share the fact that although José is a quiet and loving child, he speaks Spanish with all the family at home and will play with a young cousin his own age using Spanish to communicate. They feel he is developing Spanish typically for his age and will ask and answer simple questions, follow directions, tell his parents what he wants in sentences they understand, watch and understand TV in Spanish, and laugh and enjoy play with his dad, and he loves reading books with his mother at home. He tells his parents he does not like school because all the kids "talk funny."

Given this information from family (Restrepo, 1998), his teachers make more of an effort to engage José and actually use some Spanish words to converse with him. "Look at the house. House is casa in Spanish! You are so lucky to know Spanish. Tell me some other words in Spanish." The other children begin to also ask what a word means in Spanish and begin to understand that although José may be reticent to interact, he knows a lot of words in Spanish and understands more words in English each day. All the children bring pictures from home to make a book, *All About Me!* José's parents bring in pictures as well and this becomes a way for his teachers to learn more about him, the people in his life, and the words in Spanish to use when identifying his pictures and initiating conversations with him. His teachers "start slow" and do not demand that José produce the words in English, but they quickly learn he understands, through pointing upon request and imitating others, many more English words than they originally thought.

José becomes more comfortable taking the risk to imitate and even use some English words as his teachers make the effort to use gestures, pictures, objects, and actions to make sure "all input is comprehensible." He begins to enjoy activities like block building and playing cars alongside other children. He especially enjoys listening to stories like all the other children, especially when they are acted out with props and the new vocabulary is first introduced in a meaningful context. He demonstrates his comprehension of the narrative by taking a nonspeaking part in the story reenactment. His parents become more active in visiting and sharing songs and music they sing at home. Books in both Spanish and English appear in the cozy corner for children to look at and talk about. José begins to "warm up," becomes increasingly comfortable at school, and proceeds to learn more vocabulary words (August, Carlo, Dressler, & Snow, 2005), demonstrates increased comprehension of English, and eventually begins to use telegraphic phrases to request, protest, and respond during interactions with his peers. His parents and teachers work together in planning ways to enhance his learning of Spanish at home and his understanding and use of English in the classroom and in other situations with English-speaking peers. His parents also elect to attend a parent education and support program with other Spanish-speaking family members to enhance their understanding of early language and literacy development, bilingualism, and how they can enhance his development in both languages but continue to grow his first language at home through interactive story-book reading and focus on language during everyday routines, activities, and relationships (Moore & Pérez-Méndez, 2005b).

Kim's parents are concerned about his ability to learn two languages and need information and guidance from his teachers about how to proceed with their son's exposure to two languages. Although he appears to enjoy the play *and interactive activities in his toddler group, he does not appear to be using either language as expected given exposure to both. His parents report he is beginning to use more words in Korean and actually strings two words together and produces simple phrases at home, but they are concerned that he refuses to imitate and attempt new words in English. His teachers observe that he seems happy to play alongside other children, yet very rarely interacts or responds to overtures by other children or adults in the classroom. His favorite activities are building with blocks by himself, playing in the "kitchen area" using elaborate sequences of stirring, pouring, and eating with pots, pans, and eating utensils that speak to emerging symbolic play, and he seems to enjoy looking through books. He will sit and watch others during story time but demonstrates minimal comprehension of what is going on in the book or story being read.*

They wonder if they need some help and support to learn more about Kim's overall abilities, although they have no concerns about his motor development as he already uses crayons and pencils to make marks and "pictures," enjoys outdoor play, can complete simple puzzles with ease, and can move about with assurance, confidence, and with balance as he climbs stairs. They are clear that it seems his challenges are in language learning, but wonder if he is just moving through an expected nonverbal developmental stage of sequential language learning given his recent gain reported in Korean.

Given the wide range of variation reported in the literature for simultaneous learners of two languages, is Kim's current situation of concern? How can his teachers share information that will be helpful to his parents? What can they do in the inclusive toddler group program to learn more about Kim's abilities to understand and use language? It seems especially encouraging that Kim is using more Korean at home; however, more information as to his emerging development in Korean is needed to understand the level of his understanding and use of this language. After a conference with his parents, teachers learned they were using flash cards to attempt to elicit imitations of English vocabulary words and practice in using them.

What strategies might be more helpful in learning more about Kim's language abilities in both Korean and English? What could teachers do in the context of the toddler group to see if Kim is learning some English and understanding the meaning of English words? After several discussions, his teachers learned some Korean words that his parents reported he understood and used at home. They incorporated these words into their interactions with Kim during the day, especially words for greeting and food during snack and during his "kitchen play" partnered with words in English. Kim continues to enjoy play during his time in toddler group and seems to be responding well to the use of key vocabulary in Korean, as he smiles in recognition when his teachers use it. There is a focus on conversational "talk" using specific English vocabulary in meaningful contexts with pictures, props, and gestural cues (August et al., 2005). Ongoing communication with Kim's parents focused on meaningful contexts for learning new words during everyday routines, activities, and interactive book reading both in Korean at home with his mother and in English with his siblings and father. Kim began to attempt words in both languages. His parents, rather than demanding imitation of English words with flash cards, continued to converse with him in Korean and noted his growing abilities to use Korean at home. Kim reportedly is using some English words appropriately at home with his siblings (e.g., "hi" and "bye-bye") and is attempting some telegraphic language, including appropriate use of words and phrases in English both at home and school. He appears comfortable and confident in the classroom and is now very communicative, with use of gestures with vocal as well as verbal attempts to clarify his intent. He enjoys play and is engaging more often with peers. His teachers have decided to wait to request a referral for more assessment and to systematically implement their plan for increased exposure to English with high contextual cues and carefully record observed behaviors and progress in conjunction with ongoing communication with his parents. Within a year of preschool, with consistent exposure in both languages, Kim was demonstrating age-appropriate abilities in both languages.

Dara has a different story. She was adopted at 2 years of age from an orphanage in China by her parents who speak only English. She has an older sister, also adopted from China at 6 months, who is a proficient English speaker. Her sister is doing well in first grade and seemed to learn to speak in English and achieving developmental milestones well within normal expectations. Both of her parents are teachers. Once they brought Dara home, she began to attempt speaking only in English and even used English words to name them when they were first introduced to her in China. Yet, as she attempted more and more to speak in English, her speech was unintelligible to unfamiliar listeners. Her dad reported he could only understand certain words and not her attempts at simple sentences in English. Her mother said she had to ask her to repeat and often tried to distract her when she became frustrated with not being understood.

Dara's mother was able to understand more of her attempts than others, but realized Dara was having difficulty pronouncing English sounds. They sought help through the school district and ended up with a bilingual

Spanish-speaking speech and language pathologist as they were told her difficulty was related to bilingualism and difficulty learning a second language. Her child care teachers reported she was about 30 percent intelligible, and most peers did not attempt to engage her in play. At three and a half years of age, her parents were again concerned that there may be something going on besides learning English and sought a second opinion. They reported that within about a month of her adoption, Dara stopped attempting any Chinese words and also that providers in her orphanage had mentioned that she was difficult to understand in Chinese when she began speaking at about 22 months of age.

During the second evaluation, it was noted that although Dara was attempting to speak in English using word combinations and short sentences, she continued to have difficulty with motor programming of sequences sounds. She typically substituted many sounds for others and would drop all final consonants and syllables in words. She was observed to also transpose syllables as well as sounds in words, which continued to make her very difficult to understand. She was an imaginative child, who loved to play dress up and dolls with her sister and would reenact complex scenarios in her play. She loved puzzles and was adept at completing them as well as learned all of her letters and primary numbers. She learned to write her name as well as other words. At preschool, she was noted to spend most free time engaged in complex puzzles, block designs, and building highly elaborate buildings. She freely talked a great deal and constantly inquired "Why?" in conversations.

She listened quietly to books and pointed to pictures accurately, and would attempt to name objects and pictures. She asked "why" questions consistently to keep the story going. Her receptive language and comprehension and cognitive skills were strengths. Dara's parents took advantage of intensive individual and small-group speech therapy during the summer and noticed an increase in intelligibility of sound productions. As she became more intelligible and her speech became clearer, she engaged in longer and more complex sentence constructions during conversations, demonstrating her increased knowledge of English syntax and grammar. After nine months of intervention for speech, Dara was discontinued from services and reevaluated one year later, or four years post adoption. Although she continued to demonstrate some motor programming of complex sound sequences and persistent speech processes, this did not interfere with her overall intelligibility. Her parents reported significantly increased intelligibility at home and at school. Occasional syntactical rule system errors were noted in longer, more complex sentences during conversation; however, Dara seemed to self-monitor both her speech and expressive language. Abilities were judged to be within normal age expectations.

What does the research suggest regarding children who are adopted and are no longer exposed to interactions in their first language? First, children who are internationally adopted (IA) are bilingual only for a very short period of time if their parents do not speak the birth language. They become monolingual learners of a second language. Hwa-Froelich (2007) notes language development for these children significantly differs from multilingual children who remain exposed to birth languages. Research suggests children who are IA quickly lose any preestablished abilities in their first language within 3–12 months post adoption, and often "catch up" in speech and language within a few years. They acculturate to their new adoptive culture and learn language rapidly (Glennon, 2007a; Glennon & Masters, 2002; Hwa-Froelich, 2007). It is important to note that age of adoption influences subsequent patterns of language acquisition as well as variations demonstrated by children in institutionalized care versus foster care. According to Glennon (2007a, 2007b), toddlers like Dara, who were adopted at age 2, demonstrated expressive language development lagging behind receptive language at 12 months post adoption. Preliminary evidence from studies of children who are IA suggests initial assessments, within six months of adoption, when children demonstrate higher receptive abilities for this age group, can predict later successful expressive language development, with the majority demonstrating some delays but achieve scores falling within 1.25 SD of native-born children, one to two years later (Glennon, 2007a, 2007b; Hwa-Froelich, 2007). These data suggest young children who are IA and were adopted by 3 to 4 years of age can be assessed within six months to determine patterns of strength that can predict which children will do well and which will lag behind one year later. There are few reported large sample studies that have examined phonological development or articulation. However, preliminary evidence suggests very few children adopted from foreign countries display persistent articulation or phonological delays two years post adoption (Pollock, 1983, 2005; Roberts et al., 2005). Yet Dara was noted to demonstrate persistent phonological errors that interfered with intelligibility, suggesting intervention was needed. She responded positively and quickly to intensive intervention provided given high cognitive abilities, strengths in comprehension, and ability to self-correct her error patterns with ongoing support from her parents. She is now considered a high achiever by her teachers, who are amazed at her above-age-expectation performance in math, reading, and any activity that involves visual spatial strengths.

How did Dara's teachers handle her initial difficulty with speech production and unintelligibility? Specific attention to Dara's cognitive strengths and ongoing communication with her parents enabled Dara to demonstrate her abilities as a learner and to excel in multiple areas of learning. Given appropriate attention to struggles with speech intelligibility, they responded to her needs by reducing demands for expressive interactions until she demonstrated competency. They never lowered their expectations of Dara's abilities to succeed as a learner and often facilitated her emerging speech intelligibility, especially in play with peers, by providing age-appropriate modeling of expressive speech and language, focusing on her demonstrated strengths in comprehension, tracking her growth in expressive language, and sharing changes with parents and other providers. Dara was supported at the universal level in a high-quality preschool, with teachers who understood her communication profile within the context of her overall abilities and drew from her strengths to facilitate her success and growth as a learner.

LESSONS LEARNED FROM STORIES OF CHILDREN & FAMILIES

Teachers and specialists need to know and apply research-based practice. It is apparent that a myriad of factors can influence a child's growth, development, and learning during the preschool years to build the oral language, early literacy, and social emotional competence necessary for later success in education. Both internal factors that the child brings to the learning situation and external factors must be understood in the ecological context of the developing child and his or her family. It is even more apparent that educators and specialists need to be aware of the research about children who are learning more than one language or who are monolingual learners of a second language to address and support individualized learning needs. Knowledge of typical patterns of second-language acquisition and variations in behaviors based upon competing factors of influence must be examined and are often more helpful in determining a child's profile than standardized assessments, especially given the paucity of reliable and valid formal assessments available. Observations of a child's language and social emotional behaviors coupled with parent reporting may provide the starting point for educators and specialists to engage each and every child in the learning process. Evidence-based practices at the universal level involving research-based curriculum frameworks and ongoing progress monitoring of learning are requisite to appropriate early childhood education for all children, including those who are culturally, linguistically, and ability diverse. These differences can create a rich tapestry and wealth of learning opportunities that benefit each and every child.

Connections to home enhance learning. Authentic and relevant ongoing reciprocal communication promotes active parent participation (Dunst, Trivette, & Hamby, 2008). Establishing relationships with family will facilitate learning about the individual child's culture, life ways, values, and languages spoken in the home and reveal important ways to support the child's learning. Establishing communication with families who speak a language other than English may involve effective use of cultural mediators, interpreters, and translators (Moore & Pérez-Méndez, 2005a). This is key to understanding ways to support the child and develop communication paths that provide parents with evidence-based information as they make decisions about their young child's education and languages they will learn. Parents have the information about how their child is learning languages compared to other children in their home. This was found to be a significant predictive factor by Restrepo (1998) in distinguishing those children who were demonstrating language differences versus delays. Use of dynamic assessment strategies as described by Gutiérrez-Clellen and Pena (2001) can also be used to determine language difference from internally influenced language challenges. Early childhood educators will gain important understanding from listening to the families' stories (Sánchez, 1999b) versus relying on formal assessments of a child's prior knowledge of language. Use of cultural mediators or liaisons often facilitates open communication and the acquisition of critical information that can shed light on a child's development of both first and/or second languages. In family-centered, culturally competent practice (Moore & Pérez-Méndez, 2006) parents are assumed to be competent and know their child best. Parental priorities, concerns, resources, and life ways are to be respected while providing an enriched cultural perspective.

Learning about children in the context of their family also builds bridges to home in terms of ongoing parent-school partnerships that welcome families into settings and classrooms as volunteers, participants in learning, and key providers of continuity in a young child's life (Sánchez, 1999a). Intentional communication from the classroom (*Inside-Out*) to home in the preferred language of the family through e-mails, home visits, newsletters, conferences, family nights, etc., build upon family engagement (Moore & Pérez-Méndez, 2006). Welcoming family members into the classroom or educational setting (*Outside-In*) through visits and participation focused on sharing aspects of family culture, photos, songs, foods, books, and storytelling specific to the child also engage parents and family members in their child's education. Special events and everyday routines can be shared that build upon parents' comfort, understanding, participation, and ability to navigate educational systems and supports. Another indirect benefit of ongoing involvement of family in early education is "parent-to-parent" and community networking and opportunities to build friendships among families as well as children.

Linking assessment to responsive instruction equals effective practice. Early childhood providers can determine and hone responsive interaction skills and environments to meet the learning needs of each and every child in their setting, especially when they observe, assess, and monitor functioning levels across domains for every child with whom they work. At the universal level in a tiered framework, early childhood educators can learn about each child, who their families are, and determine learning abilities, interests, strengths, and areas for growth for each child. Universal screening and progress monitoring across developmental domains is a necessary component to enhance learning and link assessment to instructional supports. This includes an intentional effort to learn about the early oral language and literacy abilities, including assessments that facilitate knowledge of language abilities in one or two languages.

Assessment strategies including observation, knowledge of influencing factors, and the stages and abilities in both first- and second-language acquisition exhibited will provide valuable information from which to determine needs for further dynamic assessment (Gutiérrez-Clellen & Pena, 2001) and targeted interventions consistent with an RtI model adapted to early childhood programs (Buysse et al., 2010; Coleman et al., 2009; Sandall & Schwartz, 2008). This information can shape next steps and specific strategies that can facilitate growth of all children, including those from culturally, linguistically, and ability-diverse backgrounds. All children thrive in a language- and literacy-rich environment that first respects who they are as learners.

PROVEN STRATEGIES CAN ENHANCE LEARNING

It clearly is important that teachers first know all the children they work within the context of their family, culture, and life ways to develop environments and daily routines for learning that are responsive and individualized. Supporting children who are learning two languages and/or transitioning from one language to another demands that educators apply what they know from research. Research syntheses, as described by Buysse and her colleagues (2010), lead teachers to consider the importance of supporting the child's primary language as a critical component of language development and readiness for later academic learning. Emerging evidence cited earlier in this chapter indicates that learning more than one language does not cause delays, and in actuality, supports provided for the development of more than one language may facilitate and enhance cognitive and linguistic abilities in English (Buysse et al., 2010; Restrepo et al., 2010). A second conclusion by these authors and others (Coleman et al., 2009; Sandall & Schwartz, 2008) supports the use of the RtI framework in use of the "best available practices" designed to enhance learning for all children, rather than reliance upon any one single curriculum. The third conclusion, derived from current research, points to differentiated instruction and, in some instances, additional supports and accommodations (Buysse et al., 2010) based upon specifically assessed strengths and areas for growth. It is critically important to continue to question, observe, and document effectiveness of specific strategies with each and every child. Strategies that make all input comprehensible focus on correct use of language versus correcting children's attempts, thereby establishing clear expectations and peer interactions that benefit every child in an early childhood program. Also, tailoring strategies such as "wait time" for those children who need extra processing time, small group work, and deliberate intentional scaffolding of experiences may differentiate instruction that supports a particular child. It goes without saying that interactive storybook reading, storytelling, and exposure to high-quality children's literature are integral to any high-quality early childhood program (Justice, 2006; Moore & Pérez-Méndez, 2005a). Promising practices will apply depending upon the accurate observation and ongoing assessment of each and every child who is a dual language learner (Castro, Peisner-Feinberg, Buysse, & Gillanders, 2010).

FULL CIRCLE

It is widely recognized by many experts and professionals that a change from a subtractive attitude to an additive attitude that values diversity and differences is integral to a child's success as a learner. Reframing of prior subtractive perspectives regarding differences in culture, languages spoken, and diverse abilities is needed to realize the potential for each and every child. Research provides early childhood educators with a starting point to enhance learning of all children with specific information regarding proven strategies for curriculum frameworks that focus on individualized assessment and progress monitoring linked to effective instructional practices. Linking assessment, including growth and development in language(s), to instructional practices using a multitiered framework is necessary but not sufficient in addressing the specific learning needs of each and every child, unless embedded in a relationship-based approach with both children and families.

Connections to home resulting in strong parent-school partnerships based upon respect, trust, ongoing reciprocal communication, and valuing of diverse perspectives are an integral link in the circle of supports needed to promote successful learning. Our youngest and most vulnerable populations of learners need high-quality, research-based, culturally competent, and family- and child-centered practices derived from the best available evidence regarding effective strategies and differentiated learning. Additional research regarding child outcomes relative to effectiveness of instructional strategies and curriculum frameworks is certainly needed. However, early childhood educators and specialists are in a unique position to make a difference in the lives of young children in partnership with their families.

References

Anderson, R. (2004). First language loss in Spanish-speaking children: Patterns of loss and implications for clinical practice. In B. Goldstein (Ed.), *Bilingual language development and disorders in Spanish–English speakers* (pp. 187–212). Baltimore: Paul H. Brookes.

Artiles, A. J., Rueda, R., Salazar, J. J., & Hegareda, I. (2005). Within group diversity in minority disproportionate representation: English language learners in urban school districts. *Exceptional Children, 71*, 283–300.

Artiles, A. J., & Trent, S. C. (1994). Overrepresentation of minority students in special education: A continued debate. *Journal of Special Education, 22*, 410–436.

Artiles, A. J., Trent, S. C., & Palmer, J. (2004). Culturally diverse students in special education: Legacies and prospects. In J. A. Banks & C. M. Banks (Eds.), *Handbook of research on multicultural education* (2nd ed., pp. 716–735). San Francisco: Jossey-Bass.

August, D., Carlo, M., Dressler, C., & Snow, C. (2005). The critical role of vocabulary development for English language learners. *Learning Disabilities Research and Practice, 20*, 50–57.

August, D., & Hakuta, K. (1997). *Improving schooling for language-minority children: A research agenda*. Washington, DC: National Research Council.

August, D., & Shanahan, T. (2006). *Developing literacy in second-language learners: Report of the national literacy panel on language–minority children and youth*. Mahwah, NJ: Laurence Erlbaum.

Barnett, S., Yarosz, D., Thomas, J., Jung, K., & Blanco, D. (2007). Two-way and monolingual English immersion in preschool education: An experimental comparison. *Early Childhood Research Quarterly, 22*(3), 277–293.

Barrera, I. (1993). Effective and appropriate instruction for all children: The challenges of cultural/linguistic diversity and young children with special needs. *Topics in Early Childhood Special Education, 13*(4), 461–487.

Barrera, I., Corso, R., & Macpherson, D. (2003). *Skilled dialogue: Strategies for responding to cultural diversity*. Baltimore: Paul Brookes.

Bialystok, E. (2001). *Bilingualism in development: Language, literacy & cognition*. Cambridge: Cambridge University Press.

Bialystok, E. (2009). Bilingualism: The good, the bad, and the indifferent. *Bilingualism: Language and Cognition, 12*, 3–11.

Burns, M. K., Appleton, J. J., & Stehouwer, J. D. (2005). Meta-analytic review of responsiveness-to-intervention research: Examining field-based and research-implemented models. Journal of Psychoeducational Assessment, 23, 381–394.

Buysse, V., Castro, D., & Peisner-Feinberg, E. (2010). Effects of personnel development program on classroom practices and outcomes for Latino dual language learners. *Early Childhood Research Quarterly, 25*(2), 194–206.

Capps, R., Michael, F., Ost, J., Reardon-Anderson, J., & Passel, J. (2004). *The Health and Well-Being of Young Children of Immigrants*. Washington, DC: Urban Institute.

Castro, D., Peisner-Feinberg, E., Buysse, V., & Gillanders, C. (2010). Language and literacy development of Latino dual language learners: Promising instructional practices. In O. N. Saracho & B. Spodek (Eds.). *Contemporary perspectives in early childhood education series*. Great Britain: Information Age Publishing.

Coleman, M. R., Buysse, V., & Neitzel, J. (2006). *Recognition and response: An early intervening system for young children at-risk for learning disabilities*. Chapel Hill: University of North Carolina, FPG Child Development Institute.

Coleman, R., Roth, F., & West, T. (2009). *Roadmap to Pre-K RTI: Applying response to intervention in preschool settings*. New York: National Center for Learning Disabilities.

Cummins, J. (1989). *Empowering minority students*. Sacramento: California Association for Bilingual Education.

Division for Early Childhood (DEC). (2002). DEC position on responsiveness to family cultures, values, and languages. Denver, CO: Author.

Dunn, L. M. (1968). Special education for the mildly retarded: Is much of it justifiable? *Exceptional Children, 23*, 5–21.

Dunst, C., Trivette, C., & Hamby, D. (2008). *Research synthesis and meta-analysis of studies of family centered practice*. Asheville, NC: Winterberry Press.

Espinosa, L. (2008). Challenging common myths about young English language learners. *Foundation for Child Development, 8*, 2–11.

Federal Interagency Forum on Child and Family Statistics. (2010). *America's children in brief: Key national indicators of well-being, 2010*. Forum on Child and Family Statistics. Retrieved September 2, 2010, from http://www.childstats.gov

Gay, G. (2000). *Culturally responsive teaching: Theory, research, and practice*. New York: Teachers College Press.

Gay, G. (2002). Preparing for culturally responsive teaching. *Journal of Teacher Education, 53*(2), 106–116.

Genesee, F., Paradis, J., & Crago, M. (2004). *Dual language development and disorders*. Baltimore: Paul H. Brookes.

Genesee, F. (2008). Early dual language learning. *Zero to Three, 9*, 17–23.

Gersten, R., Compton, D., Connor, C. M., Dimino, J., Santoro, L., Linan-Thompson, S., & Tilly, W. D. (2008). *Assisting students struggling with reading: Response to intervention and multi-tier interventions for reading in the primary grades. A practice guide*. (NCEE 2009-4045). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides

Gersten, R., & Woodward, J. (1994). The language-minority student and special education: Issues, trends, and paradoxes. *Exceptional Children, 60*, 310–322.

Glennon, S. (2007a). Predicting language outcomes for internationally adopted children. *Journal of Speech, Language, and Hearing Research, 50*, 529–548.

Glennon, S. (2007b). International adoption: Speech and language mythbusters. *Communication Disorders and Sciences in Culturally and Linguistically Diverse Populations, 14*(3), 3–8.

Glennon, S., & Masters, G. (2002). Typical and atypical language development in infants and toddlers adopted from Eastern Europe. *American Journal of Speech Language Pathology, 11*, 417–433.

Goldstein, B. (2004). *Bilingual language development and disorders*. Baltimore: Paul H. Brookes.

Guiberson, M. (2009). Hispanic representation in special education: Patterns and implications. *Preventing School Failure, 53*(3), 167–175.

Gutiérrez-Clellen, V. F., & Pena E. (2001). Dynamic assessment of diverse children: A tutorial. *Language, Speech, and Hearing Services in Schools, 32*, 212–224.

Hakuta, K. (1986). Mirror of language: The debate on bilingualism. New York: Basic Books.

Hammer, C. S., Lawrence, F. R., & Miccio, A. W. (2007). Bilingual children's language abilities and early reading outcomes in head start and kindergarten. *Language, 38*(3), 237–248.

Hemmeter, M. L., Ostrosky, M., & Fox, L. (2006). Social and emotional foundations for early learning: A conceptual model for intervention. *School Psychology Review, 35*(4), 583–601.

Hernandez, D. J. (2004). Demographic change and the life circumstances of immigrant families. *Future of Children, 14*(2), 17–48.

Hwa-Froelich, D. A. (2007). Infants and toddlers adopted from abroad: Clinical practices. In *Communication disorders and sciences in culturally and linguistically diverse populations*. Rockville, MD: ASHA.

Justice, L. (2006). Evidence-based practice responsive to intervention and prevention of reading difficulties. *Language, Speech, and Hearing Services in Schools, 37*, 284–297.

Kayser, H. (2008). *Educating Latino preschool children*. San Diego, CA: Plural.

Kindler, A. L. (2002). Survey of the states' limited English proficient students and available educational programs and services: 2001–2002 summary report. Washington, DC: National Clearinghouse for English Language Acquisition and Language Instruction and Educational Programs.

Kohnert, K. (2008). *Language disorders in bilingual children and adults*. San Diego: Plural Publishing.

Kohnert, K., & Derr, A. (2004). Language intervention with bilingual children. In B. Goldstein (Ed.), *Bilingual language development and disorders in Spanish-English speakers* (pp. 315–343). Baltimore: Paul H. Brookes.

Kohnert, K., & Medina, A. (2009). Bilingual children and communication disorders: A 30-year research retrospective. *Seminars in Speech and Language, 30*, 219–233.

Kohnert, K., Yim, D., Nett, K., Kan, P. F., & Duran, L. (2005). Intervention with linguistically diverse preschool children: A focus on development of home language. *Language, Speech, and Hearing Services in Schools, 26*, 251–263.

Krashen, S. (1982). *Principles and practices in second language acquisition*. New York: Pergamon Press.

Krashen, S. (1999). *Condemned without a trial: Bogus arguments against bilingual education*. Portsmouth, NH: Heineman.

Kuhl, P. (2004). Early language acquisition: Cracking the speech code, *Neuroscience, 5*, 831–843.

Lindholm-Leary, K. J. (2005). The rich promise of two-way immersion. *Educational Leadership, 62*, 56–59.

Lynch, E. W., & Hanson, M. J. (2003). *Developing crosscultural competence: A guide for working with children and their families* (3rd ed.). Baltimore: Paul H. Brookes.

Matthews, H., & Ewen, D. (2010). *Early education programs and children of immigrants: Learning each other's language*. Washington, DC: Urban Institute.

Maude, S., Catlett, C., Moore, S., Sánchez, S., & Thorp, E. (2006). Educating and training students to work with culturally, linguistically, and ability-diverse young children and their families. *Zero to Three, 20*(3), 28–35.

Maude, S., Catlett, C., Moore, S., Sánchez, S., Thorp, E., & Corso, R. (2010). Infusing diversity constructs in preservice education: The impact of a systematic faculty development strategy. *Infants and Young Children, 23*(2), 105–121.

Mechelli, A., Crinion, J. T., Noppeney O'Doherty, J., Ashburner, J., Frackowiak, R., & Price, C. J. (2004). Structural plasticity in the bilingual brain. *Nature, 431*, 757.

Milagros-Santos, R. M., Cheatham, G., & Ostrosky, M. M. (2006). Enseñe me: Practical strategies for supporting the social and emotional development of young English language learners. *Language Learner, 1*(3), 5–9, 24.

Moore, S. M., & Pérez-Méndez, C. (2003). *Cultural contexts for early intervention*. Rockville, MD: American Speech-Language-Hearing Association.

Moore, S. M., & Pérez-Méndez, C. (2005a). *Beyond words*: *Effective use of cultural mediators, interpreters and translators*. Boulder, CO: Landlocked Films.

Moore, S. M., & Pérez-Méndez, C. (2005b). *The Story about El Grupo: A parent education and support group*. Boulder, CO: Landlocked Films.

Moore, S. M., & Pérez-Méndez, C. (2006). Working with linguistically diverse families in early intervention: Misconceptions and missed opportunities. *Seminars in Speech and Language, 27*, 187–198.

Moore, S. M., Pérez-Méndez, C., & Boerger, K. (2006) Meeting the needs of culturally and linguistically diverse families in early language and literacy intervention. In L. Justice (Ed.), *Clinical approaches to emergent literacy intervention*. San Diego, CA: Plural.

National Association for the Education of Young Children (NAEYC). (1995). *Responding to linguistic and cultural diversity recommendations for effective early childhood education: A position statement*. Washington, DC: Author.

National Institute of Child Health and Development. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

Nicoladis, E., & Genesee, F. (1997). Language development in preschool bilingual children. *Journal of Speech-Language Pathology and Audiology, 21*, 258–270.

Nieto, S. (2000). *The light in their eyes: Creating multicultural learning communities.* New York: Teachers College Press.

Ortiz, A. A., & Yates, J. R. (1983). Incidence of exceptionality among Hispanics: Implications for manpower planning. *NABE Journal of Research and Practice, 7*, 41–54.

Oster, T., McDonnell, A., & Jayaraman, G. (2009, October). A synthesis of instructional strategies to support preschool children's English language acquisition. Paper presented at the 25th Annual International Conference on Young with Special Needs and their Families, Division for Early Childhood of the Council for Exceptional Children, Albuquerque, NM.

Paradis, J., Crago, M., Genesee, F., & Rice, M. (2003). Bilingual children with specific language impairment: How do they compare with their monolingual peers? *Journal of Speech, Language, and Hearing Research, 46*, 1–15.

Passel, J., & Cohn, D'V. (2008). *U.S. population projections: 2005–2050*. Washington, DC: PEW Research Center.

Patterson, J. L., & Pearson, B. Z. (2004). Bilingual lexical development: Influences, contexts, and processes. In B. A. Goldstein (Ed.), *Bilingual language development and disorders in Spanish-English speakers* (pp. 77–104). Baltimore: Paul H. Brookes.

Pearson, B. C., & Fernandez, S. C. (1993). Lexical development in bilingual infants and toddlers—Comparison to monolingual norms. *Language Learning, 43*, 93–120.

Pérez-Méndez, C., & Moore, S. M. (2004). *Culture and language: Respecting family choice*. Boulder, CO: Landlocked Films.

Pollock, K. E. (1983). Individual preferences: Case study of a phonologically delayed child. *Topics in Language Disorders, 3*, 1–25.

Pollock, K. E. (2005). Early language growth in children adopted from China: Preliminary normative data. *Seminars in Speech and Language, 26*(1), 22–32.

Restrepo, M. A. (1998). Identifiers of predominantly Spanish-speaking children with language impairment. *Journal of Speech, Language, and Hearing Research, 41*, 1398–1411.

Restrepo, M. A., Castilla, A., Schwanenflugel, S., Neuharth-Pritchett, P., Hamilton, C., & Arboleda, A. (2010). Effects of a supplemental Spanish oral language program on sentence length, complexity, and grammaticality in Spanish-speaking children attending English-only preschools. *Language, Speech, and Hearing Services in Schools, 41*, 3–13.

Roberts, J. A., Pollock, K. E., Krakow, R., Price, J., Fulmer, K. C., & Wang, P. (2005). Language development in pre-school age children adopted from China. *Journal of Speech, Language, and Hearing Research, 48*(1), 93–107.

Roseberry-McKibbin, C. (2003). *Assessment of bilingual learners: Language difference or disorder?* Rockville, MD: American Speech Language Hearing Association.

Sánchez, S. Y. (1999a). Issues of language and culture impacting the early care of young Latino children. *Child Care Bulletin, 24*. Retrieved from http://nccic.org/ccb/issue24.html

Sánchez, S. Y. (1999b). Learning from the stories of culturally and linguistically diverse families and communities. *Remedial and Special Education, 20*, 351–359.

Sánchez, S., & Thorp, E. (1998). Discovering the meanings of continuity. *Zero to Three, 18*(6), 2–6.

Sánchez, S., & Thorp, E. (2008). Teaching to transform: Infusing cultural and linguistic diversity. In P. Winton, J. McCollum, & C. Catlett (Eds.), *Practical approaches to early childhood professional development: Evidence, strategies, and resources* (pp. 81–97). Washington, DC: Zero to Three.

Sandall, S. R., & Schwartz, I. S. (2008). *Building blocks for teaching preschoolers with special needs* (2nd ed.). Baltimore: Paul H. Brookes.

Shields, M. K., & Behrmam, R. E. (2004). Children of immigrant families: Analysis and recommendations. *The Future of Children, 14*(2), 4–16.

Snow, C. (2006). Cross-cutting themes and future research directions. In D. August & T. Shanahan (Eds.), *Developing literacy in second language learners: Report of the national literacy panel on language-minority children and youth* (pp. 631–653). Mahwah, NJ: Lawrence Erlbaum.

Tabors, P. O. (2008). *One child: Two languages* (2nd ed.). Baltimore: Paul H. Brookes.

Tabors, P. O., & Snow, C. (2001). Young bilingual children and early literacy development. In S. Neuman & D. Dickinson (Eds.), *Handbook of early literacy research*. (Vol. 1, pp. 159–178) New York: Guilford.

Tatum, B. D. (2003). *Why are all the black kids sitting together in the cafeteria?* New York: Basic Books.

U.S. Census Bureau. (2000). *The Hispanic population: Census 2000 brief* (U.S. Census Bureau Publication No. C2KBR/01–3).Washington, DC: U.S. Government Printing Office.

U.S. Department of State. (2009) Statistics. Retrieved from http://www.adoption.state.gov

Westby, C. (1990). Ethnographic interviewing: Asking the right questions to the right people in the right ways. *Journal of Childhood Communication Disorders, 13* (1), 101–111.

Westby, C. (2009). Considerations when working successfully with culturally and linguistically diverse families in assessment and intervention of communication disorders. *Seminars in Speech and Language, 30*(4), 279–289.

Winsler, A., Diaz, R. M., Espinoza, L., & Rodriguez, J. L. (1999). When learning a second language does not mean losing the first: Bilingual language development in low-income, Spanish-speaking children attending bilingual preschool. *Child Development, 70*, 349–362.

Winton, P., McCollum, J. A., & Catlett, C. (2008). *Practical approaches to early childhood professional development: Evidence, strategies, and resources*. Washington, DC: Zero to Three.

Wong Fillmore, L. (1991). When learning one language means losing the first. *Early Childhood Research Quarterly, 6*(3), 323–346.

Yoshida, H. (2008). The cognitive consequences of early bilingualism. *Zero to Three, 11*, 26–30.

Zentella, A. C. (2005). *Building on strength: Language and literacy in Latino families and communities*. New York: Teachers College Press.

Chapter 7

A Developmental and Family Systems Perspective on Mental Health in Young Children

Susan B. Campbell

During the toddler and preschool periods, positive adjustment in young children is defined by social and cognitive advances consistent with developmental level as reflected in positive relationships with parents, siblings, peers, and other important adults in the child's social network; the development of language and communication as well as basic concepts, consistent with school readiness; and the ability to adapt to reasonable changes in routines and expectations that are typically associated with family life, such as entry into child care or the birth of a sibling. In contrast, young children's adjustment difficulties may be expressed in many ways, including some combination of temper tantrums; limit-testing; defiance; aggression toward siblings, other children, and even adults; refusing to talk; sleep difficulties; fearful and clingy behavior; and/or withdrawal from social contact.

Children's problems also vary widely in their severity and persistence and thus in their implications for later development and adaptation. Many problems in young children tend to be age-related and transient, reflecting difficult developmental transitions, but more chronic and severe problems that interfere with children's acquisition of cognitive and social skills, impair relationships in the family and beyond, and are evident across situations are likely to require intervention that invariably must include work with the family or other primary caregivers (Campbell, 2002, 2006). Even when problems are age-related and transient, parents may benefit from help finding alternative parenting strategies that are likely to support children's adaptation (Gardner, Sonuga-Barke, & Sayal, 1999). Problems in young children may be a sign, then, of developmental challenge or change or a sign of family stress. The vignettes below illustrate some typical ways that young children respond to stressful events or changes.

When his mother returned to work because the family could not make ends meet on just one salary, 2-year-old Dylan entered child care at a family day-care home in his neighborhood. Dylan's mother tried hard to prepare him for the transition to this new setting and the experience of being away from her each day by talking to him about it and taking him for several visits to meet the caregiver and other children. Although Dylan was happy to visit, once he began attending on a regular basis, he became upset every morning, refusing to "go potty" or to cooperate with his mother while she was getting him dressed. When he arrived at child care, he initially refused to leave his mother's side, becoming tearful and clingy, although the caregiver, who was very sensitive and experienced, was able to interest him in playing with toys and with her 3-year-old son, and Dylan eventually calmed down and let his mother leave. However, this pattern continued for several weeks as Dylan adjusted to the new experience of being away from his mother each day in a relatively unfamiliar, albeit home, setting.

Several factors may explain why Dylan adapted to child care after a few weeks and his problems resolved. Importantly, both Dylan's mother and his caregiver were understanding and patient with him. Rather than become angry and annoyed at his noncompliance and clinginess, they both took his developmental level, level of understanding, and need to adapt to change into account. In addition, the caregiver was especially warm and skilled at redirecting him and involving him in interesting activities with her own son. Finally, Dylan and his mother had a warm relationship, and she made an effort to give him extra attention each evening before bed. These same behaviors, however, could potentially escalate into problems if the responsible adults were less patient and skilled and the child was less adaptable. Angry or neglectful responses on the part of adults might lead to increased tantrum behavior and separation anxiety, toilet-training difficulties, and other indicators of distress.

Three-year-old Timmy, in contrast, loved going to child care, but he came home some evenings in an angry mood, throwing frequent temper tantrums and lashing out at his younger sister, leading to frequent fights between his parents about how to handle his newly emerging defiance and aggression. Although Timmy had been much easier to handle as a toddler, he became more determined to do things his way soon after his third birthday, and he seemed to be constantly testing the limits of his parents' patience. Timmy's father was the disciplinarian and he had little patience for Timmy's defiance, *especially after a day at work, preferring either to send Timmy to his room for time-out or even to spank him when he misbehaved. Timmy's mother thought that these acting-out behaviors were likely to be outgrown and that jealousy over the attention his younger sister was garnering, along with developmental changes indicative of a growing need for autonomy, largely explained his difficulties.*

The outcome in this example will depend partly on how well the parents can work together to manage Timmy's difficult behavior by providing structure, firm limits, consistency, and appropriate attention to Timmy, while also meeting the needs of his younger sister. Continued and escalating family conflict over childrearing, inconsistency between his parents, and power-assertive disciplinary strategies might well lead to continued and even worsening behavior.

Three-and-a-half-year-old Sadie entered a new child care setting when her mother returned to work six months after the birth of her younger sister. Sadie tended to hover near the teacher and avoid contact with other children, refusing to play with others and joining group activities only reluctantly. Her mother was surprised to get these reports from the child care teachers because Sadie had been quite sociable in the past and had enjoyed attending child care at her old center. At home, she doted on her baby sister and was happy to help her mother whenever she was allowed to hold the baby or help give her a bath.

Both the stresses of sharing her mother with a new baby and the return to full-time child care in a new and unfamiliar setting appeared to trigger these reactions, which may resolve with sensitive and understanding reactions from adults or continue to be expressed as anxiety, shyness, and need for adult attention.

Five-year-old Jessie started kindergarten after several years attending a child care center. Although he had adjusted well to child care, he began acting out at school, getting into frequent fights with other children, pushing and shoving when it was time to line up for lunch or recess, and generally annoying other children, some of whom protested tearfully to the teacher.

Again, these reactions may be time-limited indications of Jessie's problems adapting to the demands of school, or they may reflect emerging problems that will ultimately predict more persistent difficulties with behavioral control, peer group relationships and friendships, and academic achievement. Outcomes will be partly a reflection of Jessie's earlier personality and ability to regulate negative emotions and impulses, and partly a reflection of how the school and his family deal with his initial difficulties.

The behaviors depicted in these vignettes are common and familiar to any adult who has been around young children on a regular basis.

These instances of separation anxiety, tantrums, defiance, aggression, or shyness often are typical behaviors evident during toddlerhood, the preschool period, and the school transition as children grapple with the challenges of regulating their behavior and emotions, establishing a sense of self, learning to cooperate with others in the peer group, and reaching out to form relationships with other adults in child care, preschool, or kindergarten settings. The degree to which children successfully meet these challenges will be determined by a complex mix of child characteristics, family relationships, and external supports. In the context of supportive relationships, these difficult behaviors are usually (but not always) time-limited, but when stress and family hardship are either serious and acute or more chronic and pervasive, children may have a more difficult time smoothly negotiating these developmental transitions and meeting adult expectations as they move from toddlerhood to preschool and kindergarten age. When problems do not easily resolve with development, parents and children alike may benefit from intervention services.

This chapter will discuss some of the major developmental advances evident from toddlerhood to kindergarten entry (roughly between ages 18 months and 5 years) and how normal transitions and life events may facilitate positive developmental changes or be associated with the onset of difficult behaviors. Family and social context effects will be discussed as well, with an emphasis on parenting and family relationships as contexts for either children's positive adaptation to life transitions and stresses or adjustment difficulties that may or may not be long-standing. Finally, this chapter will briefly discuss implications for prevention and early intervention.

DEVELOPMENTAL CHANGES, EXPECTATIONS, AND TRANSITIONS

In a recent volume, Brownell and Kopp (2007) discussed the profound "transitions and transformations" that occur from late infancy to toddlerhood, highlighting the major advances that typically characterize this phase of development. Between 18 and 36 months of age, children showing typical development achieve a set of interconnected competencies in social, communicative, cognitive, motor, and emotional domains that mark a major shift from infancy. These achievements are based on skills that develop by the end of the first year, including walking, using rudimentary language to communicate specific wants and needs, and using the parent as a secure base for exploring the wider social and object world. Expanding skills over the second year include a growing awareness of the self and others as distinct agents (Moore, 2007), marked advances in language acquisition and reciprocal conversation (Shatz, 2007), awareness of mental states in self and others (Hobson, 2007), the development of symbolic play (Lillard, 2007), the beginning of empathic concern for others (as distinct from emotion contagion) (Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992), and the emerging ability to regulate emotion and behavior (Calkins, 2007; Kopp, 1989). There is also general agreement that these skills develop in a relatively integrated fashion across developmental systems (Brownell & Kopp, 2007) and that they build upon earlier social communicative skills and social-emotional experiences evident in infancy, such as joint attention and social referencing (Lillard, 2007; Shatz, 2007), with both earlier and later achievements strongly dependent on adult guidance, warmth, appropriate limit-setting, and support (Crockenberg & Litman, 1990; Kochanska, 2002; Thompson, 2006).

Between ages 3 and 5, children's language becomes increasingly complex; they also become better able to use language to control their own behavior and to talk about their own and other people's feelings and experiences (Shatz, 2007). At this developmental juncture, children's play also shows major shifts as parallel play gives way to much more nuanced social engagement with peers that includes turn-taking, role assignments, shared pretend play scenarios, and emerging friendships based on mutual liking as well as shared activities (Hughes & Dunn, 2007). Children also begin to express moral emotions such as guilt and concern for others, and they have an emerging sense of right and wrong as well as what is and is not acceptable behavior (Kochanska, 2002; Zahn-Waxler et al., 1992). These major developmental advances are partly a function of brain development, but they are also largely shaped by the quality of relationships with parents and other caregivers who are needed to support and scaffold children's social and emotional advances if they are to develop optimally (Brownell & Kopp, 2007; Campbell, 2002; Cummings, Davies, & Campbell, 2000; Sroufe & Fleeson, 1986). Furthermore, parents and other caregivers are potent role models for young children, and the nature of their relationships, not only with the child but with other children and adults, will have a profound influence on children's developmental trajectory.

In tandem with these remarkable developmental advances in children's social, emotional, cognitive, and linguistic skills, society places major demands upon young children. Most children today are in some form of out-of-home care by the time they are 24–36 months old (Shonkoff & Phillips, 2000), but the quality of care varies widely in terms of teacher-child ratios, teacher training, staff stability, and the ability of child care providers to anticipate, understand, and meet children's developmental and emotional needs. Child care quality also varies partly as a function of family resources (National Institute of Child Health and Human Development [NICHD] Early Child Care Research Network [ECCRN], 1996; 1997), with more affluent families able to afford higher-quality care and care for the working poor and for families in poverty more likely to vary widely in quality, as reflected in caregiver warmth, sensitivity, responsiveness, cognitive stimulation, and appropriate structure and limit-setting.

Around age 5, children are expected to make another major life transition from child care or preschool to elementary school as they enter kindergarten. The entry into kindergarten often involves other major changes as many children must adapt to a new school, a new set of mostly unfamiliar peers, and new teachers (Campbell & von Stauffenberg, 2007). Once children enter primary school, adults also have much higher expectations for their behavioral and emotional control that include conformity to classroom rules, cooperation with peers, and a focus on academic success. Children must possess a variety of regulatory strategies and social skills to cope successfully with these changing demands and expectations. For example, the transition to kindergarten requires a degree of independence and self-reliance that is not expected in child care or preschool, and often children must be able to function in a much larger group of peers with substantially less adult supervision. Children also must make new friends and learn to work cooperatively with other children in a more focused and goal-directed way than in preschool. They must follow teacher directions and inhibit impulses not to call out, push ahead in line, demand teacher attention, or be aggressive with peers. They must be able to follow a lesson and focus attention on challenging cognitive tasks. Many children also must cope with shyness and anxiety as they make the transition to school.

Although children gradually develop these social and regulatory skills in preschool and child care, the transition to kindergarten or first grade sometimes taxes young children's abilities in these areas. Moreover, children's entry into the school system is more often determined by age than by the acquisition of skills and competencies that indicate social and cognitive readiness for school. Thus, children enter school with widely different skills, and many are not quite ready for school (Campbell & von Stauffenberg, 2007; Rimm-Kaufmann, Pianta, & Cox, 2000). Poor school-readiness skills and lack of behavioral regulation are among the major concerns voiced by teachers, and they may set the stage for continuing difficulties in the classroom (Lin, Lawrence, & Gorrell, 2003; McClelland & Morrison, 2003; Rimm-Kaufmann et al., 2000), including escalating teacher-child conflict (Doumen et al., 2008).

Taken together, then, children make major developmental advances between the ages of 18 months and 5 years, with concomitant changes in societal expectations. Moreover, this is also a time when children may have to adapt to other normative life events such as the birth of a sibling, a family move, a parent's return to the workforce, entry into or a change in child care arrangements, or the death of a grandparent. Each of these life events may trigger negative reactions such as tantrums, defiance, the return to earlier forms of behavior (e.g., bedwetting or wanting a bottle), clinginess, and/or separation anxiety that may in turn be a short-lived and typical reaction to stress or may set the stage for more serious problems (Campbell, 2002, 2006). Given these normative developmental changes and life events, the many challenges facing young children are daunting, so it is hardly surprising that caregivers in child care settings and kindergarten teachers (Rimm-Kaufmann et al., 2000) often feel overwhelmed by the wide variability they see in the ability of the children in their classrooms to cooperate with adults and peers, follow directions, and adapt to classroom routines. These issues are exacerbated in the context of high levels of family stress and disruption, and in the absence of sensitive emotional support and structure across home and child care or school settings (NICHD ECCRN, 2002, 2003, 2004).

FAMILY AND SOCIAL CONTEXT: DEVELOPMENTAL MODELS AND CHILDREN'S ADJUSTMENT

It is obvious that children's development occurs in the context of the family and that the quality of the parent-child relationship is especially salient for children's adjustment. There is a large literature on infant-parent attachment that underscores the importance of sensitive, responsive early care that includes the ability to read infant signals appropriately, respond to infant distress, and anticipate needs such as hunger, fatigue, boredom, discomfort, and overstimulation. Sensitive responsiveness and attunement to infant communication undergirds early attachment security and a sense of basic trust (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969). A secure attachment and the quality of the parent-child relationship across early development are associated with the emerging sense of self in toddlerhood, expectations about early social relationships with others, and the willingness to seek out and form positive relationships with peers and other adults (Bretherton, 1985; Thompson, 2006), skills that are carried forward into other relationships across childhood (Sroufe & Fleeson, 1986).

Parents will be more able and more likely to provide their infant with sensitive responsive care when their own needs are met and when they themselves experienced adequate parenting as children (Serbin & Karp, 2004; Sroufe & Fleeson, 1986). Moreover, when confronting high levels of stress and hardship, parents may have a more difficult time responding to their infants' needs, for example, if they are overwhelmed with competing responsibilities due to financial problems, poverty, poor housing, job loss, and/or physical or mental illness (Ceballo & McLoyd, 2002; McLoyd, 1998).

Ecological (Bronfenbrenner, 1979), transactional (Sameroff, 1995), and family systems (Cox & Paley, 1997) models posit that children's development occurs in a complex web of reciprocal and changing social influences that begin with the child in the context of the parent-child relationship and move out to incorporate the influences of other relationships within the nuclear family system (e.g., the quality of the marital relationship, relationships with siblings, parent-sibling relationships) and relationships with extended family members (e.g., grandparents, aunts, and uncles). Other factors that influence children's development include community and social resources such as neighborhood safety; the availability and quality of child care, neighborhood schools, playgrounds, and libraries; and the availability of jobs, social services, adequate health care, and religious institutions (Bronfenbrenner, 1979).

These social and neighborhood resources have direct effects on children in their day-to-day interactions with others and indirect effects via their influences on parents' availability, sense of self-worth, and feelings of well-being. Furthermore, it is well established that children are both influenced by and have influences on parents and others in their social network (Sameroff, 1995), reflecting reciprocal processes that change from moment to moment during social interactions (for example, the give and take of a conversation or a play encounter with a peer) and that change over the course of development as a function of the history of relationships within the family (Cox & Paley, 1997;

Sroufe & Fleeson, 1986) and the nature of childrearing practices (e.g., a child's expectations, such as the anticipation of punishment or of a positive interaction, will vary with past experiences with a parent, and the parent's reaction to the child will vary based on the child's usual level of cooperation, language ability, etc.). In addition, the nature of parenting changes with children's development as needs for structure and direction change, for example from infancy to the "terrible twos," when children need more limit-setting and control, but when needs for autonomy must be recognized as well (see Campbell, 2002).

Thus, issues of child adjustment, parenting, and family interactions can be considered from multiple perspectives. Children living in relatively well-functioning families with adequate supports and generally positive parenting may react negatively to a difficult developmental transition, such as entry into preschool, or to a normative life event, like the birth of a sibling. In these situations, when parents are understanding and proactive, the overall parent-child relationship is positive and secure, and parents are able to consider the situation from the child's point of view, such adjustment reactions will most likely be time-limited and transient. Thus, basic parenting skills at times of developmental transitions and challenges can clearly support positive adjustment in young children (Campbell, 2002; Cummings et al., 2000; Shonkoff & Phillips, 2000). In contrast, if parents have a difficult time recognizing that their child's anger and aggression is likely to be age-related or reflects the child's anxiety, frustration, and need for reassurance in the face of change, they may become angry themselves, only adding to the child's anxiety and distress. In such instances, a battle of wills may ensue, only increasing the likelihood that the child's behavior may worsen, potentially developing into a more stable coping strategy that involves anger, aggression, non-compliance, and negative attention-seeking (Campbell, Shaw, & Gilliom, 2000).

In summary, children can show adjustment difficulties as they cope with typical, but challenging developmental transitions such as entry into child care; with typical life events such as a the birth of sibling, that force them to share their parents with another being and also alter their role in the family system; when they reach certain developmental milestones that include struggles over autonomy and limit-setting; and when parental expectations for more mature behavior (e.g., toilet training, modified bedtime rituals, better self-control, "big boy" table manners and trying new foods, getting along with siblings, playing cooperatively with peers) clash with children's habits and preferences.

The majority of families weather these transitory conflicts, which often become family lore, but for some children and families, these conflicts may be early signs of more entrenched and long-term difficulties. Furthermore, when developmental perturbations and early parent-child conflicts occur in families who are also dealing with more pervasive stresses or difficulties, problems may become exacerbated and require targeted interventions.

Child by Parenting Interactions

Decades of research in child development have highlighted the transactional nature of parent-child relationships as they relate to both positive adjustment and to adjustment difficulties (e.g., Belsky, 1984; Belsky, Hsieh, & Crnic, 1998; Sameroff, 1995, 2000; Thomas, Chess, & Birch, 1968). Thus, both child characteristics and parenting behaviors have been studied as predictors of adjustment outcomes. For example, children's early temperament or personality characteristics, such as high levels of irritability and fussiness and low levels of "soothability," are one precursor of early problems, but this is the case primarily when these child characteristics elicit less sensitive parenting in parents who are themselves more irritable and less attuned to their child's needs.

Several studies provide clear illustrations of this interaction between child characteristics and the nature of parenting behavior. For example, Bates, Pettit, Dodge, and Ridge (1998) reported that toddlers who were high in resistance to control showed better adjustment when their parents provided more structure and direction; in contrast, however, in the absence of positive, engaged, and structured parenting, toddlers who were noncompliant were more likely to demonstrate later externalizing problems as reported by teachers. In a classic study, Belsky et al. (1998) reported that infant irritability was exacerbated by harsh and intrusive parenting in toddlerhood, which in turn predicted externalizing problems at preschool age; whereas irritable infants who experienced more positive and sensitive parenting where not especially hard to manage in toddlerhood and the preschool period. These findings were also replicated by van Zeijl and colleagues (2007), who found that toddlers exhibiting difficult behaviors showed higher levels of externalizing problems when their mothers used negative disciplinary techniques, but lower levels of behavior problems and aggression when mothers were positive and proactive. On the other hand, children with more easygoing temperaments who were less irritable and demanding showed less variability in behavioral outcomes regardless of their mothers' disciplinary strategies.

Taken together, these and other studies (e.g., Holden, 1983; Kochanska, Philibert, & Barry, 2009; Leve et al., 2009) demonstrate the importance of parental involvement that includes a mix of sensitivity to the child's point of view, warmth, structure, and proactive control. For example, in toddlerhood and the preschool period, proactive parenting includes the ability to anticipate situations that may lead children to become overwhelmed or noncompliant, and then to have strategies to redirect them as a way of avoiding conflicts or outbursts. In contrast, when parents are harsh, negative, power assertive, use physical restraint or punishment as means of control, or fail to consider the child's perspective, children often respond with angry reactions, defiance, and escalating difficulties at home and child care or school (Campbell et al., 2000). In addition, these patterns of interaction and responsiveness to parental control attempts, both positive and negative, seem to be more evident in children who show particular personality styles that include greater emotional reactivity and less ability to regulate negative emotions including sadness and anger.

These studies illustrate what Belsky, Bakermans-Kranenberg, and van IJzendoorn (2007) call "differential susceptibility to rearing influences" and a growing number of studies have now documented this effect across contexts, including child care. Pluess and Belsky (2009) used data from the NICHD Study of Early Child Care to examine the interaction of infant temperament and child care quality in predicting adjustment and social competence. Consistent with the differential susceptibility hypothesis, infants who were fussier and more difficult to calm down when upset and who also attended lower-quality child care were later rated as showing more externalizing problems and lower social competence than were fussy infants attending higher-quality child care and infants who were generally more easygoing regardless of child-care quality. Thus, problems in children exhibiting difficult behavior will be more likely to be exacerbated by harsh treatment but will be more clearly ameliorated in the context of responsive, positive caregiving. Furthermore, these effects are apparent across family and child care settings. Overall, temperamental difficulties are less likely to be stable when parents are responsive and sensitive and firmly, but gently, enforce age-appropriate limits. In addition, some young children who tend to be more positive and adaptable may be less affected by less engaged and responsive parenting than children who show more irritability and noncompliant behavior. Excessively structured, intrusive, and harsh parenting, however, may elicit resistance even in children at lower temperamental or genetic risk (Leve et al., 2009).

These recent findings reflecting gene by environment interaction have important implications for intervention, because they make it evident that some children who exhibit difficult behavior and some high-risk families will be especially receptive to early intervention. This will be discussed in more detail in the section on implications for intervention.

Family Risk Factors Associated with Adjustment Difficulties

Children with special needs, be they cognitive, social, physical, or some combination of these, often grow up in families grappling with many stresses that challenge their ability to provide consistent, sensitive, and responsive care for their young children. The fragmentary nature of service delivery systems and the lack of easy access for some families, especially in rural areas, to pediatric, social, and educational services that treat the child in the context of the family, school, and community may further exacerbate problems (Atkins, Hoagwood, Kutash, & Seidman, 2010; Melton, 2010; Stiffman et al., 2010).

The need for comprehensive, family-based services is highlighted by a voluminous research literature identifying a range of risk factors that are associated with adjustment difficulties in children, including poverty, teen parenting, single parenting, family separation and disruption, parental mental illness, parental unemployment, family violence, substance use/abuse, and low social support. These difficulties often co-occur, placing children at especially high risk for behavioral, emotional, and learning problems that spill over to affect the child's functioning in child care, preschool, and kindergarten settings. Children living in families experiencing this range of adversities show a myriad of adjustment difficulties including aggression, noncompliance, attention problems, disruptive behavior, social withdrawal, and delays in acquiring age-appropriate cognitive and school readiness skills. These difficulties often tax the resources of preschool and kindergarten teachers, making referrals to external services necessary.

Ecological and transactional models of development and accruing research on risk and resilience indicate that children who experience this range of adversities at home enter group settings with few role models for positive social behavior with peers, poor ability to regulate anger and impulses, and poor social skills like sharing, turn-taking, and negotiating to solve disputes. Language delays may exacerbate these difficulties by making children less responsive to adult requests, and because these children are less able to use language in their social interactions with peers, they may resort to aggression such as hitting, fighting, or grabbing toys when they cannot make their needs or wants understood (Tremblay, 2000).

Studies that have examined the development of children in the context of family adversity have tended to focus on specific problems that include maternal depression (Goodman, 2007), single parenting (Jones, Forehand, Brody, & Armistead, 2002), family violence and abuse (Cicchetti & Toth, 1995; Yates, Dodds, Sroufe, & Egeland, 2003), and poverty (Aber, Jones, & Cohen, 2000; McLoyd, 1990, 1998), although it is well known that these tend to co-occur (Appleyard, Egeland, van Dulmen, & Sroufe, 2005; Deater-Deckard, Dodge, Bates, & Pettit, 1998; Jones et al., 2002). In trying to understand the processes linking adverse family experiences, both direct and indirect effects have been examined. Direct effects impinge directly on the child and include factors like poor nutrition and lack of health care that may result from poverty, or fearfulness in the face of family violence. Indirect or mediated effects emphasize the impact of family adversity on the quality of parenting, which in turn affects the child's development. Maternal depression serves as one good example of mediated effects in the context of co-occurring risk factors for adjustment problems. In other words, maternal depression is associated with parenting difficulties, which generally explain the links between maternal depression and child outcomes. In addition, maternal depression tends to co-occur with other psychosocial stresses that may cause the depression, be effects of the depression, or merely correlate with depressive symptoms.

A wealth of research on maternal depression indicates that when mothers are depressed, they are also less positive, warm, and engaged with their children across infancy and early childhood (Campbell, Matestic, von Stauffenberg, Mohan, & Kirchner, 2007; NICHD ECCRN, 1999), more likely to become irritable and angry (Eamon & Zuehl, 2001; Lyons-Ruth, Easterbrooks, & Cibelli, 1997), less likely to use proactive controls to prevent misbehavior (Kochanska, Kuczynski, Radke-Yarrow, & Welsh, 1987), and less likely to talk to and stimulate their children's cognitive development (see Goodman [2007] for a thorough review). Their children in turn may show less advanced cognitive and linguistic development (Lyons-Ruth et al., 1997; NICHD ECCRN, 1999), less cooperation and higher levels of externalizing problems (Lyons-Ruth et al., 1997; NICHD ECCRN, 1999), and elevated rates of insecure attachment, especially disorganized attachment (Campbell et al., 2004). It is widely accepted that the links between maternal depression and child adjustment are partly explained or mediated by parenting behavior (Goodman, 2007; NICHD ECCRN, 1999) because depressed mothers' less engaged and stimulating parenting styles and their difficulty setting limits are less likely to foster cognitive advances and emotion regulation. In addition, the persistence over time of maternal depressive symptoms and their associations with other indicators of family adversity predict adjustment difficulties in young children.

For example, using data from the NICHD Study of Early Child Care, Campbell and colleagues (2007) reported that high levels of both chronic and concurrent depressive symptoms in mothers predicted more adjustment difficulties during the transition to first grade as reflected in both mother and teacher reports and cognitive test scores. Moreover, because maternal depression may be associated with marital distress (Cummings et al., 2000), parenting by a single adolescent mother (Leadbeater, Bishop, & Raver, 1996), and poverty (McLoyd, 1990, 1998), elevated depressive symptoms may be a proxy for multiple risk factors that tend to co-occur. Indeed, the NICHD Study (NICHD ECCRN, 1999), found an interaction between the chronicity of maternal depressive symptoms and financial stress such that mothers who were depressed and had limited resources were significantly less sensitive with their infants and toddlers, and this was especially marked at 24 months, when children were likely to test limits and seek autonomy. Children's adjustment to first grade was also partly explained by more general family adversity, including low income and family disruption, as teacher reports of problems in children whose mothers were depressed were no longer significant once other measures of family adversity were controlled statistically (Campbell et al., 2007). Other research suggests that the combination of maternal depression and other stresses, especially marital dissatisfaction and dissolution (see review by Cummings et al. [2000]), bodes poorly for young children's early adjustment and development, consistent with a multiple risk model.

As already noted, over and above maternal depression, other indicators of family stress, including low educational level, poverty, and limited social support for parents, seem to have similar effects on parenting behavior. These stresses are also reflected in less patient, sensitive, engaged, and proactive parenting; parents who are under high levels of stress and adversity are more likely to use physical punishment, demand immediate compliance rather than explain, and engage in negative and angry interactions with their children. Their children, in turn, are more likely to respond with noncompliance or outright defiance, throw temper tantrums, and model their parents' aggressive behavior by fighting with peers and destroying toys. Consistent with a transactional model, this escalating pattern of coercive exchanges can permeate the family system, as negative parent-child interactions may be mirrored in negative marital and sibling relationships as well. Furthermore, expectations of negative interactions will prime family members to be argumentative and belligerent in future encounters. Thus, negative, punitive, and harsh childrearing practices are one mechanism that links family risk to children's adjustment difficulties.

A large body of research also indicates that negative, punitive, and harsh parenting tends to co-occur with other risks that include poverty, mental illness, marital dysfunction or single parenting, and other stressful life events (Appleyard et al., 2005; Ceballo & McLoyd, 2002; Deater-Deckard et al., 1998; McMahon, Grant, Compas, Thurm, & Ey, 2003; NICHD ECCRN, 2004, 2005; Sameroff, 2000). In general, findings indicate that risks tend to be nonspecific in predicting negative outcomes (McMahon et al., 2003) and that cumulative risk—that is, the increasing number of co-occurring risks—is more likely to be associated with adjustment problems than one specific risk. Some studies report a threshold effect such that two or more risks predict more serious adjustment problems (Jones et al., 2002), whereas other studies suggest a linear relationship between the number of risks and children's outcomes (Appleyard et al., 2005). In general, however, as risk factors accumulate, children not surprisingly have more adjustment difficulties that are reflected in some combination of aggression, noncompliance, peer problems, anxiety and sadness, and academic and learning problems.

The timing of risk matters as well. Appleyard et al. (2005) found that cumulative risk in early childhood predicted later problems even after later risk was controlled statistically. The NICHD Study of Early Child Care (NICHD ECCRN, 2005) found that poverty in infancy and early childhood predicted more social and academic problems in elementary school than did concurrent poverty, but chronic poverty that lasted across the child's life was associated with the most academic and behavior problems. Furthermore, cumulative risk tended to be reasonably stable in a small subsample of children who also showed the highest levels of aggression from toddlerhood to elementary school (NICHD ECCRN, 2004). Taken together, these studies underscore the importance of family context and parenting for children's adjustment, including the number, timing, and long-term stability of family stresses.

Despite these challenges to parents and young children, children's adjustment outcomes will be partly determined by the balance of risk and protective factors (Luthar & Cicchetti, 2000; Masten, 2007). Protective factors are generally conceptualized as child characteristics and environmental supports that can counteract risks for children facing family adversity. Child characteristics, such as an easygoing personality and high intelligence, are often identified as protective (Masten, 2007) because children who are more easygoing and positive may be less upset or blame themselves less often for negative events or because their personality and intelligence help them to develop coping strategies and enlist the support of others. Maternal involvement and stimulation, despite elevated risk, is one potent protective factor (e.g., Jaffee, 2007). In considering protective factors, most emphasis has been placed on the role of caring adults who may take over from a stressed, depressed, or otherwise emotionally unavailable or harsh parent. In single-parent families, an involved noncustodial father (Coley & Hernandez, 2006; Masten, 2007) and/or a caring grandparent may serve an important protective role for young children. Similarly, when a mother is depressed, paternal and grandparental involvement may be crucial for young children's adaptation and developmental progress. Other recent work underscores the general importance of father involvement for young children's development and adjustment to school (Tamas-Lamonda, Shannon, Cebrera, & Lamb, 2004; NICHD ECCRN, 2004). Studies also point to the importance of a caring teacher, child care provider, or other adult who can at least temporarily help a young child cope with developmental challenges (Pianta, Steinberg, & Rollins, 1995; Shonkoff & Phillips, 2000). High-quality child care and preschool programs are often developed primarily with the goal of protecting young children from risk, and the need to work with the family and even the broader community is increasingly recognized (Brooks-Gunn, 2003; Shonkoff & Phillips, 2000).

EARLY PREVENTION AND INTERVENTION PROGRAMS AND CHILDREN'S FUNCTIONING

There are numerous prevention programs meant to help children and families living in adverse circumstances before problems develop or escalate (Dishion et al., 2008), and early intervention programs are meant to provide help to young children and their families before problems worsen (Gardner, Hutchings, Bywater, & Whitaker, 2010). Most programs emphasize work with the parents and focus on both relationship building and childrearing. Thus, programs include teaching parents how to play with their child by tuning into their child's communications and letting the child take the lead in play. They also emphasize parenting practices by teaching parents to use positive, proactive, and anticipatory methods of limit-setting; establish childrearing goals and priorities; ignore some inappropriate behavior; and avoid the use of physical punishment (Eyberg, Nelson, & Boggs, 2008; Gardner, Burton, & Klimes, 2006; Webster-Stratton, 1998). In general, studies suggest that these methods can be effective in the short term as both prevention and intervention strategies. In a recent meta-analysis of 77 studies, Kaminski, Valle, Filene, and Boyd (2008) concluded that programs that included relationship building and also coached parents in the use of time-out and the importance of consistency tended to be more effective than programs that did not include these components. Other studies suggest that home visiting can lead to positive change (Olds, 2006) and effectively prevent child abuse in families experiencing risk in poor and dangerous neighborhoods. Still other studies emphasize the importance of moving beyond the parent-child dyad to promote parent well-being and to enhance the marital and co-parenting relationship (Trivette, Dunst, & Hamby, 2010).

Because intervention effects may be nonspecific, studies evaluating the impact of prevention and intervention programs have moved beyond asking whether a particular intervention is effective to asking *why* the program works (i.e., what processes are changed and, therefore, explain or mediate treatment effects) and *for whom* (i.e., are some children and families more likely to improve than others or what moderates treatment effects). Although a thorough review of this voluminous literature is beyond the scope of this chapter, the conclusions emerging from these studies are consistent with the transactional, ecological, and family systems models that inform our understanding of normative development and the development of problems. For example, some studies suggest that changes in parenting styles and strategies are the “active ingredient” that ultimately leads to deescalating parent-child conflict and to better adjustment across settings (Eyberg et al., 2008).

For example in a large, multisite randomized controlled trial of a prevention program for parents and toddlers at high risk for externalizing behavior problems because of poverty and other indicators of family risk, Dishion et al. (2008) reported that improvements in parents’ positive behavior and support for the toddler at age 2 accounted for improvements in child behavior at ages 3 and 4. Similar findings have been reported in other studies that specifically examine whether positive changes in parenting behavior account for treatment effects (e.g., Forgatch & DeGarmo, 1999; Gardner et al., 2010). Dishion and colleagues have also found that decreases in maternal depression (Shaw, Connell, Dishion, Wilson, & Gardner, 2009) and improvements in couple satisfaction (Linville et al., 2010) partially explain treatment effects as well. That is, as mothers’ depressive symptoms declined and couple satisfaction increased, children’s behavior problems improved. These results are consistent with a family systems perspective in suggesting not only the importance of positive parenting, but also that improved maternal mental health and more marital harmony have direct effects on children via improvements in family climate and indirect effects via more skillful childrearing.

Attempts to identify moderators of prevention and intervention effects have been less consistent (Eyberg et al., 2008), although there is growing evidence that families with multiple risk factors, including poverty, low education, and single parenting, respond to parenting interventions, and there is suggestive evidence that catching problems early, especially in boys, may be beneficial (Gardner et al., 2010). Gardner et al. (2010) also found that young children whose mothers reported more depressive symptoms showed a decline in problem behaviors after their mothers participated in a 12-week group-based parenting intervention, whereas children in the control condition showed a marked increase in problem behavior when their mothers also reported elevated depression. This may reflect the fact that mothers experiencing depression who attended the intervention group received social support from other parents and also learned better child-management skills, both of which may have alleviated their depressive symptoms. In another study, using the same sample as Dishion et al. discussed above, Gardner et al. (2009) reported that two-parent families were more responsive to the parenting intervention than were single-parent families, possibly because of the social support derived from co-parenting.

There is clearly a need for further studies that examine the acceptability and feasibility of parent training and supportive interventions for various cultural and ethnic groups with different values and belief systems as well as families coping with different types of stressful life events and conditions (Alegria, Atkins, Farmer, Slaton, & Stelk, 2010). Recent studies and several reviews and meta-analyses, however, suggest that children living in a range of family situations do benefit from structured interventions that support more positive parenting, while also providing broad support for families and increasing feelings of self-confidence and efficacy in parents (Eyberg et al., 2008; Kaminski et al., 2008; Trivette et al., 2010). Given the wealth of data linking family context and childrearing practices to young children's social adjustment and academic success, the need for comprehensive but didactic and structured programs remains a priority. In addition, child care workers and teachers need support and strategies to deal with children showing adjustment and other difficulties during the transition to out-of-home settings with an emphasis on bringing parents and teachers together to help young children cope (Atkins et al., 2010).

Other considerations include better preparation of new parents for their role as caregivers, better preparation of child care providers for handling problem behaviors, and continued efforts to improve the quality of child care. More comprehensive, available, and equitable family-leave policies and flexible work schedules that support family transitions are also needed (Campbell, 2002; Shonkoff & Phillips, 2000).

SUMMARY AND CONCLUDING COMMENTS

An ecological, transactional, and family systems framework for understanding children's early development and adjustment in the family and community underscores the complex mix of child, parenting, and family factors that are associated with young children's adjustment across toddlerhood and the preschool years. This is an especially challenging time for young children as they go through fundamental shifts in their cognitive and social development that will set them on a pathway toward good adjustment or emerging problems. The importance of the parent-child relationship and childrearing practices cannot be overestimated, but family climate, extended family support, and community resources also play a central role in young children's development. In particular, the availability and affordability of high-quality child care, preschool, and kindergarten programs will have implications for children's social and academic success. Further, policies that support families more broadly by facilitating warm, involved, and responsive parenting and that also provide child caregivers and primary school teachers with the tools and supports to optimize young children's adjustment to school and to the peer group are also a priority. Research indicates that structured prevention and early intervention programs focused on childrearing and the parent-child relationship can be effective in improving children's behavior and alleviating other aspects of family conflict. We know a good deal about the needs of children and families. The goal now is to translate this knowledge into practice.

REFERENCES

Aber, J. L., Jones, S., & Cohen, J. (2000). The impact of poverty on mental health and development of very young children. In C. H. Zeanah (Ed.), *Handbook of Infant Mental Health* (2nd ed., pp. 113–128). New York: Guilford Press.

Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.

Alegria, M., Atkins, M., Farmer, E., Slaton, E., & Stelk, W. (2010). One size does not fit all: Taking diversity, culture, and context seriously. *Administration and Policy in Mental Health and Mental Health Services Research, 37*, 48–60.

Appleyard, K., Egeland, B., van Dulmen, M., & Sroufe, L. A. (2005). When more is not better: The role of cumulative risk in child behavior outcomes. *Journal of Child Psychology and Psychiatry, 46*, 235–245.

Atkins, M. S., Hoagwood, K. E., Kutash, K., & Seidman, E. (2010). Toward the integration of education and mental health in the schools. *Administration and Policy in Mental Health and Mental Health Services Research, 37*, 40–47.

Bates, J. E., Pettit, G. S., Dodge, K. A., & Ridge, B. (1998). Interaction of temperamental resistance to control and restrictive parenting in the development of externalizing behavior. *Developmental Psychology, 34*, 982–995.

Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*, 83–96.

Belsky, J., Bakermans-Kranenberg, M., & van IJzendoorn, M. (2007). For better *and* for worse: Differential susceptibility to rearing influences. *Current Directions in Psychological Science, 16*, 300–304.

Belsky, J., Hsieh, K., & Crnic, K. (1998). Mothering, fathering, and infant negativity as antecedents of boys' externalizing problems: Differential susceptibility to rearing experiences? *Development and Psychopathology, 10*, 301–319.

Bowlby, J. S. (1969). *Attachment*. New York: Basic Books.

Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretheton & E. Waters (Eds.), *Growing points in attachment theory and research. Monographs of the Society for Research in Child Development, 50* (Serial no. 209), 3–35.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Brooks-Gunn, J. (2003). Do you believe in magic? What we can expect from early childhood intervention programs. *SRCD Social Policy Report, 17*(3), 1–14.

Brownell, C. A., & Kopp, C. B. (2007). Transitions in toddler socioemotional development: Behavior, understanding, and relationships. In C. A. Brownell & C. B. Kopp (Eds.), *Socioemotional development in the toddler years: Transitions and transformations* (pp. 1–40). New York: Guilford Press.

Calkins, S. D. (2007). The emergence of self-regulation: Biological and behavioral control mechanisms supporting toddler competencies. In C. A. Brownell & C. B. Kopp (Eds.), *Socioemotional development in the toddler years: Transitions and transformations* (pp. 261–284). New York: Guilford Press.

Campbell, S. B. (2002). *Behavior problems in preschool children: Clinical and developmental issues* (2nd ed.). New York: Guilford Press.

Campbell, S. B. (2006). Maladjustment in preschool children: A developmental psychopathology perspective. In K. McCartney & D. Phillips (Eds.), *The Blackwell Handbook of Early Childhood Development* (pp. 358–378). London: Blackwell.

Campbell, S. B., Brownell, C. A., Hungerford, A., Spieker, S., Mohan, R., & Blessing, J. (2004). The course of maternal depressive symptoms and maternal sensitivity as predictors of attachment security at 36 months. *Development and Psychopathology, 16*, 231–252.

Campbell, S. B., Matestic, P., von Stauffenberg, C., Mohan, R., & Kirchner, T. (2007). Trajectories of maternal depressive symptoms, maternal sensitivity, and children's functioning at school entry. *Developmental Psychology, 43*, 1202–1215.

Campbell, S. B., Shaw, D. S., & Gilliom, M. (2000). Early externalizing behavior problems: Toddlers and preschoolers at risk for later maladjustment. *Development and Psychopathology, 12*, 467–488.

Campbell, S. B., & von Stauffenberg, C. (2007). Child characteristics and family processes that predict behavioral readiness for school. In A. Booth and A. C. Crouter (Eds.), *Early disparities in school readiness: How do families contribute to successful and unsuccessful transitions into school?* (pp. 225–258). Mahwah, NJ: Erlbaum.

Ceballo, R., & McLoyd, V. C. (2002). Social support and parenting in poor and dangerous neighborhoods. *Child Development, 73*, 1310–1321.

Cicchetti, D., & Toth, S. L. (1995). A developmental psychopathology perspective on child abuse and neglect. *Journal of the American Academy of Child and Adolescent Psychiatry, 34*, 541–565.

Coley, R. L., & Hernandez, D. (2006). Predictors of paternal involvement for resident and non-resident low-income fathers. *Developmental Psychology, 42*, 1041–1056.

Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology, 48*, 243–267.

Crockenberg, S., & Litman, C. (1990). Autonomy as competence in 2-year-olds: Maternal correlates of child defiance, compliance, and self-assertion. *Developmental Psychology, 26*, 961–971.

Cummings, E. M., Davies, P., & Campbell, S. B. (2000). *Developmental psychopathology and family process: Research, theory, and clinical implications*. New York: Guilford Press.

Deater-Deckard, K., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1998). Multiple risk factors in the development of externalizing behavior problems: Group and individual differences. *Development and Psychopathology, 10*, 469–493.

Dishion, T., Shaw, D. S., Connell, A., Gardner, F., Weaver, C., & Wilson, M. (2008). The Family Check-Up with high-risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Development, 79*, 1395–1414.

Doumen, S., Verscherueren, K., Buyse, E., Germeijs, V., Luyckx, K., & Soenens, B. (2008). Reciprocal relations between teacher-child conflict and aggressive behavior in kindergarten: A three-wave longitudinal study. *Journal of Clinical Child and Adolescent Psychology, 37*, 588–599.

Eamon, M. K., & Zuehl, R. M. (2001). Maternal depression and physical punishment as mediators of the effect of poverty on socio-emotional problems of children in single-mother families. *American Journal of Orthopsychiatry, 71*, 218–226.

Eyberg, S., Nelson, M. M., & Boggs, S. R. (2008). Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Abnormal Child Psychology, 37*, 215–237.

Forgatch, M. S., & DeGarmo, D. S. (1999). Parenting through change: An effective prevention program for single mothers. *Journal of Consulting and Clinical Psychology, 67*, 711–724.

Gardner, F., Burton, J., & Klimes, I. (2006). Randomized controlled trial of a parenting intervention in the voluntary sector for reducing child conduct problems: Outcomes and mechanisms of change. *Journal of Child Psychology and Psychiatry, 47*, 1123–1132.

Gardner, F., Connell, A., Trentacosta, C., Shaw, D. S., Dishion, T., & Wilson, M. N. (2009). Moderators of outcome in brief family-centered intervention for preventing early problem behavior. *Journal of Consulting and Clinical Psychology, 77*, 543–553.

Gardner, F., Hutchings, J., Bywater, T., & Whitaker, C. (2010). Who benefits and how does it work? Moderators and mediators of outcome in an effectiveness trial of a parenting intervention. *Journal of Clinical Child and Adolescent Psychology, 39*, 568–580.

Gardner, F., Sonuga-Barke, E., & Sayal, K. (1999). Parents anticipating misbehavior: An observational study of strategies parents use to prevent conflict with behavior problem children. *Journal of Child Psychology and Psychiatry, 40*, 1185–1196.

Goodman, S. (2007). Depression in mothers. *Annual Review of Clinical Psychology, 3*, 107–135.

Hobson, R. P. (2007). Social relations, self-awareness, and symbolizing: A perspective from autism. In C. A. Brownell & C. B. Kopp (Eds.), *Socioemotional development in the toddler years: Transitions and transformations* (pp. 423–450). New York: Guilford Press.

Holden, G. W. (1983). Avoiding conflict: Mothers as tacticians in the supermarket. *Child Development, 54*, 233–240.

Hughes, C., & Dunn, J. (2007). Children's relationships with other children. In C. A. Brownell & C. B. Kopp (Eds.), *Socioemotional development in the toddler years: Transitions and transformations* (pp. 177–200). New York: Guilford Press.

Jaffee, S. R. (2007). Sensitive, stimulating caregiving predicts cognitive and behavioral resilience in neurodevelopmentally at-risk infants. *Development and Psychopathology, 19*, 631–648.

Jones, D. J., Forehand, R., Brody, G., & Armistead, L. (2002). Psychosocial adjustment of African-American children in single mother families: A test of three risk models. *Journal of Marriage and the Family, 64*, 105–115.

Kaminski, J. W., Valle, L. A., Filene, J. H., & Boyle, C. L. (2008). A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology, 36*, 567–589.

Kochanska, G. (2002). Mutually responsive orientation between mothers and their young children: A context for the early development of conscience. *Current Directions in Psychological Science, 11*, 191–195.

Kochanska, G., Kuczynski, L., Radke-Yarrow, M., & Welsh, J. D. (1987). Resolution of control episodes between well and affectively ill mothers and their young child. *Journal of Abnormal Child Psychology, 15*, 441–456.

Kochanska, G., Philibert, R., & Barry, R. A. (2009). Interplay of genes and early mother-child relationship in the development of self-regulation from toddler to preschool age. *Journal of Child Psychology and Psychiatry, 50*, 1331–1338.

Kopp, C. B. (1989). Regulation of distress and negative emotions: A developmental view. *Developmental Psychology, 25*, 343–354.

Leadbeater, B., Bishop, S., & Raver, C. (1996). Quality of mother-toddler interaction, maternal depressive symptoms, and behavior problems in preschoolers of adolescent mothers. *Developmental Psychology, 32*, 280–288.

Leve, L. D., Gordon, G. T., Ge, X., Neiderheiser, J. M., Shaw, D., Scaramella, L. V., & Reiss, D. (2009). Structured parenting of toddlers at high versus low genetic risk: Two pathways to child problems. *Journal of the American Academy of Child and Adolescent Psychiatry, 48*, 1102–1109.

Lillard, A. (2007). Pretend play in toddlers. In C. A. Brownell & C. B. Kopp (Eds.), *Socioemotional development in the toddler years: Transitions and transformations* (pp. 149–176). New York: Guilford Press.

Lin, H. L., Lawrence, F. R., & Gorrell, J. (2003). Kindergarten teachers' views of school readiness. *Early Childhood Research Quarterly, 18*, 225–237.

Linville, D., Chronister, K., Dishion, T., Todahl, J., Miller, J., Shaw, D., et al. (2010). A longitudinal analysis of parenting practices, couple satisfaction, and child behavior problems. *Journal of Marital and Family Therapy, 36*, 244–255.

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for intervention and social policies. *Development and Psychopathology, 12*, 857–885.

Lyons-Ruth, C., Easterbrooks, M. A., & Cibelli, C. D. (1997). Infant attachment strategies, infant mental lag, and maternal depressive symptoms: Predictors of internalizing and externalizing problems at age 7. *Developmental Psychology, 33*, 681–692.

Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology, 19*, 921–930.

McMahon, S. D., Grant, K. E., Compas, B. E., Thurm, A. E., & Ey, S. (2003). Stress and psychopathology in children and adolescents: is there evidence of specificity? *Journal of Child Psychology and Psychiatry, 44*, 107–133.

McClelland, M., & Morrison, F. J. (2003). The emergence of learning-related social skills in preschool children. *Early Childhood Research Quarterly, 18*, 206–224.

McLoyd, V. C. (1990). The impact of economic hardship on Black families and children: Psychological distress, parenting and socioemotional development. *Child Development, 61*, 311–346.

McLoyd, V. C. (1998). Socieconomic disadvantage and child development. *American Psychologist, 53*, 185–204.

Melton, G. (2010). Putting the "community" back into "mental health": The challenge of a great crisis in the health and well-being of children and families. *Administration and Policy in Mental Health and Mental Health Services Research, 37*, 173–176.

Moore, C. (2007). Understanding self and other in the second year. In C. A. Brownell & C. B. Kopp (Eds.), *Socioemotional development in the toddler years: Transitions and transformations* (pp. 43–65). New York: Guilford Press.

NICHD Early Child Care Research Network. (1996). Poverty and patterns of child care. In J. Brooks-Gunn and G. Duncan (Eds.), *Consequences of growing up poor* (pp. 100–131). New York: Russell Sage Foundation.

NICHD Early Child Care Research Network. (1997). Familial factors associated with characteristics of nonmaternal care for infants. *Journal of Marriage and the Family, 59*, 389–408.

NICHD Early Child Care Research Network. (1999). Chronicity of maternal depressive symptoms, maternal sensitivity, and child functioning at 36 months. *Developmental Psychology, 35*, 1399–1413.

NICHD Early Child Care Research Network. (2002). Structure>Process>Outcome: Direct and indirect effects of caregiving quality on young children's development. *Psychological Science, 13*, 199–206.

NICHD Early Child Care Research Network. (2003). Social functioning in first grade: Associations with earlier home and child care predictors and with concurrent classroom experiences. *Child Development, 74*, 1639–1662.

NICHD Early Child Care Research Network. (2004). Trajectories of aggression from toddlerhood to middle childhood: Predictors, correlates, and outcomes. *Monographs of the Society for Research in Child Development, 69*, whole no. 4.

NICHD Early Child Care Research Network. (2005). Duration and developmental timing of poverty and children's cognitive and social development from birth through third grade. *Child Development, 76*, 795–810.

Olds, D. L. (2006). The Nurse-Family Partnership: An evidence-based preventive intervention. *Infant Mental Health Journal, 27*, 5–25.

Pianta, R. C., Steinberg, M. S., & Rollins, K. B. (1995). The first two years of school: Teacher-child relationships and deflections in children's classroom adjustment. *Development and Psychopathology, 7*, 295–312.

Pluess, M., & Belsky, J. (2009). Differential susceptibility to rearing experience: the case of childcare. *Journal of Child Psychology and Psychiatry, 50*, 396–404.

Rimm-Kaufmann, S. E., Pianta, R. C., & Cox, M. J. (2000). Teacher's judgments of problems in the transition to kindergarten. *Early Childhood Research Quarterly, 15*, 147–166.

Sameroff, A. J. (1995). General systems theories and developmental psychopathology. In D. Cicchetti & D. Cohen (Eds.), *Developmental Psychopathology, Vol. I: Theory and methods* (pp. 659–695). New York: Wiley.

Sameroff, A. J. (2000). Developmental systems and psychopathology. *Development and Psychopathology, 12*, 297–312.

Serbin, L., & Karp, J. (2004). Intergenerational transfer of psychosocial risk: Mediators of vulnerability and resilience. *Annual Review of Psychology, 55*, 333–363.

Shatz, M. (2007). Revisiting *A Toddler's Life* for the toddler years: Conversational participation as a tool for learning across knowledge domains. In C. A. Brownell & C. B. Kopp (Eds.), *Socioemotional development in the toddler years: Transitions and transformations* (pp. 241–260). New York: Guilford Press.

Shaw, D. S., Connell, A., Dishion, T. J., Wilson, M. N., & Gardner, F. (2009). Improvement in maternal depression as a mediator of intervention effects on early childhood problem behavior. *Development and Psychopathology, 21*, 417–440.

Shonkoff, J., & Phillips, D. (2000). *From neurons to neighborhoods*. Washington, DC: National Academy Press.

Sroufe, L. A., & Fleeson, J. (1986). Attachment and the construction of relationships. In W. Hartup & Z. Rubin (Eds.). *The nature and development of relationships* (pp. 51–71). Hillsdale, NJ: Erlbaum.

Stiffman, A. R., Stelk, W., Horwitz, S. M., Evans, M. E., Outlaw, F. H., & Atkins, M. (2010). A public health approach to children's mental health services: possible solutions to current service inadequacies. *Administration and Policy in Mental Health and Mental Health Services Research, 37*, 120–124.

Tamas-LaMonda, C., Shannon, J., Cabrera, N., & Lamb, M. (2004). Fathers and mothers at play with their 2- and 3-year-olds: Contributions to language and cognitive development. *Child Development, 75*, 1806–1820.

Thomas, A., Chess, S., & Birch, H. (1968). *Temperament and behavior problems in children*. New York: New York University Press.

Thompson, R. (2006). The development of the person: Social understanding, relationships, self, and conscience. In W. Damon and R. M. Lerner (Eds.), N. Eisenberg (Vol. Ed.), *Handbook of Child Psychology: Vol. 3. Social, emotional, and personality development* (6th ed., pp. 24–98). New York: Wiley.

Tremblay, R. E. (2000). The development of aggressive behavior during childhood: What have we learned in the past century? *International Journal of Behavioral Development, 24*, 129–141.

Trivette, C. M., Dunst, C. J., & Hamby, D. W. (2010). Influences of family systems intervention practices on parent-child interactions and child development. *Topics in Early Childhood Special Education, 30*, 3–19.

Van Zeijl, J., Mesman, J., Stolk, M. N., Alink, L. R., van IJzendoorn, M. H., et al. (2007). Differential susceptibility to discipline: The moderating effect of child temperament on the association between maternal discipline and early childhood externalizing problems. *Journal of Family Psychology, 21*, 626–636.

Webster-Stratton, C. (1998). Preventing conduct problems in Head Start children: Strengthening parenting competencies. *Journal of Consulting and Clinical Psychology, 66*, 715–730.

Yates, T. M., Dodds, M. F., Sroufe, L. A., & Egeland, B. (2003). Exposure to partner violence and child behavior problems: A prospective study controlling for child-directed abuse and neglect, child cognitive ability, socioeconomic status, and life stress. *Development and Psychopathology, 15*, 199–218.

Zahn-Waxler, C., Radke-Yarrow, M., Wagner, E., & Chapman, M. (1992). The development of concern for others. *Developmental Psychology, 28*, 126–136.

Chapter 8

Supporting Young Children with Social and Behavioral Challenges

Sharon Doubet and Rob Corso

A growing body of research shows that promoting the emotional wellness of young children and fostering secure, warm relationships between children, their parents and other caregivers are keys to healthy development and later school success (Denno, Phillips, Harte, & Momaw, 2004; Hyson, 2004; Knitzer, 2000; NICHD, 2003; Raver, 2002; Zigler, 2004; Zins, Bloodworth, Weissberg, & Walberg, 2004). Educators, researchers, and policy makers are becoming increasingly aware that many young children are beginning school without the requisite emotional, social, and behavioral skills that increase the likelihood of success. Although specific estimates of prevalence rates vary depending on the sample and criteria used, the significant rates at which emotional and behavior problems occur in young children are now well documented. For example, data from the Early Childhood Longitudinal Study revealed that 10 percent of kindergarteners arrive at school with problematic behavior (West, Denton, & Germino-Hausken, 2000). Furthermore, children from low-income families are even more likely to develop behavior problems, with prevalence rates that approach 30 percent (Qi & Kaiser, 2003). The significance of the early display of externalizing-type problems (e.g., aggression and property destruction) for later behavior has been well established; therefore, intervening as early as possible is critical (Kaiser & Rasminsky, 2007; Stormont, Lewis, Beckner, & Johnson, 2008). The longer a child uses challenging behaviors to get his or her needs met, the more difficult it is to change these patterns of interaction (Webster-Stratton, 1997). Not surprising, a growing body of research points to the correlation between social competence and school success (Raver, 2002).

Because more young children enter school displaying severe problem behaviors, there is an increased interest in providing early intervention to children during the preschool years (Shonkoff & Phillips, 2000). The primary settings in which these efforts are likely to occur are early childhood programs. Unfortunately, many early childhood programs are not prepared to meet the needs of children who are emotionally delayed or have problem behavior (Kaufmann & Wischmann, 1999). Often, children with complex and intensive social and emotional needs are removed or are at risk for being removed from inclusive settings as a result of their challenging behaviors (Gilliam, 2005; Raver & Knitzer, 2002). In a national study, Gilliam found that on average, 6.67 preschool-age children in state-subsidized prekindergarten classrooms were expelled per 1,000 enrolled, a rate 3.2 times higher than for students in K–12 classrooms.

Because of the intensive, ongoing needs of children with more problematic behaviors, simply placing these children in Head Start programs, preschools, child care centers, and other early childhood environments is not enough. Typically, teachers have applied generic strategies (e.g., time-out) and rules to complex problem behaviors, which in turn often cause problem behaviors to accelerate rather than diminish (Sprague et al., 2001). Rather, children with high levels of challenging behaviors need to have access to ongoing positive relationships and environments that support their social and emotional development. At the same time, these children also need individual support so that they can learn appropriate ways to express what they want or need, rather than using challenging behaviors. In sum, these children need more systematic behavioral approaches that go beyond typical intervention strategies (Sandall & Schwartz, 2002).

In response to the need for systematic behavioral approaches, the content of this chapter will focus on the current state of support for young children with social and behavioral challenges. In support of this topic, the experiences of the players (i.e., children and families, teachers, administrators), their roles, and current support strategies will be described. The next section of the chapter focuses on current service delivery systems, including professional development and a framework for a pyramid model using a tiered system of support. Stories of successful implementation of the pyramid model in diverse settings are included in the third section of the chapter. The final section includes discussion of Response to Intervention and mental health consultation, both current support approaches in the field.

THE PLAYERS AND THE SUPPORTS

Children and Families

The demographic description of young children with social and behavioral challenges is inconsistent. The children may or may not have Individual Family Service Plans (IFSPs) or Individual Education Plans (IEPs); likewise, they may be typically developing or have atypical development. Family demographics are also very diverse as there does not appear to be a consistent descriptor of families with children exhibiting social or behavioral challenges.

The Impact of Challenging Behaviors on Children and Families

Challenging behaviors has a substantial impact on all members of a family system (Fox, Vaughn, Dunlap, & Bucy, 1997). Family stress and family isolation are reoccurring topics in studies focusing on the impact of parenting a child exhibiting challenging behaviors (Guralnick, 2000; Hoppe, 2005). For example, as previously noted, young children may be expelled from a child care program because of their behavior (Gilliam, 2005), adding stress to a family system. For many parents, one of the most difficult issues they confront surrounds their child's behavior (Boulware, Swartz, & McBride, 1999).

Doubet, Ostrosky, and Hemmeter (2007) conducted an interview study with seven parents of children ages 3–5 in child care settings in a Midwestern county. Each child was at risk for expulsion or had been expelled from one or more child care programs due to their challenging behaviors. Parents reported instances when either the whole family did not attend public events, or other plans were made so that the child with challenging behavior stayed home with one of the parents while the rest of the family attended the event. Such choices impact families' abilities to go places as a unit. One parent spoke of staying home due to her son's unpredictable behavior, "We don't go to that many places, 'cause he'll fall apart. Wherever we're at, he does it." This influence extends to sibling relationships. Parents who discussed the effect on older siblings reflected on missed activities and attempts to help their other children understand absences from their extracurricular activities. The need to plan ahead to avoid problem situations was tiresome, and the stress on intra-family relationships was evident.

In addition, parent confidence in their parenting skills is affected when community and family members express concern about the role of the parent in the behaviors of the child. Parents report hearing negative comments from community members expressing blame toward the parents for the child's behavioral problems (Hutton & Caron, 2005). Parents in the Doubet, Ostrosky, and Hemmeter (2007) study also described how they began to doubt their parenting skills and abilities. When asked about the impact of a child exhibiting challenging behaviors on her family, one mother replied, "Stressful, embarrassing. Like 'Oh, she can't control her kids.' And really—I can't."

In response to the impact of challenging behaviors on families, positive behavior support (PBS) stresses the importance of a family-centered approach when providing support and services. Fox, Dunlap, and Cushing (2002) describe the family as "the overwhelmingly dominant influence on a child's behavioral development and functioning" (p. 151). Family-centered support emerged as a focus for service providers in the last 20 years and is reflected in the service delivery systems in place today. The early childhood field has defined "family-centered" as practices that value family strengths, needs, priorities, input, and privacy (Boone & Crais, 2002).

This attitude toward the parent-professional relationship is echoed in national policy. Under IDEA, early intervention programs are required to use a family-centered approach, which guides the development and implementation of intervention strategies (Hoppe, 2005). Outcomes of any child support plan are not independent of family functioning. For example, Fox, Vaughn, et al. (1997) found children's progress was inextricably tied to the functioning of the family as a whole. Family-centered positive behavior support has the potential to result in lifestyle improvements for the child and other family members (Lucyshyn, Dunlap, & Albin, 2002).

Effective early education programs include a parent-training component. Parent instruction focuses on behavior management skills, increasing positive interactions, increasing children's prosocial behavior, and child guidance procedures (Strain & Timm, 2001; Webster-Stratton, Reid, & Hammond, 2001). In light of the research supporting a family-centered approach (Hoppe, 2005; Trivette & Dunst, 2005), early childhood programs continue to investigate ways to increase their parent support and educational opportunities on the topic of young children's social and emotional development.

Teachers: The Workforce That Supports the Development of Young Children

Over the last two decades, there has been growing acceptance among policy makers that early childhood professionals (e.g., teachers, assistants, care providers, directors) are in a position to design programs that foster children's social and emotional development as well as their cognitive skills. Many early research studies have reported that the early years of children's lives form the social-emotional foundation for later learning and school success (Thompson, 1994; Zero to Three, 1992). However, due to inconsistency in the quality of care, it is unrealistic to expect that every child in a child care setting will be provided with the supports and opportunities they need for healthy social and emotional development.

For example, the early care and education workforce is often underpaid and undervalued, receives little professional development training, and works in difficult physical and emotional environments. Additionally, child care staff often feel overwhelmed with the responsibilities of caring for multiple children in group care. More than in most professions, child care providers must collaborate, share space, be flexible, and coordinate almost every aspect of their day—a challenge for any group of workers with varied histories, experiences, cultures, and beliefs about children (Johnston & Brinamen, 2006). Furthermore, early childhood teachers find that working with a child exhibiting challenging behaviors adds much stress to an already difficult situation. Unfortunately, teacher stress and burnout, as well as high levels of teacher turnover, may negatively impact the social and emotional development of students.

Job Satisfaction

Teachers report that working with children exhibiting challenging behaviors affects their overall job satisfaction (Joseph, Strain, & Skinner, 2004). Many early childhood staff members feel ill prepared to meet the needs of children who are emotionally delayed or who exhibit social and emotional problems. Early childhood teachers report that (1) challenging behaviors is one of their greatest challenges,

(2) there seems to be an increasing number of children who have challenging behaviors, (3) they do not feel competent in handling children exhibiting challenging behaviors, and (4) all of this negatively affects job satisfaction and leads to stress and burnout (Hemmeter, Corso, & Cheatham, 2006).

Low job satisfaction may lead to high levels of staff turnover. Low wages and poor working conditions in the child care profession have created conditions in which many teachers have minimal education and training, and more than a third of the teachers in child care leave their positions each year (Hyson, 2004). In fact, the child care staff turnover rate hovers around 30 percent each year (U.S. Bureau of Labor Statistics, 1998), which, according to Shonkoff and Phillips (2000), is among the highest of any profession tracked by the Department of Labor. Staff turnover rates negatively affect the social and emotional development of children. According to the National Research Council and Institute of Medicine (2000b), there is a strong correlation between high-quality programs, highly qualified staff, very minimal teacher turnover, and positive developmental outcomes for young children.

Personnel Development of the Workforce

Teachers note an increasing number of children exhibiting disruptive behaviors and cite these behaviors as one of the greatest challenges they face in providing a quality program (Arnold, McWilliams, & Arnold, 1998). Unfortunately, there exists a critical shortage of service providers available to work with young children with social-emotional delays, challenging behaviors, and disabilities (Klein & Gilkerson, 2000). Furthermore, there is a lack of personnel who have relevant training in social-emotional development and intervention to assist with evaluation, IFSP or IEP development, and service provision at these key points of entry (Kopel, 2004). Similar numbers are evidenced for teachers working with young children exhibiting challenging behaviors (U.S. Department of Education [USDOE], 2007). At the same time, teachers qualified to work with children with emotional disturbance represent the area in which the least amount of progress has been made. In a national survey, Bruder (2004) found that fewer than 50 percent of state administrators surveyed believed that special educators and social workers in their state were adequately prepared for their roles in early intervention. In part, shortages of service providers adequately prepared to address the social-emotional needs of children result from the fact that many early childhood staff members are not well trained before entering the field, nor are they adequately supervised (Johnston & Brinamen, 2006).

Accordingly, early care and education providers often report that addressing challenging behaviors is one of their most significant training needs (Child Care Resource Services [CCRS], 2003; Joseph et al., 2004). For example, the results of a survey study of 88 child care and at-risk prekindergarten teachers revealed that 65 percent chose "learning how to support children exhibiting challenging behaviors" as their highest in-service training priority (Doubet, Ostrosky, & Corso, 2007). In a larger survey study of 400 child care providers, 73 percent selected the issue of "controlling children's problem behaviors" as a primary in-service training need (Dinnebeil, McInerney, Fox, & Juchartz-Pendry, 1998). Clearly, early childhood educators have voiced their need for training in the area of working with young children exhibiting challenging behaviors.

Teachers' Responses to Challenging Behaviors

Many teachers do not feel confident in their abilities to address challenging behaviors, and this perception impacts their overall view of how effective they are as a teacher. Nungesser and Watkins (2005) surveyed 45 preschool teachers in Head Start, at-risk prekindergarten, and private preschool classrooms to learn how early education teachers perceived and reacted to challenging behaviors. The strategies and interventions that teachers reported using most frequently when responding to challenging behaviors were reactive and punitive types of intervention approaches (e.g., time-out, restraint, loss of privileges) versus proactive or preventative approaches (e.g., functional analysis, choices, use of emotion words).

Doubet and Ostrosky (2009) reported similar results in a descriptive study where participants were 11 early childhood teachers. Seventy-three percent of the teachers who were interviewed used punitive strategies in response to challenging behaviors. The most cited reactive and punitive responses were sending the child to sit in the administrator's office, expulsion, and time-out. Only 33 percent of the teachers in this study reported using proactive and prevention strategies (i.e., teach rules and schedules, problem solving, how to ask for help, emotion words, calming strategies).

When reviewing teachers' responses to challenging behaviors, another point to consider is the theory that teachers' reactions and responses to children's challenging behaviors may be a combination of their own life experiences and training. For example, staff members have their own life history and social circumstances that inform their practices and classroom choices. Often the style of parenting a teacher experienced as a child will exert more power over his or her teaching style than years of training (Johnston & Brinamen, 2006).

Support for Teachers

Given the multiple levels and complexity involved with implementing promotion, prevention, and intervention strategies, an equally multifaceted training and support system for teachers must be employed (Sandall & Schwartz, 2002). More intensive training programs are needed with follow-up support to help teachers and child care providers feel more competent when working with children exhibiting challenging behaviors (Winton, McCollum, & Catlett, 1997). In turn, children are more likely to feel comfortable and safe, and teachers will be able to use time that was previously spent addressing challenging behaviors on teaching academic, social, and emotional skills.

Teachers of young children exhibiting challenging behaviors may experience difficulties finding support services for their students or helping families access community resources, resulting in few children with early signs of problem behaviors receiving support (Kazdin & Kendall, 1998). Given that more favorable outcomes for young children exhibiting challenging behaviors are realized when intervention begins at a young age (Strain & Timm, 2001), delays in accessing services and support for teachers is a concern.

Administrators

High-quality early education environments are related to positive outcomes in children's social and emotional development and reduced challenging behaviors. Providing a high-quality environment is an essential foundation for the implementation of promotion and intervention practices (Burchinal, Peisner-Feinberg, Bryant, & Clifford, 2000; NICHD, 1999). Strong administrative knowledge and skills must be in place to provide high-quality environments, training, and support for early care and education professionals.

Specific policies and procedures regarding training, support, and collaboration must be developed to sustain a system of this magnitude. These program policies and procedures should include processes for teaching social-emotional skills; screening, assessing, and monitoring young children's social-emotional development; involving families in supporting their child's social-emotional development; addressing challenging behaviors and supporting children with persistent challenging behaviors; and providing training, technical assistance, and ongoing support to staff addressing young children's social emotional competence and challenging behaviors (Fox & Hemmeter, 2009).

Implementing recommended practices in support of young children and their families requires a review of current policies, procedures, and systems change (Sandall, Hemmeter, Smith, & McLean, 2005).The success in implementing these changes will be improved when administrators (1) are knowledgeable in recommended practice in early childhood, (2) share resources with other community programs, and (3) engage in systems change (Smith, 2000). Without strong policies and procedures in place to support social and emotional development of young children, punitive and reactive responses that minimally influence challenging behaviors are more evident. In a study conducted by Doubet and Ostrosky (2009), early childhood teachers reported that they often send a child exhibiting challenging behaviors to the office to "spend time" with the director or administrator. According to one teacher, sending children exhibiting challenging behaviors to the office "affects them [director] so they can't do their jobs. They can't do what they're supposed to be doing because they're dealing with this child." Another teacher noted: "I think it affects everyone, the whole system. I think it affects the other children in the room. And then, in turn, I'm so stressed that I affect the directors."

The Doubet and Ostrosky (2009) study also found that several teachers felt unsupported by the administrators when they were working with children exhibiting challenging behaviors. In fact, these teachers believed that the administrators lacked the necessary skills to support them. In addition to a desire for administrator time and skills, teachers expressed a desire for program policies addressing challenging behaviors. Examples of administrative support teachers discussed included help with problem solving, communicating with parents, and investigating options for assistance from outside agencies.

SERVICE DELIVERY SYSTEMS

Even though the increased rate of young children exhibiting challenging behaviors has been recognized, adequate service delivery is lacking.

For young children who show early signs of problem behaviors, it has been estimated that fewer than 10 percent receive support services for these difficulties, and parents who seek supportive services for their children may encounter difficulties in accessing appropriate services and supports (Kazdin & Kendall, 1998). As a result, 50 percent of preschool children with externalized challenging behaviors continue to demonstrate problems during their school years, leading to long-term, serious difficulties (Stormont, Lewis, & Beckner, 2005).

Fox, Dunlap, and Cushing (2002) wrote about the lack of a system focused on young children with behavior problems. According to Fox and colleagues, there are 39 different governmental sources of funding for early childhood mental health services, each with differing policies, procedures, and eligibility standards. As a result of the lack of coordination, services do not reach all children who qualify. Furthermore, the early childhood mental health system is fragmented and difficult for families to navigate. The point of entry into a community support system of mental health services is often unclear. Families with young children may already be overburdened, and difficulty accessing a system of support may be one reason why some families do not pursue community services.

In a literature review conducted by Smith and Fox (2003a), much support was found for a system of service delivery for young children at risk of or who have challenging behaviors. Smith and Fox reviewed approximately 90 articles of relevant literature from 1982 to 2002, leading to conclusions in support of family-oriented systems. They recommend that families should (1) help design systems of care, (2) be in the center of decisions related to supports, and (3) have their individual family needs and strengths taken into consideration when designing a plan for support.

A challenge to the field is to blend the multiple existing services into a cohesive, collaborative system (Smith & Fox, 2003b). According to Fox et al., (2002), this type of interconnected system of care has been effective with older children and adults in serving their behavioral needs: "It is reasonable to conclude that the knowledge and technology for achieving behavior change for young children exhibiting challenging behaviors is known; the challenge that remains is the delivery of the support in ways that reach the most vulnerable families" (p. 217). This challenge extends to teachers who must have the knowledge and resources to help families access supports and services for young children with persistent challenging behaviors. Early intervention systems need to address the barriers to service delivery and develop family-friendly outreach practices that meet the unique needs of families who may already be facing difficulties (Knitzer, 2000).

Office of Special Education Child Outcomes

In 2005, the Office of Special Education Programs (OSEP) began requiring State Early Intervention and Preschool Special Education programs to report on child outcomes. Two out of the three required outcomes for states related to children's social and emotional development and behavior. Specifically, states are required to report on the percentage of infants and toddlers with IFSPs or preschool children with IEPs who demonstrate improved positive social-emotional skills (including social relationships), acquisition and use of knowledge and skills (including early language/communication [and early literacy]), and use of appropriate behaviors to meet their needs. A great deal of effort has gone into this initiative, including funding of the national Early Childhood Outcomes (ECO) Center. Since its inception in 2003, the ECO Center has provided technical assistance and conducted research to support states in the development of outcome measurement systems that provide valid and reliable data for federal reporting and program improvement.

Systems for Professional Development

Many early childhood professionals lack specific training that prepares them to work with children with behavioral disabilities (Dinnebeil et al., 1998). Addressing the need for highly qualified staff, Knitzer (2000) called for states to strengthen systems of training for early care providers to include a focus on children at risk of atypical social and emotional development.

Community or system-wide change is required for sustainable improvements to the current responses that many early childhood programs use when young children have challenging behaviors (i.e., punitive reactions to behavior, expulsion). Recommendations from Smith and Fox (2003b) list ways to support social and emotional development and address challenging behaviors through evidence-based practices. This list includes a systems focus on (1) providing a range of services from promotion to prevention to intervention, (2) offering comprehensive and family-centered services and supports, and (3) supporting personnel with the resources to provide evidence-based services.

CURRENT STATE: EARLY CHILDHOOD POSITIVE BEHAVIOR SUPPORT

One model that has been demonstrated to be effective in providing the various levels of support and intervention needed to address the often complex behavioral needs of children while providing support and training to teachers is school-wide positive behavior support (PBS) (Sugai, Sprague, Horner, & Walker, 2000). PBS utilizes a focused, team-based, comprehensive approach to support all children, including those exhibiting challenging behaviors. The focus of PBS is on teaching children social skills and promoting appropriate behavior while preventing problem behaviors (Lewis & Sugai, 1999; Sugai et al., 2000). It emphasizes the adoption of evidence-based intervention practices and the use of data to understand issues related to problem behaviors. School-wide PBS not only supports the needs of children exhibiting challenging behaviors, but it is also designed to support their teachers and providers in efforts to implement effective teaching practices. Some key elements of support for teachers include professional development plans, teacher training, and school-wide processes for responding to problem behaviors. Such efforts may result in teachers feeling adequately supported and competent in addressing the needs of all children, including those with persistent challenging behaviors.

Although school-wide PBS has proven effective with school-age (K–12) populations, less is known about the effectiveness of this model with children under the age of 6. However, some of the critical components of PBS are applicable to young children, including (1) staff and administrative buy-in when developing and implementing school-wide and individual plans, (2) clear goals and expectations for all children, (3) using prevention strategies and teaching social skills, and (4) individualized interventions for children with more intensive needs. Yet, other components, such as rewards and tracking systems for behaviors, were seemingly in need of revision or modification to align more closely with developmentally appropriate early childhood practices. Additionally, some components that are not typically a part of PBS systems in primary or secondary school settings that would be critical in early childhood settings include (1) parental/family involvement, (2) teaming with professionals (e.g., therapists, behavior specialists, etc.), (3) assessing current program policies and procedures related to behavior, and (4) providing and maintaining support and training for staff (Fox & Hemmeter, 2009; Quesenberry & Hemmeter, 2005).

Unfortunately, many early childhood programs do not have all of these essential elements in place, thus teachers do not feel well supported in their efforts to include children exhibiting challenging behaviors in their classrooms. A first step for many programs is to develop program policies and procedures that outline key issues that often arise in early childhood programs. After developing comprehensive policies and procedures, programs must ensure that stakeholders (e.g., administrators, teachers, support staff, parents) are aware of the content of the policies and procedures and their role in implementing them.

Conceptual Framework: The Pyramid Model for Supporting the Social and Emotional Competence of Infants and Young Children

The Pyramid Model has been proposed for promoting the social and emotional development and addressing challenging behaviors of young children (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003). Shown in Figure 8.1, this multitiered model describes the levels of prevention, promotion, and intervention that must be in place to address the needs of young children within early childhood programs.

Prevention, Promotion, and Intervention: A Comprehensive System of Support

Early education and care environments should be structured to provide universal (prevention), secondary (promotion), and individual intervention practices. There are promising data indicating that the adoption of this model as a program-wide approach results in positive outcomes for children, families, and the programs that support them (Dunlap, Fox, & Hemmeter, 2004). Given the relationship between children's social and emotional competencies and academic success (Hyson, 2004; Zigler, 2004), prevention, promotion, and intervention is necessary to address young children's social and emotional challenges.

Details and descriptions of these tiers of the Pyramid Model will be discussed in the following three sections of this chapter. Readers may wish to refer to the Center on the Social and Emotional Foundations for Early Learning (CSEFEL) Web site at http://www.vanderbilt.edu/csefel for in-depth information in these areas.

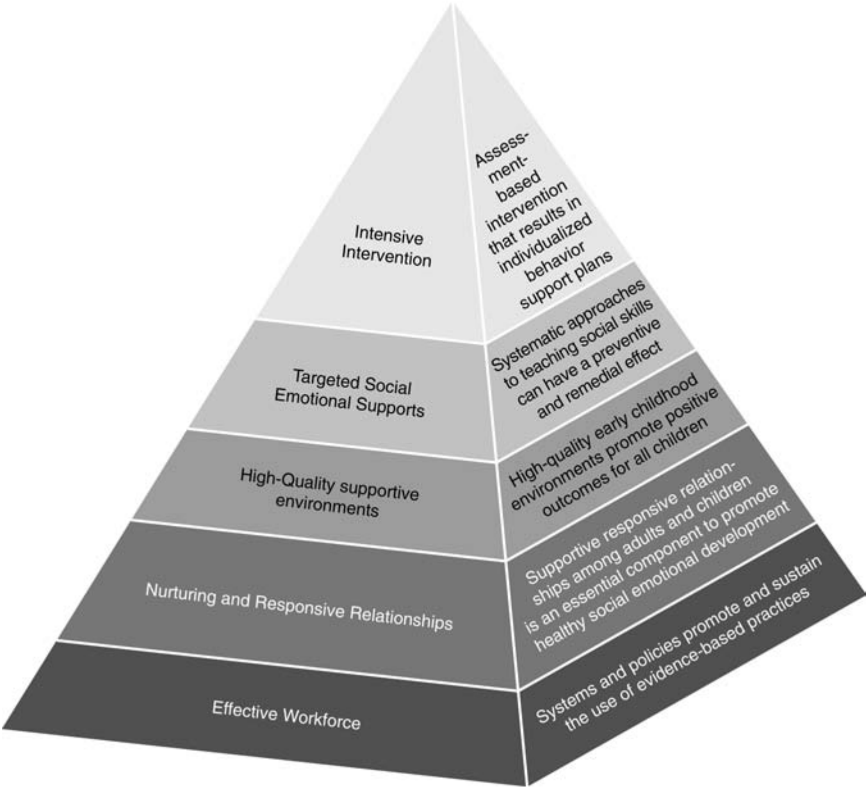


Figure 8.1 The Pyramid Model of Strategies for supporting positive relationships with children, families, and co-workers.

Universal Level: Prevention—Relationships

The Pyramid Model details the provision of universal strategies to support building positive relationships with children, families, and coworkers and creating high-quality supportive environments. With regard to the process of *building positive relationships*, Hyson (2004) explains that developing such relationships provides a secure foundation for all areas of development, including emotional development. There is a strong link between the quality of children's relationships with adults and their emotional development (Denno et al., 2004; Hamre & Pianta, 2001). Research about the brain and resiliency reveals that consistent, nurturing relationships are a child's best protection against risk—including the risk of challenging behaviors. These positive, relationship-based experiences typically lead to less challenging and aggressive behavior (Peisner-Feinberg et al., 2001).

A close relationship with a teacher brings a child "strong and persistent" benefits (Hamre & Pianta, 2001). In their book *A Matter of Trust: Connecting Teachers and Learners in Early Childhood Classrooms*, Howes and Ritchie state, "The quality of children's early relationships with their teachers is an important predictor of these children's future social relations with peers, their behavior problems, and school satisfaction and achievement" (2002, p. 6). Research has documented that teachers with warm, responsive, affective interaction styles are more likely to engage children for longer periods of time and at higher levels, thus leading to more opportunities to develop positive relationships (Denno et al., 2004).

The relationships that we build with children, families, and colleagues are at the foundation of everything that we do. Children learn and develop in the context of relationships that are responsive, consistent, and nurturing. The adults who interact with young children have many opportunities throughout the day to build and sustain a strong relationship with the children and families in their care. Warmly greeting a child and their parent as they enter a child care center in the morning builds a sense of trust between all involved. Spending time playing alongside a child, having a conversation with a child, recognizing family events (e.g., new baby), and inviting parents to spend time in the classroom are a few ways that teachers can build and sustain relationships. It is these experiences that children with the most challenging behaviors need, yet their behaviors often prevent them from benefiting from those relationships.

Universal Level: Prevention—Environment

At the next level, *classroom preventative practices* or *creating supportive environments*, adults ensure that the physical and social environments are supportive of fostering social emotional competence among children. All early childhood educators should design environments to include predictable schedules with minimal transitions, visual reminders of rules/expectations, time and attention for appropriate behavior, positive reinforcement to promote appropriate behavior, choices where appropriate, and maximum child engagement to minimize problem behaviors (Strain & Hemmeter, 1999). Additional environmental supports may include assigning class jobs or developing books to tell the "story of our day." For a child who is awake during naptime, a special "naptime backpack" could be filled with quiet items and favorite books. The child could access his special backpack as an alternative choice.

When designing supportive environments, early childhood professionals should review the following components: physical environment; schedules, routines, and transitions; large- and small-group activities; directions; rules; positive attention; and descriptive feedback and encouragement. Across each of these elements, early care providers need to consider each area and ask themselves if each child can be successful in this environment and consider what adaptations or enhancements could be made to ensure success for all children.

A helpful tool to use when assessing the classroom environment (and the other pyramid levels) is the Inventory of Practices (Center on the Social and Emotional Foundations for Early Learning [CSEFEL], 2006). This instrument can be found at http://www.vanderbilt.edu/csefel/modules/module1/handout4.pdf and used by individuals or teams in a reflective manner to identify areas of training and support. There are skills and indicators listed that reflect practices to promote social-emotional competence in young children. The users can determine at which level this skill is demonstrated in their classroom and use the Action Plan to determine their next steps.

Secondary Level: Promotion—Social-Emotional Teaching Strategies

At the secondary level, *social-emotional teaching strategies* can be used to develop skills that children may be lacking (e.g., language, social, emotional). Research indicates that systematic efforts to promote children's social competence can have both preventive and remedial effects (Webster-Stratton & Reid, 2004). Proactive teaching would include topics such as friendship skills, rules and classroom schedules, how to ask for help, emotion words, problem solving, and calming strategies. It is important to remember that children need to have opportunities to learn social and emotional skills, to practice the skills, and to be acknowledged for using the skills.

Teachers in the Doubet and Ostrosky study (2009) discussed their frustration with students who won't talk when they get angry. One teacher explained:

> John will clam up a lot. He will get angry, and he just won't say anything, and if he does say anything, it's screaming at you. So I am just trying to get him to say, "I am angry," and trying to get

him to understand what that feeling is, and how we can deal with that feeling.

In response to instances such as the one described above, teachers have used calming strategies such as offering a soft space (e.g., refrigerator box with pillows and books) where children can go to cool off, calm down, and relax. The turtle technique, or Tucker Turtle, is a strategy that was originally developed to teach adults anger management, then successfully adapted for school-age children (Schneider, 1974), and since then adapted for young children (Webster-Stratton, 1990). With this approach, once the child recognizes that they are angry, they stop, go inside their "shell," take three deep breaths, and think calm thoughts. When they are calm, the child is encouraged to think of solutions to the problem. This technique helps children learn to replace aggressive, reactive responses with more effective and efficient behavioral alternatives. Young children have responded well to using techniques such as Tucker Turtle to help them think about their emotions and to act on them in a healthy way.

Tertiary Level: Individual Interventions

Even when these two levels of prevention promotion strategies are in place, some children will still exhibit persistent challenging behaviors. For these children at the tertiary level, *intensive individualized interventions* are needed to address their challenging behaviors (Dunlap & Fox, 1999; Sugai et al., 2000). When addressing the needs of these children, a functional assessment should be conducted to determine the function or the *why* of the behavior. Functional assessment conducted through observations, document analysis, and interviews helps to determine what triggers and maintains a problem behavior. Once adequate information is gathered, a behavior hypothesis is written synthesizing all of the data collected about the child's behavior. After the behavior hypothesis is written, a behavior support plan is developed for the child by a team of individuals who know the child best (Lucyshyn et al., 2002). This plan includes prevention strategies, replacement skills, and new responses by the adults and peers to both the problem behaviors and to the appropriate behaviors or replacement skills that are being taught.

The effectiveness of this intervention depends on consistent implementation across natural environments such as home, child care, and community settings (Dunlap & Fox, 1996). It requires that staff and administrators collaborate with families and community partners to access and coordinate needed resources and supports (National Research Council and Institute of Medicine, 2000a).

Guidance for implementing assessment-based interventions at the tertiary (or intervention) level can be found in the Division for Early Childhood concept paper *Identification of and Intervention with Challenging Behavior* (2007). In this paper, five areas of focus are described:

1) Appropriate screening and assessment (variety of settings, comprehensive, reliable and valid measure and observation, involve parents and caregivers, consideration of culture, link assessment information and intervention strategies, use a team-based process).
2) Ensuring effective partnerships between families, service providers, and caregivers.
3) Utilizing individualized interventions that are based on understanding the behavior in the context in which it occurs.
4) Using an FBA to identify the triggers and maintaining consequences and functions of the behavior.
5) Developing an intervention plan that is tailored to fit the unique circumstances of the child, their family, and any programs they are involved in. The plan must be designed for the family and caregivers to implement and should include strategies to teach the child new skills, and prevention strategies.

Systems Level

The pyramid approach also applies to the community or system level. On the bottom of the pyramid, at the universal level, all children and families in a community benefit from nurturing relationships, health care, parent education, screening, quality early care, etc. Moving into the prevention and promotion levels of the pyramid, communities, children, and families who are at risk will benefit from programs and activities such as parenting support and education, health care, home visiting, quality early care, family supports and services, screening and assessment, service coordination and case management, and mental health consultation. At the top of the pyramid, the tertiary level, systems can provide children with persistent challenging behaviors and their families with family-centered interventions focused on targeted outcomes.

SUCCESS STORIES

In many communities across the nation, early childhood programs have responded to the need to support young children's social and emotional development by implementing a system of support referred to as program-wide PBS, or a system of support. Parents, teachers, administrators, and community members have come together to develop plans for supporting young children's social and emotional development. The focus of the following section is to share some of their experiences with the intention of encouraging others to work collaboratively in this effort.

A large National Association for the Education of Young Children (NAEYC)–accredited Head Start program, SEK-CAP in southeast Kansas, has been involved in PBS since 2001 (Fox, Jack, & Broyles, 2005). A complete description of their implementation process and experiences can be found online at http://www.challengingbehavior.org/do/resources/documents/sek_cap_booklet.pdf. Their stated purpose for starting PBS was to increase the amount of time spent teaching by decreasing the amount of time they spent dealing with children's challenging behaviors. A staff member commented, "[PBS] was difficult at first, but the more you use it, the better it is, and it is life changing" (p. 12). With PBS in place, staff members and administrators have noticed improvements in individual child development, environments, relationships with parents, and staff well-being. A staff member commented, "Everyone has been a part of the culture change from classroom staff to secretaries" (p. 7).

While the story of SEK-CAP describes the experiences of a large rural program covering a wide geographical area, similar PBS implementation experiences were shared from a smaller program housed at one location in a Midwest urban community. Valeska Hinton Early Childhood Education Center (VHECEC) is a facility serving 400 children through a variety of funding sources (e.g., public school, Special Education, Head Start, Early Head Start, state-funded prekindergarten, Title I). At approximately the same time SEK-CAP was developing their PBS project, VHECEC was also in the implementation stages of their PBS project (Hemmeter, Fox, & Doubet, 2006).

The development of center-wide PBS for this NAEYC-accredited program gave staff members many opportunities to have in-depth discussions about the programs' philosophy, policies, and procedures. An important lesson learned through this process was the need to establish expectations, not just for children's behavior, but also for adults' behavior. Thus, the expectations developed by the VHECEC Leadership Team, including being respectful, safe, and a team player (p. 8) reflect a commitment to holding staff accountable for demonstrating these same behaviors in their interactions with children, colleagues, and families. Outcomes of the VHECEC PBS approach have included program-wide agreement and focus on positive behavior support, an increased feeling of unity among staff members, shared language surrounding children's behaviors, and a reduction in children being "sent (taken) to the office."

The experiences of SEK-CAP and VHECEC give readers insight into publicly funded programs. The final success story shared is a review of the PBS process for a group of family-owned child care centers in the Midwest. Rogy's Learning Place operates 19 centers, which serve a total of 2,300 children. They are accredited by the National Association of Child Care Professionals. In 2007, the owners decided to improve their support of young children's social and emotional development and piloted PBS at a center serving 230 children and their families.

The administrators in the center wanted to implement center-wide PBS because although they were a high-quality program, they felt unsure about supporting young children with persistent challenging behaviors. Following the steps included in PBS Benchmarks of Quality (Center on the Social and Emotional Foundations for Early Learning, 2006), the administrators started the process by explaining PBS at a monthly staff meeting and then asking for teachers from each age level (i.e., birth through school age), a variety of staff (e.g., kitchen staff, secretarial, bus driver), and parents to consider joining the Leadership Team to develop the PBS implementation plans. This team committed to meeting monthly for at least the first year of planning and implementing the pyramid model in their center. During this time, professional development was conducted for all staff members, and they received coaching and support to implement strategies. Two members of the child care center team chose to receive more in-depth training and coaching to support children needing individualized behavior support plans.

Team members decided to start each Leadership Team meeting with success stories. Teachers shared encouraging stories and continued to become more enthused with their new role as PBS leaders. One teacher talked about how she and the classroom assistant implemented what they learned about transitions and schedules.

> We don't rush into naptime anymore. We realized how much stress our lunch and transition to nap was causing for the children and for us. We changed our schedule so that lunch is a little earlier, and now we are both in the room while we clean up from lunch and get ready for nap. Such a simple thing has made a big difference!

The child care staff also grew in their relationships with parents. A teacher of 4-year-old children explained:

> In our room, we have gotten better at talking to parents about their children. Before PBS, we mostly wrote behavior information on the Daily Notes. Now we talk personally to a parent and we try to start out by talking about good things and then about the problems we are having. We use the Oreo cookie approach. We always start with the positive, then talk about the challenges, and finish up with another positive comment.

Staff members from this center had the opportunity to explain the pyramid model of support and describe their PBS experiences to directors and assistant directors from the other Rogy's child care centers. The center director described her experiences:

> Before PBS, it seemed that teachers thought the only response to challenging behaviors was to send a child down to the office to sit until he or she was calm enough to go back to the classroom. We didn't really have a plan. We weren't teaching the child anything. We've changed that. Now teachers seem more confident in their skills to work with a child with difficult behavior. They know we are a team, and we support each other, the child, and the parents.

As a result, directors from other Rogy's locations expressed interest in adopting the Pyramid Model, and the owners decided to begin the PBS process in all of their centers. Staff members involved in piloting the original PBS effort are now guiding the other centers as they go through the PBS process. Training is conducted both at centers and through satellite education. Support and coaching is scheduled each week and also as needed. As their organization continues down the path toward full implementation, an owner shared that she feels the majority of the staff members are now experiencing less stress, feel more supported, and have more confidence in their role in the growth and develop of the young children in their care.

These success stories are only a few of many examples in communities where early childhood professionals, families, and community members are collaborating to support young children's social-emotional development and address challenging behaviors. As the early childhood field continues to move toward a model of prevention, promotion, and intervention, more success stories for programs, parents, and children will be told.

TIERED MODEL AS REFLECTED IN OTHER CURRENT APPROACHES

Using a Response-to-Intervention Framework to Promote Young Children's Social Development

Over the past few years, Response to Intervention (RtI) has provided another tiered model to instruction that uses a systematic problem-solving approach focusing on students' responses to interventions as a basis for determining instructional needs and intensity. RtI has multiple levels or tiers of instructional support available so children can be matched with the appropriate level of support. Similar to PBS, RtI uses a progress-monitoring approach to make sure an intervention is working. Fox, Carta, Strain, Dunlap, and Hemmeter (2009) note that a pyramid is often used to illustrate the three tiers of RtI.

Tier 1: Evidence-based core curricula and instructional practices provided to *all* children.
Tier 2: More *intensified* instruction for children not demonstrating adequate growth in Tier 1. Increased opportunities to practice skills from Tier 1 curriculum.
Tier 3: More *focused* intervention for children not showing adequate growth in Tier 2 or for children well below Tier 1 benchmark.

Importantly, similar to the Pyramid Model, RtI focuses on learning or behavioral problems. RtI does not replace existing systems for evaluating or determining eligibility for special education services and procedural safeguards. Children with disabilities can be found at all tiers. Fox, Carta, et al. (2009) also describe the necessary infrastructure features that support the implementation of RtI and the Pyramid, including (1) the development of clear procedures for screening, progress monitoring, and the delivery of more intensive tiers of intervention to children; (2) the development of strategies and systems for family involvement within each tier; (3) professional development and ongoing support to teachers for implementation fidelity; (4) access to expertise in the design and implementation of tier 2 and tier 3 interventions; and (5) procedures for efficient and meaningful data collection and data-based decision making.

Early Childhood Mental Health Consultation

All young children need to form strong, loving relationships with their caregivers to achieve social and emotional well-being. These relationships and supportive experiences foster resiliency and set children on a trajectory for future school readiness and positive relationships. Currently, mental health consultants focus much energy on screening and identifying children with behavior problems, with less emphasis on increasing promotion and prevention activities, and limited attention to the mental wellness of families and staff (Perry, Kaufmann, & Knitzer, 2007). Furthermore, special prevention techniques are needed to support children at risk for behavioral problems because of stressful experiences (e.g., witnessing domestic violence) that may disrupt their brain development and impair their ability to cope with stress and regulate emotions (National Scientific Council on the Developing Child, 2003). To truly promote mental wellness, it is important to meet the social and emotional needs of all children, regardless of whether they are currently manifesting mental health problems or not.

To this end, there is a movement to redefine early childhood mental health consultation as a "problem-solving and capacity-building intervention implemented within a collaborative relationship between a professional consultant with mental health expertise and, typically, child care staff" (Cohen & Kaufmann, 2000, p. 4). According to Cohen and Kaufmann, there are two subtypes of consultation: child- or family-centered, and programmatic consultation. The former and more traditional type of consultation aims to address the needs of an individual child (or family) exhibiting challenging behaviors. In contrast, programmatic consultation takes a more preventive and systemic approach, focusing on "improving the overall quality of the program and/or assisting the program to solve a specific issue that affects more than one child, staff member and/or family" (p. 8). To optimize children's social and emotional outcomes and truly embed evidence-based mental health practices, consultants must attend to both levels and adopt a capacity-building approach to consultation. Within this approach, consultants do not provide direct therapeutic services but instead model techniques and provide coaching to families and staff so that they can effectively implement evidence-based practices and interventions for individual or groups of young children.

The emphasis on capacity building (as opposed to direct service provision) within early childhood mental health consultation underscores one of the primary challenges facing consultants—confusion over the consultant role and, subsequently, the skills and competencies needed to perform this role effectively (Allen, 2008). Mental health consultation is a fundamentally different approach than the one-on-one therapeutic mental health services for which mental health practitioners are typically trained. It is a relationship-based, capacity-building, indirect service provided to those caring for young children and, as such, requires a unique set of skills. In support of the redefinition of mental health consultation, Perry et al. (2007) advocate the use of the pyramid approach and underscore the need for a continuum of services and supports that span promotion, prevention, and intervention.

CONCLUSION

In summary, this is a critical period in the early childhood care and education field. As we continue to increase the number of children who are served in group care settings, we are also seeing a rise in the number of children who exhibit challenging behaviors. These issues intensify the need for a comprehensive approach to providing support for young children's healthy social and emotional development. There is promise in the pyramid, or tiered-framework, model, which addresses prevention, promotion, and individual levels of support. Encouraging research points toward a high level of success when the promotion of emotional wellness begins with young children.

REFERENCES

Allen, M. D. (2008). Attributes of effective Head Start mental health consultants: A mixed methods study. Portland State University.

Arnold, D. H., McWilliams, L., & Arnold, E. H. (1998). Teacher discipline and child misbehavior in preschool: Untangling causality with correlational data. *Developmental Psychology, 34*, 276–287.

Boone, H. A., & Crais, E. (2002). Strategies for achieving family-driven assessment and intervention planning. *Young Exceptional Children Monograph Series #4*.

Boulware, G., Schwartz, I., & McBride, B. (1999). Addressing challenging behaviors at home: Working with families to find solutions. *Young Exceptional Children, 3*, 21–27.

Bruder, M. (2004). Credentialing early intervention providers. Presented at OSEP Joint Personnel Preparation/State Improvement/CSPD Conference, Washington, DC.

Burchinal, M. R., Peisner-Feinberg, E. S., Bryant, D. M., & Clifford, R. M. (2000). Children's social and cognitive development and child care quality: Testing for differential associations related to poverty, gender, or ethnicity. *Applied Developmental Science, 4*, 149–165.

Center on the Social and Emotional Foundations for Early Learning (CSEFEL). (2006, August). *Module 4: Leadership Strategies*. Retrieved from http://www.vanderbilt.edu/csefel/modules/module1/handout4.pdf

Child Care Resource Services (CCRS). (2003). *FY03 Needs assessment summary*. University of Illinois at Urbana-Champaign.

Cohen, E., & Kaufmann, R. (2000). *Early childhood mental health consultation*. Washington, DC: Center for Mental Health Services, SAMHSA, U.S. Department of Health and Human Services.

Denno, D., Phillips., L., Harte, H., & Moomaw, S. (2004). Creating a supportive classroom environment. In S. H. Bell, V. Carr, D. Denno, & L. Johnson (Eds.), *Challenging behaviors in early childhood settings* (pp. 62–83). Baltimore: Paul H. Brookes.

Dinnebeil, L. A., McInerney, W., Fox, C., & Juchartz-Pendry, K. (1998). An analysis of the perceptions and characteristics of child care personnel regarding inclusion of young children with special needs in community-based programs. *Topics in Early Childhood Education, 18*(2), 118–136.

Division for Early Childhood. (2007). *Identification of and intervention with challenging behavior*. Concept Paper. Retrieved from http://www.dec-sped.org/uploads/docs/about_dec/position_concept_papers/ConceptPaper_Chal_Behav_updated_jan2009.pdf

Doubet, S., & Ostrosky, M. M. (2009, October). *Childcare teachers' experiences as they support young children with challenging behavior*. Poster presented at the meeting of the Division for Early Childhood of the Council for Exceptional Children, Albuquerque, NM.

Doubet, S., Ostrosky, M. M., & Corso, R. (2007). *Survey of early educators*. Manuscript in preparation.

Doubet, S., Ostrosky, M. M., & Hemmeter, M. L. (2007, October). *Mapping parents' journeys: Support for young children with challenging behavior*. Paper presented at the meeting of the Division for Early Childhood of the Council for Exceptional Children, Niagara Falls, Ontario, Canada.

Dunlap, G., & Fox, L. (1996). Early intervention and serious problem behaviors. In L. K. Koegel, R. L. Koegel, & G. Dunlap (Eds.), *Positive behavioral support: Including people with difficult behavior in the community* (pp. 31–50). Baltimore: Paul H. Brookes.

Dunlap, G., & Fox, L. (1999). A demonstration of behavioral support for young children with autism. *Journal of Positive Behavior Interventions, 2*, 77–87.

Dunlap, G., Fox, L., & Hemmeter, M. L. (2004, April). *Program-wide approaches for addressing children's challenging behavior*. Symposium conducted at the meeting of the National Training Institute on Effective Practices: Supporting Young Children's Social/Emotional Development, Clearwater Beach, FL.

Fox, L., Carta, J., Strain, P., Dunlap, G., & Hemmeter, M. L. (2009). *Response to intervention and the pyramid mode*l. Tampa, FL: University of South Florida, Technical Assistance Center on Social Emotional Intervention for Young Children.

Fox, L., Dunlap, G., & Cushing, L. (2002). Early intervention, positive behavior support, and transition to school. *Journal of Emotional and Behavioral Disorders, 10*(3), 149–157.

Fox, L., Dunlap, G., Hemmeter, M. L., Joseph, G. E., & Strain, P. S. (2003, July). The teaching pyramid. *Young Children*, *58*(4), 48–52.

Fox, L., & Hemmeter, M. L. (2009). A program-wide model for supporting social emotional development and addressing challenging behavior in early childhood settings. In W. Sailor, G. Dunlap, G. Sugai, & R. Horner (Eds.), *Handbook of positive behavior support* (pp. 177–202). New York: Springer.

Fox, L., Jack, S., & Broyles, L. (2005). *Program-wide positive behavior support: Supporting young children's social-emotional development and addressing challenging behavior*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute.

Fox, L., Vaughn, B., Dunlap, G., & Bucy, M. (1997). Parent-professional partnership in behavioral support: A qualitative analysis of one family's experience. *Journal of the Association for Persons with Severe Handicaps, 22*, 198–207.

Gilliam, W. S. (2005). *Pre-kindergarteners left behind: Expulsion rates in state prekindergarten systems*. Yale University Child Study Center. Retrieved from: http://info.med.yale.edu/chldstdy

Guralnick, M. J. (2000). Early childhood intervention: Evolution of a system. In M. L. Wehmeyer & J. R. Patton (Eds.), *Mental retardation in the 21st century* (pp. 37–58). Austin, TX: PRO-ED.

Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development, 72*, 625–638.

Hemmeter, M. L., Corso, R., & Cheatham, G. (2006, February). *Issues in addressing challenging behaviors in young children: A national survey of early childhood educators*. Paper presented at the Conference on Research Innovations in Early Intervention, San Diego, CA.

Hemmeter, M. L., Fox, L., & Doubet, S. (2006). Together we can! A program-wide approach to addressing challenging behavior. *Young Exceptional Children Monograph Series No. 8*, 1–13.

Hoppe, S. (2005). Parent perceptions: Communication, interaction, and behavior in autism. *Teaching Exceptional Children Plus, 1*(4), Article 5. Retrieved from http://escholarship.bc.edu/cgi/viewcontent.cgi?article=1109&context=education/tecplus

Howes, C., & Ritchie, S. (2002). *A matter of trust: Connecting teachers and learners in the early childhood classroom*. New York: Teachers College Press.

Hutton, A. M., & Caron, S. L. (2005). Experiences of families with children with autism in rural New England. *Focus on Autism and Other Developmental Disabilities, 20*(3), 180–189.

Hyson, M. (2004). *The emotional development of young children: Building an emotion-centered curriculum*. New York: Teachers College Press.

Johnston, K., & Brinamen, C. (2006). *Mental health consultation in child care: Transforming relationships among directors, staff, and families*. Washington, DC: Zero to Three.

Joseph, G., Strain, P., & Skinner, B. (2004). *Survey of children's challenging behavior in early care and education setting*. Unpublished manuscript. University of Colorado at Denver.

Kaiser, B., & Rasminsky, J. (2007). *Challenging behavior: Understanding, preventing, and responding effectively.* (2nd ed.) Boston: Pearson Education.

Kaufmann, R., & Wischmann, A. L. (1999). Communities supporting the mental health of young children and their families. In R. N. Roberts & R. R. Magrab (Eds.), *Where children live: Solutions for serving young children and their families* (pp. 175–210). Stamford, CT: Ablex.

Kazdin, A., & Kendall, K. (1998). Adolescent mental health: Prevention and treatment programs. *American Psychologist, 48*, 127–141.

Klein, R., & Gilkerson, L. (2000). Prenatal development and the brain. In L. Gilkerson (Ed.), *Teaching and learning about the brain and early development*. Manuscript in preparation, Erikson Institute.

Knitzer, J. (2000). Early childhood mental health services: Policy and systems development perspective. In J. P. Shonkoff & S. M. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed., pp. 416–438). New York: Cambridge University Press.

Kopel, C. C. (2004). Early intervention social emotional component expands statewide. *Social Work Networker, 63*, 7–11.

Lewis, T., & Sugai, G. (1999). Effective behavior support: A systems approach to proactive schoolwide management. *Focus on Exceptional Children, 31*(6), 1–24.

Lucyshyn, J. M., Dunlap, G., & Albin, R. W. (2002). *Families and positive behavior support*. Baltimore: Paul H. Brookes.

National Institute of Child Health and Human Development (NICHD). (1999). Chronicity of maternal depressive symptoms, maternal sensitivity, and child functioning at 36 months. *Developmental Psychology, 35*, 1297–1310.

National Institute of Child Health and Human Development (NICHD), Early Child Care Research Network. (2003). Does amount of time spent in child care predict socio-emotional adjustment during the transition to kindergarten? *Child Development, 74*, 976–1005.

National Research Council and Institute of Medicine. (2000a). *Early childhood intervention: Views from the field* (J. P. Shonkoff, D. A. Phillips, & B. Keilty, Eds.). Washington, DC: National Academy Press.

National Research Council and Institute of Medicine. (2000b). *From neurons to neighborhoods: The science of early child development*. Committee on Integrating the Science of Early Childhood Development (J. P. Shonkoff & D. A. Phillips, Eds.). Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.

National Scientific Council on the Developing Child. (2003). Excessive stress disrupts the architecture of the developing brain. Cambridge: Center for the Developing Child.

Nungesser, N. R., & Watkins, R. V. (2005). Preschool teachers' perceptions and reactions to challenging classroom behavior: Implications for speech-language pathologists. *Language, Speech, and Hearing Services in Schools, 36*, 139–151.

Peisner-Feinberg, E. S., Burchinal, M. R., Clifford, R. M., Culkin, M. L., Howes, C., Kagan, S. L., et al. (2001). *The children of the cost, quality, and outcomes study go to school: Technical report*. Chapel Hill: Frank Porter Graham Child Development Center, University of North Carolina.

Perry, D. F., Kaufman, R. K., & Knitzer, J. (2007). *Social and emotional health in early childhood: Building bridges between services and systems*. (pp. 121–146). Baltimore: Paul H. Brookes.

Qi, C., & Kaiser, A. (2003). Behavior problems of preschool children from low-income families: Review of the literature. *Topics in Early Childhood Special Education, 23*, 188–216.

Quesenberry, A., & Hemmeter, M. L. (2005, October). *Implementing a program wide model of positive behavior supports in early childhood settings*. Paper presented at the Annual DEC International Early Childhood Conference on Children with Special Needs, Portland, OR.

Raver, C. (2002). Emotions matter: Making the case for the role of young children's emotional development for early school readiness. *Social Policy Report/Society for Research in Child Development, 16*(3). Retrieved from http://www.srcd.org/spr.html

Raver, C., & Knitzer, J. (2002). *Ready to enter: What research tells policymakers about strategies to promote social and emotional school readiness among three- and four-year-old children*. New York: National Center for Children in Poverty, Columbia University Mailman School of Public Health. Retrieved from http://cpmcnet.columbia.edu/dept/nccp/ProEmoPP3.html

Sandall, S., Hemmeter, M. L., Smith, B. J., & McLean, M. E. (2005). *DEC recommended practices: A comprehensive guide for practical application*. Longmont, CO: Sopris West.

Sandall, S. R., & Schwartz, I. S. (2002). *Building blocks for teaching preschoolers with special needs*. Baltimore: Paul H. Brookes.

Schneider, M. (1974). Turtle technique in the classroom. *Teaching Exceptional Children, 7*, 21–24.

Shonkoff, J., & Phillips, D. (Eds.). (2000). Nurturing relationships. In J. Shonkoff & D. Phillips (Eds.), *From neurons to neighborhoods: The science of early development* (pp. 225–266). Washington, DC: National Academy Press.

Smith, B. J. (2000). The federal role in early childhood special education policy in the next century: The responsibility of the individual. *Topics in Early Childhood Special Education, 20*(1), 7–13.

Smith, B. J., & Fox, L. (2003a). *Synthesis of evidence related to systems of services, Center for Evidence-Based Practice: Young Children with Challenging Behavior*. Retrieved from http://www.challengingbehavior.org

Smith, B. J., & Fox, L. (2003b). *Systems of service delivery: A synthesis of evidence relevant to young children at risk of or who have challenging behavior*. Tampa, FL: University of South Florida, Center for Evidence-Based Practice: Young Children with Challenging Behavior.

Sprague, J., Walker, H., Golly, A., White, K., Myers, D., & Shannon, T. (2001). Translating research into effective practice: The effects of a universal staff and student intervention on indicators of discipline and school safety. *Education and Treatment of Children, 24*, 495–511.

Stormont, M., Lewis, T., & Beckner, R. (2005). Positive behavior support systems: Applying key features in preschool settings. *Teaching Exceptional Children, 37* (6), 42–49.

Stormont, M., Lewis, T. J., Beckner, R., & Johnson, N. W. (2008). *Implementing positive behavior support systems in early childhood and elementary settings*. Thousand Oaks, CA: Corwin Press.

Strain, P., & Hemmeter, M. L. (1999). Keys to being successful. In S. Sandall & M. Ostrosky (Eds.), *Young exceptional children: Practical ideas for addressing challenging behaviors* (pp. 17–28). Longmont, CO: Sopris West; and Denver, CO: DEC.

Strain, P. S., & Timm, M. A. (2001). Remediation and prevention of aggression: An evaluation of the RIP Program over a quarter century. *Behavioral Disorders, 26*, 297–313.

Sugai, G., Sprague, J. R., Horner, R. H., & Walker, H. M. (2000). Preventing school violence: The use of office discipline referrals to assess and monitor school-wide discipline interventions (Electronic version). *Journal of Emotional and Behavioral Disorders, 8*, 94–101.

Thompson, R. A. (1994). Emotion regulation: A theme in search of a definition. *Monographs of the Society for Research in Child Development, 59*(2–3, Serial No. 240), 25–52.

Trivette, C. M., & Dunst, C. J. (2005). DEC recommended practices: Family-based practices. In S. Sandall, M. L. Hemmeter, B. J. Smith, & M. McLean (Eds.), *DEC Recommended Practices* (pp. 107–120). Longmont, CO: Sopris West.

U.S. Bureau of Labor Statistics. (1998). *Occupational projections and training data*. Washington, DC: U.S. Department of Labor.

U.S. Department of Education (USDOE). (2007). *Teacher Shortage Areas Nationwide Listing: 1990–91 thru 2006–07*. U.S. Department of Education Office of Postsecondary Education Policy & Budget Development Staff.

Vaughn, B., Dunlap, G., Fox, L., Clarke, S., & Bucy, M. (1997). Parent professional partnership in behavioral support: A case study of community-based intervention. *Journal of the Association for Persons with Severe Handicaps, 22*, 186–197.

Webster-Stratton, C. (1990). Long-term follow-up of families with young conduct problem children: From preschool to grade school. *Journal of Clinical Child Psychology, 19*, 144–149.

Webster-Stratton, C. (1997). Early intervention for families of preschool children with conduct problems. In M. J. Guralnick (Ed.), *The effectiveness of early intervention: Second generation research* (pp. 429–454). Baltimore: Paul H. Brookes.

Webster-Stratton, C., & Reid, J. M. (2004). Strengthening social and emotional competence in young children—The foundation for early school readiness and success. Incredible Years Classroom Social Skills and Problem-Solving Curriculum. *Infants and Young Children 17*, 96–113.

Webster-Stratton, C., Reid, J., & Hammond, M. (2001). Preventing conduct problems, promoting social competence: A parent and teacher training partnership in Head Start. *Journal of Clinical Child Psychology* 30, 283–302.

West, J., Denton, K., & Germino-Hausken, E. (2000). *America's kindergartener: Findings from the early childhood longitudinal study, kindergarten class of 1998–99, fall*

1008. Washington DC: U.S. Department of Education, National Center for Educational Statistics.

Winton, P. J., McCollum, J. A., & Catlett, C. (Eds.). (1997). *Reforming personnel preparation in early intervention: Issues, models, and practical strategies* (pp. 409–664). Baltimore: Paul H. Brookes.

Zero to Three: National Center for Clinical Infant Programs. (1992). *Head Start: The emotional foundations of school readiness*. Arlington, VA: Author.

Zigler, E. (2004). Foreword. In M. Hyson (Ed.), *The emotional development of young children* (pp. vii–viii). New York: Teachers College Press.

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2004). The scientific base linking social and emotional learning to school success. In J. E. Zins, M. R. Weissberg, M. C. Wang, & H. J. Walberg (Eds.), *Building academic success on social and emotional learning: What does the research say?* (pp. 3–22). New York: Teachers College Press.

Specific Issues on Developmental Disability: Autism (Including New Strategies in Testing, Diagnosis, and Treatment)

Juliann Woods and Rachel Whittington Saffo

Enter an early care and education program, Head Start, toddler dance class, or Sunday school and observe the children at play. You will see boys and girls, some with smiling faces who will pause to look at you, and others who will stay engrossed in activity. Some will be in groups, and others alone; some will be talking, while others are quiet. Can you identify the child with Autism Spectrum Disorder (ASD) in this observation? It is not likely. Children with ASD are not identified by their physical features, motor skills, or through a brief interaction. This disorder is not always obvious in young children. However, with the prevalence rate at one occurrence for every 110 children (Centers for Disease Control, 2009), one or more of the children you observe could have ASD, a group of developmental disabilities with symptoms typically present before the age of 3. Current estimates are that in the United States alone, one out of 70 boys is diagnosed with autism. Let us meet three children with a diagnosis of ASD and their families. The unique characteristics of each child will help us define and describe ASD in young children.

Amir. *Amir is an only child and 18 months of age, and has been cared for primarily by his mother on maternity leave from her law firm. At his last checkup, his pediatrician recommended that his parents consider enrolling him into a group setting so he could talk and play with other children his age. He noticed some communication and social delays compared to other children.*

Ms. Myra, the director of Kids Incorporated, a private community early care and education program, welcomes Amir and his parents on a sunny spring day. His dad, a successful accountant, carries Amir into the classroom *and continues to hold him throughout the tour of the facilities. Amir does not look around or ask to join the other children as they eat breakfast or play in their centers. He doesn't seem to notice the sand and water tables or elaborate outdoor playground equipment. He is quiet and content in his dad's arms. He does not respond to Ms. Myra or the other children's invitations to join in the fun. When asked about concerns, Amir's parents shared that other people don't understand what he says, he prefers to play alone, and he is a picky eater. They estimate that he has at least 50 words, but he doesn't use them very often. They describe him as affectionate but not interested in others. Both parents acknowledge that they have been protective of their firstborn son, but also comment they are sure he is just fine and only needs some socialization opportunities. Amir's dad believes that he is showing an emerging independence from his parents by being self-sufficient in his play, preferring to be left alone with his blocks and DVDs.*

Katie. *Katie, 30 months, and her little brother, Ben, 15 months, are taking a bath before getting ready for bed. Ben is dumping and pouring water, splashing and squealing. Katie is squealing, too, but not joyfully. It is her own special version of a high-pitched hum that no one else can quite imitate. It is clear however, that she wants out of the tub and away from Ben's activities, but her mom wants to shampoo her hair. Her mom calls her name, offers her a cloth to cover her eyes from the water, and tries to gain her attention with some special tub toys. Katie continues to squeal and increases the tension and flexion in her hands by clenching and unclenching her fists. She senses the bath routine is going to change, and she begins to rock back and forth. Mom knows from experience that washing her hair is not going to be easy. Ben continues to enjoy the playtime and shows Katie the bubbles on his hair. Without a sideways glance to Ben or Mom, Katie climbs out and refuses to return to the water. As Katie's rocking and squealing increases, Mom worries she will hurt herself or Ben. She scoops her up into her lap to quiet her and washes her hair quickly with a cloth.*

Mom wishes that bath time could be as much fun with Katie as it is with Ben. If Katie would just tell her when she needed help or when she had enough, she could avoid the tantrums that make any routine or activity a major challenge. Katie just seems to hate interacting with her environment and others more every day.

Dante. *Dante just turned 4 and is fascinated with the stickers he collects. He looks at his sticker books, talks about his stickers, and requests more stickers wherever he goes. At school, his teacher finds the stickers get in his way of participating in the activities planned throughout the day and often interfere with his social interactions with his classmates. Other children ride bikes, swing, and play in the sand while outside, but Dante prefers to sit alone with* *his sticker books. He carries them with him to center and table activities in the classroom, and he has no interest in sharing the stickers with his classmates.*

His mom and dad add to his supply of stickers and sticker books as a strategy for getting him to do his chores around the house, to keep him busy during car travel, and to teach him advanced math and reading concepts. They work well for Dante's parents and his older siblings. The family is very proud of his advanced vocabulary, math, and reading skills and is encouraging him to expand his knowledge with computer games and learning tools.

DEFINING AUTISM SPECTRUM DISORDER (ASD)

Amir, Katie, and Dante have a diagnosis of ASD. They have different clusters of behavioral characteristics and are affected by the characteristics differently. ASD ranges in the number and types of symptoms and is described as a spectrum ranging on the continuum from mild to severe. To receive a diagnosis of ASD, impairments of social interaction and communication as well as restricted, repetitive, and stereotyped patterns of behavior, interests, or play must be evidenced within the first three years of life (APA, 2000). For example, Dante is highly verbal, interested in numbers and letters, and carries on adult-like conversations, while Katie has limited vocalizations and uses challenging behaviors instead of words to make simple requests and protests. Amir is quiet, communicates primarily with his parents, and even then, infrequently. None of the children actively engaged in play or socialized with their peers. Dante and Amir demonstrate restricted interests, with Dante preferring stickers over play with other children, while Amir is gaining interest in blocks and DVDs and becoming more object-focused. Katie illustrates rocking, squealing, and clenching as repetitive behaviors. The saying, "If you've met one child with autism, you've met one child with autism," is used frequently because autism is not a clear-cut, easy-to-identify disability—it is a spectrum disorder, with no two children displaying the same pattern of characteristics. Research also shows that the symptoms may change over time (Mitchell et al., 2006; Wetherby et al., 2004), as evidenced by Amir's growing interest in object play with specific toys.

Autism is a complex neurodevelopmental disorder. It is described as a lifelong condition with no known cure (American Academy of Pediatrics, Council on Children with Disabilities [AAP-CCD], 2006.) Outcomes for children with ASD span a broad continuum, with a small percentage achieving independence and full employment as adults (Howlin, Goode, Hutton, & Rutter, 2004). However, it is important to note that some children improve from early interventions to the degree that they no longer meet the eligibility criteria for the disorder (Dawson et al., 2010). Milder symptoms may persist, but can be managed. The true impact of early intervention will be seen in the next generation of adults.

No one knows the exact cause of ASD, and many believe there are multiple causal factors. Scientists have shown that genetics plays a role, but while many different chromosomal and genetic abnormalities have been identified, no single one is present for all children (AAP-CCD, 2006). Twin and family studies strongly suggest that some people have a genetic predisposition to autism. If a family has a child identified with ASD, then it is more likely a sibling will also be identified (Bishop, Maybery, Wong, Maley, & Hallmayer, 2006). Mundy and Burnette (2005) suggest that an initial neurological deficit in infants with autism may lead to an early impairment in social orienting and joint attention, which contributes to subsequent neurodevelopmental pathology by an attenuation of social input. ASDs may co-occur with medical conditions such as Fragile X syndrome and tuberous sclerosis (CDC, 2009). This disorder can also co-occur with many other developmental disabilities and learning problems. Research is underway in many areas to further knowledge of the causes of autism.

ASDs occur in all racial, ethnic, and socioeconomic groups, but are four times more likely to occur in boys than in girls. More young children than ever before are being diagnosed with ASD. It is unclear how much of this increase is due to a broader definition of ASD and better efforts in diagnosis (CDC, 2009). Public awareness of and attention to early identification of ASD has increased markedly in the past few years. The result of greater attention is a growth in general knowledge in the disorder and its spectrum. Children with milder symptoms are being identified and served. However, a true increase in the number of people with an ASD cannot be ruled out. The most reasonable answer for the increase in ASD diagnosis is a combination of these factors (CDC, 2009).

Core Deficits of ASD and Outcomes

Children with ASD are likely to have delays and disorders in both expressive and receptive communication and language. Delays or differences in communication are often the first concerns noted by parents. Parents often wonder if their children have hearing loss, because they do not turn to look when their names are called and do not follow simple directions or identify common objects—all symptoms of hearing loss (AAP-CCD, 2006). Joint attention, another deficit noted early for many children with ASD, involves sharing and shifting gaze between a communication partner and an object or activity. This dyadic and triadic interaction is a sophisticated way in which the child and partner can share an object or activity. Words need not accompany this interaction; it can be completely nonverbal.

Children with ASD also experience difficulty socializing with others and later understanding others' points of view. Dante plays alone with his stickers without concern for the interest of the other children in his preschool. Children with ASD may exhibit unconventional or odd behaviors in social situations that an outsider might deem rude, unacceptable, or offensive. Lack of awareness and understanding of these behaviors further estrange them from children with typical development, even society as a whole. Excessive focus on objects rather than people, restricted interests in play, repetition of specific behaviors, and ritual actions are frequently observed in young children with ASD. Children, such as Amir, may be able to play independently but do not generate new or more complex interactions with the objects and have limited play schemas; they simply repeat the behaviors, Other children with ASD may exhibit repetitive motor mannerisms (e.g., flapping hands, spinning body), repetitive movements with objects, preoccupations with restricted interests or parts of objects, excessive adherence to routines, and marked distress over change. The impact children's behaviors have on families and caregivers also varies (Sperry, Whaley, Shaw, & Brame, 1999). Amir's parents value his independence, while Dante's parents encourage his pre-academic interests. Katie's mom compares her to her younger brother and worries about her future.

Communicative competence may be the primary factor determining the extent to which individuals with ASD can develop relationships with others and participate in daily activities and routines at school, home, and in the community. In this area, results of research are hopeful. A number of longitudinal studies provide evidence of a relationship between early social communication skills and language outcomes. Mundy, Sigman, and Kasari (1990) found that responding to and initiating gestural joint attention at a mean age of 3 years, 9 months were significant predictors of language development 13 months later for children with ASD, while none of the other nonverbal measures, initial language scores, mental age, chronological age, or IQ were significant predictors. These findings were further substantiated in a long-term follow-up study demonstrating that initial joint attention skills of 51 children with autism at a mean age of 3 years, 11 months predicted gains in expressive language at a mean age of 12 years, 10 months (Sigman & Ruskin, 1999).

The level of communicative competence achieved by persons with ASD is closely related to the development of social behavior and functional outcomes (Wetherby & Woods, 2008). Charman et al. (2003) found that measures of joint attention late in the second year predicted language at 3 years of age. Wetherby, Watt, Morgan, and Shumway (2007) examined a larger set of predictive measures and found that many measures including joint attention predicted language outcome at age 3, but that understanding of language in the second year was the strongest predictor. The presence of fluent speech before the age of 5 continues to be a good prognostic indicator of intelligence or IQ, language measures, adaptive skills, and academic achievement in adolescence (Dawson et al., 2010). Moreover, improvements in receptive and expressive communication, especially in the youngest children, have been found to prevent problem behaviors and maintain reductions of these behaviors (Powell, Dunlap, & Fox, 2006).

The severity of the symptoms of ASD reflects the interaction of the two core diagnostic domains. A student who has deficits in social communication, and who has intense preoccupations with narrow interests or ritualized patterns of behavior and excessive resistance to change, is at great risk for challenging behavior. Difficulties with emotional expression, interpretation of nonverbal social cues, and mood regulation are widely noted in the ASD literature (Klin & Volkmar, 2003). For children with ASD, there is often a mismatch between a child's ability to remain actively engaged, adapt to novel stimuli, and inhibit impulsive reactions and the expectations for that child regarding appropriate and socially conventional behavior in a given context (Laurent & Rubin, 2004; Miller, Robinson, & Moulton, 2004). The combination of deficits in social communication and the presence of unusual behaviors can have a significant impact on a child's access to educational and social opportunities (Bishop, Richler, & Lord, 2006; Wetherby et al., 2007).

EARLY IDENTIFICATION

Why Diagnose Earlier?

The past decade of research has introduced new behaviors that contribute to an earlier diagnosis of ASD. A diagnosis of autism at age 2 is reliable, valid, and stable (Lord et al., 2006). Presently, the mean age for diagnosis of ASD in the United States is over 4 years of age (Centers for Disease Control and Prevention Department of Health and Human Services [CDC-HHS], 2007; Yeargin-Allsopp et al., 2003). In socioeconomically disadvantaged groups, the age of diagnosis might be even older (Mandell, Listerud, Levy, & Pinto-Martin, 2002). Most children identified as having ASD demonstrate symptoms within the first two years of life. and their families generally express concern to their pediatrician by the time their child is 18 months old (Wimpory, Hobson, Williams, & Nash, 2000). Observational studies of social communication skills in children under 2 years of age with ASD are emerging from two different sources of information, retrospective analyses of home videotapes and prospective longitudinal designs. The largest cohort of retrospective analyses is based on home videotapes from first birthday parties of children later diagnosed with ASD. Osterling and colleagues (Osterling & Dawson, 1994; Osterling, Dawson, & Munson, 2002) found that children with ASD could be distinguished at their first birthday party with four features—lack of pointing, showing, looking at faces, and orienting to name—however, children with general developmental disabilities also showed the first two features. The time between first concern and diagnosis can impact the early specialized services and supports that a child may receive and ultimately, his prognosis for future outcomes.

There are several reasons why early identification is delayed. Lack of professional training on the early signs of autism by early care and education or medical professionals, as well as limited health-care plan coverage contribute to the postponement of identification (Woods & Wetherby, 2003). Multiple efforts are underway to increase earlier identification of autism. The CDC and national partners launched a campaign encouraging public awareness of the early signs of autism. The "Learn the Signs. Act Early." Web site (http://www.cdc.gov/ncbddd/actearly) provides developmental checklists in both interactive and printable formats for easy access. The AAP-CCD recommends that pediatricians screen all 18- to 24-month-olds for autism (AAP, 2006; Johnson & Myers, 2007). They, and other national organizations such as the American Academy of Neurology, have published clinical guidelines regarding early screening and diagnosis of ASD (Filipek et al., 2000). *Autism Speaks* (http://www.autismspeaks.org), an international organization devoted to public awareness for autism, has a high media profile, including a presence on the Internet and television, with multiple resources for improving early identification, including a video library that illustrates the early red flags of autism for professionals and families.

The Beginning: Who and How?

Parents or caregivers, including early care and education professionals, generally are the first to notice differences or changes in the child's development. Familiarization with the developmental milestones of young children is important for families and caregivers. Not only does it educate them about their child's development, it provides them with information to share with their child's pediatrician during well-baby checkups. Informed parents are able to express their concerns about their child's development in relation to these developmental milestones. Several organizations post charts of developmental milestones for families. A friendly Web site is First Signs (http://www.firstsigns.org/about/earlyid.htm), an organization developed by a parent of a child with autism, to educate parents and professionals about the early signs of autism and similar disorders. Another site with resources for families is First Words (http://www.firstsigns.org/concerns/parent_doc.htm), which includes a developmental checklist for families and physicians (see Table 9.1).

Table 9.1 Early Signs of Autism

The traits below distinguish children with autism from children with developmental delays and typical development.

Atypical development in or lack of:

- Social Communication
  - Decreased presence of showing
  - Decreased presence of coordinated nonverbal communication
  - Decreased presence of response to name
  - Decreased presence of shared/joint attention and eye gaze
  - Decreased presence of ability to shift gaze and respond to joint attention (i.e., gaze point follow)
  - Less positive affect and social, back-and-forth smiling
  - Decreased presence of social concern/awareness or mutual enjoyment (sans physical cues/touch, such as tickling)
  - Decreased presence of gestures
  - Decreased rate of pointing
- Play
  - Decreased rate of symbolic play

(*Continued*)

Table 9.1 (Continued)

  - Decreased rate of imitating actions with objects
  - Repetitive actions with toys (e.g., spinning, wobbling, rolling)
- Language and Cognition
  - Decreased rate of communication
  - Atypical prosody (inflection of voice)
  - Loss of words or social-emotional reciprocity
  - Lack of social, reciprocal babbling by 12 months
  - No single words by 16 months
- Repetitive and Stereotyped Behaviors or Interests
  - Repetitive movements with body or body posturing
  - Atypical visual examination of objects
- Atypical regulatory functions
  - Gastrointestinal
  - Feeding (e.g., picky eater, PICA)
  - Sleep attention

Source: Adapted from Filipek et al. (2000); Wetherby et al. (2007); Wetherby et al. (2004).

Pediatricians should be knowledgeable about young children's developmental milestones, for they often are the first person to whom a concerned parent speaks. Very young children change rapidly (day to day, month to month) across many domains and benefit from routine surveillance for developmental markers. A typical developmental screening instrument concentrates on five key areas of development: gross motor, fine motor, adaptive, social-communication (including speech-language), and cognition. Generally, autism affects a child's social-communication, cognitive, and motor (including sensory) abilities. During well-baby checks, medical personnel screen for developmental disabilities. A secondary screener specific to the signs of ASD is also in order if any questions about red flags occur. This allows for a focus on children for autism and related disorders by observing a child's behaviors and asking the parent(s) questions about the child's development (e.g., words a child might say; if child responds to her name). Table 9.2 details common autism-specific screeners. If red flags for autism on an autism-specific screener are identified, the doctor should refer the child for a specific autism diagnostic evaluation.

The red flags for the three children in our chapter vary significantly. Amir's pediatrician noted potential delays in social interaction and communication and recommended an immediate intervention to increase opportunities to participate with others and engage in developmentally appropriate play. As first-time parents with professional careers, his parents may have limited social reference for their son's development. They readily acknowledge their attention and admiration of "everything Amir." They have not participated previously in community parent-child groups or any consistent child care programs and will be looking to his professional team for information and resources. His provider's interest in Amir's communication and play

Table 9.2 Developmental/Broadband Screeners and Autism-Specific Screeners

---

The *CSBS DP Infant-Toddler Checklist* (ITC; Wetherby & Prizant, 2002) is a social-communication screener that a caregiver completes when their child is 6–24 months of age. This tool identifies children with delays in communication who are in need of further evaluation. The ITC is not an autism-specific screener, although it contains many red flags for autism. http://firstwords.fsu.edu/pdf/checklist.pdf

The *Modified-Checklist for Autism in Toddlers* (M-CHAT; Robins, Fein, Barton, & Green, 2001) helps doctors and other professionals identify early signs of autism in children 16–30 months of age. Although this tool does not provide a diagnosis of autism, it indicates "risk for" autism and the need for further assessment. This 23-item checklist can be administered during a child's well-baby visits.

http://www.firstsigns.org/downloads/m-chat.pdf

http://www2.gsu.edu/~psydlr/Diana_L._Robins,_Ph.D._files/Robins_JADD01.pdf

The *Screening Tool for Autism in Two-Year-Olds* (STAT; Stone et al., 2000, 2004) is an interactive measure of 12 activities that take approximately 20 minutes to complete. This play-based, autism-specific screener initially was developed for children 24–36 months of age. However, recent work has suggested the STAT's effectiveness in detecting autism in children younger than 2 years of age (Stone, McHahon, & Henderson, 2008). Although prior training is necessary, a variety of professionals, including SLPs, pediatricians, preschool teachers, and early interventionists can administer this measure. http://kc.vanderbilt.edu/triad/training/page.aspx?id=821

The *Social Communication Questionnaire* (SCQ; Rutter, Bailey, & Lord, 2003) is a parent questionnaire that evaluates the child's social-communication skills to determine whether further diagnostic testing for autism or autism spectrum disorder is warranted. Formally known as the *Autism Screening Questionnaire*, this 10-minute instrument can be used with children 4 years and older, with a mental age of 2 years or older. This brief measure has been validated in the literature (e.g., Charman et al., 2004). Clinician and educators may give this measure to screen for autism spectrum disorder.

skills helps her begin to gather information about his overall development as well as potential areas of concern.

Eighteen-month-olds would be expected to be communicating frequently through gestures and vocalizations to make requests, to protest, and to draw attention to self, even if they were not using many words. Word usage should be on the increase, with words added to the child's vocabulary every week. Most toddlers his age would also have a variety of play interests that included people as well as objects. Seeking out others to share enjoyment, surprises, and sadness is common, even if they are less likely to want to share or give up the preferred object of their attention! Repetitive behaviors for Amir related to his limited range of play interests, foods he will eat, and his intense interest in activities, watching DVDs, or building with blocks, that are difficult to interrupt. Amir smiles and notices others in his environment, but does not maintain attention or communicate his interests to others.

Katie, at 30 months, is showing more of the symptoms that have been traditionally associated with ASD. She has obvious verbal and nonverbal communication delays, squeals and uses challenging behaviors when frustrated instead of words, has aversions such as with water and shampooing, and displays repetitive behaviors with the clenching and rocking. She does not respond when her mother calls her name. Her diagnosis of ASD occurred around her second birthday, when her family sought an evaluation from their local early intervention program supported by the Individuals with Disabilities Education Act (IDEA). ASD impacts Katie and her family. Katie does not have functional communication, and her younger brother Ben is surpassing her with gestures and words. Like most daily routines with Katie, bath time is not fun; it is a chore, and one that is exhausting for her caregiver. She does not play with her toys; displays many sensory issues such as sensitivity to noise, temperature, and textures; and gets frustrated with any change that occurs. These behaviors affect her willingness to explore her environments and to learn from them.

Dante is at the other end of the spectrum. His language skills could be described as advanced in understanding and use of vocabulary, grammar and syntax, and complexity of structures. He talks like an adult and actually prefers talking to them rather than his peers. However, his social use of communication and his restricted topics and interests challenge those around him. Dante is missing the social or pragmatic components of his communication skills and talks at people rather than with them. He is more interested in what he has to say than what others around him are saying to him. His restricted interests in stickers and computer games allow him to continue his one-way interactions. His advanced language and academic skills lead his family to question that there is anything "wrong" with Dante and wonder why the early childhood providers at his program want to make a referral for evaluation.

Early childhood professionals should routinely include observations of the children's play, social, and communication strengths and concerns with an eye for red flags of ASD. Some red flags may be seen as early as six months, while others evolve throughout the second year of life, or become more obvious around 24 months. As a consistent caregiver in the child's life, early childhood professionals should know the red flags for autism and be able to collaborate with the family to refer the child for an autism-specific screener or evaluation, when concerns arise. While early care and education professionals are not likely to have the training or experience to administer autism-specific screening or diagnostic tools, they are a first-line informant that should be both knowledgeable about red flags and comfortable asking for help in validating their concerns with other professionals. Early interventionists—e.g., psychologists, speech-language pathologists (SLPs), occupational therapists, developmental specialists, educators, and others specifically trained in autism—can recognize early signs of ASD. Information about referring to an ASD-specific screener or for an evaluation should be provided through each state's Child Find initiatives.

What: The Screening Tools

Currently no biological markers for ASD or autism exist, so diagnosis must be derived from behavioral features (APA, 2000). As previously discussed, autism is defined by atypical development in the key areas of social interaction, communication, and repetitive and stereotyped behaviors or interests, and many behaviors comprise each of the domains. There are a number of developmental screening tools that highlight early signs of autism. Pediatricians or professionals can use these tools as a first step to identifying if further testing is warranted. Note: These tools *screen for and/or indicate the possible existence of* developmental delays and autism; they *do not* diagnose these conditions.

When

The earlier, the better! Identifying children with autism and beginning intervention within the first three years of life will have greater impact on a child's and family's outcomes than waiting until the child is school-aged. Studies have begun to document the effectiveness of early intervention in young children with ASD (Dawson et al., 2010). Recent focused studies in young children by Kasari, Freeman, and Paparella (2006) and Yoder and Stone (2006) have also shown effects of brief interventions on social communication. Bono, Daley, and Sigman (2004) found that the relation between amount of intervention and gain in language for children with ASD depended upon their ability to respond to joint attention as well as initial language skills. Landa, Holman, and Garrett-Mayer (2007) noted changes in children with autism's joint attention abilities from age 14 months to 24 months. Kasari and colleagues' intervention studies revealed increases in joint attention correlated with increases in expressive language in children with autism (Kasari, Freeman, & Paparella, 2006; Kasari, Paparella, Freeman, & Jahromi, 2008). These findings illustrate the impact of early social and communication interventions.

DIAGNOSIS

Who Is on the Team?

After a child has tested positive on an autism screener, the next step is to conduct an evaluation for autism spectrum disorder. Filipek et al. (2000) recommends a multidisciplinary team in the diagnosis of autism. The child's current team will help expand (if need be) to include a team of specialists to evaluate the presence of ASD. The type and number of members vary, depending upon each child's individual needs. Team members may include the child and family, a speech-language pathologist, developmental psychologist, pediatrician, neurologist, teacher(s)/educators, and other developmental therapists. Members of the team play different roles at different times, yet at the heart of this team are the child and the family.

What Is the Role of the Family and Caregivers?

Parents/caregivers are the experts on their child. They know and understand their child the best. Therefore, the parents' role is vital in the diagnosis of autism. They make the decision to participate in this process, provide a family and child medical history, and support their child throughout the evaluation process. Caregivers also provide rich and abundant information about their child's development and current behaviors when offered opportunities to participate through methods that support their cultural and linguistic diversity (Westby, 2009). Other team members need this information to make an accurate and differential diagnosis (i.e., ruling out other possible, competing diagnoses). Parents perform multiple roles as informants, guides, and validators for the evaluators, but more importantly, they are the child's parent: nurturer, teacher, advocate, and friend for life. A diagnosis of autism brings many changes to the family's life. Any diagnosis of delay or disability evokes many and different emotions for a family; ASD is certainly no different. The range of child outcomes that are possible and the challenges at making early predictions for future quality of life increases the fear and anxiety for many families. The more the family is involved in the diagnostic process, and the more opportunities they have to learn about the disorder, to ask and answer questions, and to be a part of the assessment and intervention process, the more prepared for the future the family will be (Johnson & Myers, 2007; Sperry et al., 1999).

What Does the Team Do?

Typically, the family and the current team will seek out professionals who diagnose autism—for example, pediatric neurologists, developmental psychologists, and speech-language pathologists with specialization in autism. These professionals may employ a variety of tools to achieve an accurate behavioral assessment of the child, such as observations of the child in her natural environment and curriculum-based measures; natural language and play samples; and standardized measures. It is important to understand, at this time, there is no medical procedure, neurological examination, or psychometrically irrefutable measure that can determine if a child has autism. Behavioral measures administered by a team of experts with specialized knowledge of autism spectrum disorders are the tools used for diagnosis. Diagnosis should always be multidisciplinary, include multiple measures, and be completed over more than one time and setting. The good news is that there is a growing body of research that indicates that diagnosis by age 2 is both accurate and stable when completed by an experienced team (Bishop, Gahagan, & Lord, 2007).

Observation and Informal Measures

It is important to observe a child with autism in a variety of environments because each setting may elicit different behaviors/red flags for autism. Parent-teacher questionnaires and observations of the child in his natural environments can help to bridge this gap and offer more insight into a child's social-communication abilities, or lack thereof. The *Autism Diagnostic Instrument—Revised* (ADI-R; LeCouteur, Lord, & Rutter, 2003) is the caregiver companion piece to the *Autism Diagnostic Observation Schedule* (ADOS; Lord, Rutter, DiLavore, & Risi, 1999), discussed subsequently. Here, a diagnostician interviews the parent about their child and his abilities. Parent report is an important and reliable source of information about the child's development. Another parent interview is the *Vineland Adaptive Behavior Scales, Second Edition* (VABS-II; Sparrow, Cicchetti, & Balla, 1984), which explores a child's daily functioning/adaptive abilities by asking parents questions about their child's personal and social skills. These assessments accentuate the features of autism to determine if further diagnostic testing for autism is warranted.

Natural Language and Play Samples

Natural language and play samples offer rich information about the child's independent, cognitive, and symbolic abilities. Because children with autism evidence delays in social-communication skills, it is essential to assess their *independent* language and play skills. Team members—e.g., caregivers, speech-language pathologists—collect natural language samples of a child during her daily interactions to evaluate expressive language. These samples might encompass various settings (e.g., home and school) and comprise a variety of routines (e.g., free play, outdoor play, center time, dinner time). Multiple samples will help the team to gather and decode the child's complete repertoire of expressive and symbolic actions and offer insight into cognitive processes.

Direct Assessment and Standardized Measures

Speech-language evaluations assess a child's receptive (comprehension) and expressive language. Decreased receptive language skills or lack of talking by 15 months of age indicate a need for further evaluation. A measure of language is important because of the relationship of language delays to ASD, and also because most behavioral assessments use language—e.g., directions to the child, symbols—to complete the assessments. Depending upon the child's age, the designated team members will administer various communication and developmental assessments, such as the *Communication Symbolic Behavior Scales Developmental Profile* (CSBS DP; Wetherby & Prizant, 2002), Preschool Language Scale, fourth edition (PLS-4; Zimmerman, Steiner, & Pond, 2002), *Early Social Communication Scales* (ESCS; Mundy, Delgado, & Block, 2003), *Mullen Scales of Early Learning* (MSEL; Mullen, 1995), or the *Bayley Scales of Infant-Toddler Development, Third Edition* (Bayley, 2005). These assessments are comprehensive and highlight many features of autism, such as gaze shifts, play, repetitive and stereotyped behaviors or interests, and communication. They also may test for social concepts, problem solving, or cognitive abilities. Incorporating developmental and language testing is required to interpret the child's behavior in the context of his overall developmental strengths and needs. In addition to speech-language evaluations, hearing evaluations are very important to rule out the possibility of a hearing loss that could cause a child to have decreased receptive or expressive language. These evaluations are necessary before any diagnosis of autism would be given. It is important to note, however, that autism can co-occur with other diagnoses, such as hearing loss, anxiety, intellectual impairment, Fragile X, seizures, and attention deficit hyperactivity disorder (ADHD; Filipek et al., 2000; Johnson & Myers, 2007).

A further step in the process is to administer an autism-specific measure. One such assessment is the Autism Diagnostic Observation Scales (ADOS) developed by Lord and colleagues (1999). There are four versions of this assessment: for toddlers (under field testing), preschoolers, children, and teens/adults. The ADOS measures a child's communicative, social interactive, and play/imaginative abilities to determine if he qualifies for a diagnosis of autism. While other measures are available, the ADOS has the strongest psychometric ratings for young children. Again, sound diagnoses can now be made at age 2. The diagnosis is important to ensure that appropriate and adequate interventions are initiated early.

INTERVENTION

As noted previously, there is mounting evidence demonstrating the effectiveness of intensive early intervention using a range of behavioral, developmental, and blended approaches with a substantial proportion of young children with ASD (e.g., Dawson et al., 2010; Kasari, Freeman, & Paparella, 2006; Whalen & Schreibman, 2003). For children with ASD, research indicates that intervention provided before age 3½ has a much greater impact than intervention provided after age 5; this finding is consistent with early intervention research with other populations (Lord & Paul, 1997). More recent studies are showing that the benefits of interventions initiated prior to the child's second birthday have even greater results. However, the most widely used outcome measures in intervention research for children with ASD have been changes in IQ and proportion of children placed in a regular classroom after intervention (NRC, 2001). Such outcome measures are problematic because they may reflect increased compliance or parent preference in placement, rather than meaningful changes. Furthermore, these measures are not applicable with infants and toddlers.

It is widely believed that there is no single best intervention/treatment package for all children with ASD. Decisions about the best intervention, or combination of interventions, should be made by the parents with the assistance of their team based upon the unique needs of the child and family and scientific knowledge about the intervention (NRC, 2001). The NRC conducted a systematic review of research on educational interventions for children with ASD from birth through 8 years of age (NRC, 2001). They concluded that a large body of research has demonstrated significant progress in response to intervention with a substantial proportion of children with ASD using a range of techniques. However, few well-controlled studies with random assignment are available, and therefore, it is not yet known whether particular intervention approaches are more effective than others. Furthermore, children's outcomes are variable, with some making substantial progress and others showing slow gains. The committee concluded that there is a convergence of evidence that the following characteristics are essential active ingredients of effective interventions for young children with ASD:

1) Entry into intervention programs as soon as ASD is suspected.
2) Active engagement in intensive instruction for a minimum of five hours per day, five days a week.
3) Use of repeated planned teaching opportunities that are structured over brief periods of time.
4) Sufficient individualized adult attention on a daily basis.

5) Inclusion of a family component, including parent training.
6) Mechanisms for ongoing assessment with corresponding adjustments in programming.
7) Priority for instruction on: (1) functional, spontaneous communication, (2) social instruction across settings; (3) play skills with a focus on peer interaction; (4) new skill maintenance and generalization in natural contexts; and (5) functional assessment and positive behavior support to address problem behaviors.

Due to the nature of autism, young children with ASD are at risk for impoverished social interactions. Recent studies have shown that parent-implemented interventions, beginning in the second year of life, can affect joint attention and social communication and, consequently, developmental outcomes (Schertz & Odom, 2007; Wetherby & Woods, 2006). Early intervention provides young children with opportunities and support to interact with their caregivers in functional daily routines and activities. Studies further support the benefits of inclusive preschool programs on language, cognitive, and social outcomes (Boulware, Schwartz, Sandall, & McBride, 2006; Rogers & Vismara, 2008; Yoder & Stone, 2006). Thus an urgent need exists for young children to be identified earlier so that they might receive intervention as soon as possible.

Principles for Supporting Young Children with ASD and Their Families

The amount of information, resources, and intervention strategies available and meaningful to support young children with ASD and their families is overwhelming and far beyond a single chapter. Just search on any Internet browser and watch for the multimillions of hits for ASD. A dozen basic principles related to the NRC's components with resources for more information are offered.

1) *Children with ASD are first and foremost children; they are members of families, and they live in a community* (Wolery & Garfinkle, 2002). Always remember, children with ASD have much in common with other children. They have physical attributes, personalities, interests, and unique ways to get your attention, to share information, and to challenge your knowledge/skills as a caregiver just like all children. If you focus only on the differences or the symptoms of ASD, you could easily lose sight of who the child is: a blue-eyed, blonde ball of energy

fascinated with books, music, and his pet dog who enjoys going to the park with his dad and brother. As caregivers of children with ASD, it is important to see the child, not the disorder, and to support the child within the family as they live, learn, and play in their community.

2) *Start now . . . move forward . . . measure success*. If you observe red flags for ASD, you do not have to wait for a diagnosis to begin providing supports and instruction. Engage the child in developmentally appropriate social, communication, and play activities systematically, increasing the amount of active engagement for the child and expanding interests and interactions with others. Caregivers may be able to compensate for a child's deficits in joint attention by ensuring a common focus of attention when modeling language. Join the child in their play, music, or books and provide words, gestures, and enjoyment. Engaging the child frequently and with increasing expectations is important to decrease the potential for restricted interests and repetitive behaviors. Amir's family followed the pediatrician's advice to enroll him in a community program. However, it is important that they not stop with the addition of focused intervention. *A diagnosis is important*. Caregivers and team members need to support the family in the referral process and share observations, developmental information, and encouragement. A diagnosis the first step in the development of an individualized plan that is carefully and consistently reviewed for progress. The child's plan, developed by the family, caregivers, and team of professionals, must be monitored consistently for progress. Children change rapidly, and every minute counts with early intervention for ASD. Consistent progress monitoring ensures that the team maintains their coordinated efforts to focus on the children's most essential learning priorities, that adequate intensity of active engagement occurs, and that new outcomes or program revisions support the children's maximum success. Because we know there are many effective interventions available, it is important to monitor the effectiveness of those identified and to communicate as a team. Each intervention should not be seen as separate, but rather as a coordinated and collaborative plan.

3) *Partnerships with families are essential*. Families are maximally involved in the services and supports for young children with ASD by the simple fact of the child's age and reliance on parents for nurturance. The diagnosis of ASD, as well as the ongoing intervention program, immerses the family into a cycle of information gathering, giving, and decision making. Partnerships promote family participation when team members respect their priorities, concerns, and interests (Woods &

Wetherby, 2003). The team has significant knowledge and expertise to share with the family to support informed decision making. The family knows what will be compatible with their values and beliefs, their resources, and their expectations for their children. Dante's family values his academic skills and encourages his focus on books and computer games rather than social play with peers. Additional information on social skills development and their importance for future academic outcomes, strategies to support his interactions with others that build on his strengths, and encouragement to his family to identify opportunities for social interactions with Dante can establish the family's role as important contributors.

Providers must recognize that time spent by parents working with their child can enhance their confidence and competence to interact with their child, increase the child's independence in family activities, and improve the quality of the family's life (Sperry et al., 1999). While the amount and type of participation by parents in the intervention process varies significantly from the role of primary teacher to an observer and informant, two results are clear. First, evidence of effectiveness of parent-implemented intervention in children with varying types of developmental delays and specifically for children with ASD has been consistently documented across a wide range of adaptive, behavioral, social, and communication child outcomes (Meadan, Ostrosky, Zaghlawan, & Yu, 2009). Second, caregivers are able to learn a variety of broad and specific intervention strategies to teach their children functional and meaningful outcomes. Teaching caregivers to implement intervention strategies during everyday activities is a logical method to achieve the intensity of active engagement needed for young children with ASD.

4) *Children with ASD need a comprehensive curriculum* to include developmentally appropriate content across learning areas. Comprehensive treatment models (CTM) are broad in scope in that they "address core deficits in autism including language, social, cognition, and play" (Rogers & Vismara, 2008, p. 9). CTMs are generally intended to be long term, have a broad scope of skills and behaviors for development, promote sufficiency and intensity of intervention to maximize learning, have specialized or highly qualified personnel for the intervention, and may include components that have an established evidence base. CTMs are comprehensive in nature and address the range of developmental and behavioral needs of children (Boulware et al., 2006). However, CTMs are not "one size fits all." They vary by the theoretical perspective they are based on, the specialized personnel identified as

team members, the role of the family, and the outcomes to be achieved. As CTMs designed for young children become more widely available, research will be needed to study the relationship between child characteristics, specific treatment procedures, and specific outcomes. Such research findings will help families and team members prioritize intervention goals and select specific intervention strategies appropriate to the CTM and those that are comfortable and meaningful to family members implementing them. Caregivers and team members must carefully examine the unique strengths of each child and family and match for key variables when choosing a CTM (Strain, McGee, & Kohler, 2001). Examples of some comprehensive curricular approaches for young children with ASD are briefly reviewed in Table 9.3.

Table 9.3 Selected Comprehensive Treatment Models

DIR (Developmental, Individual-Difference, Relationship-Based) and Floortime

Brief Description

DIR (Developmental, Individual-Difference, Relationship-Based) and Floortime approach focuses on helping children master the building blocks of relating, communicating, and thinking (Greenspan & Weider, 2006). Based on a developmental theoretical perspective, DIR/Floortime views social relationships and play as critical to a child's development.

Key Features

- Developmental: Understanding where the child is developmentally is critical to planning a treatment program. Ongoing assessment of the child occurs to monitor healthy emotional and intellectual growth.
- Individual-Difference: Each child is recognized as a unique learner; individual sensory and motor challenges that may be interfering with the child's ability to grow and learn, e.g. understanding and responding to the environment (sights, sounds, etc.) is examined.
- Relationship-Based: Building relationships between children and their primary caregivers is essential to promote the children's development. Floortime, the centerpiece of the DIR approach, teaches parents and others important in the children's life to interact and communicate in developmentally enhancing exchanges that helps them learn.

Source: Greenspan, S., & Weider, S. (2006). *Engaging autism: Using the floortime approach to help children relate, communicate, and think*. Cambridge, MA: DiCopa Press.

(*Continued*)

Table 9.3 (Continued)

SCERTS Model

Brief Description

The SCERTS model is derived from a developmental theoretical perspective as well as a research-based foundation on communication and social-emotional development in children with and without special needs. Developed by Barry Prizant, PhD, and Amy Wetherby, PhD, the comprehensive assessment and curriculum model uses everyday activities and routines as the primary contexts in which children learn, and in which progress is measured. The model prioritizes Social Communication, Emotional Regulation, and Transactional Support as the core challenges that must be addressed in a program for children with Autism Spectrum Disorder.

Key Features

- SC (Social Communication)
- ER (Emotional Regulation)
- TS (Transactional Support)

The SCERTS Model focuses on children's development of spontaneous, functional communication and secure, trusting relationships with children and adults, and the ability to maintain a well-regulated emotional state for learning and interacting. The model supports children, their families, and professionals to maximize positive social experiences across home, school and community settings.

References

Prizant, B., Wetherby, A., Rubin, E., & Laurent, A. (2007). The SCERTS model manual: Enhancing communication and socioemotional abilities of young children with ASD. Baltimore: Paul. H. Brookes.

Prizant, B., Wetherby, A., Rubin, E., Laurent, A., & Rydell, P. (2007). *The SCERTS Model: A comprehensive educational approach for children with Autism Spectrum Disorders, Volume II-Intervention*. Baltimore: Paul. H. Brookes.

TEACCH

Brief Description

The TEACCH model was developed by Eric Schopler, PhD, and is based on understanding the needs of the individual with autism, adopting appropriate adaptations, and creating a broadly-based intervention strategy that builds on existing skills and interests.

Key Features

- Structured teaching through organizing the physical environment, developing schedules and adaptive materials, making expectations clear and explicit, and using visual materials.

(*Continued*)

Table 9.3 (Continued)

- Focus on developing communication skills, and pursuing social and leisure interests.
- Cultivating strengths and interests, rather than drilling solely on deficits is priority in TEACCH. Capitalizing on children's relative strengths in visual skills, recognizing details, and memory, among other areas, these skills are the basis of instructional strategies. TEACCH also capitalizes on children's individual interests to increase their motivation and an understanding of what they are doing.

Reference: http://www.teacch.com

LEAP

Brief Description

Learning Experiences: Alternative Programs for Preschoolers and Parents (LEAP) was established by Phil Strain and colleagues in 1981 as a model demonstration site. It uses a blend of applied behavioral analysis with naturalistic teaching methods within inclusive community preschool programs. The belief is that preschool classrooms with children with ASD and typically developing peers (peer-mediated intervention) provide the most developmentally appropriate context for learning.

Key Features

- Maintains that early intervention is key, with a classroom environment that mirrors typical early childhood settings.
- Co-teaching approach between early childhood educators. All special therapies occur within the classroom context.
- Strong ABA background, use of incidental teaching and other naturalistic communication strategies through embedded individualized instruction in natural routines and activities.
- Peer-mediated instruction (typically developing children teach those with ASD) with an emphasis on social skill strategies and practice in real-world situations.
- All parents required to spend 12 hours per week in training at the onset of the intervention. Opportunities for systematic parent training continue throughout program.

Reference: http://www.ttoolbox.com/teacher_training.htm

5) *Build predictable, functional daily routines*. Daily caregiving and play routines identified by family members and caregivers are the primary contexts for embedded intervention with young children with ASD because of their repetition, frequency, systematic implementation, functionality, cultural appropriateness, and brevity (Woods &

Wetherby, 2003). While the types and level of independence in caregiving, play, and academic routines and activities evolve as the child grows, they are constant in children's lives. The documentation supporting the use of daily routines and activities as an organizational structure to enhance participation includes many studies conducted with preschool children with ASD (NRC, 2001). The development of routines with individuals with ASD is a long-standing intervention strategy (Kashinath, Woods, & Goldstein, 2006; Woods, Kashinath, & Goldstein, 2004) and is particularly useful with young children who spend large amounts of time engaged in daily living and play routines with caregivers. Many routines result in positive outcomes for the child, such as a drink, music, a piece of fruit, or a story and snuggle time with dad, and are motivating and reinforcing to the child, increasing the likelihood that engagement and participation will occur.

The routine sequence and its frequent repetition provide familiarity, predictability, and security for the child, thereby developing a framework for the child to anticipate and produce an appropriate response. While important for all children, predictability has been identified as critical for both learning new skills and decreasing challenging behaviors for children with ASD (Powell, Dunlap, & Fox, 2006; NRC, 2001). With the routine framework to support the child, new information or experiences can be added to increase the child's ability and lead to increased independence. Routines also support interaction between the child and the caregiver by providing clear roles and responsibilities that can be learned to increase engagement, communication, and social interaction, the core deficits associated with ASD. For younger children and caregiver-implemented interventions, the procedures are embedded into the preferred routines identified by the family. For example, getting a drink can become a framework for Katie's mother to embed meaningful targets such as requesting help with vocalizations and gestures, making choices between milk or juice, showing an empty cup to request more, smiling and looking toward the communication partner as a social exchange, and placing the empty cup on the kitchen counter to indicate satisfaction. The roles provide systematic patterns of interactions for reciprocity and turn taking, further enhancing the quality of the intervention. Katie's mother responds to her signal that initiates the routine and may imitate Katie's request or model a more sophisticated communication target and then signal to Katie to respond. As Katie responds, her gaze is directed to her mother's face. The adult may also use exaggerated facial expressions, or comments to share enjoyment with the child's response. The child is following the adult's actions that are integral to the routine—not establishing eye contact to the verbal prompt, "look at me" (McGee, Morrier, & Daly, 1999). The sequence of the routine and familiarity with the materials provide a scaffold of support to the family implementing the intervention. They can predict when the next opportunity for communication or social interaction will occur in the routine and be prepared to support their child's response positively. These everyday experiences also make intervention more meaningful and consistent with their family and intervention priorities.

6) *Many, if not most teaching or intervention strategies used for children with ASD are also effective with other children* in your class or program (Boulware et al., 2006; Strain et al., 2001.) While teaching children with ASD has the best outcomes when it is systematic and intentional, the evidence-based strategies promoted for children with ASD are good teaching for all children (Carnahan, Musti-Rao, & Bailey, 2009). Following the child's lead, expanding communication, encouraging initiation of social interaction, embedding intervention into daily routines, using visual supports, and including peers as mentors are developmentally appropriate teaching strategies and easily incorporated in most small group settings and classrooms. The amount and level of support needed for the child with ASD will vary based on the child's needs. Amir benefits from systematic support during snack time by providing food and drink choices for him to request, waiting for a response, helping him work with a peer to clean up after snack, and providing him with a choice board to transition to his next activity. Amir joins in story time by responding with his peers. During block play, his favorite activity, he takes the lead, with the adult imitating his motor and communication bids. She expands on his single words by commenting on the objects (e.g., "Mickey book") describing them (e.g., "car go"), or making requests (e.g., "more blocks"). The caregiver gently interrupts when needed to get his attention, makes him work too, and expands his play repertoire by bringing in some cars and trucks to the block center to build roads and houses. Throughout the day, Amir has multiple different routines where his priority outcomes are embedded to ensure adequate practice. Katie works with her mom at home throughout the day on multiple outcomes to increase her use of pictures to make requests and protests. Katie's mom uses very systematic prompts and visual supports to help Katie make choices and learn that communication is powerful. She will soon be attending an early childhood special education program within her community school, where she will benefit from a

comprehensive curriculum and specialized team members, including an occupational therapist and a speech-language pathologist. Specialized instruction coordinated across the team benefits the child and family the most (Woods & Wetherby, 2003).

7) *Environment matters—set the stage for learning*. Caregivers can design the environment to encourage the initiation of communication, social interaction, and play; however, it has to be meaningful and predictable for children with ASD. "Engineering," or arranging the environment to provide opportunities and reasons for children to initiate, is important to prevent a more passive or responder role. The contemporary behavioral literature has described specific strategies to occasion language use, such as to delay at critical moments in natural routines and to interrupt chains of behavior by removing an object needed to complete the activity (Boulware et al., 2006). By making the initiation of communication a priority, natural opportunities for communicating can be capitalized upon in all settings.

Caregivers must also maintain appropriate physical proximity to be available for interaction with children and to support their active engagement. Planning for individual attention, pairs, small groups, and larger, less structured times necessitates careful examination of who will be where, when, and prepared to support the children's learning objectives. Strategies as simple as providing children with a place for their materials can support organization and clear expectations. A place for everything and everything in its space has significance for children with ASD. Classroom or family rules provide concrete guidance for the children, and many children with ASD are proficient at following rules, just as they do routines. Children with ASD often have visual strengths. The use of visual supports provides concrete representation and memory supports that are not available in auditory directions. Early preliteracy programs can help children to capitalize on their memory and visual strengths to build school-readiness skills. Providers may label their classrooms areas and toys with text and real pictures. The use of daily schedule boards (again with pictures and text) to help a child transition between activities has been shown to be useful (Massey & Wheeler, 2000). It is also important to examine the environment—e.g., home, classroom, and materials—for their sensory qualities. Observe children's responses to stimulation—e.g., lights, heat, noise—to ascertain if modifications or adaptations would benefit the children's engagement and learning (Miller et al., 2004).

8) *Focus attention of intervention on priority outcomes*. The emphasis on successful interactions is one of the most critical components of education programs for children with ASD found in current literature from both behavioral and developmental perspectives (Paul, Chawarska, Cicchetti, & Volkmar, 2008). While the methods or teaching strategies may vary across theoretical perspectives, the focus does not; social communication and play are essential. Caregivers must not ignore the core deficit of limited or restricted play repertoires in young children with ASD. What this means is that you may need to teach the child to play, and not just use play as a context to teach other skills. A formal assessment of play skills provides important developmental detail that may be lacking in comprehensive developmental curriculum based assessments. Building on the child's play strengths and needs will produce growth in play skills that will also foster growth in communication and social skills. Thus, play is an important feature of a young child's development, particularly symbolic play. Symbolic play parallels a child's language development, and both may be delayed when either one or the other does not develop. Play is a developmentally appropriate way to help very young children learn how to interact with others, socialize, problem solve, and build literacy skills (Kasari et al., 2008). This is a winning combination for all children and one that is essential for children like Dante.

9) *Without a doubt, behavior communicates*. Learn how each child communicates with you and respond consistently. When a child with ASD can only get attention by squealing, pinching, or kicking, then she will engage in inappropriate behavior because it is successful. Inappropriate behaviors are not about children being bad. They are about children not having acceptable ways to communicate that are as effective as the unacceptable ones. Katie did not have words, pictures, gestures, or easy-to-read signals to communicate with her mother and used what she knew would work—screaming and throwing herself on the floor. If you respond to children's early communication behaviors such as taking your hand, standing close to the desired object, or looking at it, then you can model a more appropriate communication and prevent a challenging one

"Challenging behaviors" is a simple term for an extensive topic. It may include: biting, hitting, kicking, pinching (self or others), head banging, screaming, running away, defecating, ingesting feces, throwing, or slapping, to name a few. It may also include repetitive or stereotyped behaviors, such as flapping of arms or limbs, finger flicking, body rocking, rubbing body, or rubbing body against an object (Fox, Dunlap, & Cushing, 2002). Most people are not trained in autism and view these behaviors negatively, perhaps as a threat, so they try to stop them by inhibiting the action. Unfortunately, their intervention often fails, and the child's behavior increases or becomes disruptive to others. Careful investigation into these behaviors reveal their purpose and meaning and often reveals a resolution to change or shape them.

Observation and interview strategies can uncover the meaning behind the behaviors and facilitate the development of communication skills to replace them. For example, a functional assessment of challenging behaviors requires observing a child with autism in various environments (home, school, grocery store) on several occasions and organizing the challenging behaviors that were observed into patterns that describe the reason(s) for the behavior (Powell, Dunlap, & Fox, 2006). A variety of prevention and intervention strategies have empirical support for reducing the challenging behaviors but, more importantly, developing communication skills that promote socially appropriate interaction, including the use of Augmentative, Alternative Communication (AAC; Yoder & Stone, 2006). For more information about challenging behaviors or about Positive Behavior Support, see http://www.challengingbehavior.org.

10) *Teach social skills deliberately.* Although social skills deficits are a central feature of ASD, few children receive adequate social skills programming (Hume, Bellini, & Pratt, 2005). Communication and play skills may set the stage for the development of social skills, but there is a need to start early and provide systematic instruction to ensure the social skills are meaningful and fun. There are a variety of strategies to support social skills, including the use of modifications to the physical and social environment that promote social interactions between children with ASD and their peers. When interesting or engaging materials are systematically shared or exchanged, opportunities are available for social skill teaching. Peer opportunities must be supported to be successful. Dante will benefit from adult-supported engagement with his peers. Specific instruction on initiating and responding to social interactions may be included with related skills, such as play, language, problem solving, or during lunch or cleanup time. Peer-mediated interventions involving training typically developing peers to direct and respond to the social behaviors of children with ASD during activities have a strong database for support (Strain et al., 2001).

Social stories are a developmentally appropriate way to help a child with some early or emerging language skills understand the rules of certain social situations—for example, how to greet a friend and request to play. Rather than approaching a peer and demanding that he play with him, a social story could be developed for Dante showing him how to tap the child on the shoulder to gain his attention, smile, ask him politely if he would like to play, and to offer the friend an opportunity to identify what he would like to play. Social stories are written at the child's linguistic level, using pictures or drawings to illustrate appropriate actions, and follows a scripted format to increase the child's comprehension of what to do as well as what not to do and why. Team members can develop social stories to address a specific social concern with a child. While each story addresses only a single social concern, the story interventions have also been shown to build language and literacy skills (Fox, Dunlap, & Cushing, 2002).

11) *The team, with the family as guide, provides group intelligence*. The team coordinates goals, methods, and plans for the child. As recommended previously, children with ASD benefit from a team approach guided by the family's priorities and concerns. The team's input will result in a meaningful plan and their consistent communication will ensure the good ideas generated by the team will support child's learning. Meeting with the team regularly keeps the team up to date on the child's progress and facilitates program change when needed. The team approach also facilitates transition from one program or service to another. Children are less likely to engage in challenging behaviors when the team plans ahead and prepares the children for change. Children with ASD usually prefer routine and sameness and may have difficulty with transitions. Before rearranging the room, changing teachers, taking a field trip, or even transitioning to a different activity, prepare the child. You may want to take photos of the new setting, write a story for the child about what he will do at the post office, and slowly introduce him to the new teacher by meeting with her briefly for several days before joining the group, or provide a visual schedule of the day's activities. Time spent in preparation will be saved later in helping the child adjust.

12) *Believe in all children and value their contributions to a diverse and evolving society*. We end the basic principles as we began—with the child. Capitalize on the child's strengths and interests. Incorporate the special skills the child has with blocks or puzzles, naming letters or drawing lines into activities with other children. This allows you

to encourage the child's competence and comment on his work and contributions to the group. Make a portfolio of his work. Share the pictures or papers with his parents, take a photo of him helping his classmates, or include him in a story for the group. Embrace his uniqueness and share it with others.

FUTURE IMPLICATIONS

While there is still much to learn about young children with ASD, more is known now than ever, and more is learned every day. Research and advocacy groups continue to search for accurate diagnostic evaluation methods and comprehensive treatments as well as developing effective specific interventions to address the wide range of needs for individuals with ASD (AAP-CCD, 2006). Everyone can play an important role in helping to address the needs of young children with ASD and their families. We can continue to search for the cause, seek early identification, and most importantly, help support the growth and development of all young children with ASD. Identified early, the prognosis for improvement is excellent. The future is ripe for discovery and change. The next decade will bring great growth in knowledge of autism spectrum disorder.

ANNOTATED WEB RESOURCES

Autism Speaks (http://autismspeaks.org). This interactive Web site includes up-to-date information on early identification and intervention for ASD across the age span. Of particular interest is the video library that illustrates early red flags helpful to early identification.

First Signs (http://www.firstsigns.org): First Signs is dedicated to educating parents and professionals about autism and related disorders. Developed and maintained by a parent of a child with autism to support early identification, the site helps parents to share their concerns with their pediatrician. Its focus on early identification includes a review of various methods and measures for screening and evaluation as well as training materials for pediatricians and family physicians.

Center for Disease Control (CDC, http://www.cdc.gov/ncbddd/autism/index.html): The autism section on the CDC Web site provides up to date information on the prevalence, early identification, diagnosis, research on causality, and help for families. It is a trustworthy and balanced resource for reports and fact sheets on the most recent findings, including controversial topics such as the role of immunizations in causality, various diets, and alternative interventions.

American Academy of Pediatrics (AAP, http://aappolicy.aappublications.org/cgi/content/full/pediatrics;107/5/1221): Learn the Signs: Act Early Campaign materials are available here. AAP has a focused initiative to continue to inform physicians of the red flags for ASD to increase early identification. They also inform physicians of the importance of early interventions and make recommendations for referral.

Autism Society of America (ASA, http://www.autism-society.org): One of the many national and international professional organizations devoted to supporting individuals with autism and their families through information, resources, referrals, and advocacy. Membership is a minimal annual cost and provides benefits in professional conferences, publications, and contributions to research.

First Words (http://firstwords.fsu.edu): Connects to Autism Speaks for the Video Glossary and provides additional resources and research for early communication and language development integral to the identification and intervention for young children at risk for or with ASD. Free download for the Infant Toddler Checklist, a standardized screening tool, and cutoff scores are maintained here. Additional tools for early identification are posted as available.

REFERENCES

American Academy of Pediatrics, Council on Children with Disabilities (AAP-CCD). (2006). Identifying infants and young children with developmental disorders in the medical home: An algorithm for developmental surveillance and screening. *Pediatrics, 118*(1), 405–420. Published correction (2006) appears in *Pediatrics, 118*(4), 1808–1809.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: American Psychiatric Association.

Bayley, N. (2005). *Bayley Scales of Infant-Toddler Development* (3rd ed.). San Antonio, TX: Pearson.

Bishop, S., Gahagan, S., & Lord, C. (2007). Re-examining the core features of autism: A comparison of autism spectrum disorder and fetal alcohol spectrum disorder. *Journal of Child Psychology and Psychiatry, 48*, 1111–1121.

Bishop, D. V., Maybery, M., Wong, D., Maley, A., & Hallmayer, J. (2006), Characteristics of the broader phenotype in autism: A study of siblings using the children's communication checklist-2. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics, 141B*, 117–122.

Bishop, S. L., Richler, J., & Lord, C. (2006). Association between restricted and repetitive behaviors and nonverbal IQ in children with autism spectrum disorders. *Child Neuropsychology, 12*(4), 247–267.

Bono, M., Daley, T., & Sigman, M. (2004). Relations among joint attention, amount of intervention and language gain in autism. *Journal of Autism and Developmental Disorders, 34*, 495–505.

Boulware, G., Schwartz, I., Sandall, S., & McBride, B. (2006). Project DATA for toddlers: An inclusive approach to very young chidlren with autism spectrum disorders. *Topics in Early Childhood Special Education, 26*, 94–105.

Carnahan, C., Musti-Rao, S., & Bailey, J. (2009). Promoting active engagement in small group learning experiences for students with autism and significant learning needs. *Education and Treatment of Children, 32*(1), 37–61.

Centers for Disease Control and Prevention. (2009). Prevalence of Autism Spectrum Disorders. *Morbidity and Mortality Weekly Report, 58*(SS10), 1–20.

Centers for Disease Control and Prevention Department of Health and Human Services (CDC-HHS). (2007). Prevalence of autism spectrum disorders: Autism and developmental disabilities monitoring network, 14 sites, United States, 2002. *Morbidity and Mortality Weekly Report Surveillance Summaries, 56*(1), 12–28.

Charman, T., Baron-Cohen, S., Swettenham, J., Baird, G., Drew, A., & Cox, A. (2003). Predicting language outcome in infants with autism and pervasive developmental disorder. *International Journal of Language and Communication Disorders, 38*, 265–285.

Dawson, G., Rogers. S. Munson, J., Smith, M., Winter, J., Greenson, J., et al. (2010). Randomized, controlled trial of an intervention for toddlers with autism: The Early Start Denver Model. *Pediatrics, 125*(1), 17–23.

Dawson, G., Toth, K., Abbott, R., Osterling, J., Munson, J., Estes, A., & Liaw, J. (2004). Early social attention impairments in autism: Social orienting, joint attention, and attention to distress. *Developmental Psychology, 40*, 271–283.

Filipek, P., Accardo, P., Baranak, G., Cook, E., Dawson, G., Gordon, B., et al. (2000). The screening and diagnosis of autistic spectrum disorders. *Journal of Autism and Developmental Disorders, 29*(6), 439–484.

Fox, L., Dunlap, G., & Cushing, L. (2002). Early intervention, positive behavior support, and transition to school. *Journal of Emotional and Behavioral Disorders, 10*(3), 149–157.

Garfinkle, A. N. & Schwartz, I. S. (2002). Peer imitation: Increasing social interactions in children with autism and other developmental disabilities in inclusive preschool classrooms. *Topics in Early Childhood Special Education, 22*(1), 26–38.

Greenspan, S., & Weider, S. (2006). *Engaging autism: Using the floortime approach to help children relate, communicate, and think*. Cambridge, MA: DiCopa Press.

Howlin, P., Goode, S., Hutton, J., & Rutter, M. (2004). Adult outcome for children with autism. *Journal of Child Psychology and Psychiatry, 45*, 212–229.

Hume, K., Bellini, S., & Pratt, C. (2005). The usage and perceived outcomes of early intervention and early childhood programs for young children with autism spectrum disorder. *Topics in Early Childhood Special Education*, 25, 195–207.

Johnson, C. P., & Myers, S. M. (2007). American Academy of Pediatrics, Council on Children with Disabilities: Identification and evaluation of children with autism spectrum disorders. *Pediatrics, 120*(5), 1183–1215.

Kasari, C., Freeman, S., & Paparella, T. (2006). Joint attention and symbolic play in young children with autism: a randomized controlled intervention study. *Journal of Child Psychology and Psychiatry, 47*, 611–620.

Kasari, C., Paparella, T., Freeman, S., & Jahromi, L. B. (2008). Language outcome in autism: Randomized comparison of joint attention and play interventions. *Journal of Consulting and Clinical Psychology, 76*, 125–137.

Kashinath, S., Woods, J., & Goldstein, H. (2006). Enhancing generalized teaching strategy use in daily routines by caregivers of children with autism. *Journal of Speech, Language, and Hearing Research, 49*, 466–485.

Klin, A., & Volkmar, F. (2003). Asperger syndrome: Diagnosis and external validity. *Child and Adolescent Psychiatric Clinics of North America, 12*, 1–13.

Landa, R., & Garrett-Mayer, E. (2006). Development in infants with autism spectrum disorders: A prospective study. *Journal of Child Psychology and Psychiatry, 47*, 629–638.

Laurent, A., & Rubin, E. (2004). Challenges in emotional regulation in Asperger syndrome and high-functioning autism. *Topics in Language Disorders, 24*(4), 286–297.

LeCouteur, A., Lord, C., & Rutter, M. (2003). *Autism Diagnostic Instrument—Revised*. Los Angeles: Western Psychological Services.

Lord, C., & Paul, R. (1997). Language and communication in autism. In D. J. Cohen & F. R. Volkmar (Eds.), *Handbook of autism and pervasive developmental disorders* (2nd ed., pp. 195–225). New York: Wiley.

Lord, C., Risi, S., DiLavore, P. S., Shulman, C., Thurm, A., & Pickles, A. (2006). Autism from 2 to 9 years of age. *Archives of General Psychiatry, 63*(6), 694–701.

Lord, C., Rutter, M., DiLavore, P. C., & Risi, S. (1999). *Autism diagnostic observation schedule*. Los Angeles: Western Psychological Services.

Mandell, D. S., Listerud, J., Levy, S. E., & Pinto-Martin, J. A. (2002). Race differences in the age at diagnosis among Medicaid-eligible children with autism. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(12), 1447–1453.

Massey, N. G., & Wheeler, J. J. (2000). Acquisition and generalization of activity schedules and their effects on task engagement in a young child with autism in an inclusive preschool classroom. *Education and Training in Mental Retardation and Developmental Disabilities, 35*(3), 326–335.

McGee, G., Morrier, M., & Daly, T. (1999). An incidental teaching approach to early intervention for toddlers with autism. *Journal of the Association for Persons with Severe Handicaps, 24*, 133–146.

Meadan, H., Ostrosky, M., Zaghlawan, H., & Yu, S. (2009). Promoting the social and communicative behavior of young children with autism spectrum disorders: A review of parent-implemented intervention studies. *Topics in Early Childhood Special Education, 29*(2), 90–104.

Miller, L. J., Robinson, J., & Moulton, D. (2004). Sensory modulation dysfunction: Identification in early childhood. In R. DelCarmen-Wiggins & A. Carter (Eds.), *Handbook of infant, toddler, and preschool mental health assessment* (pp. 247–270). London: Oxford University Press.

Mitchell, S., Brian, J., Zwaigenbaum, L., Roberts, W., Szatmari, P., Smith, I., & Bryson, S. (2006). Early language and communication development of infants later diagnosed with autism spectrum disorders. *Developmental and Behavioral Pediatrics, 27*, S69–S78.

Mullen, E. M. (1995). *Mullen scales of early learning*. San Antonio, TX: Pearson.

Mundy, P., & Burnette, C. (2005). Joint attention and neurodevelopmental models of autism. In F. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders* (3rd ed., pp. 650–681). New York: Wiley.

Mundy, P., Delgado, J., & Block M. (2003). *Early social communication scales*. University of Miami.

Mundy, P., Sigman, M., & Kasari, C. (1990). A longitudinal study of joint attention and language development in autistic children. *Journal of Autism and Developmental Disorders, 20*, 115–128.

National Research Council (NRC). (2001). *Educating children with autism*. Washington, DC: National Academy Press.

Osterling, J., & Dawson, G. (1994). Early recognition of children with autism: A study of first birthday home videotapes. *Journal of Autism and Developmental Disorders, 24*, 247–257.

Osterling, J., Dawson, G., & Munson, J. (2002). Early recognition of one year old infants with autism spectrum disorder versus mental retardation: A study of first birthday party home videotapes. *Development and Psychopathology, 14*, 239–252.

Paul, R., Chawarska, K., Cicchetti, D., & Volkmar, F. (2008). Language outcomes of toddlers with autism spectrum disorders: A two year follow-up. *Autism Research, 1*, 97–107.

Powell, D., Dunlap G., & Fox, L. (2006). Prevention and intervention for the challenging behaviors of toddlers and preschoolers. *Infants and Young Children, 19*(1), 25–35.

Prizant, B., Wetherby, A., Rubin, E., & Laurent, A. (2007). *The SCERTS Model manual: Enhancing communication and socioemotional abilities of young children with ASD*. Baltimore: Paul H. Brookes.

Prizant, B., Wetherby, A., Rubin, E., Laurent, A., & Rydell, P. (2007). *The SCERTS Model: A comprehensive educational approach for children with Autism Spectrum Disorders, Volume II—Intervention*. Baltimore: Paul H. Brookes.

Robins, D. L., Fein, D., Barton, M., & Green, J. A. (2001). The *Modified Checklist for Autism in Toddlers*: An initial study investigating the early detection of autism and pervasive developmental disorders. *Journal of Autism and Developmental Disorders, 31*, 131–144.

Rogers, S., Hayden, D., Hepburn, S., Charlifue-Smith, R., Hall, T., & Hayes, A. (2006). Teaching young nonverbal children with autism useful speech: A pilot study of the Denver Model and PROMPT interventions. *Journal of Autism and Developmental Disorders, 36*(8), 1007–1024.

Rogers, S. J., & Vismara, L. A. (2008). Evidence-based comprehensive treatments for early autism. *Journal of Clinical Child and Adolescent Psychology*, 37, 8–38.

Rutter, M., Bailey, A., & Lord, C. (2003). *Social Communication Questionnaire*. Los Angeles: Western Psychological Services.

Schertz, H., and Odom, S. L. (2007) Promoting joint attention in toddlers with autism: A parent-mediated approach. *Journal of Autism and Developmental Disorders*, 37, 1562–1575.

Sigman, M., & Ruskin, E. (1999). Continuity and change in the social competence of children with autism, Down syndrome, and developmental delays. *Monographs of the Society for Research in Child Development, 64*.

Sparrow, S. S., Cicchetti, D. V., & Balla, D. A. (1984). *The Vineland Adaptive Behavior Scales*. Bloomington, MN: Pearson Assessments.

Sperry, L. A., Whaley, K. T., Shaw, E., & Brame, K. (1999). Services for young children with autism spectrum disorder: Voices of parents and providers. *Infants and Young Children, 11*, 17–33.

Stone, W. L., Coonrod, E. E., & Ousket, O. Y. (2000). Brief report, *Screening Tool for Autism in Two-Year-Olds* (STAT): Development and preliminary data. *Journal of Autism and Developmental Disorders, 30*(6), 607–612.

Stone, W. L., Coonrod, E. E., Turner, L. M., & Pozdol, S. L. (2004). Psychometric properties of the STAT for Early Autism Screening. *Journal of Autism and Developmental Disorders, 34*(6), 691–701.

Stone, W. L., McMahon, C. R., & Henderson, L. M. (2008). Use of the *Screening Tool for Autism in Two-Year-Olds* (STAT) for children under 24 months: An exploratory study. *Autism, 12*, 557–573.

Strain, P., McGee, G., & Kohler, F. (2001). Inclusion of children with autism in early intervention environments. In M. J. Guralnick (Ed.). *Early childhood inclusion: Focus on change* (pp. 337–363). Baltimore: Paul H. Brookes.

Westby, C. (2009). Considerations in working successfully with culturally/linguistically diverse families in assessment and intervention of communication disorders. *Seminars in Speech and Language*, *30*, 279–289.

Wetherby. A., & Prizant, B. M. (2002). *Communication and symbolic behavior scales developmental profile*. Baltimore: Paul H. Brookes.

Wetherby, A., Watt, N., Morgan, L., & Shumway, S. (2007). Social communication profiles of children with autism spectrum disorders in the second year of life. *Journal of Autism and Developmental Disorders, 37*(5), 960–975.

Wetherby, A., & Woods, J. (2006). Effectiveness of early intervention for children with autism spectrum disorders beginning in the second year of life. *Topics in Early Childhood Special Education, 26*, 67–82.

Wetherby, A., & Woods, J. (2008). In K. Chawarska, A. Klin, & F. Volkmar (Eds.), *Autism spectrum disorders in infants and toddlers: Diagnosis, assessment, and treatment* (pp. 170–206). New York: Guilford Press.

Wetherby, A., Woods, J., Allen, L., Cleary, J., Dickinson, H., & Lord, C. (2004). Early indicators of autism spectrum disorders in the second year of life. *Journal of Autism and Developmental Disorders, 34*, 473–493.

Whalen, C., & Schreibman, L. (2003). Joint attention training for children with autism using behavior modification procedures. *Journal of Child Psychology and Psychiatry, 44*, 456–468.

Wimpory, D. C., Hobson, R. P., Williams, J. M. G., & Nash, S. (2000). Are infants with autism socially engaged? A study of recent retrospective parental reports. *Journal of Autism and Developmental Disorders, 30*, 525–536.

Wolery, M., & Garfinkle, A. (2002). Measures in intervention research with young children who have autism. *Journal of Autism and Developmental Disorders, 32*, 463–478.

Woods, J., Kashinath, S., & Goldstein, H. (2004). Effects of embedding caregiver-implemented teaching strategies in daily routines on children's communication outcomes. *Journal of Early Intervention, 26*, 175–193.

Woods, J., & Wetherby, A. (2003). Early identification and intervention for infants and toddlers at-risk for autism spectrum disorders. *Language, Speech, and Hearing Services in Schools, 34*, 180–193.

Yeargin-Allsopp, M., Rice, C., Karapurkar, T, Doernberg, N., Boyle, C., & Murphy, C. (2003). Prevalence of autism in a US metropolitan area. *Journal of the American Medical Association, 289*(1), 49–55.

Yoder, P., & Stone, W. (2006). Randomized comparison of two communication interventions for preschoolers with autism spectrum disorders. *Journal of Consulting and Clinical Psychology, 74*, 426–435.

Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2002). *Preschool language scale, Fourth Edition (PLS-4)*. Harcourt Assessment.

Chapter 10

Supporting Children with Visual Impairment, Hearing Loss, and Severe Disabilities

Rashida Banerjee, Sandy K. Bowen, and Kay Alicyn Ferrell

The Individuals with Disabilities Education Act (IDEA, 2004) defines low-incidence disabilities as:

> A visual or hearing impairment, or simultaneous visual and hearing impairments; a significant cognitive impairment; or any impairment for which a small number of personnel with highly specialized skills and knowledge are needed in order for children with that impairment to receive early intervention services or a free appropriate public education. (IDEA, 2004, § 1462[c][3])

Low-incidence disabilities include blindness, low vision, deafness, hard-of-hearing, deaf-blindness, significant developmental delay, complex health issues, orthopedic impairments, multiple disability, autism, and acquired brain injury, which together comprise less than 1 percent of the estimated resident school-age population of the United States (U.S. Department of Education, 2009). Because infants and toddlers are not reported by disability category, the prevalence of low-incidence disabilities in early childhood is unknown, but is likely similar to the school-age rate.

This chapter focuses on three low-incidence disabilities that have significant implications for services during early childhood: (1) visual impairment, (2) deaf and hard of hearing, and (3) severe disabilities. Although there are some similarities in the services provided, the unique characteristics, attributes, and needs of young children from each of these categories merit individual attention. With the intent to provide a basic understanding of early intervention and preschool issues for infants and young children with these three low-incidence disabilities, each disability category is explored through the lens of families that have been part of the early intervention process. Following a similar outline, each section briefly defines the disability, reviews the service delivery process, provides a brief synthesis of research-based or promising practices, suggests strategies for professionals and families, and identifies some contemporary controversial issues in working with young children with these significant disabilities and their families.

VISUAL IMPAIRMENT

Ryan. *Sue-Ellen's pregnancy and birth of 6 lb.–9 oz. Ryan were uneventful. She and daddy Rick were delighted with their little boy, who was absolutely perfect in their opinion! He was an engaging baby who responded with huge smiles to his parents' voices and seemed particularly interested in the sounds around him. Sometimes Ryan seemed startled when one of them picked him up without saying something to him first, but it wasn't until he started reaching for his bottle that they noticed that he sometimes missed. As Ryan grew, his parents began to notice different behaviors, such as frequent blinking in sunlight, and they realized that unlike most babies, he never turned toward a bright light. He passed his well-baby checkups with flying colors, however, so they told themselves that they were simply first-time parents who worried too much.*

As Ryan approached 10 months of age, Sue-Ellen's anxiety increased. Ryan did not seem interested in playing with toys, and he still startled when she approached him silently from the side. When she explained these concerns to Ryan's pediatrician, he told her that Ryan was fine, but if it would ease her fears, he would refer them to a pediatric ophthalmologist. Ryan saw the pediatric ophthalmologist about two months later, and was diagnosed with bilateral optic nerve hypoplasia (ONH), an underdeveloped optic nerve. ONH is characterized by reduced visual acuity and, in Ryan's case, a reduced visual field.

Definition of Visual Impairment

Visual impairment incorporates a range of visual abilities, from total blindness to near-normal visual functioning. The legal definition of blindness, used to qualify for government entitlement programs, uses a clinical measurement of visual acuity. To be diagnosed as legally blind, an individual must be measured with a distance visual acuity of 20/200 or less in the best eye with correction, or a field loss of

20 degrees or less. (A measure of 20/200 means that the person who is legally blind sees at 20 feet what an individual with typical vision sees at 200 feet; a field loss of 20 degrees is about one-third of the normal horizontal field of vision.) Although this represents a significant visual loss, individuals who are legally blind may have enough remaining vision to be able to read print. Obtaining a distance visual acuity measurement in infants and young children, of course, is difficult. Thankfully, IDEA (2004) supports a more liberal interpretation of vision loss and defines visual impairment as "an impairment in vision that, even with correction, adversely affects a child's educational performance" (Individuals with Disabilities Education Act [IDEA] Regulations, 2006, § 300.8[c][13]). This educational definition places the emphasis on performance and how effectively vision is used, rather than on a clinical diagnosis that may have no relationship to how a child functions in the home, school, or community.

There are a range of terms used to describe visual impairment. The most commonly used in educational contexts are *blindness*, which usually refers to total loss of vision, with or without light perception (the ability to perceive light); *low vision*, referring to a range of visual abilities from typical vision to severe vision loss, including visual learners, tactual learners, and those who learn using both modalities; and *visual function*, referring to how an individual uses the visual sensory system. In this chapter, because Ryan is diagnosed with optic nerve hypoplasia (ONH), the terms *visual impairment* and *low vision* are used to describe his type of visual impairment. Children with ONH demonstrate a wide range of visual function, ranging from normal visual acuity to no light perception and from generalized loss of detail to subtle peripheral field loss (Blind Babies Foundation, 1998). ONH is sometimes accompanied by endocrine and neurological complications as well.

The pediatric ophthalmologist referred Ryan for further medical testing to rule out any complications. There were no signs of any midline brain anomalies on a CT scan, and the pediatric endocrinologist determined that Ryan did not have any growth hormone deficiencies, although she suggested periodic consultations over the next few years.

Although the incidence of visual impairment in infants is unknown, estimates of the number of children ages 3–21 with visual impairments range from 0.04 percent, based on the number of children reported as served under IDEA (U.S. Department of Education, 2009), to 0.1 percent, based on the National Health Interview Survey (Benson & Marano, 1994). These small proportions support Congress's designation of visual impairment as a low-incidence disability and emphasize the necessity of ensuring that appropriate personnel with expertise in visual impairment are involved in the delivery of services.

Service Delivery

Services for infants with visual impairments began in the 1930s with home counseling and training services for families (Ferrell, 2000; Koestler, 2004). During the 1950s, with the growth in the number of children with congenital blindness due to prematurity, many parents created their own services in cities across the country (Turnbull, Turnbull, Erwin, & Soodak, 2006). Several of these parent-created services have evolved into private agencies, providing a variety of services to children and adults with visual impairment. Visual impairment is considered an established risk condition under Part C of IDEA (2004), and children qualify for early intervention services based on a diagnosis of visual impairment.

In Ryan's case, the pediatric ophthalmologist referred his family to the lead agency in the state for early intervention services under Part C. Because a specialized agency for children with visual impairments was located in Ryan's community, Ryan's parents called and asked for more information about visual impairment. At the parents' request, a developmental specialist from the agency worked with the early intervention program to assess Ryan's development and to develop an Individualized Family Service Plan (IFSP) for Ryan and his family.

The mean age at which young children are diagnosed with a visual impairment is approximately 5 months, although referral for services generally does not occur until six months later (Ferrell, 1998; Hatton, 2001). Some eye conditions, such as retinopathy of prematurity, are diagnosed before discharge from the hospital after birth, while others may not be discovered until the child misses a developmental milestone. Parents often notice more subtle vision abnormalities sooner than the medical community, primarily because they spend so much more time with their children. Many parents report that their concerns are often dismissed by their pediatricians until the visual impairment interferes more with the child's daily routines (Tompkins, 1998). Still other eye conditions seem to be secondary to other, more severe neurological insults. The proportion of children with visual impairment who also have another disability is estimated to be approximately 60 percent (Ferrell, 1998; Hatton, 2001; Pogrund, 2002). More precise estimates of young children with disabilities in addition to visual impairment are difficult to determine, since they are reported to the U.S. Department of Education by their primary disability only. There is general agreement in the fields of early intervention and early childhood special education that services must be provided to an infant, toddler, or preschooler with visual impairment by a teacher certified or licensed to teach children with visual impairment in the state, and by an orientation and mobility (O&M) specialist whose primary function is related to movement within and orientation to the child's environment. The O&M specialist may or may not be state certified; some states adopt the professional organization's certification process as their own, while other states treat O&M as a related service and do not require a separate teaching license. However, states also have different standards for licensing teachers of students with visual impairment. Colorado, for example, licenses visual impairment specialists for children birth to 21 years, while other states only license for K–12. Personnel preparation programs are significantly different as a result, and while K–12 certified teachers may have expertise in visual impairment, they may not have training with infants and preschoolers. A transdisciplinary approach to service delivery is thus critical for optimum family support.

Synthesis of Research and Promising Practices

Research in early education of children with visual impairment has generally fallen victim to the urgency of providing services. Developmental studies found no significant differences in development of milestones among children with and without visual impairment in the 1940s and 1950s (Maxfield & Buchholz, 1957; Norris, Spaulding, & Brodie, 1957). Fraiberg's work in the 1960s demonstrated delays in several developmental domains, which she theorized were largely due specifically to vision loss (Fraiberg, 1977). With this work as a basis, the prevailing philosophy postulated that children with visual impairment and children with vision were "more alike than different," and that children with visual impairment simply needed more time to learn the skills that their vision loss did not allow them to learn incidentally (Ferrell, 2000, p. 121). Ferrell (2000) has challenged this approach, suggesting that the "premise of comparability was faulty" (p. 121), and has proposed an individual-differences approach to examining the development of children with visual impairment. As Ferrell (1997) stated:

> Children with blindness and visual impairment learn differently, for no other reason than the fact that in most cases they cannot

> rely on their vision to provide information. The information they obtain through their other senses is *inconsistent* (things do not always make noise or produce an odor), *fragmented* (comes in bits and pieces), and *passive* (not under the child's control). It takes practice, training, and time to sort all this out. (p. v)

Following an exploratory study (Ferrell et al., 1990) that seemed to suggest a difference in the sequence of milestone acquisition among some children with visual impairment, a federally funded prospective study known as Project PRISM was initiated in 1991. Findings from this study (Ferrell, 2010), the largest developmental study since 1957, suggest that:

There is great variability in how young children with visual impairments develop. There was a large difference in time between the earliest age when a child acquired a skill and the latest age when a different child acquired the same skill. These differences became greater as children grew older.

Children with visual impairment appear to follow a different developmental sequence. It has been assumed that the order in which children with visual impairments learn developmental skills is the same as the order in which children without disabilities learn the same skills. PRISM demonstrated that some milestones (such as language and communication) were acquired earlier than children with typical development, while others were acquired later.

Better vision does not necessarily mean better performance. Conventional wisdom believed that the more severe the visual impairment, the greater the impact on early child development. Yet, PRISM found that children with the "best" vision were not always doing as well as the children with poorer vision. This finding is also supported by Hatton's research (Hatton, Bailey, Burchinal & Ferrell, 1997; Hatton, Erickson, & Lee, 2009).

Some children develop at the same rate as children without disabilities. Children with visual impairment who did not have additional disabilities and who were born at term acquired skills within the same age range as children without disabilities.

Additional disabilities have more impact on a child's development than does visual impairment itself. Particularly in infancy, additional disabilities posed more difficulties for children than did visual impairment alone, particularly when families received early intervention services that addressed their vision loss.

As children with visual impairment grow older, additional disability may have less of an impact. The effects of mild additional impairment seem to dissipate with age, while more severe disabilities may continue to pose difficulties for children.

The visual function of children with visual impairment may or may not improve over time. PRISM (Ferrell, 1998) demonstrated that visual function improved simply with the passage of time, regardless of any visual stimulation program that was implemented. As children grew older, they were better able to understand what they were seeing, and thus performed better. If children were medically diagnosed as totally blind, visual function did not improve over the course of the study.

Delineating "best practice" in the face of so little evidence-based research seems somewhat precarious. As in other areas of visual impairment, too few people are doing too little research in early intervention, and the studies that have been conducted have not replicated past studies to the point where one can confidently state that a practice is "best." The Division on Visual Impairments (DVI) of the Council for Exceptional Children (CEC) has adopted a position paper that recommends several components of an early intervention program, many of which are similar to CEC's Division for Early Childhood (DEC) Recommended Practices (Sandall, Hemmeter, Smith, & McLean, 2005). Key elements *not* included in DEC's recommended practices are:

- Assessment of the unique sensory capabilities and preferences of the child to identify appropriate environmental adaptations and intervention strategies, including the use of low-vision devices that promote accessibility and effective use of all senses.
- Facilitation of emergent literacy skills (Braille and print) based on the child's sensory preferences and individual learning style.
- Provision of services by specialists who are appropriately trained to enhance the development and early learning of infants and young children with visual impairments, including assessment, intervention and education planning, and the development or modification of developmentally and functionally appropriate support and services (DVI, 2003).

Strategies for Professionals and Families

The following strategies are helpful to both families and early interventionists when working with young children with visual impairment, regardless of age (Ferrell, 2010):

Create opportunities for learning. Most learning occurs naturally during typical daily routines and activities, without having to be specifically taught. When children are visually impaired, however, there is no assurance that learning occurred or that the child was even aware that there was something to learn. Incidental learning primarily occurs through observation and experience, but vision loss limits the opportunity to observe, imitate, and practice. Adults can help structure experiences to make sure the child with visual impairment does not miss out on what is going on around him.

Provide repeated exposures and experiences. Children with visual impairment do not have the luxury of seeing objects and events repeatedly. Repetition is a key element of brain-based learning and should be created when it does not happen naturally.

Use concrete objects. Expose children frequently to real objects rather than representations or models. Once a child knows what a dog *really* is, then the stuffed animal can *represent* the real dog. Until then, from the child's perspective, they are two different things and two different concepts.

Build experiences from parts to wholes. Help children use what is known (the parts) to put together a concept of the whole. Although vision works the opposite way (you see the whole object before you break it down into smaller details), children with visual impairment have to put the whole together from the parts. Sometimes they are limited by what they can actually touch at one time—such as the family pet, where they can only feel the ears, the tail, the paws, and the nose individually. Repeated exposure to these parts helps the child to understand that it all belongs to one dog. Make comparisons and point out relationships between what is known and what needs to be learned.

Provide structure when it does not exist. Vision itself provides structure to the environment because the relationships of the parts are clear.

Look at the situation from the child's point of view and figure out how you would do a particular task before you ask a child to do it.

Use consistent language. It can be difficult for a child with visual impairment to understand that different words actually refer to the same object (for example, pants, jeans, trousers, slacks, cutoffs, and overalls). Applying the strategies of repetition and making no assumptions can assist adults in structuring language experiences that eliminate confusion and build understanding.

Do not assume that better vision leads to better performance. Children with better vision are often assumed to need minimal specialized instruction and/or accommodations, but research has demonstrated that children with low vision may be at greater risk than children who are totally blind.

Use daily routines to reinforce concepts. Predictability is difficult when the result of your actions cannot always be seen. Use the predictability of everyday occurrences to teach children about positional, tactile, and auditory concepts. These natural interaction times build structure, predictability, and anticipation while creating opportunities to practice skills.

Introduce families to adults with visual impairment so they know the possibilities for the future and what lies ahead.

Make "do'ers" instead of "done-to'ers." Sometimes it is easier and faster simply to do things for a child instead of giving him the time and opportunity to do it on his own. Young children with visual impairment need to know that there are expectations—not excuses—for his performance. This helps to build self-esteem and a sense of accomplishment.

Ryan's mom worried that the aspirin she took during her first trimester of pregnancy was the cause of Ryan's ONH. She read online that it was often associated with substance abuse, and while aspirin wasn't anything like substance abuse, well, still, maybe it was her fault.

It is also important to recognize that visual impairment is embedded in the Judeo-Christian tradition, where blindness was administered as a punishment for past sins, or where people who are blind were viewed benevolently as individuals requiring care and protection. It is difficult to escape this history. Families hold different religious beliefs; some may think their child's visual impairment is their fault, either consciously or unconsciously, even if the condition is not inherited. Other spiritual beliefs may interfere with the recommended medical treatment, such as prescription lenses. While these beliefs can be present for any disability, visual impairment seems to be particularly vulnerable to misperceptions about abilities and potential. A benevolent approach can be detrimental to a child, however, because it transmits the subtle message that the individual needs constant care and that independence is not expected.

Sue-Ellen's mother was particularly upset by the diagnosis of Ryan's visual impairment. Her experience with visual impairment was not particularly positive—there was one classmate with a visual impairment in her high school, but he was socially isolated because he didn't play sports or drive a car. He attended the high school reunion, and she discovered that he now had a family of his own, but had never held a job and received Supplemental Security Income (SSI) just because he had a disability! She feared that Ryan, if he went to school at all, would end up without friends, begging on the street.

Controversial Issues

Persistent issues seem to dominate the national discourse about young children with visual impairment. These issues generally involve service delivery, but they are rooted in the concept of specialized services for unique educational needs.

Natural Environments

IDEA (2004) states that early intervention services should be provided in home or community settings where children without disabilities participate, to the maximum extent appropriate. However, the concept of natural environments is much broader than simply a place. Unfortunately, natural environments have been interpreted as meaning that programs developed specifically for children with vision loss are not natural and therefore not appropriate. Ferrell (2010) suggests that the discussion around natural environments should focus more on the educational context of the child. For an infant with visual impairment, for example, the natural environment is certainly the home environment; but as the child grows, the educational context will change. Valid questions then center on (1) the frequency and type of interactions available with peers, (2) the opportunities for learning through other sensory modalities (e.g., balls that beep), (3) safety, (4) literacy opportunities (books in Braille or large print), (5) accommodations that provide access to the preschool curriculum, and (6) access to other families of children with visual impairments. If the environment does not make accommodations for visual impairment—that is, if the environment is organized from a visual perspective—the natural environment may be anything but natural for a child with visual impairment.

Assessment and Expectations

IDEA (2004) requires children to be assessed periodically using valid instruments designed to measure developmental skills. There are no valid developmental instruments for children with visual impairment. Clinicians struggle with what to do: administer an instrument that was developed or standardized on children with normal vision (thus, invalid), or base recommendations entirely on clinical judgment. This is one reason why it is critical to involve professionals with expertise in visual impairment as part of the educational team. If a standardized instrument is administered, the visual impairment specialist can help to interpret the results; if clinical judgment must be relied upon, the visual impairment specialist is likely to have more experience with children who are visually impaired than other members of the team.

Tied into the issue of assessment are expectations. The visual impairment specialist usually brings a lifespan perspective to the discussion, familiar with many successful adults who are visually impaired, employed, and active members of the community. The visual impairment specialist, through training and experience, sees the possibilities of visual impairment rather than the limitations. When interpreting developmental tests that presume visual competency, some professionals might find the apparent gaps overwhelming and, as a result, fail to expect children with visual impairment to accomplish typical preschool skills. Worse yet, without expertise in visual impairment, some early childhood educators have attributed what is really visual test bias to the child's developmental delay or mental retardation, even in the absence of medical confirmation. This can establish a downward spiral for young children with visual impairment, where the adults in their lives judge them to be incapable of learning a particular skill, so the skill is not taught. Yet, without deliberate exposure, the child never learns what is expected because the visual impairment does not permit acquisition of the skill by observation and imitation. It is a conundrum. Young children with visual impairment are often handicapped more by society's attitude toward them than they are by the visual impairment itself.

Today, Ryan attends school with his same-age peers. He attended a Montessori-based child care program from 3 to 5 years, where teachers from the specialized agency and an O&M specialist from the school district visited frequently to help the staff make accommodations for Ryan's visual impairment. While the school district initially believed that Ryan was doing well, statewide testing in Grade 3 demonstrated that he was falling behind in reading and math. Ryan was referred for a low-vision evaluation with an optometrist who prescribed a stand magnifier for working at his desk and a telescope for outdoor activities. Software was purchased that enlarged the screen on the classroom computers, and Ryan's parents bought the same software for their home computer. Sue-Ellen and Rick are confident about Ryan's future, and Ryan seems healthy and happy, enjoying his friends, hating his homework, and thinking about trying out for track next year.

DEAF AND HARD OF HEARING

Norma's eyes glisten with tears as she recalls the day she discovered that her daughter Lissette was deaf. Norma's pregnancy and delivery of her second *child was normal. As part of the hospital new-baby routine, Lissette was screened for a variety of developmental, genetic, and metabolic disorders, including hearing loss. The day Norma was to take Lissette home, the nurse stood by her bed and, through a Spanish interpreter, informed Norma that while most of Lissette's screenings were normal, she had failed her newborn hearing screening. The nurse encouraged Norma to follow up with the pediatrician at her next appointment.*

The next few weeks brought more testing and finally a confirmation that Lissette had a bilateral sensorineural profound hearing loss. Norma wondered how this could have happened and often blamed herself. No other family members, immediate or extended, had any kind of hearing loss. Then, suddenly, before Norma made any other decision for Lissette, life changes forced the family to move to a new state. The responsibilities of the move and setting up a new household, coupled with the growing realization that her perfect Lissette could not hear, caused Norma to postpone immediate follow-up with an audiologist in her new home while she was lost to the system in her previous state.

Like Lissette, 24,000 (6 per 1,000) newborns are diagnosed with a hearing loss each year (Beginnings for Parents of Children Who Are Deaf or Hard of Hearing, 2008). The type and degree of hearing loss varies, from mild to profound; high or low frequency; conductive (external, canal, or middle ear) or sensorineural (inner ear or nerve); and in one or both ears. If not detected early, hearing loss can have a profound lasting effect on a child's overall development, resulting in "life-long deficits in speech and language acquisition, poor academic performance, personal-social maladjustments, and emotional difficulties" (Harlor & Bower, 2009, p. 1253).

Definition of Deaf and Hard of Hearing

The Individuals with Disabilities Act (IDEA, 2004) includes two separate, distinct categories for children with hearing loss who may be eligible for special education and related services: deafness and hearing impairment. Deafness is defined as "a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification that adversely affects a child's educational performance" (IDEA, 2006, § 300.8[c][5]). As a more global term, hearing impairment is defined as "an impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance but that is not included under the definition of deafness" (IDEA, 2006,§ 300.8[c][3]).

Although defined specifically by IDEA for educational purposes, the terms hearing impairment, deafness, and hearing loss have particular political and cultural implications. Hearing impairment is often used as a global term to discuss all types and ranges of hearing loss; however, it connotes a medical view of impairment or may be perceived as a deficit. In contrast, individuals who are deaf may choose to belong to a cultural group that distinguishes itself socially from individuals who are hearing. A Deaf person has a sense of pride regarding his or her identity. Deaf culture, denoted with a capital D, refers to a group of individuals who share a common language (American Sign Language) and fundamental beliefs and practices in social codes of behavior, art, history recreation, entertainment, and worship (Moore & Levitan, 1993).

Individuals who possess usable residual hearing and appropriate amplification prefer the term hard of hearing. Individuals who are hard of hearing generally use audition and spoken language as their primary mode of communication (Hearing Loss Association of America, 1997).

Service Delivery

These opposing views (medical versus cultural) have influenced early intervention and educational opportunities for infants and preschoolers who are deaf or hard of hearing. Depending on the philosophy that one espouses, the choices for communication, amplification, and even education will be influenced. Due to the potentially debilitating delays found in children who were identified with hearing loss as a toddler or young child, the National Institutes of Health (NIH, 1993) concluded that all infants should be screened for hearing loss as part of neonatal screenings at birth. Today, this mandate has expanded to include processes for screening, referral, diagnosis, and intervention. Individual states have comprehensive state plans for screening infants prior to hospital discharge. Although each state program is unique and individual to the respective state, they all share a similar goal: to ensure that infants who fail the newborn hearing screening are evaluated by a diagnosing audiologist and receive follow-up services from an early interventionist with expertise in hearing loss and deafness to promote development in areas of language, social-emotional development, and cognition. The American Academy of Pediatrics (2007) in its most recent update on hearing loss reiterated the importance of receiving appropriate intervention by 6 months of age from professionals with expertise and training in hearing loss specific to infants and young children. Once identified with a hearing loss, infants qualify for early intervention services because hearing loss is considered an established risk condition under Part C.

At age 7 months, during a well-baby checkup with the pediatrician, Norma mentioned that Lissette had failed the newborn screening. The pediatrician immediately referred Lissette to an audiologist who confirmed the hearing loss and recommended that Lissette be fitted with binaural hearing aids. The audiologist also contacted the local early childhood (Part C) director to arrange early intervention services for Lissette and her family. Following state guidelines, the director contacted Norma and assigned an early intervention specialist trained to work with infants who are deaf to meet with the family to assess the family's needs and determine what services would be provided to ensure that Lissette had every opportunity to optimize her overall development.

Synthesis of Research and Promising Practices

Early identification coupled with appropriate amplification for infants with hearing loss has demonstrated the ability to improve many of the academic and language delays seen prior to universal newborn hearing screening (American Speech-Language-Hearing Association [ASHA], 2008; Miyamoto, Hay-McCutcheon, Kirk, Houston, & Bergeson-Dana, 2008; Moeller, 2000; Yoshinaga-Itano, Sedey, Coulter, & Mehl, 1998). "Families with infants whose hearing loss is identified through a newborn hearing screening program are able to make the most of their babies' first months of life by providing an optimal foundation for language, cognition, and social-emotional development" (Sass-Lehrer, 2002, p. 1). Early intervention guidelines specifically related to children who are deaf or hard of hearing have been identified by several professionals and professional organizations (see, for example, Alexander Graham Bell Association, 2002; Colorado Home Intervention Program, 2003; Colorado Home Intervention Program & New Mexico School for the Deaf, 2004; National Agenda, 2005; Sass-Lehrer, 2002).

In 2005, a group of experts in early intervention for infants with hearing loss convened to make recommendations for appropriate interventions for children who are deaf or hard of hearing (Marge & Marge, 2005). The final recommendations for exemplary practices include five areas that have also been promoted by the other professional organizations: (1) effective child find efforts, (2) key decision making by the family about choice of services, (3) choices of services that are specific to the needs and capabilities of the child and family, (4) ongoing monitoring of outcomes as a basis for educational planning, and (5) certified and qualified service providers with expertise in working with infants and young children who are deaf or hard of hearing.

To ensure that the child and family receive the maximum benefit from early childhood special education services, one of the most important considerations when providing early intervention services for children who are deaf or hard of hearing is hiring qualified personnel with specialized preparation. It has been recommended that "qualified professionals have knowledge and expertise in general education, education of individuals with a hearing loss, early childhood education, families, and the impact of deafness on development" (Sass-Lehrer, 2002, p. 17). In addition to content knowledge, professionals should demonstrate competencies in the language(s) that the child and family are using. In this way, the interventionist is able to provide an appropriate language model for the family (Sass-Lehrer, 2002). These professionals may include teachers of the deaf, speech-language pathologists, and audiologists. Building on the strengths and knowledge of the family, the interventionist provides materials and resources to assist the family in making the decisions that will best meet the child's needs.

Sass-Lehrer (2002) has identified three areas of inquiry for families seeking effective early intervention services and for early intervention programs who are seeking to develop a quality model for service delivery: (1) family-centered services, (2) communication and language acquisition, and (3) collaboration in program development and evaluation. Family-centered services build on the family's unique strengths and provide support and resources that will enhance the child's development and the family's competence. Communication and language acquisition not only ensure that families receive information regarding all communication choices, but also that the interventionist is fluent in language and communication modes used by the child and family. In this way, the interventionist provides an appropriate language model for the parents and the child. The third area, collaboration, suggests an interdisciplinary approach to intervention to provide quality services and to ensure that families are an integral part of the intervention and ongoing evaluation process.

Strategies for Professionals and Families

After completing an Individual Family Service Plan (IFSP) with Lissette and her family, an early interventionist was assigned to begin working with the family in their home. The interventionist spoke Spanish and was knowledgeable about children with hearing loss, how to develop language and speech, and how to enhance audition within the daily routines of the child and her family. The interventionist met with the family on a weekly basis to teach American Sign Language (ASL) and to promote the development of Lissette's auditory skills.

Calderon and Greenberg (1997) reviewed the literature to examine the effectiveness of early intervention and concluded that little evidence existed to support specific conditions or interventions for successful outcomes for families and children who are deaf or hard of hearing. These results are not unexpected considering the complexity of variables that combine when working with families: degree of hearing loss, age of identification and amplification, type of amplification, communication and language choice, and cultural characteristics of the home. Notwithstanding the lack of evidence to establish specific outcomes-based interventions for children, several areas have been identified that do make a difference (Colorado Home Intervention Program, 2003; Colorado Home Intervention Program & New Mexico School for the Deaf, 2004; Sass-Lehrer, 2003).

Family-Centered Approach

Family involvement is critical for the child's overall development. The purpose of family-centered intervention is to empower the family in making choices for the child. In a family-centered approach, the interventionist joins the family and works in the context of the family unit, using the family's preferred communication mode. In this way, the parents begin to feel competent in their abilities and confident in their decisions.

Identifying Daily Routines

Model programs focus on family-centered intervention through daily routines. Family-centered programs must "focus on natural daily routines as the medium for communication interaction and language growth" (Marge & Marge, 2005, p. 18). The goal of the interventionist is to provide parents with the opportunities to integrate strategies for communication and play skills into the daily routines and unique setting of the family. In this way, the family's cultural values and beliefs will be supported. Sass-Lehrer has stated, "through routine and caring interactions young children acquire both the language and social mores that link them to their family, culture, and community" (2002, p. 8).

Natural Environments

The concept of natural environments for children who are deaf or hard of hearing may have additional meanings than those generally defined under IDEA for children with disabilities. A joint committee of the American Speech-Language-Hearing Association (ASHA) and the Council on Education of the Deaf (CED) developed guidelines for selecting and advocating for appropriate natural environments for infants and toddlers who are deaf or hard of hearing (ASHA-CED, 2006). The reason for these recommendations is that the environment should provide the fewest language and communication barriers possible. The joint committee determined that "natural environments include the home, child care center, school, or other setting where the child's language(s) and communication modality (or modalities) are used by fluent adult users and where peers are using and/or acquiring the same languages through similar modalities" (ASHA-CED, 2006, p. 1). Providing social and academic opportunities for direct communication, in the child's preferred communication mode with family members, peers, and professionals, allows the child full and equal access for natural development.

Utilizing Family Needs, Concerns, Priorities, Strengths, Resources, and Interests in Planning Intervention

> Because parental involvement is a key contributor to outcomes for children, it is vital that parents have input at the beginning and in the development and implementation of their child's program of intervention and have the opportunity to eventually lead the process. (Marge & Marge, 2005, p. 17)

Whereas parents should be recognized as the primary decision makers, professionals have a responsibility to strengthen "the parent's competence and confidence to positively effect [*sic*] their child's development" (p. 17). Interventionists working with parents should identify the positive things the parents are doing to reinforce and generalize skills and to help the parents assess if what they are doing is successful. The interventionist serves as a coach, observing and monitoring what parents are doing, and encouraging, reinforcing, and educating parents to support the development of their child.

Professionals must honor and support the decisions parents make for their child. Interventionists should value family cultures, decisions, and choices and set aside personal opinions and judgments. Parents should be provided with opportunities and resources to make informed decisions; facilitators should support the parents and child in bringing those choices to a successful completion.

Transitioning to Preschool

At age 3, Lissette was eligible to attend preschool. Norma visited the preschool programs in the area and in collaboration with the transition team from the sending and receiving programs determined that the preschool for students who were deaf or hard of hearing best met Lissette's linguistic, social, and academic needs. Although Lissette had a cochlear implant, she still used sign language for a majority of her receptive and expressive language. The preschool program had six other 3- to 5-year-olds who were deaf and used sign language as a preferred mode of communication. Additionally, two students with normal hearing ability, who had parents who were deaf, were in the class. Both the teacher of the deaf and the instructional aide used a combination of signed language and spoken English to communicate with the children. The setting provided Lissette with full access to the teachers and her peers in a language and a communication mode that she used.

Moving from the early intervention system to the education system can be a difficult transition for families and children. For children who are deaf or hard of hearing, one of the most important considerations is access to an environment that allows them to communicate with adults and peers in their preferred language(s) or modality (modalities) of communication. The National Agenda (2005) is a grassroots movement designed to provide guidance to professionals working with families and children who are deaf or hard of hearing to significantly improve the quality of services to the children and families. The National Agenda has as its third goal the establishment of a collaborative system to fully inform families regarding all service and program options for their children, and to ensure that parents are equal partners in making decisions for their child. The National Agenda also strongly proposes the following:

> Deaf and Hard of Hearing children will have as an integral, required part of their educational program, access to a critical

> mass of age, cognitive, and communication/language peers and teachers and educational staff who are proficient in the individual child's language and communication mode. (p. 21)

Controversial Issues

When Lissette was 21 months old, she received a cochlear implant. This decision was one of the most difficult that Norma had ever made. It was clear that Lissette was not making progress in speech, language, or audition. These significant communication delays impacted every aspect of Lissette's life. Although Lissette could not access the sounds of spoken language, Norma had been using a combination of spoken Spanish and signed language with Lissette. After receiving her implant, Norma continued signing with Lissette as a way to bridge development in spoken language to known concepts in signed language.

Cochlear implantation is one of the most controversial issues for professionals, Deaf adults, and families. As of April 2009, approximately 25,500 children in the United States had received a cochlear implant (U.S. Department of Health & Human Services, 2009). The U.S. Food and Drug Administration has approved cochlear implantation for children ages 12 months to 17 years of age if the child has a profound, bilateral sensorineural hearing loss and receives little to no benefit from hearing aids. At the center of the debate is whether an implant for a child is ethically justifiable. The National Association of the Deaf (NAD, 2000) has issued a Position Statement on Cochlear Implants based on "a wellness model" to show that many adults who are deaf have achieved high levels of wellness in all areas of their life with and without cochlear implants. NAD encourages parents to gather information with respect to many options for their child who is to experience a full life and "recognizes the rights of parents to make informed choices for their deaf and hard of hearing children, respects their choice to use cochlear implants and all other assistive devices, and strongly supports the development of the whole child" (p. 10).

Language and communication choice is a second issue that can be controversial for parents and professionals. Parents have choices regarding the way(s) they will communicate with their child. Choices may include spoken language, American Sign Language, Signed English, cued speech, or a combination of options. Although parents should make a communication choice early on to optimize language development for the child, this decision may evolve based on child preference, family involvement, and amplification options. There is no research that definitively supports any one of these options over others for *all* children who are deaf or hard of hearing.

A final area of controversy that may exist for some families centers on educational options. IDEA (2004) requires that each public agency must ensure that:

> 1) To the maximum extent appropriate, children with disabilities . . . are educated with children who are non-disabled; and 2) special classes, separate schooling or other removal of children with disabilities from the regular educational environment occurs only if the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. (IDEA Regulations, 2006, § 300.114[a][2])

However, for individuals who are deaf and hard of hearing, it is critical that professionals understand that "the continuum of placement options must be made available to all students who are deaf and hard of hearing, with the recognition that natural and least restrictive environments are intricately tied to communication and language" (National Agenda, 2005, p. 11). When determining what is the least restrictive environment for a child who is deaf or hard of hearing, professionals must take into account the child's communication, language, and educational needs. In other words, those working with students who are deaf or hard of hearing should refer to the LRE not as the *least restrictive environment*, but rather as a *language-rich environment*.

SEVERE DISABILITIES

At 36 years of age, Benny's mom, Carla, was pregnant for the second time, 10 years after Billy was born. Just as in the previous pregnancy, she had taken all the necessary steps to remain healthy—no smoking, no drinking, and no coffee. However, at 26 weeks, complications occurred, and Carla had to be flown via helicopter from her small mountain town to the city nearby where she could receive adequate care. Benny was born through C-section at 26 weeks' gestation, weighed 1 lb., 3 oz., and was 11 inches long. In less than 24 hours after his birth, doctors had informed his parents that Benny was "too tiny and was fighting for his life" in the neonatal intensive care unit (NICU). They were advised to make plans for the funeral. Even if Benny lived, doctors said, he was likely to have brain damage, the extent of which could not be *known at the time. However, Benny survived his first 24 hours and many more days and weeks. Ten surgeries and seven months later, Benny went home on oxygen support, with a tracheostomy (trach) tube, and a list of nurses who would stay with him 24/7 to support his intensive medical needs. Today, while Benny continues to use a trach tube and requires intense medical care including support from nursing staff, he is a feisty young boy, who according to his mom, behaves as all typical 3-1/2-year-olds do, "attends" preschool at home, enjoys playing with and teasing his brother, is a fussy eater, and loves to "sing" his favorite song, "The Wheels on the Bus." Benny's team of professionals have helped Benny and his family overcome personal and agency barriers and provided continued support to enhance their outcomes.*

Although most preterm infants overcome acute problems with few lasting effects, a minority, like Benny, do sustain long-term medical and neurodevelopmental complications (Rais-Bahrami & Short, 2007). This section focuses on these significant long-term impacts of prematurity and other conditions that result in severe disabilities in children.

Definition of Severe Disabilities

The term "severe disabilities" has been defined by professionals, family members, and self advocates to include a number of characteristics (Sontag & Haring, 1996). Early childhood services usually link severe disabilities and multiple disabilities into a single program to serve children with extensive mental retardation and related disabilities (Turnbull, Turnbull, & Wehmeyer, 2007). IDEA defines *multiple* disabilities as:

> concomitant impairments (such as mental retardation–blindness or mental retardation–orthopedic impairment), the combination of which causes such severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments. Multiple disabilities does not include deaf-blindness. (IDEA Regulations, 2006, § 300.8[b][6])

According to Kennedy (2004), the descriptive label of "severe disabilities" includes (1) moderate, profound, or severe intellectual disability as measured by the interaction of intelligence and adaptive behavior; (2) disability that is present throughout a person's life; and (3) disability that requires support from other people to enhance an individual's capability. People with severe or multiple disabilities may exhibit a wide range of characteristics depending on the combination and severity of disabilities and the person's age. There are, however, some traits they may all share, including limited speech or communication, difficulty in basic physical mobility, significant impairments in intellectual functioning, and/or a need for support in major life activities such as domestic, recreational, and vocational (Turnbull et al., 2007). The American Association on Intellectual and Developmental Disabilities (AIDD) stresses that when working with individuals with significant needs:

> [P]rofessionals must take additional factors into account, such as the community environment typical of the individual's peers and culture. Professionals should also consider linguistic diversity and cultural differences in the way people communicate, move, and behave. Finally, assessments must also assume that limitations in individuals often coexist with strengths, and that a person's level of life functioning will improve if appropriate personalized supports are provided over a sustained period. (AAIDD, 2009)

Some of the known genetic and environmental causes that may lead to severe disabilities include Fragile X syndrome, autism, Down syndrome, fetal alcohol syndrome, deaf-blindness, traumatic brain injury, and other nonspecific intellectual disabilities (Kennedy, 2004; Westling & Fox, 2009). However, these conditions do not always result in severe disabilities. The delays in children due to severe disabilities have a pervasive impact on child and family beyond the early childhood years because of the intensity of the disabling conditions (Chen, 1997).

Service Delivery

Overall, the context, curriculum, and philosophy of educational service delivery for individuals with severe disabilities have evolved over the years (Jackson, Ryndak, & Wehmeyer, 2010; Westling & Fox, 2009). Before the 1950s, children with significant disabilities were housed in institutions soon after birth. The few services that were available were provided privately by parent organizations and religious groups (Westling & Fox, 2009). Further, while federal legislation in 1975 (P.L. 94-142, the precursor to IDEA) brought compulsory education to school-aged children with significant needs within the public school system, it was not until 1986 that amendments were made to the legislation to create a voluntary program for states to provide services to infants and toddlers with special needs and their families to maximize the children's development. Currently, the federal grant program, Part C of the Individuals with Disabilities Education Act (IDEA, 2004), assists states in providing statewide early intervention services for infants and toddlers with disabilities, ages birth through 2 years, and their families. Similar programs for preschool-aged children are offered through Section 619, Part B of IDEA.

Typically, if the well-baby checkups reveal potential complications, the medical and special education professionals conduct a more thorough evaluation of the medical, physical, sensory, cognitive, and adaptive needs to identify the extent of disabling conditions and supports that are necessary to provide effective interventions for children with severe disabilities and their families (Horn, Chambers, & Saito, 2009).

Since Benny had an established risk condition, he was directly eligible to receive Part C services under IDEA. Once he was somewhat medically stable, the pediatrician referred Benny to the local early intervention (EI) contact person. His EI team met with Carla at the hospital and conducted an authentic assessment of his abilities, using observation, interview, and some direct tests in Benny's natural environment, the hospital at that time. His mom gave input to identify Benny's strengths and developmental needs as well as the family's resources, strengths, concerns, and needs. The assessments conducted by his early intervention team over time have allowed Benny to demonstrate his strengths and have accommodated for his disabilities. For example, since Benny cannot speak due to the trach tube, the early intervention team modified the test to allow him to use gestures or guttural sounds. The team, which includes his mom, used this information to plan Benny's next goals and intervention on his IFS. Once out of the hospital, Benny's EI team provided home-based services to Benny and his family. Later, when Benny was close to 3 years of age, his team helped plan the transition process so he could begin attending a Head Start program, which also provided early childhood special education services. When Benny turned 3, the early childhood team decided to continue to provide twice-a-week home-based services to Benny because he has a highly suppressed immune system and needs to be in a highly sanitized environment with easy access to oxygen and urgent medical care in case of emergency.

Synthesis of Research and Promising Practices

Historical and contemporary issues in research on intervention and practices for individuals with severe disabilities have focused on three broad categories: access, equity, and quality (Jackson et al., 2010). The following synthesis of literature on working with young children with severe disabilities is provided within this broad framework.

Approaches to Assessment

Increasingly, in early childhood, there is a call for service delivery to follow a linked system, whereby the assessment guides the goal development, intervention, progress monitoring, and further evaluation (Bagnato, Neisworth, & Munso, 1997; Pretti-Frontczak, 2002). A well-developed and implemented assessment must enhance children's learning and developmental outcomes within the context of their family's culture and natural routines. However, the assessment procedures for students with severe disabilities are often not equitable and target child deficits and accentuate what the child cannot do, rather than emphasizing the strengths of the child, thus resulting in low expectations for success (Downing & Demchak, 2002). Further, assessments that are normed on children who are typically developing often provide a negative picture of a child with severe disabilities, because the assessment may not utilize skills in the natural environment or may not emphasize the skills that are valued by the individual, family, or the community. Therefore, authentic assessment that documents the learning and development of children during real life activities and routines has been emphasized and is especially true for children with severe disabilities (Neisworth & Bagnato, 2004). Assessments must (1) measure the child's learning with respect to the IFSP outcomes or Individual Education Program goals (IEP), and (2) be more broadly based on the child's development and learning gains, in order to make inclusion in the community and access to general curriculum the focus for designing services provided to young children (Horn et al., 2009).

Assistive Technology

To provide equity and access for children with severe disabilities to least restrictive environments, IDEA (2004) requires that assistive technology (AT) be considered and provided for a child with disabilities if it is determined that the child needs such technology to access and participate in everyday learning activities (Judge & Parette, 1998). AT services include any service that directly assists a child with a severe disability in the selection, acquisition, and use of an AT device. Services may also include training and coordinating with other service providers and family members. However, early childhood professionals must consider child and family preference as a prerequisite for any assistive technology solutions (Plunkett, Banerjee, & Horn, 2010).

The extended stay at the hospital was stressful for Benny's mom. The early intervention (EI) provider met with Carla to provide support and suggest resources available to the family. The AT she suggested helped Carla to provide support to Benny and allow him to experience positive interactions with family members. Through trial and error, Carla discovered that placing Benny in the swing and turning on the vibrator element calmed him. He was able to tolerate his family members holding his hand, talking to him, and stroking his face. Between the ages of 1 and 2, the occupational therapist (OT) and EI provider suggested low-tech AT that allowed Benny to gain strength and mobility and to roam safely in his home. The OT also suggested special positioning and a seating system for Benny to better support his body during play and daily living skills, such as bathing, dressing, feeding, and toileting.

When Benny was older, the speech therapist introduced him and his mom to medium-tech assistive devices, such as switch-activated sound and vibrating toys to encourage Benny to communicate his daily needs, preferences, and choices, and to interact with his peers and adults, who could not understand his vocalizations, gestures, and signs. Benny currently uses a 16-switch voice output device to communicate his needs, initiate conversations, and interact with adults and peers.

Family-Centered Practices

Recently, to enhance the quality of services provided, the delivery of early childhood intervention services has shifted from professional, clinical models to a family-centered model in all areas of service delivery (Keilty & Galvin, 2006). Due to the intensity of the services and support required for children with significant needs, early childhood professionals must also support family-centered services such as family training, social work, and respite care, as well as the child-focused services of occupational therapy, speech therapy, and physical therapy. Increasing diversity in the United States has further underscored the need for family-centered services with families from diverse cultural and linguistic backgrounds.

Collaboration

Multiple professionals and agencies are involved in providing educational, physical, medical, and social-emotional services to children with severe disabilities and their families in various learning environments—home, school, and community. Collaboration between parents, related service providers such as speech language pathologists, occupational and physical therapists, early interventionists, and educators is critical to effectively support children with severe disabilities (Horn, Thompson, & Nelson, 2004).

Over the years, Carla has interacted with numerous professionals to ensure the best services possible for Benny. Carla is thankful that most professionals, representing different areas of expertise including a social worker, visual impairment specialist, nurse, early interventionist, occupational therapist, and speech therapist, worked as a team with Carla to identify her and her family's needs and researched and implemented strategies to solve them. For example, when Benny was in the hospital, the EI team was able to raise money for her and provide her with information on Medicaid and other similar options to aid in paying the hospital bills.

Strategies for Professionals and Families

Some strategies that have been listed in the literature as promising for young children with severe disabilities are:

Supporting access to and progress in the general curriculum. The primary function of early intervention and early childhood special education services is to promote children's learning and development (Wolery, 2005). Further, though health and genetic inheritance are important, children's social and physical environments are crucial to children's learning and development. Accordingly, children's access to and progress in a high-quality classroom within the general curriculum is critical for serving children with severe and multiple disabilities (Horn et al., 2009). To provide high-quality learning environments to young children that enhance their learning, Wolery suggests adults must (1) "design environments to promote children's safety, active engagement, learning, participation, and membership; (2) individualize and adapt practices for each child based on ongoing data to meet children's needs; and (3) use systemic procedures within and across environments, activities, and routines to promote children's leaning and participation" (p. 31).

Naturalistic approaches. Early childhood professionals have increasingly embraced the use of naturalistic approaches, also called activity-based instruction or incidental teaching, to support meaningful outcomes for the child with disabilities and their families (Horn & Banerjee, 2009). Naturalistic instructional approaches are particularly relevant for children with severe disabilities as they are age-appropriate and can be implemented in a variety of child learning environments and service delivery models, including home visiting, child care, community preschools, and public schools; as well as across professionals, including teachers, therapists, school counselors, and social workers. Furthermore, naturalistic instructional procedures can be applied to address a variety of skills and promote development in children across a variety of developmentally important domains. *For example, the early interventionist taught Benny the names of colors during meal times and suggested to Carla how she might reinforce and generalize these concepts during naturally occurring communication at home.*

Utilizing family needs, concerns, priorities, strengths, resources, and interests in planning intervention. Parents' opinions and suggestions are critical in understanding the needs and preferences of young children with multiple and severe disabilities. As the main decision makers for their children, parents must have opportunities to participate in the eligibility determination, goals to be addressed, and the specific services to be provided to their children. Further, families of children with a severe disability need large amounts of formal and informal supports that can help attenuate the stress and loneliness these families may already feel. Formal supports may include support from professionals, parent groups, and agencies. Informal supports may include extended family, friends, or neighborhood communities, participation in church or other institutions of social, spiritual, or religious nature. The importance of considering cultural values and family expectations to optimize the young child's ability to engage in developmentally appropriate activities and experiences is underscored. Research has shown that families that utilize coping strategies, such as developing professional and social networks and finding meaning through reframing, have shown greater family resilience, strengths, and positive outcomes (Childre, 2004).

Carla has been actively involved in the community to ensure that parents of children receiving new services adequately understand and utilize the services afforded to them under the law. She volunteers with the hospital and local and state agencies to present parent perspectives in training professionals who work with families of young children with severe needs.

Controversial Issues

Current debate among professionals and policy makers who work with students with severe disabilities has been around the provision of least restrictive environment and inclusion for children with severe disabilities in educational programs and community settings. The question is not "whether teachers used specific forms of instruction and not others, but whether students even had access to the educational opportunities afforded to all other students" (Jackson et al., 2010). Using theory, historical records, and empirical research, Jackson and colleagues (2010) argue that "inclusive education, in which students experience significant proportions of their day in the age-appropriate contexts and curriculum of general education, is a research-based practice with students who have extensive support needs" (p. 175).

Researchers argue that least restrictive environment for children with severe disability, afforded under IDEA to all individuals with disabilities, is the environment that is designed or experienced by children without disabilities. These early childhood settings may include special education and related services provided in regular kindergarten classes, public or private preschools, Head Start centers, child care facilities, preschool classes offered to an eligible prekindergarten population by the public school system, home/early childhood combinations, home/Head Start combinations, and other combinations of early childhood settings. However, placement in high-quality inclusive early childhood settings alone does not guarantee a level of instruction needed to address the needs of children with severe disabilities. To optimize outcomes for young children with severe disabilities, the early childhood professionals must ensure equity, access, and quality by (1) setting meaningful goals for children that are functional in a variety of contexts; (2) planning appropriate adaptations and modifications to enable children to participate fully in the curriculum; and (3) adopting and implementing a well-defined, research-based curriculum that allows children to make progress across all developmental domains. It is insufficient to simply place a child in a general education classroom without facilitating meaningful opportunities for learning and interaction within the daily routine (Horn & Banerjee, 2009; Horn et al., 2009).

CONCLUSION

Although low-incidence disabilities affect only a small proportion of children, the impact of the disability on the child can be overwhelming for the family. This chapter has provided an overview of three different disabilities under the category of low incidence. Each of these is unique in the way the disability is identified and early intervention and preschool services are offered, yet they are similar in that children and families with low-incidence disabilities face similar hurdles—communication, supportive and enriching environments, and the understanding of the professionals and communities in which they live.

Although it may be a legal assurance that students who have visual impairment, deafness or hearing loss, or severe disabilities are entitled to early intervention services, it should not be taken for granted that these services are necessarily provided by highly qualified individuals who understand and adhere to best practices. The goal of early intervention and early childhood special education is to alleviate the delays often attributed to a disability and to provide services and resources to the family to establish a strong environment of learning and growth that will support children throughout their lives. A quality program that provides individualized, family-centered, instructional services in "natural" environments, supports collaboration, and focuses on a child's strengths rather than weaknesses is critical to ensuring that children with low-incidence disabilities are active participants in all aspects of life and are making meaningful progress towards valued life outcomes.

REFERENCES

Alexander Graham Bell Association for the Deaf and Hard of Hearing. (2002). *Best practice model*. Retrieved from http://nc.agbell.org/NetCommunity/Page.aspx?pid=737

American Academy of Pediatrics Joint Committee on Infant Hearing. (2007). Position statement: Principles and guidelines for early hearing detection and intervention programs. doi:10.1542/peds.2007-2333

American Association on Intellectual and Developmental Disabilities. (AAIDD) (2009). Retrieved from http://www.aamr.org/content_100.cfm

American Speech-Language-Hearing Association (ASHA) (2008). *Roles and responsibilities of speech-language pathologists in early intervention: Technical report*. Retrieved from http://www.asha.org/docs/html/TR2008-00290.html

ASHA-CED. (2006). *Natural environments for infants and toddlers who are deaf or hard of hearing and their families*. Retrieved from American Speech-Language-Hearing Association, http://www.asha.org/advocacy/federal/idea/nat-env-child-facts.htm

Bagnato, S. J., Neisworth, J. T., & Munso, S. M. (1997). LINKing assessment and early intervention. Baltimore: Paul H. Brookes.

Beginnings for Parents of Children Who Are Deaf or Hard of Hearing. (2008). *The importance of early diagnosis/intervention*. Retrieved from http://www.ncbegin.org/early_intervention/early_intervention.shtml

Benson, V., & Marano, M. A. (1994). Current estimates from the National Health Interview Survey, 1992. *Vital Health Statistics, 10*(189), 1–269.

Blind Babies Foundation. (1998). *Pediatric visual diagnosis factsheet: Optic nerve hypoplasia*. Retrieved from http://www.tsbvi.edu/seehear/spring99/opticnerve.htm

Calderon, R., & Greenberg, M. (1997). The effectiveness of early intervention for deaf children and children with hearing loss. In M. J. Guralnick (Ed.), *The effectiveness of early intervention* (pp. 445–482). Baltimore: Paul H. Brookes.

Chen, D. (1997). *Effective practices in early intervention: Infants whose multiple disabilities include both vision and hearing loss* [report for OSEP Grant NO. H025D30002]. Northridge: California State University. (Eric document Reproduction Service No. ED406795)

Childre, A. (2004). Families. In C. H. Kennedy, & E. M. Horn (Eds.), *Including students with severe disabilities* (pp. 78–99). New York: Pearson.

Colorado Home Intervention Program. (Producer) (2003). *Early intervention illustrated: The home team* [DVD]. Boys Town Press.

Colorado Home Intervention Program and the New Mexico School for the Deaf (Producer). (2004). *Early intervention illustrated: The art and science of home visits* [DVD]. Boys Town Press.

Division on Visual Impairments (DVI), Council for Exceptional Children. (2003). *Position statement: Family-centered practices for infants and young children with visual impairments*. Retrieved from http://www.cecdvi.org/Postion%20Papers/family_centered.htm

Downing, J. E., & Demchak, M. (2002). In J. E. Downing (Ed.), *Including students with severe and multiple disabilities in typical classrooms: Practical strategies for teachers* (2nd ed., pp. 37–70). Baltimore: Paul H. Brookes.

Ferrell, K. A. (1997). Preface. In P. Crane, D. Cuthbertson, K. A. Ferrell, & H. Scherb (Eds.), *Equals in partnership: Basic rights for families of children with blindness or visual impairment* (pp. i–v). Watertown, MA: The Hilton/Perkins Program and the National Association for Parents of the Visually Impaired.

Ferrell, K. A. (1998). *Project PRISM: A longitudinal study of developmental patterns of children who are visually impaired* [final report]. Greeley, CO: University of Northern Colorado, National Center on Severe & Sensory Disabilities. Retrieved from http://www.unco.edu/ncssd/research/PRISM/default.html

Ferrell, K. A. (2000). Growth and development of young children. In M. C. Holbrook & A. J. Koenig (Eds.), *Foundations of education*. Vol. 1: *History and theory of teaching children and youths with visual impairments* (2nd ed., pp. 111–133). New York: AFB Press.

Ferrell, K. A. (2010). *Reach out and teach* (2nd ed. rev.). New York: AFB Press.

Ferrell, K. A., Trief, E., Deitz, S., Bonner, M. A., Cruz, D., Ford, E., & Stratton, J. (1990). The visually impaired infants research consortium (VIIRC): First year results. *Journal of Visual Impairment and Blindness, 84*, 404–410.

Fraiberg, S. (1977). *Insights from the blind*. New York: Basic Books.

Harlor, A. D. B., Jr., & Bower, C. (2009) Hearing assessment in infants and children: Recommendations beyond neonatal screening. *Pediatrics, 124*, 1252–1263. doi:10.1542/peds.2009-1997

Hatton, D. D. (2001). Model registry of early childhood visual impairment. *Journal of Visual Impairment & Blindness, 95*, 418–433. Retrieved from http://www.afb.org/jvib/jvib_main.asp

Hatton, D., Bailey, D. B., Burchinal, M., & Ferrell, K. A. (1997). Developmental growth curves of preschool children with vision impairments. *Child Development, 64*, 788–806.

Hatton, D., Erickson, K., & Lee, D. B. (2009, November). *Phonological awareness and concepts about print in young children with visual impairments*. Paper presented at 9th Biennial Getting in Touch with Literacy Conference, Costa Mesa, CA.

Hearing Loss Association of America. (1997, November–December). Policy statement on educating hard of hearing children in regular schools. *Hearing Loss Magazine*. Retrieved from http://www.hearingloss.org/advocacy/hardofhearingchildren.asp

Horn, E., & Banerjee, R. (2009). Understanding curriculum modifications and embedded learning opportunities in the context of supporting all children's success. *Language, Speech, and Hearing Services in Schools, 40*, 406–415.

Horn, E., Chambers, C., & Saito, Y. (2009). Techniques for teaching young children with moderate/severe or multiple disabilities. In S. A. Raver (Ed.), *Early childhood special education—0–8 years: Strategies for positive outcomes* (pp. 255–278). New Jersey: Merrill.

Horn, E., Thompson, B., & Nelson, C. (2004). Collaborative teams. In C. H. Kennedy & E. M. Horn (Eds.), *Including students with severe disabilities* (pp. 17–32). New York: Pearson.

Individuals with Disabilities Education Act [IDEA], 20 U.S.C. 1400 (2004).

Individuals with Disabilities Education Act [IDEA] Regulations, 34 C.F.R. Parts 300–304 (2006).

Jackson, L., Ryndak, D., & Wehmeyer, M. (2010). The dynamic relationship between context, curriculum, and student learning: A case for inclusive education as a research-based practice. *Research and Practice for Persons with Severe Disabilities, 33*(4), 175–195.

Judge, S. L., & Parette, H. L. (1998). Family centered assistive technology decision making. *Infant-Toddler Intervention, 8*, 185–206.

Keilty, B., & Galvin, K. M. (2006). Physical and social adaptations of families to promote learning in everyday experiences. *Topics in Early Childhood Special Education, 26*, 219–233.

Kennedy, C. H. (2004). Students with severe disabilities. In C. H. Kennedy & E. M. Horn (Eds.), *Including students with severe disabilities* (pp. 3–16). New York: Pearson.

Koestler, F. A. (2004). *The unseen minority: A social history of blindness in the United States* (reissued). New York: AFB Press.

Marge, D. K., & Marge, M. (2005). *Beyond newborn hearing screening: Meeting the educational and health care needs of infants and young children with hearing loss in America*. Report of the National Consensus Conference on Effective Educational and Health Care Interventions for Infants and Young Children with Hearing Loss, September 10–12, 2004. Syracuse, New York: Department of Physical Medicine and Rehabilitation, SUNY Upstate Medical University. Retrieved from http://www.upstate.edu/pmr/beyond_newborn.pdf

Maxfield, K. E., & Buchholz, S. (1957). *A social maturity scale for blind preschool children: A guide to its use*. New York: American Foundation for the Blind.

Miyamoto, R. T., Hay-McCutcheon, M. J., Kirk, K. I., Houston, D. M., & Bergeson-Dana, T. (2008). Language skills of profoundly deaf children who received cochlear implants under 12 months of age: A preliminary study. *Acta Oto-Laryngologica, 128,* 373–377.

Moeller, M. P. (2000). Early intervention and language development in children who are deaf and hard of hearing. *Pediatrics, 106*(3), e43.

Moore, M. S., & Levitan, L. (2001). *For hearing people only* (3rd ed.). MSM Productions.

National Agenda: Moving forward on achieving educational equality for deaf and hard of hearing students. (2005). Retrieved from National Agenda: Deaf and Hard of Hearing, http://www.ndepnow.org/pdfs/national_agenda.pdf

National Association of the Deaf (NAD), Cochlear Implant Committee. (2000). NAD position statement on cochlear implants. Retrieved from the National Association of the Deaf, http://www.nad.org/issues/technology/assistive-listening/cochlear-implants

National Institutes of Health. (1993). *Early identification of hearing impairment in infants and young children*. Consensus development conference statement. Retrieved from http://consensus.nih.gov/1993/1993HearingInfantsChildren092html.htm

Neisworth, J. T., & Bagnato, S. J. (2004). The mismeasure of young children: The authentic assessment alternative. *Infants and Young Children, 17*, 198–212.

Norris, M., Spaulding, P. J., & Brodie, F. H. (1957). *Blindness in children*. Chicago: University of Chicago Press.

Plunkett, D., Banerjee, R., & Horn, E. (2010). Supporting early childhood outcomes through assistive technology. In Seok, S. (Ed.), *Handbook of research on human cognition and assistive technology: Design, accessibility and transdisciplinary perspectives* (pp. 339–358). Hershey, PA: IGI Global.

Pogrund, R. L. (2002). Refocus. In R. L. Pogrund & D. L. Fazzi (Eds.), *Early focus: Working with young children who are blind or visually impaired and their families* (2nd ed., pp. 1–15). New York: AFB Press.

Pretti-Frontczak, K. L. (2002). Using curriculum-based measures to promote a linked system approach. *Assessment for Effective Intervention, 27*(4), 15–27.

Rais-Bahrami, K., & Short, B. L. (2007). Premature and small-for-dates infants. In M. K. Batshaw, L. Pellegrino, & N. J. Roizen (Eds.), *Children with disabilities* (6th ed., pp. 107–122). Baltimore: Paul H. Brookes.

Sandall, S., Hemmeter, M. L., Smith, B. J., & McLean, M. E. (Eds.). (2005). *DEC recommended practices: A comprehensive guide*. Longmont, CO: Sopris West.

Sass-Lehrer, M. (2002). *Early beginnings for families with deaf and hard of hearing children: Myths and facts of early intervention and guidelines for effective services*. Retrieved from Laurent Clerc National Deaf Education Center, Gallaudet University, http://clerccenter.gallaudet.edu/Clerc_Center/Information_and_Resources/Info_to_Go/Help_for_Babies_(0_to_3)/Early_Intervention/Early_Beginnings_Contents.html

Sass-Lehrer, M. (2003). Programs and services for deaf and hard of hearing children and their families. In B. Bodner-Johnson & M. Sass-Lehrer (Eds.), *The young deaf or hard of hearing child: A family-centered approach to early education* (pp. 153–180). Baltimore: Paul H. Brookes.

Sontag, E., & Haring, N. G. (1996). The professionalization of teaching and learning of children with severe disabilities: The creation of TASH. *Journal of the Association for Persons with Severe Handicaps, 21*, 39–45.

Tompkins, C. (1998). Goal 1: Students and their families will be referred to an appropriate education program within thirty days of identification of a suspected visual impairment. In A. L. Corn & K. M. Huebner (Eds.), *A report to the nation: The national agenda for the education of children and youths with visual impairment, including those with multiple disabilities* (pp. 7–12). New York: AFB Press.

Turnbull, A., Turnbull, R., Erwin, E. J., & Soodak, L. C. (2006). *Families, professionals, and exceptionality: Positive outcomes through partnerships and trust* (5th ed.). Princeton, NJ: Merrill.

Turnbull, A., Turnbull, R., & Wehmeyer, M. (2007). *Exceptional lives: Special education in today's schools* (5th ed.). Princeton, NJ: Merrill.

U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs. (2009). *Twenty-eighth annual report to Congress on the implementation of the Individuals with Disabilities Education Act, 2006*. Washington, DC: Author.

U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Deafness and Other Communication Disorders. (2009, August). *NIDCD fact sheet Cochlear implants* [Publication No. 09-4798]. Retrieved from http://www.nidcd.nih.gov/staticresources/health/hearing/FactSheetCochlearImplant.pdf

Westling, D. L., & Fox, L. (2009). *Teaching students with severe disabilities*. New Jersey: Merrill.

Wolery, M. (2005). DEC recommended practices: Child-focused practices. In S. Sandall, M. L. Hemmeter, B. J. Smith, & M. E. McLean (Eds.), *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education* (pp. 71–106). Longmont, CO: Sopris West.

Yoshinaga-Itano, C., Sedey, A. L., Coulter, D. K., & Mehl, A. L. (1998). Language of early- and later-identified children with hearing loss. *Pediatrics, 102*, 1161–1171.

Chapter 11

What It Means to Be Literate from the Perspective of Young Children: Exploring the Domains of Literacy and Mathematics in Early Childhood

Efleda Tolentino

Early childhood is a time when the foundations of literacy and mathematics are built. Educational systems in countries such as the United States, Canada, France, Germany, Italy, Japan, the Russian Federation, and the United Kingdom recognize the importance of providing programs of education for children at least 3 years of age that involve structured, center-based, and instructional activities (National Center for Education Statistics, March 2009). Research indicates that children who participate in early care and education tend to score higher in mathematics and reading assessments as compared to their peers who had no preprimary care and education prior to kindergarten entry (National Center for Education Statistics, October 2009). Although preprimary education is not compulsory in the United States (with the exception of a few states), children who do attend nursery school, prekindergarten, and kindergarten are immersed in activities that foster emergent literacy and numeracy skills (National Center for Education Statistics, March 2009).

Increasing attention is drawn towards providing literacy and mathematics education in the preschool (Neuman & Roskos, 2005; U.S. Department of Education, 2003). In New York state, standards for mathematics and literacy are in place as early as prekindergarten (University of the State of New York & the State Education Department, 2002). Head Start has also modified its standards to address areas such as mathematics and literacy in accordance with the Child Outcomes

Framework (Head Start Bureau, 2001). In a recent report by the National Center for Education Statistics and the U.S. Department of Education, the findings revealed that the children who entered kindergarten in the fall of 2006 and the fall of 2007 appeared to be equipped with literacy and mathematical knowledge (Flanagan, McPhee, & Mulligan, 2009). The aforementioned cohort of children was diverse in race, ethnicity, socioeconomic status, primary language, family type, as well as range and quality of early care and education experiences (Flanagan et al., 2009).

In a society where literacy and mathematics are considered important, it is essential to draw children as co-participants in the process of cultural transmission, immersing them in mastery and application of concepts and skills early in life as a way to support them in organizing knowledge and experience. Eisenhauer and Feikes (2009) signify the importance of math in young children's lives as they naturally compare, count, quantify, collect data, and "monitor their position in space" (p. 22). In the same vein, literacy is embedded in young children's daily encounters, enabling them to internalize "attitudes, knowledge, and skills about reading, writing, listening, and speaking" (Millard & Waese, 2007, p. 3). Mathematics and literacy simply intersect in children's experiences as they engage in acts of meaning, such as gesturing, drawing, storytelling, conversation, and play. Because children participate in sociocultural practices valued by members of their families and the wider community, they develop concepts of literacy and mathematics long before they enter school (Sarama & Clements, 2009). As they become part of the web of interactions within their immediate environment, they become reflective and deliberate in their use of print, symbols, and marks to represent meaning. Interactions within the environment enable children to acquire and apply knowledge about print, symbols, and stories.

This period is also known as emerging literacy. This term captures the "little-by-little" accumulation of early knowledge upon which the child will build when he enters formal instruction (Clay, 1991). From an emergent literacy perspective, children construct their own literacy. From an emergent numeracy perspective, children are emerging with a working understanding of mathematics as applied in their lives. In other words, because children are constructors, problem solvers, and theorists, they realize the potential of literacy and mathematics as a means to communicate, invent, create, construct, and extend their working schema of the world.

This chapter is an invitation to broaden our understanding of literacy and mathematics in early childhood. The field of early childhood education summons its teachers to strengthen and support preschool literacy (International Reading Association and National Association for the Education of Young Children, 1998) and mathematics (Clements, 2004; National Association for the Education of Young Children and National Council of Teachers of Mathematics, 2002). Embedded within this chapter are children's acts of meaning in the form of conversations, drawings, and written artifacts. In this investigation, it is essential to view literacy and mathematics from a child-centric perspective, which encompasses fully listening to the words and paying attention to the symbols, marks, patterns, and gestures that children incorporate into their acts of meaning. Children's acts of meaning are made with intentionality; that is, children deliberately represent their ideas in graphic, oral, and written narrative forms.

A child-centric perspective necessitates a shift in the ways that we, as adults and child advocates, view mathematics and literacy: What do mathematics and literacy mean to young children? Hence, rather than viewing mathematics and literacy learning as end goals in the lives of young children, literacy and mathematics serve as a means to a greater end. Children perhaps use literacy and mathematics as tools to generate meaning that will enable them to successfully thrive within their social worlds. This requires the ability to construct, deconstruct, and reconstruct knowledge structures on a personal level and apply knowledge constructs on a social level.

The chapter begins with a personal story and is then followed by documentation generated from an observational field study that was conducted in a classroom of emergent readers and mathematicians. The common thread that binds the stories is the children's voice, and how children demonstrate their knowledge of math and literacy through their acts of meaning.

OVERCOMING A SPEECH BARRIER: MAKING MEANING VISIBLE

Our child was diagnosed with speech delay at 31 months of age. While it appeared that our child was bright, sociable, and receptive towards interactions initiated by members of our family and our circle of friends, his speech articulation was not clear, making it difficult for him to be understood. Because my husband and I were also our child's primary caregivers, we were the only ones who could decipher his speech. He would say "oo" for "juice" and "uh" for truck. He would call the ice cream van "ay—eem—en" and would express phrases such as "Things that go" as "ee-ah-ow." After much thought and reflection, my husband and I shared our concerns with the early intervention service coordinator. A team of professionals evaluated our child and recommended speech therapy and group intervention through a play-based early childhood center.

For a year, our child received one-on-one support and instruction from a speech therapist twice during every week and was also a participant in a play group facilitated by an early childhood teacher. As his parents, we were given some guidance in supporting our child's speech development; but because we wanted to understand the essence of our child's speech, we also encouraged him to explore other modes of communication. One of the things we encouraged our child to do was to write and draw. We restructured his play space to include a table that contained writing implements. As soon as we had set up a writing space, we noticed that the space itself and the writing implements within served as tools as well as provocations for our child to pursue varied ways of representing his thinking. The first time he encountered markers was when he was 28 months of age. He produced the following representation (see Figure 11.1).

Figure 11.1 The first attempts using a marker.

It is hard to tell whether children are intentional in creating representations when they first use writing implements or simply find pleasure in the movement of the pen or the marks that they produce (Harris, 1963; Kellogg, 1969). With our son, holding the marker seemed to help him gain control over ways that he could express his ideas.

Around the same time, our child was at his table drawing what appeared to be circular figures. Right by his sheet of paper were a number of toy cars and trucks. As he was making circular motions with his marker, he was also engaged in private speech, saying to himself, "weee . . ." To our son, there was meaning in the marks that he was making; in essence, the speech and the marks on paper served to represent running ideas, or his thinking. As the minutes wore on, the marks progressively appeared to be more and more deliberate. Upon completion of his drawing, he showed me his work, saying "Weee." Because I was not certain what this meant, I asked him, "I see that you made a lot of circles. Can you tell me what they are?" He then leads me to his table and points out the wheels of his cars and trucks. And once more, he said, "Weee." It was then that I realized what it was that he produced. The circular figures were actually wheels (see Figure 11.2). Almost intuitively, he used writing/drawing as a means to be understood. Our child used his writing tools on a regular

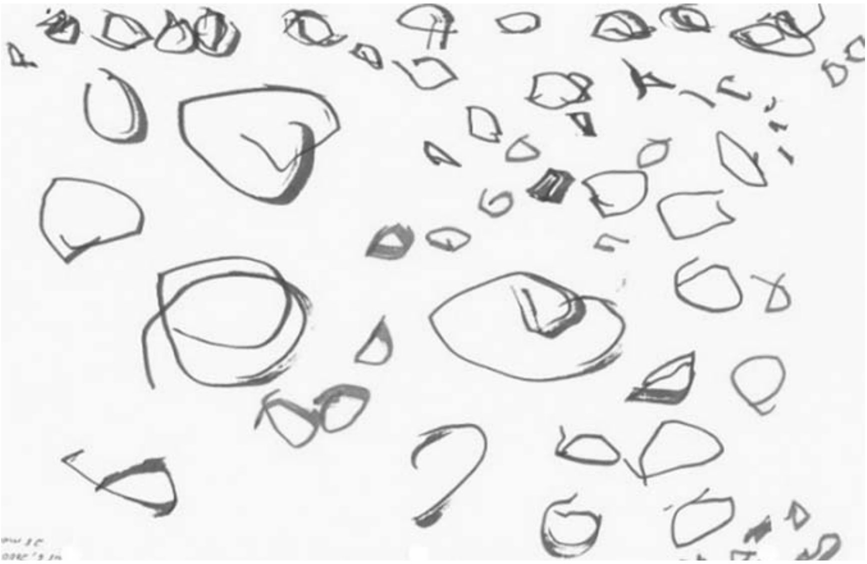


Figure 11.2 Circular shapes labeled as "wheels."

basis, initially satisfying his personal needs and intuitively using his representations as a way to communicate with the rest of our family. Engaged in a process of creation and re-creation, he repeatedly draws wheels on another sheet of paper, perhaps as a way to develop mastery in creating the figure.

Three things struck me about this particular episode. First was my child's desire to convey meaning. His use of various forms of representation was a skillful way to express his thoughts and reveal his intent to be understood. In his desire to be understood, he verbally said the word "wheels," gesturing with his fingers, representing them through his drawings, and *using* concrete examples to convey meaning. Second, I was fascinated with his persistence in drawing the same subject repetitively, as if it were a rehearsal of some sort. Wolf and Perry (1988) would characterize children's repetitive attempts to create figurative representations as a means to develop mastery. Third, I was struck with my child's ability to serve as a scaffold for me, drawing my attention to various representations of a word that apparently had significance for him at that moment. He appeared to have found a medium that enabled him to express ideas that his speech could not fully convey. *My child had figured out an alternative path to communicate his thinking*.

Reflecting upon this experience, I realized that my child was a protagonist in his own learning, and to support my child as a communicator, it was important for me to step back and to listen, to know his area of interest, to know his strengths, and to know his challenges. In other words, it was important for me to know him intimately as a learner. It was also around this age when my child would mark his paper in a flurry of back-and-forth gestures, creating what appeared to be lines, dots, and curves (see Figure 11.3).

Seemingly exercising control over his tool, he attempts to develop mastery in creating lines on paper. He would spend hours working on his sketches that appeared to us as random marks. Just when we began to inquire into whether the marks had meaning for him, he surprised us one day with his first representation of a truck (refer to Figure 11.4). It happened one evening, as he was drawing at his table. Among the writing implements on his table was his truck. Upon completion of his drawings, he approached me and shared his sketch, excitedly saying, "Ah-ow." It was difficult for me to understand his speech, but because his words were accompanied by a visual representation, I was able to understand what he meant to convey. His sketch was a truck that had wheels, a body, an arm, and a claw at the tip. Put together, the lines,

Figure 11.3 A flurry of lines, dots, and curves.

circles, and curves that he repetitively drew in previous drawings appeared to have been combined and configured to take the form of a backhoe, a subject of interest since he was 1 1/2 years old. Golomb (1981) stipulated that children's attempts to create a visual representation are part of the process of searching for meaning and likeness. *The sketch indeed resembled a backhoe*. Then, he pointed to the dark circle underneath the body of the backhoe and said, "weee." It occurred to

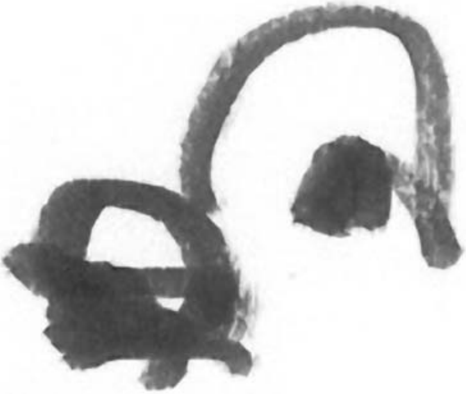


Figure 11.4 First sketch of a backhoe.

us that the repetition of lines, circles, and curves were prerequisites to a big idea, almost as if they were a prelude to a play. This is a simple but clear demonstration of an act of building from within. *Our child used his knowledge of lines, circles, and curves to create a picture that represented an idea, making his thoughts visible.*

Prior to this episode, our child had a fascination for cars and trucks. Like a researcher, he would closely examine his toy, look at its parts, and observe how it moved. To support his investigations, we made trips to construction sites within the neighborhood. He would count and name every truck that he could see while observing how they moved. We also read fiction and nonfiction books that covered trucks and forms of transport. We spent amounts of time during the day in conversation about his favorite topic. In retrospect, the context that includes the activities, the relationships within, and the mode of representations served as a support in his meaning-making process. As his parents and primary caregivers, we provided an environment that acknowledged his questions and interests and created opportunities for furthering his knowledge. Revisiting the same books seemed to have given him opportunities to process what he was learning and to master the concepts that were unfolding on every page.

During our truck investigations, we noticed that we were also incorporating various disciplines such as literacy, mathematics, science, social studies, art, music, and movement. At 29 months, our child had become an expert on the subject of trucks. He was able to name and classify trucks of all kinds, pointing out their uses and their importance in the world that revolved around him. At the same time, he was demonstrating his understanding of mathematical concepts such as symmetry, one-to-one correspondence, patterns, shapes, size, open and closed space, angles, and the relationship between parts to a whole. Excited with this newfound ability to create objects of interest, our child returned to the writing space provided and drew a number of backhoes on the same sheet (see Figure 11.5 for this drawing). It was as if our child was engaged in a recursive cycle of intimate discovery of visual literacy and artistic ability. Research shows that in capturing the visual aspects of an object, children pay attention to the shape, spatial arrangements, the proportions, and the size of their subject (Matthews, 1984).

Hence, our child was honing mathematical skills, drawing figures, composing parts to create the whole picture, counting the number of wheels, and demonstrating one-to-one correspondence between the wheels of his toy trucks and the wheels that were represented on the printed page. Goodnow (1977) would describe this process as a child's

Figure 11.5 First sketch of "many backhoes."

way of searching for equivalents. With every sketch, our child was exploring the concept of quantity, translating concrete concepts into abstract form, and developing the ability to think deductively and inductively with the creation of parts of a whole. Every sketch appeared to have a story embedded. Even as speech articulation was progressing, our child shared stories, sometimes recalling and acting out episodes from books that we had read over and over again, a process known as reenactment of texts. Participating in the act of storytelling, our child would compose personal narratives, sharing text-to-life connections during dialogue. Our child's print awareness was reflected in ways that he incorporated environmental print into his representations.

Children's representations draw our attention to how observant and reflective they are as literate individuals. The sketch that follows show trains of different colors (see Figure 11.6). Every train had a letter or number embedded on it, just like the trains that are found in our local subways. Our child had brought his observations of symbols and environmental print into his drawings, a sophisticated ability for a 2-year-old that reflected (in part) his emerging literacy. Creating marks developed alongside creating print. Children's deliberate acts

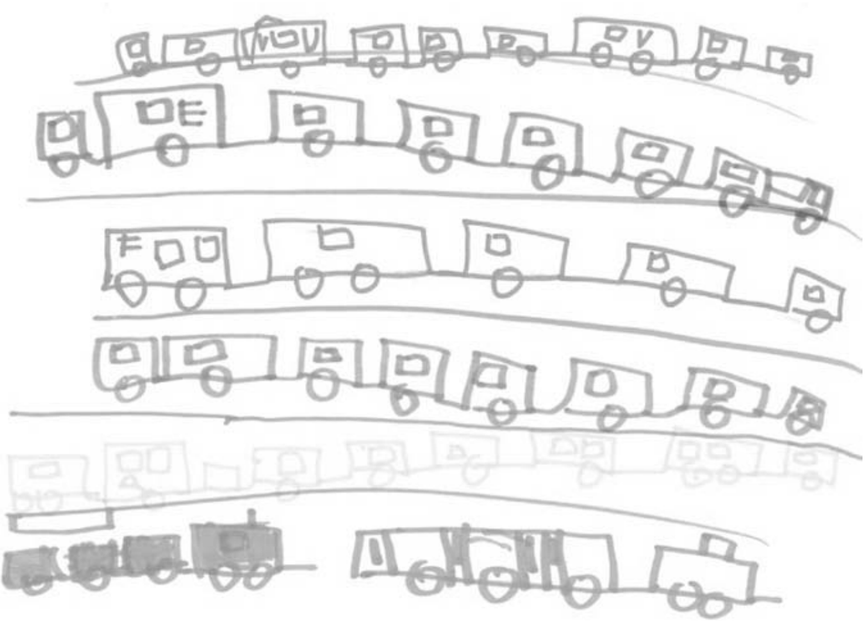


Figure 11.6 Trains in the subway.

of writing or drawing convey their strong desire to tell about something (Schickedanz & Casbergue, 2004). Experimenting with print not only facilitated writing development, but more importantly, it gave our child a mode of representation to make his ideas visible.

As our child received speech support services, we also provided him with opportunities to enrich his learning. In other words, together with our child's support team, we created supportive contexts within which he thrived as a learner. Through representations and conversations, it became apparent that a speech delay was not a barrier to literacy and mathematical development as well as conceptual development. It was apparent that a network of social support and consistent, two-way scaffolding were just as important to overcome this challenge.

EMERGENT LITERACY AND MATHEMATICS FROM A SOCIOCULTURAL PERSPECTIVE

Children's acts are meaning-driven. Their attempts to understand the world and to use available tools and resources are ways in which they build upon what they know so that they can fully participate in social acts that are meaningful in their culture. Literacy and mathematics are a natural part of everyday life. Viewing children from a sociocultural lens enables us to understand how members of a child's culture make an impact on their emerging knowledge of literacy and mathematics.

The Context of Home

As demonstrated in the introductory anecdote, children grow in the context of a social semiotic network of meanings within the culture that enables them to master the systems that are valued by the members of their environment (Halliday, 1978). Initially using cries, gestures, and symbolic representations, young children become literate in the systems of communication that their culture embraces. Even in the crib, infants are already exposed to objects and various forms of representation. Antell and Keating (1983) indicate that in the first weeks of life, infants begin to notice the distinction between small and large quantities. This research is supported by Lipton and Spelke (2003) as they observed 5-month-old infants noticing the difference between small quantities. Young children are at the beginning of their journey of understanding what objects signify, the meaning of the marks that they create, and the print that abounds in their environment. Very young children tend to be more inventive in their attempts to communicate as they are not always "able to clearly express themselves verbally" (Wright, 1997, p. 361). Because of their desire to communicate, they create and invent alternative ways to make their thoughts visible: through words, gestures, and signs (Wright, 1997).

Language is a form of symbolic representation that serves as a tool for learning and communication within social contexts (Britton, 1970). For children, language enables them to jointly construct meaning with others (Vygotsky, 1978). The context in which the communicative act takes place and the shared understanding between participants support the meanings carried by language. As such, the role the immediate environment plays is crucial in promoting language development. Because "language learning is a self-generated, creative process" (Jaggar, 1985, p. 4), children learn language through everyday experiences.

The adults and older siblings who converse with young children often take the responsibility of filling in much of the conversational structure and context by acknowledging and elaborating messages made by young language users to achieve mutual understanding (Lapadat, 1994). As very young children interact with caregivers, they build upon their meaning-making skills (Bruner, 1996; Halliday, 1978). Meaning-making involves bringing together what children know about their world as they encounter new situations and apply them in appropriate cultural contexts (Bruner, 1996).

Guided by at least one adult who serves as the child's primary caregiver or mentor, children participate in acts of meaning that are characterized by "diverse interactional exchanges, mutual reciprocity, differential competence, and strong emotion" (Thompson, 2006, p. 7). Wood, Bruner, and Ross (1976) introduced the term "scaffolding" to refer to adult- or expert-facilitated process that enables a child or novice to solve a problem, carry out a task, or achieve a goal that would be beyond his or her unassisted efforts. The scaffolding provided by an adult to a young child is critical to concept development. In fact, the scaffolding provided by adults serves as a model to children, who in turn develop the capability to play the role of expert in supporting the learning of a novice. "The literacy environment is the social construction of families and the impact of daily experiences on children's lives" (Neuman & Celano, 2001, p. 12). It is in the heart of relational contexts that children learn to make meaning (Halliday, 1978). Meaning-making is the act of giving meaning to events by making connections with them (Wells, 1986).

There is a plethora of literature that attests to the impact of parent-child conversations on young children's concept development. Ruffman, Slade, and Crowe (2002) conducted a longitudinal study that documented mother-child conversations and their impact on children's language development and the emergence of theory of mind. Theory of mind is a cognitive ability that refers to children's awareness of their own thought processes and the thinking of others (Gelman, 2009). The study revealed that children's development of theory of mind were influenced and supported by their mothers' use of mental state languages, or words that describe their feelings or state of being. When children are engaged in conversations with adults, they are exposed to words that serve as semantic referents for emotions, experiences, concepts, and events (Bartsch & Wellman, 1995). Furthermore, when adults provide explanations for events as they transpire in meaningful contexts, they open doors of opportunities for young children to reflect, examine, and organize their understanding of concepts, experiences, and natural phenomena (Thompson, 2006).

Children's comprehension as well as understanding deepens especially when adults direct their attention to specific aspects of a situation (Nelson & Fivush, 2004). "Shared reminiscing contributes to the child's retrieval of significant aspects of past experiences and provides narrative coherence and structure to the child's representation of past events" (Nelson & Fivush, 2004, p. 5). Hence, it can be deduced that prior to school entry, children have had significant experiences with literacy and mathematics (Bodrova, Leong, & Paynter, 1999). The vignette cited earlier in the chapter reveals how emergent knowledge of literacy and mathematics were manifested in the different modes of representation used by a child to communicate his thinking. The role of the adult as listener, observer, and scaffold is key when providing the kind of feedback that will respond to the children's attempts to uncover, discover, and process their emergent knowledge in literacy and mathematics.

The Context of School

Prior to entering preschool, children are equipped with their own concepts of how mathematics and literacy are used in the context of everyday life. These concepts evolve based on their encounters with literacy and mathematics along with the practices that are associated with their use in the home and immediate environment. Children have a literacy set (Holdaway, 1979) which embodies early concepts, attitudes, and skills associated with forms and functions of language and texts necessary for reading and writing (Van Kraayenoord & Paris, 1996). Research indicates that prior to kindergarten entry, children have varying degrees of knowledge in "letter recognition, letter-sound knowledge, recognition of simple words, phonological awareness, receptive and expressive vocabulary and print conventions" (Flanagan et al., 2009, p. 18). Applying the same principle in the context of mathematics, children also develop a mathematical set, which embodies the concepts, attitudes, and skills associated with the use of symbols, concepts, and operations that are necessary for computation, problem solving, and concept development. Kindergarten children have mathematical skills such as "number sense, counting, basic operations, measurement, patterns, and geometry, and spatial sense" (Flanagan et al., 2009, p. 19).

As young children become acculturated to the context of school, they become familiar with school discourse. They learn to act out the social structure within the school, take on roles and responsibilities, follow rules, and participate in practices that are valued within their classroom community. They learn to ask questions and negotiate help as they learn. They participate in literate acts and engage in problem solving that challenge their mathematical and literate abilities. As young children are acclimated to school, they become familiar with school discourse. When school discourse and practices are similar to their primary discourse and literacy practices and mathematical applications in the home, children will build upon their literacy and mathematical sets. In other words, *children will be extending their current understanding of literacy and mathematics easily if there is continuity of experience and learning between home and the child's school*. Kennedy and Surman (2003) reiterated the importance of welcoming children's current understanding and accommodating their meaning-making efforts to facilitate a smooth transition between home and school.

The language children use mirrors the language of their parents and their community (Clay, 1991). Children who have a home language other than English and a cultural background that is different from the dominant culture may experience dissonance and may have difficulty applying their competencies in the context of school. This applies particularly to cultures that have very different traditions regarding the use of written language and mathematical abstractions, and whose living and working circumstances do not promote literacy and mathematics (Leseman, 1999). Research reveals that children whose primary home language was English were able to attain higher scores in reading and mathematics than their peers whose primary home language was not English (Flanagan et al., 2009). The differences in preliteracy and prenumeracy skills place the children of such families at a disadvantage compared to the children of families within the dominant culture. Since reading, writing, and mathematics are cultural constructs, it is important to acknowledge that cultural differences can exist between practices in school and at home (Au, 1980; Purcell-Gates, 1996; Scollon & Scollon, 1981). As early as kindergarten, low achievement in mathematics and literacy appears evident among children from families who are culturally and linguistically diverse (Flanagan et al., 2009).

Another factor that could affect children's success in their transition into a school setting is the absence or lack of resources in their home. The disparities in literacy and numeracy development as reflected between social classes and literate-rich homes become evident in the ways children respond to classroom practices that relate to mathematics and literacy. Neuman and Celano (2001) indicate that children from white, middle-class homes will thrive, while children with low socioeconomic status will start school behind and stay behind. Research has shown that children who come from low-socioeconomic-status homes enter school at a disadvantage as they are ill equipped academically in comparison with their peers who are more privileged (Stipek & Ryan, 1997). Researchers have traced differences in the frequency of book reading for children from middle- and low-income homes (Anderson-Yockel & Haynes, 1994; Pellegrini, Galda, Jones, & Perlmutter, 1995; Sonnenschein, Brody, & Munsterman, 1996). Symons, Szuszkiewicz, and Bonnell (1996) revealed how parental print exposure may predict children's emergent literacy. Since adults with little print exposure may be infrequent readers, their children may receive less exposure to literacy activities. Flanagan et al. (2009) report that children whose household incomes were at or above poverty attained higher scores in reading and mathematics as compared to children who lived in poverty.

Given this reality, there will be children who seem better prepared to learn in school, and there will also be others who may be ill equipped or have skills that are unacknowledged in school settings (Neuman & Celano, 2001), resulting in underachievement (Fryer & Levitt, 2004; Natriello, McDill, & Pallas, 1990). In a study conducted by Lee and Ginsburg (2007), early childhood teachers of children coming from low socioeconomic status recognized that students are disadvantaged and therefore need to prepare their children for kindergarten by providing literacy and mathematics education. In contrast, early childhood teachers of children coming from middle socioeconomic status believe that play and socialization take precedence over academics and emphasized the importance of modifying curriculum to fit the pace and level of the children (Lee & Ginsburg, 2007).

Early childhood teachers need to be cognizant of such differences so that they can create ways to build and strengthen partnerships between the child's home and the school. When teachers and parents work in partnership, children will most likely succeed as efforts are collaboratively directed towards ensuring coherence in learning at home and in school (Benigno & Ellis, 2004). Because school is a sociocultural context, it will benefit children greatly when adults within the environment give children opportunities to share their ways of making meaning and ways in which they incorporate their knowledge of literacy, mathematics, and other content areas in their own lives. Through engaging in an exchange of ideas (whether in the form of dialogue, signs, or gestures) within a co-constructed space, both adults and children within the school context will be creating a space that offers opportunities to internalize concepts and to organize experiences. The extent of understanding and depth of meaning that children take away from interactions will depend on the quality of responses provided by the adult, the level of engagement of the young child participating in the interaction, and the value of the information to the child at that moment.

Children's knowledge of literacy and mathematics often emerges in the context of interactions with others. To view children from a sociocultural lens is to see them as part of a web of interactions and encounters with divergent perspectives among members of their culture as they are immersed in meaning-making of valued beliefs and practices, using tools that enable them to participate in co-constructing understanding. The documentation that follows tells social stories that take place in the context of school. The events reveal children's ways of participating in their social worlds.

DATA COLLECTION AND ANALYSIS

The three episodes featured in the following sections were generated from an observational field study grounded in the qualitative method of inquiry that examined the role of talk in children's learning (Guba & Lincoln, 1989). In this study, I investigated the nature of talk among preschoolers who were engaged in various activities during their work time. Since the focus of this chapter is on children's emerging knowledge in literacy and mathematics as they are engaged in play and self-selected activities, the documentation presented in subsequent sections will reveal the ways that children naturally incorporate literacy and mathematics in the context of the classroom. In other words, of the class members between the ages of 4 and 5 years old, some have had previous experience in an early care and education setting, and a few children were in the process of transitioning between the home environment and the school environment.

The children who participated in this study were based in an independent school located in a multiethnic and multi-economic residential area in an urban setting. Founded in the early twentieth century, the school prides itself in delivering a child-centered education combined with academic rigor. Since observations transpired during children's work time, opportunities to collect data in the form of field notes, video documentation, and transcripts were available during five work time periods every week for an entire school year. Analysis of data began with the first field notes and was carried out recursively in cycles of data collection and analysis. Patterns and themes emerged from field notes, which were then organized into categories.

Using the utterance as the basic unit of analysis for talk episodes, transcripts contained faithful representations of both verbal and nonverbal communication. Transcripts of children's conversations were analyzed using Halliday's (1978) framework, featuring the Social Context of a Situation. This framework acknowledges the influence of three components within a context that determine the texts and narratives that unfold within the situation. Talk transcripts examined what participants talked about, the roles that they played during their interaction, and ways that they used language to communicate intent.

After doing the threefold analysis, I examined my findings in the light of the research questions posed, giving attention to how the topics, roles, and functions of language affect the meanings that emerge for the children. Written artifacts included in this documentation were analyzed by identifying resonating patterns and themes, and interpreted based on the meaning that the child writer wished to convey. To check for trustworthiness of data analyzed, a group of researchers reexamined and counterchecked data and addressed areas that appeared ambiguous.

INTENTIONALITY AND THE YOUNG WRITER

Writing was a popular choice among the children in the prekindergarten classroom that I observed. Supplied with writing implements and materials, children communed at the writing table, engaged in self-initiated projects, and worked independently or in collaboration with peers. There were pencils, crayons, and markers on a supply shelf filled with writing materials. The children shared the common space but maintained respect for personal space. Children went to other areas of the classroom whenever they needed writing implements or supplies that were not available in their area. Children also used classroom resources such as name cards, picture dictionaries, and environmental print as they worked on writing-related activities. Although the practice of writing took place in other areas that had writing implements available, such as the block area or the dramatic play area, most children communed at the writing table. The writing table was a social space that welcomed experimentation, learning, and exchange of ideas among peers. Work time provided abundant opportunities and adequate space for children to engage in various forms of explorations. Within the structure of work time, children at the writing table worked with a personal agenda. For instance, children were found

Table 11.1 Irina and Mindy—Name Writing

Irina:	Which one do you want me to make your name in? [Refers to color of the crayon preferred by Mindy.]
Mindy:	Red . . . in a pattern . . . like red-blue, red-blue.
Irina:	Mindy . . . [Searches for Mindy's name card and finds it among 13 others.]
Mindy:	M . . . I . . . N . . . D . . . Y . . . [Spells her name for Irina.]
Irina:	M . . . I . . . N . . . [Writes letters using the colored pattern described by Mindy.] D . . . [Writes the letter D in reverse.]
Mindy:	Did you know that's backwards? [Refers to the letter D written by Irina.]
Irina:	[Irina is engrossed with picking a specific color of crayon.] I'm gonna make the Y a special color. I'm gonna make it rainbow. [Instead of writing a Y, however, Irina ends up writing the letter A]
Mindy:	A?! [Mindy is unable to conceal her disappointment. Irina attempts to conceal her mistake by coloring the letter A with green crayon.]
Irina:	This is some grass between. [In an attempt to conceal the letter A, she writes the letter Y in black and outlines it.]
Mindy:	[Remains quiet as she works on her book.]

composing stories, generating lists, making signs, inventing secret codes, and writing letters. As children engaged in writing, they talked about what they were writing and *how* they were writing. In the following transcript, Irina and Mindy are working on separate writing projects. As Mindy worked on writing her book, Irina was writing up a birthday list that contained names of their classmates whom she planned to invite to her birthday party. She used name cards as a reference to spell and copy the names of her friends. Since Mindy was her best friend, she wrote her name first (see Table 11.1).

Although Irina meant to write Mindy's name accurately, she ended up writing one of the letters in her friend's name in reverse. Why did it matter to Mindy whether or not her name is spelled correctly and the letters faithfully encoded? Irina discovered that *writing her friend's name beautifully was just as valuable as writing it accurately.* In spite of Irina's attempts to remedy her mistake, Mindy's disappointment, though silent, appeared quite pronounced.

This transcript reveals how emergent writers like Mindy and Irina are aware of conventional ways of writing letters and words, particularly their peer's name. Name writing was a common practice in the prekindergarten classroom observed in this study. Berk (2000) indicated that by the age of 2, children have begun to develop a sense of self, which helps them to classify themselves as the same or different from others. Aside from self-identification, name writing gives us a glimpse into the emergent literacy skills of young children (Haney, 2002). Irina's use of name cards reveals her resourcefulness as a writer as well as her desire to write the names of her peers accurately. Her knowledge of patterns and one-to-one correspondence were apparent as she copied the letters in Mindy's name. Hence, when Irina accidentally reversed and misrepresented the last two letters in Mindy's name, she made an attempt to conceal her error by decorating around the letters.

In this classroom, children made an effort to consult their friends or refer to classroom resources such as name cards to check the spelling of their friends' name (Tolentino, 2004). Spelling their name accurately has begun to matter. Their literate acts reflect how their knowledge of literacy has moved toward more conventional forms. In this particular episode, children consulted their peers about spelling the letters in their names to further enrich their work and fulfill their intent. They also seemed to be aware that print conveyed a message, and that it was important to be accurate.

In this episode, writing was a means to fulfill a bigger agenda—generating a birthday list. Children like Irina were bringing their knowledge of letters, sounds, and patterns into the interpersonal plane (Vygotsky, 1978). Emergent writers are at different points in their literacy development (Clay, 1991). This was true of Mindy and Irina. Mindy knew letter names, sound-letter relationships, the direction of letters, and the order of letters in words. Irina, on the other hand, had developed literate behaviors such as consulting environmental resources that enable them to fulfill intent. Some emergent writers recognize the shapes of letters and their equivalent sound; others may be able to write them in conventional forms; while still others may invent their own representations. Therefore, coming together and exchanging ideas through talk gives emergent writers opportunities to learn and transform each other's schema. Rosenblatt (1969) acknowledged that emergent writers are equipped with "linguistic and life experiences" (p. 42) that prepare them for the act of reading and writing. Conversations reveal how young children construct or transform their knowledge as well as their linguistic and life experiences while interacting with peers.

CHILDREN AND THEIR SOCIAL WORLD: ESTABLISHING CONNECTIONS

The talk episode that follows depicts the same participants, Irina and Mindy, working side by side at the writing table the next day. While Mindy continued to pursue her writing project, Irina continued generating a list of people whom she planned to invite to her birthday party. As Irina worked on her list, she used an organizing system that distinguished friends whom she intended to invite to her birthday party and those whom she did not plan to invite. Irina was sorting name cards among two piles: a "Yes" pile and a "No" pile. She designed a system wherein she matched the number of letters in each child's name to determine whether or not they would match as friends. She paired up the name cards of friends who had the same number of letters in their names. A perfect match between the number of letters among the names of children established their connection as friends, and their name cards would be placed together on what Irina labeled the Yes pile (see Table 11.2).

Table 11.2 Irina and Mindy—Finding Equivalence

Irina:	1 . . . 2 . . . 3 . . . 4 . . . 5 . . . 6 [Counts the letters in Jeremy's name.]
	1 . . . 2 . . . 3 . . . 4 . . . 5 . . . 6 [Counts the letters in Jilian's name and realizes that it has the same number as Jeremy's. She then puts Jeremy's and Jilian's namecards together, the first pair in a pile]
	1 . . . 2 . . . 3 . . . 4 . . . [Counts the letters in Mindy's name but remains uncertain when she gets to the last letter. Previously, when Irina wrote Mindy's name, she had made a mistake as she wrote the last letter and proceeded to conceal the error with some grass and rewriting the last letter in Mindy's name.]
	1 . . . 2 . . . 3 . . . 4 . . . [Counts the letters of Mindy's name once more and appears to remain uncertain as she missed counting the last letter.] Mindy: Five. [Points to the last letter in her name.]
Irina:	Five? [Repeats to herself, and realizes that she missed counting the last letter in Mindy's name.]
	Goody. [Satisfied.]
	That's four. [Referring to the equivalence in number of paired names: Jilian and Jeremy; Mindy and Irina.]
	1 . . . 2 . . . 3 . . . 4 . . . 5 . . . [Counts the letters in her own name.]
	Five? [To herself.]

(*Continued*)

Table 11.2 (Continued)

	Five. [Confirms that her name has the same number as Mindy's; then draws a line that connects the letters of her name with Mindy's.]
	So we connect if there's five.
	We connect if there's 1 . . . 2 . . . 3 . . . 4 . . . [Counts the letters in Joan's name; Joan is Mindy and Irina's best friend.]
	We connect if there's 1 . . . 2 . . . 3 . . . 4 . . . [Counts the letters in Joan's name once more.]
	Nope. [Shakes her head with a look of disappointment.]
	We do *not* connect to Joan.
Irina:	Yes, Chen, thank you. [Puts Chen's name on the Yes pile.]
	C . . . H . . . E . . . N . . . [Copies Chen's name onto her list]
	And Evan . . . [Copies Evan's name onto her list]
	Evan! [Puts Chen's and Evan's name cards on top of the Yes pile.]

According to Eisenhauer and Feikes (2009), counting is part of children's natural world. Irina was counting almost throughout this episode, but she was also engaged in a self-initiated process of problem solving. As Irina refined her organizing system, she had created categories in the form of piles: on the Yes pile contained the name cards of children whom she planned to invite to her birthday party, and on the other pile were name cards of children whose names did not match. At the same time, she organized the piles in such a way that the name cards were organized in pairs; each pair would constitute the names of children who had the same number of letters in their names. For example, because Jilian and Jeremy both had six letters in their names, their name cards would be paired together and placed on the Yes pile; and Chen and Evan's names, each containing four letters, would be paired together and placed on the same pile. Worth noting in this vignette was the initial peer support provided by Mindy when Irina was experiencing disequilibrium. Looking back at the vignette, Irina was counting the letters in Mindy's name and stopped shortly when she thought that there were only four letters in Mindy's name. Mindy had to point out the fifth letter in her name that Irina missed. Initially stuck, Irina was able to move forward because of the peer support provided by her friend, Mindy. It appeared as though Irina was relieved that the number of letters in Mindy's name matched her own. The match seemed to signify something important to Irina, which was friendship. If one were to examine Irina's organizing system, it would appear that she had a sophisticated understanding of categories within subcategories: One category would contain pairs of cards, and a pair would constitute a match in the number of letters of a name unit. While demonstrating one-to-one correspondence between the letters in each name, she was also accurately counting letters and coordinating number words with letter names in a collection.

Through this episode, Irina demonstrates emergent numeracy skills: she was counting, sorting, categorizing, and establishing one-to-one correspondence. Aside from building numerical competence, she was demonstrating emergent literacy skills. She was referring to each child's name card and reading the name on each card; copying the letters in each name accurately onto her list; and demonstrating directionality by writing each name from left to right, and top to bottom. Her list served her personal needs, as it contained the names of children whom she classified under the Yes pile, the pile that had the names of children whom she had planned to invite to her party whose names matched by virtue of the number of letters. It appeared that names, connections, and friendships were important to Irina as she established her organizing system and as she prepared her invitation list. While emergent literacy skills enabled Irina to develop lists of her friends' names, emergent numeracy skills empowered her to determine correspondences between names. At the same time, she was fulfilling multiple tasks: generating a list, thinking through her decisions, justifying her reasons for classifying elements within categories and subcategories, and engaging in higher-order thinking of mathematical and literacy concepts. The vignette reveals how children like Irina incorporate both mathematical and literacy skills in the context of everyday tasks. She was gathering data, comparing quantities, configuring patterns, and making symbols. Preschool children like Irina are capable of spontaneously and creatively engaging in advanced mathematical activities (Ginsburg, Inoue, & Seo, 1999). As Ginsburg, Inoue, and Seo (1999) pointed out, preschool children, even in the context of free play, "create and extend complex patterns, building intricately balanced and symmetrical structures, and solve multistep problems" (p. 92). Irina demonstrated her ability to engage in mathematical discourse (Harper, Boggan, & Tucker, 2008). At the same time, she was engaged in reading and writing, both of which are literacy skills. Even as a 4-year-old, children like Irina have already come to value and apply mathematical and literacy concepts in the context of daily life and to fulfill personal needs.

WHERE MATH AND LITERACY INTERSECT: CHILDREN'S STORY WRITING

The children in the classroom I observed also engaged in book making and story dictation. It was common to see children at the writing table, writing their story or illustrating their texts. Book writers had the opportunity to share their book with their classmates during story time at the end of the day. They were given time to work on their books during work time. Thus, work time was a venue for book writers to continue working on their material. If children needed assistance, they were encouraged to consult their peer or seek help from a teacher. What follows is a story entitled "My Basketball Book," composed and illustrated by Jilian and shown in Figures 11.7 through 11.13. Jilian had watched a live basketball game with his father and wanted to share his story with the rest of the class. Guided by his teacher, he worked on "My Basketball Book" for a week. He first illustrated the events that he recalled from the basketball game and then dictated the words of his story to his teacher, who in turn, transcribed the text for Jilian.

Jilian's familiarity with basketball as a sport seems clear. He appeared to know the objective of the game—to shoot as many baskets as possible; he noted the scores on the scoreboard; and he appeared to be aware that the scores reflected the performance of the team members. Jilian also

Figure 11.7 Title: My Basketball Book.

Figure 11.8 Page 1: My team is the Black Team. My team got the ball from the White Team.

used language that was common to sports spectators: "The game is tied up—2 to 2!" Jilian's ability to recount events and retell them in the form of a text narrative is impressive. This requires reminiscing and rehearsal of events on his part, thoughtful attention to detail, and awareness of audience. As he recounted the events, he also had to retell them in a way that was clear and comprehensible to his listeners and readers. His dictated text entitled "My Basketball Book" had a beginning, middle, and end. It had the elements of a story—namely, setting, characters, plot, rising action, conflict, and resolution. Jilian's text also revealed his understanding of grammatical structures of language and conventions of text. He had a cover page, which contained the title, and an end page for his text. He demonstrated print awareness and appeared to know that the print on the page conveyed the meaning of his illustrations. His pages were arranged in sequence, making the story both logical and cohesive to his readers.

At the same time, Jilian seemed to make a conscious effort in making his story as authentic as possible to his readers. His illustrations appear

Figure 11.9 **Page 2: My team almost shot the ball into the net but the White Team got it away.**

to faithfully represent parts of the game that he was able to recount. Authenticity appears to be a characteristic valued by novice writers as they seek to create a trustworthy representation of their story (Tolentino, 2004). Jilian's book reveals that he is a writer who is aware of story genre and is able to use his knowledge of literacy as a means to tell his story. Looking at the same book from a mathematical lens, it appears that Jilian is confident in his ability to apply math in his own life. He used numbers in a highly specific situation: to keep score. He demonstrated his awareness of the importance of the increase in the scores and in the consequence of every change of numbers. On his own, Jilian was intuitively applying mathematical principles (Krogh & Slentz, 2001). The story composed by Jilian reveals that he is becoming mathematically literate and developing the voice of a writer.

Figure 11.10 Page 3: The White Team is trying to score!

THE ENVIRONMENT AS "THE THIRD TEACHER": CONTEXTS THAT NURTURE YOUNG CHILDREN'S PURSUIT OF LITERACY AND MATHEMATICS

The seeds of mathematics and literacy are planted long before children enter the realm of school (Bodrova, Leong, & Paynter, 1999). As demonstrated in the four episodes within this chapter, the artifacts and dialogue produced by the children reveal their "growing understanding of written language and the conventions of print" (Millard & Waese, 2007, p. 9). They also demonstrate young children's natural ability to incorporate mathematical concepts in everyday context. The episodes unfolded naturally and spontaneously; but worth considering is how each context was structured to provoke the kind of dialogue, artifacts,

Figure 11.11 Page 4: The game is tied up—2 to 2!

and interactions among the participants. In what ways did the environment teach?

The concept of environment as the third teacher is rooted in the Reggio Emilia approach to early care and education. The Reggio Emilia approach originated in Italy and was inspired by constructivist perspectives of Jean Piaget; social constructivist ideas of Lev Vygotsky, Jerome Bruner, and John Dewey; and the revolutionary ideas of Paolo Freire (Malaguzzi, 1996). The Reggio Emilia approach is rooted in the belief that children are protagonists in their learning and that teachers and parents work in partnership to support the development and well-being of young children (Malaguzzi, 1998). It is an approach that makes children's ideas visible and their questions central to the development of curriculum. The Reggio Emilia approach capitalizes on the value of space and materials within the learning environment and their instructional potential. The learning environment can be structured in ways that provoke inquiry, encourage investigation, and invite dialogue.

This chapter provided documentation that was generated from two different environments: home and school. In both contexts, children

Figure 11.12 Page 5: The Black Team scored and won the game 4 to 2.

gravitated toward the writing space and used the materials within the space to carry out their personal agenda. In the home context, materials served as tools to enable a young child to represent ideas that his speech could not clearly articulate. In the context of the classroom, the children used the time and space provided to pursue writing projects such as creating a list and writing a story. In both contexts, children were constructing and sharing ideas and interpreting meaning both socially and cognitively. Halliday (1978) described this exchange of meanings as a creative process of using language as a "symbolic resource" (p. 3) within a social structure. As children interact with their environment, they become part of a semiotic system, where meanings are constructed and exchanged. The semiotic structure can be interpreted on three dimensions: field or ongoing activity, tenor or the roles and relationships involved, and mode or field of action in which meanings are

Figure 11.13 Page 6: The End.

expressed. These three components determine the nature of texts (verbal and nonverbal) that emerge from the participants. In the contexts of dialogue at home, young children learn to participate in communicative acts that are valued by the members of the child's culture. In the context of school, young children learn to participate in activities that are valued within the classroom. Children come to realize that they play a part in the meaning-making that transpires in the home and in school.

The Learning Environment: Field

Field refers to the learning environment: the activity, setting, and materials. In both the home context and the school context, the writing table served as a space for children to fulfill their personal agenda. Providing children with resources, tools, and concrete objects empower them as learners (Bennett, Elliot, & Peters, 2005). Because children were equipped with materials and tools, they were able to draw representations of their ideas, generate a birthday list, and write a story.

Beyond the physical space, the tone of the environment conveys the beliefs and attitudes toward mathematics and literacy learning. In both contexts, children were deeply engaged in their work because they were fulfilling a personal need and realized that their work had value. Across all the contexts, the children had an innate desire to make sense of the world, to figure things out, and to make connections. As noted earlier, the children made an effort to be authentic in their representations, whether they were drawing a backhoe, spelling their friend's name, matching the letters to establish a connection between pairs, or recounting the sequence of events in a basketball game. From the way they responded to the resources provided, it was apparent that they have seen how materials such as writing implements, birthday invitations, and stories are created and used by the members of their culture (Varol & Farran, 2006). It is then safe to say that providing children with opportunities to develop mathematical and literacy concepts within an environment that actively encourages them to engage in literacy acts and problem solving can transform a space in ways that will advance both mathematical and literacy learning (Aram & Biron, 2004; Bodrova, Leong, & Paynter, 1999; Nel, 2000). The activities in which the children engaged were open-ended, choice-driven, and self-initiated. The children's mathematical and literacy understandings emerged through their interactions and playful activities in their natural world, whether in a nurturing home environment or in the context of a classroom (Eisenhauer & Feikes, 2009; Sarama & Clements, 2009). In the same vein, early childhood teachers believe in the importance of fostering literacy and mathematics skills by providing materials and resources that provoke literacy and mathematics learning (Lee & Ginsburg, 2007).

Tenor: Relationships and Roles

Tenor is the relationship between the participants (Halliday, 1978). In every relationship, participants take on a role. The nature of the social interaction and the meanings produced are influenced by the roles that participants play within the context. At the heart of the learning environments presented in this chapter are relationships: parent-child, peer-to-peer, expert-novice, and teacher-child. Within the context of parent-child relationships, children are provided the scaffolding needed to enable them to go a step further in their learning. Children are highly motivated to convey their ideas clearly to another. In the case of my child, he proactively created strategies to represent his ideas. He had opportunities to feel like an expert, one who feels competent in his skills. He had opportunities to develop ownership for his learning.

Because learning is a social process, it is natural for children to gravitate toward a fellow participant within the context. In the classroom episodes, Irina was in close proximity to Mindy as she wrote her birthday list. They engaged in dialogue even as they were doing different writing projects. At times, Mindy provided Irina with the support that she needed to enable her to continue her work. Jilian, on the other hand, worked in collaboration with his teacher. While it appeared that he knew how powerful his illustrations were in telling a story, he intuitively knew that words were just as important in writing a book. Jilian took the initiative to ask for assistance from his teacher to complete his project. As illustrated in the examples, learning is a social process. Children learn from their parents, teachers, and peers, but because they are also participants in various activities of their culture, they can be each other's teachers and provide just as much support as adults can. Children can be conversational partners, literacy scaffolds, and problem solvers.

Mode: Children's Talk, Play and Stories

A child-centered environment is a nurturing, playful environment that encourages children to use various modes of representation. This environment acknowledges children's natural interests, unique learning styles, and academic capacities (Project Zero & Reggio Children, 2001). An environment that encourages play, dialogue, drawing, gesturing, and signing conveys to the children that their ideas can be expressed in a hundred languages (Malaguzzi, 1996). The children featured in the various contexts were clearly equipped with an understanding of their world and their own ideas of space, relationships, and quantity (Baroody & Wilkins, 1999; Copley, 2000). Through their drawings, conversations, lists, and books, they were constructing mathematical and literacy concepts on their own, incorporating them into their natural world.

IN PURSUIT OF A CHILD-CENTRIC APPROACH TO LITERACY AND MATH INSTRUCTION

The children presented in this chapter were emergent readers, writers, and mathematical thinkers. Up to the point the study was undertaken, they had no previous exposure to formal literacy or mathematics instruction. Nevertheless, the children were already expressing their knowledge of literacy and mathematics in a way that came naturally. This is most likely because young children are curious and creative. In the context of their daily lives, they apply insight and inquiry as they solve problems and various situations that involve quantities, relationships, symbols, and story. The true question is: how much have we capitalized on the knowledge that children have? Are our educational and care contexts open and accepting of children's ideas and dispositions about learning? When children enter school, are knowledge and concepts accessible to them? Are they presented within their zone (Vygotsky, 1978)? When teaching methods, content, and approaches do not align with the children's knowledge, strategies, and learning approaches, they are unable to find meaning and use in what they are taught. They experience dissonance as they seek to connect what is taught with what is known.

With the advent of No Child Left Behind, there has been a movement toward teacher accountability and for student academic achievement. Unfortunately, the standards-based accountability movement has created unnecessary pressure on academic achievement among children. As a result, instruction is driven by curriculum models that address outcomes and standards rather than an approach to curriculum that is child-initiated and child-generated. This gives children little time to think, process, and reflect upon what they are learning. Teachers and children also find themselves caught in a tug-of-war between a skills-emphasis view and a meaning-emphasis view of reading and writing.

As far as reading and writing instruction are concerned, there does not need to be one method of teaching that separates skill instruction from meaning-centered instruction. Instead, teachers need to be equipped with as many methods as is possible to support children as literacy learners. Perhaps instead of imposing what children need to learn about reading and writing and expecting them to regurgitate the information, teachers can build upon what children already know about reading, writing, and ways of making meaning. If this is made possible by every teacher in every classroom of emergent readers and writers, then perhaps the process of becoming literate will be a more meaningful experience.

Early childhood teachers can create a balance between adult-directed and child-initiated activities (Bodrova & Leong, 1995). Teachers can create spaces within their classroom that strengthen children's competence while also nurturing their imagination, energy, and curiosities (Andrews & Trafton, 2002). Early childhood teachers can build upon the foundations of knowledge that young children have started to build on their own. As teachers, we are in a position to start from where the children are, allowing them to continue investigating questions that are important to them, building from what they know and furthering their knowledge (Eisenhauer & Feikes, 2009). Most of all, we need to foster secure relationships that will see children through the challenges of the real world.

REFERENCES

Anderson-Yockel, J., & Haynes, W. O. (1994). *Joint book-reading strategies in working class African-American and white mother-toddler dyads*. Norwood, NJ: Ablex.

Andrews, A., & Trafton, P. R. (2002). *Little kids—powerful problem solvers: Math stories from a kindergarten classroom*. Portsmouth, NH: Heinemann.

Antell, S., & Keating, D. (1983). Perception of numerical invariance in neonates. *Child Development, 54*, 695–701.

Aram, D., & Biron, S. (2004). Joint storybook reading and joint writing interventions among low SES preschoolers: Differential contributions to early literacy. *Early Childhood Research Quarterly, 19*, 588–610.

Au, K. (1980, Summer). Participation structures in a reading lesson with Hawaiian children: Analysis of a culturally appropriate institutional event. *Anthropology and Education Quarterly, 11*(2), 91–115.

Baroody, A. J., & Wilkins, J. L. M. (1999). The development of informal counting, numbers, and arithmetic skills and concepts. In J. V. Copley (Ed.), *Mathematics in the early years* (pp. 48–65). Reston, VA: National Council of Teachers of Mathematics.

Bartsch, K., & Wellman, H. M. (1995). *Children talk about the mind*. New York: Oxford University Press.

Benigno, J., & Ellis, S. (2004). Two is greater than three: Effects of older siblings on parental support of preschoolers' counting in middle-income families. *Early Childhood Research Quarterly, 19*, 4–20.

Bennett, P., Elliot, M., & Peters, D. (2005). Classroom and family effects on children's social and behavioral problems. *Elementary School Journal, 105*(5), 461–499.

Berk, L. E. (2000). *Child Development* (5th ed.). Needham Heights, MA: Allyn & Bacon.

Bodrova, E., & Leong, D. J. (1995). *Tools of the mind: A Vygotsian approach to early childhood education*. New York: Prentice Hall.

Bodrova, E., Leong, D. J., & Paynter, D. E. (1999). Literacy standards for preschool learners. *Educational Leadership, 57*(2), 42–46.

Britton, J. (1970). *Language and learning*. London: Penguin Press.

Bruner, J. S. (1996). *The culture of education*. Cambridge, MA: Harvard University Press.

Clay, M. M. (1991). *Becoming literate: The construction of inner control*. Auckland, New Zealand: Heinemann.

Clements, D. H. (2004). Perspective on "The Child's Thought and Geometry." In T. P. Carpenter, J. A. Dossey, & J. L. Koehler (Eds.)., *Classics in mathematics education research* (p. 60). Reston, VA: National Council of Teachers of Mathematics.

Copley, J. V. (2000). *The young child and mathematics*. Washington, DC: National Association for the Education of Young Children.

Eisenhauer, M., & Feikes, D. (2009). Dolls, blocks, and puzzles: Playing with mathematical understandings, *Young Children, 64*(3), 18–24.

Flanagan, K. D., McPhee, C., & Mulligan, G. (2009). The children born in 2001 at kindergarten entry: First findings from the kindergarten data collections of the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B) NCES 2010-005. National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Fryer, R. G., & Levitt, S. D. (2004, May). Understanding the Black-White test score gap in the first two years of school. *Review of Economics and Statistics, 86*(2), 447–464.

Gelman, S. A. (2009). Learning from others: Children's construction of concepts. *Annual Review of Psychology* (Vol. 60). Palo Alto, CA: Annual Reviews.

Ginsburg, H. P., Inoue, N., & Seo, K. (1999). Young children doing mathematics: Observations of everyday activities. In J. V. Copley (Ed.), *Mathematics in the early years* (pp. 88–99). Reston, VA: National Council of Teachers of Mathematics.

Golomb, C. (1981). Representation and reality: The origins and determinants of young children's drawings. *Review of Research in Visual Art Education, 14*, 36–48.

Goodnow, J. J. (1977). *Children drawing*. Cambridge, MA: Harvard University Press.

Guba, E. G., & Lincoln, Y. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage Publications.

Halliday, M. A. K. (1978). *Language as a social semiotic: The social interpretation of language and meaning*. Maryland: University Park Press.

Haney, M. R. (2002). Name writing: A window into the emergent literacy skills of young children. *Early Childhood Education Journal, 30*(20), 101–105.

Harper, S., Boggan, M. K., & Tucker, C. (2008, Fall). Using children's literature to teach math. *Southeastern Teacher Education Journal, 1*(1), 77–83.

Harris, D. B. (1963). Children's drawings as measures of intellectual maturity. San Diego, CA: Harcourt, Brace, & World.

Head Start Bureau. (2001). Head Start Child Outcomes Framework. *Head Start Bulletin, 70*, 44–50.

Holdaway, D. (1979). *The foundations of literacy*. South Portsmouth, NH: Heinemann Educational Books.

International Reading Association & National Association for the Education of Young Children. (1998). *Overview of learning to read and write: Developmentally appropriate practices for young children*. A joint position of the International Reading Association (IRA) and the National Association for the Education of Young Children (NAEYC). Washington, DC: NAEYC

Jaggar, A. M. (1985). On observing the language learner: Introduction and overview. In A. M. Jaggar & M. T. Smith-Burke (Eds.), *Observing the language learner* (pp. 1–7). Newark, DE: International Reading Association.

Kellogg, R. (1969). *Analyzing children's art*. Palo Alto, CA: National Press Books.

Kennedy, A., & Surman, L. (2003). Literacy transitions. In L. Makin & C. J. Diaz (Eds.), *Literacies in early childhood: Changing views, challenging practice* (pp. 104–117). Sydney, NSW, Australia: MacLennan and Petty.

Krogh, S., & Slentz, K. (2001). *The Early Childhood Curriculum*. Mahwah, NJ: Lawrence Erlbaum Associates.

Lapadat, J. (1994). *Learning language and learning literacy construction of meaning through discourse*. University of Northern British Columbia.

Lee, J. S., & Ginsburg, H. P. (2007). Preschool teachers' beliefs about appropriate early literacy and mathematics education for low- and middle-socioeconomic status children. *Early Education and Development, 18*(1), 111–143.

Leseman, P. P. M. (1999). Home and school literacy in a multicultural society. In L. Eldering & P. P. M. Leseman (Eds.), *Effective early education: Cross-cultural perspectives*. New York: Falmer Press.

Lipton, J. S., & Spelke, E. S. (2003). Origins of number sense: Large number discrimination in human infants. *Psychological Science, 14*, 396–401.

Malaguzzi, L. (1996). *The hundred languages of children: Narrative of the possible*. Reggio Emilia, Italy: Reggio Children.

Malaguzzi, L. (1998). History, ideas, and basic philosophy: An interview with Leila Gandini. In C. Edwards, L. Gandini, & G. Forman (Eds.), *The hundred languages of children: The Reggio Emilia approach—advanced reflections* (2nd ed.). Greenwich, CT: Ablex.

Matthews, J. (1984). Children drawing: Are young children really scribbling? *Early Child Development and Care, 18*(1–2), 1–39.

Millard, R., & Waese, M. (2007). *Language and Literacy, from birth . . . for life* [Research summary]. Ontario: Canadian Language and Literacy Research Network.

National Association for the Education of Young Children (NAYEC) and the National Council of Teachers of Mathematics. (2002). *Early childhood mathematics: Promoting good beginnings*. Retrieved from http://www.naeyc.org/files/naeyc/file/positions/psmath.pdf

National Center for Education Statistics. (2009, March). *Comparative indicators of education in the United States and Other G-8 Countries: 2009*. Institute of Education Sciences, U.S. Department of Education.

National Center for Education Statistics. (2009, October). The children born in 2001 at kindergarten entry: First findings from the kindergarten data collections of the early childhood longitudinal study, birth cohort (ECLS-B). Institute of Education Sciences, U.S. Department of Education.

Natriello, G., McDill, E., & Pallas, A. (1990). *Schooling disadvantaged students: Racing against catastrophe*. New York: Teachers College Press.

Nel, E. (2000). Academics, literacy and young children: A plea for a middle ground. *Childhood Education, 76*(3), 136–141.

Nelson, K., & Fivush, R. (2004, April). The emergence of autobiographical memory: A social cultural developmental. *Psychological Review, 111*(2), 486–511.

Neuman, S. B., & Celano, D. (2001). Access to print in low-income and middle-income communities: An ecological study of four neighborhoods. *Reading Research Quarterly, 32*, 10–32.

Neuman, S. B., & Roskos, K. (2005). The state of state prekindergarten standards. *Early Childhood Research Quarterly, 20*(2), 125–145.

Pellegrini, A. D., Galda, L., Jones, I., & Perlmutter, J. (1995). *Joint reading between mothers and their Head Start children. Discourse Processes, 19*(3), 441–463.

Project Zero & Reggio Children. (2001). *Making learning visible: Children as individual and group learners*. Reggio Emilia, Italy: Reggio Children.

Purcell-Gates, V. (1996). Stories, coupons, and the TV Guide: Relationships between home literacy experience and emergent literacy knowledge, *Reading Research Quarterly, 31*(4), 406–428.

Rosenblatt, L. M. (1969, Winter). Towards a transactional theory of reading. *Journal of Reading Behavior, 1*, 31–49.

Ruffman, T., Slade, L., & Crowe, E. (2002, May–June). The relation between children's and mothers' mental state language and theory-of-mind understanding. *Child Development, 73*(3), 734–751.

Sarama, J., & Clements, D. H. (2009). Building blocks and cognitive building blocks: Playing to know the world mathematically. *American Journal of Play, 1 (3)*, 313–337.

Schickedanz, J., & Casbergue, R. M. (2004). *Writing in preschool: Learning to orchestrate meaning and marks*. Newark, DE: International Reading Association.

Scollon, R., & Scollon, S. B. K. (1981). *Narrative, literacy, and face in interethnic communication*. Norwood, NJ: Ablex.

Sonnenschein, S., Brody, G., & Munsterman, K. (1996). The influence of family beliefs and practices on children's early reading development. In L. Cohen, P. Afflerbach, & D. Reinking (Eds.). *Developing engaged readers in school and home communities* (pp. 3–20). Mahwah, NJ: Lawrence Erlbaum Associates.

Stipek, D. J., & Ryan, R. H. (1997). Economically disadvantaged preschoolers: Ready to learn but further to go. *Developmental Psychology, 33*, 711–723.

Symons, S., Souskiewicz, T., & Bonnell, C. (1996). Parental print exposure and young children's language and literacy skills. *Alberta Journal of Educational Research, 42*, 49–58.

Thompson, R. A. (2006, January). Conversation and developing understanding: Introduction to the special issue. *Merrill-Palmer Quarterly, 52*(1), 1–16.

Tolentino, E. P. (2004). "I don't know if I can read this, but I can read the pictures": The role of talk in emergent literacy. Unpublished doctoral dissertation, New York University.

University of the State of New York and the State Education Department. (2002). *Mathematics core curriculum*. New York: Author.

U.S. Department of Education. (2003). Good start, grow smart. Retrieved from http://www.acf.hhs.gov/programs/ccb/initiatives/gsgs/gsgs_guide/guide.htm

Van Kraayenoord, C. E., & Paris, S. G. (1996, March). Story construction from a picture book: An assessment activity for young learners. *Early Childhood Research Quarterly, 11*(1), 41–61.

Varol, F., & Farran, D. C. (2006, June). Early mathematical growth: How to support young Children's mathematical development. *Early Childhood Education Journal, 33*(6), 381–387.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds. & Trans.). Cambridge, MA: Harvard University Press. [Original work published 1934].

Wells, G. (1986). *The meaning makers*. Portsmouth, NH: Heinemann.

Wolf, D., & Perry, M. D. (1988). From endpoints to repertoires: Some new conclusions about drawing development. *Journal of Aesthetic Education, Special Issue: Art and Mind Education, 22*(1), 17–34.

Wood, D., Bruner, J. S., & Ross, G. (1976, April). The role of tutoring in problem-solving. *Journal of Early Child Psychology, 17*(2), 89–100.

Wright, S. (1997). Learning how to learn: The arts as core in an emergent curriculum. *Childhood Education, 73*, 361–365.

About the Editor and Contributors

EDITOR

Susan P. Maude, PhD, is an Associate Professor in the Department of Human Development and Family Studies, College of Human Sciences at Iowa State University. Her research interests include inclusive personnel preparation, program evaluation in early intervention and early childhood special education, and innovative ways to evaluate diversity within programs. She has worked as a practitioner, researcher, faculty member, and/or program evaluator across multiple states (Connecticut, Illinois, Indiana, Iowa, Oregon, Pennsylvania, and Vermont) and has evaluated statewide as well as national professional development initiatives. Dr. Maude is a past-president of the International Division for Early Childhood (DEC) at the Council for Exceptional Children (CEC). DEC is a national organization dedicated to promoting policies and practices that aid the development of young children with special needs and their families.

CONTRIBUTORS

Rashida Banerjee, PhD, is an Assistant Professor and Early Childhood Special Education Program coordinator in the School of Special Education at the University of Northern Colorado. Her main emphasis has been acting as a catalyst to promote quality services for children with disabilities and their families in early intervention/early childhood programs. Her research areas and interests include: effective inclusive intervention for young children with multiple and severe disabilities; teacher preparation and effective community, family, and professional partnerships. She is an alumnus of the Ford Foundation International Fellowships program and is a recipient of the J. David Sexton Doctoral

Student Scholarship Award from the Division for Early Childhood of the Council for Exceptional Children and the Division for Research Award (Quantitative methods) of the Council for Exceptional Children.

Sandy K. Bowen, PhD, is a Professor in the School of Special Education at the University of Northern Colorado. Her area of emphasis is in the education of students who are deaf or hard of hearing. She has worked with infants, children, and youth who are deaf/hard of hearing in Utah, Texas, Arizona, and Colorado for 20 years. Her research interests include: teacher preparation, literacy development, early intervention, and Hispanic deaf/hard of hearing students and families, and multicultural issues in deafness. She is fluent in American Sign Language and Spanish. In addition to her university assignments, she is an early interventionist in the Colorado Early Intervention Program working with infants and toddlers who are deaf or hard of hearing and their families. She publishes in the field of deafness and is a contributing author to the *SKI-HI* Curriculum Manual for interventionists working with infants and toddlers who are deaf.

Cornelia Bruckner, PhD, is an Adjunct Faculty at San Francisco State University. Dr. Bruckner's research focus is in autism (e.g., early symptoms of autism in the younger sibling of children with autism and prelinguistic communication in young children with autism). She is currently a research associate with the Desired Results Access Project to measure young children's with disabilities development across the country. Her research in collaboration with Paul Yoder has been published in the *American Journal of Mental Retardation* and in international journals including *Autism*.

Susan B. Campbell, PhD, is Professor of Psychology and Psychiatry and Chair of the Developmental Program in the Department of Psychology at the University of Pittsburgh. Her research interests include social and emotional development in children with an emphasis on the early detection of behavior and developmental problems; her work also examines parent-child relationships and family risk, most notably maternal depression. Dr. Campbell's current research focuses on the early social development of infants and toddlers at familial/genetic risk to develop autism. She is a former Editor of the *Journal of Abnormal Child Psychology* and a former Chair of the Publication Committee of the *Society for Research in Child Development*.

Lynette K. Chandler, PhD, is Associate Chair and Professor in the Department of Teaching and Learning at Northern Illinois University where she teaches courses in early childhood special education and applied behavior analysis. Her research interests and publications have focused on early language and literacy, Response to Intervention, functional assessment, inclusion, social skills, and transition. She is a past-president of the International Division for Early Childhood of the Council for Exceptional Children. She currently collaborates with several preschools programs on Response to Intervention models to promote early language and literacy skills.

Nasiah Cirincione Ulezi, EdD, is an Assistant Professor at Chicago State University. Dr. Cirincione-Ulezi has worked extensively in the field of early childhood special education since 1995 as both a classroom teacher and a developmental therapist. She specializes in children with Autism Spectrum Disorders, and believes in working from a strength-based, family-centered philosophy. Dr. Cirincione-Ulezi serves as a Trustee on the Executive Board for the Illinois Developmental Therapy Association, a nonprofit professional organization that supports the interests of developmental therapists. Additionally, she is President of the Illinois Division for Early Childhood, a subdivision of the national DEC/CEC.

Patricia Morris Clark is an Instructor of Mental Health and Human Services at the University of Maine at Augusta, where for 10 years, she has led the Early Childhood Studies program teaching courses in early childhood and exceptionality mostly through interactive television and distance education. In 2007, Professor Clark earned a prestigious yearlong national fellowship to work at the Office of Head Start in Washington, D.C., in the Division of Training and Technical Assistance. She has more than 20 years of experience teaching in preschool, kindergarten, middle school, and adult education. Her research focuses on literacy in Head Start and preschool, and she recently completed research in London on Sure Start, the English equivalent of Head Start.

Rob Corso, PhD, is Project Coordinator for the Center on the Social and Emotional Foundations for Early Learning (CSEFEL) and an Assistant Research Professor at Vanderbilt University. Dr. Corso has also coordinated the evaluation of SpecialQuest Birth–Five project. He has conducted many large-scale evaluations of programs serving children and families and has developed outcomes frameworks for measuring the impact of in-service training for national efforts aimed at improving the capacity of Early Head Start, Migrant and Seasonal Head Start, and child care.

Sharon Doubet, PhD, is an Assistant Professor in Special Education at Illinois State University. Her research focuses on children's social/emotional skill development. She is also interested in early childhood assessment, curriculum, and teachers' support of young learners. Dr. Doubet has served as an educational consultant for the implementation of program-wide positive behavior support (early childhood) at several levels: child care centers, schools, communities, and state-level systems.

Winnie Dunn, PhD, OTR, FAOTA, is a Professor and Chair of Occupational Therapy Education, School of Allied Health, University of Kansas. Dr. Dunn is a member of the Academy of Research, and received the Ayres Research Award. She has developed the *Sensory Profiles*, measures for infants/toddlers, adolescents, and adults; these tests are used internationally. Dr. Dunn was honored as the Eleanor Clark Slagle Lecturer, the highest academic honor for Occupational Therapists in the United States in 2001. Most recently, she wrote: *Living Sensationally*, which translates her research for the public; it has been highlighted in Time magazine, on Canadian Public Radio, and in the London Times newspaper among others.

Kay Alicyn Ferrell, PhD, is Professor of Special Education and Executive Director of the National Center on Severe and Sensory Disabilities at the University of Northern Colorado. She has coordinated teacher preparation programs in both early childhood special education and visual impairment at University of Northern Colorado and at Teachers College, Columbia University. She has conducted federally-funded research in the early development of young children with visual impairment and published extensively on education of infants, children, and youth who are blind and visually impaired, including the landmark book for families, *Reach Out and Teach*.

Mary McLean, PhD, is a Kellner Professor of Early Childhood Education and Professor in the Department of Exceptional Education at the University of Wisconsin-Milwaukee, where she heads the Early

Childhood Special Education Program and is Director of the Early Childhood Research Center. She is a past-president of the International Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) and was awarded the Merle B. Karnes for Service to the Division from DEC. Dr. McLean is coauthor of two books on the DEC Recommended Practices (Sandall, McLean, & Smith, 2000; Sandall, Hemmeter, Smith, & McLean, 2005) and also two books on assessment of young children with special needs (McLean, Bailey, & Wolery, 1996; McLean, Wolery, & Bailey, 2004).

Susan M. Moore, JD, MA-SLP, CCC, is the Director of Clinical Education and Services for the Department of Speech, Language and Hearing Science at the University of Colorado, Boulder. Her publications include articles and chapters focused on working with culturally and linguistically diverse children and families, early language, and literacy learning. She has collaborated with the Denver Public Schools in the Early Reading First project to help culturally diverse children. Dr. Moore is an ASHA (American Speech Language Hearing Association) Fellow and holds Specialty Recognition in Child Language.

Clara Pérez-Méndez, Founder and Director of Puentes Culturales, was born in Mexico and has lived in the United States since 1975. Clara is an educator, nationally recognized speaker, and consultant focused on building understanding and competence for those in education who work with linguistically diverse children and families. She is a regular lecturer in both preservice and in-service programs preparing personnel to work with culturally diverse populations. Her involvement and expertise in early education include coordination of a bilingual early Child Find assessment team; consultation and workshop development with the Colorado Department of Education for training cultural mediators, interpreters, and translators; and collaboration with the University of Colorado at Boulder developing El Grupo de Familias (http://www.puentesculturales.com). Ms. Pérez-Méndez has a wealth of experience working with families from traditionally underrepresented backgrounds, especially Spanish-speaking families.

Lynda Cook Pletcher, MEd, is a Technical Assistant Specialist with the National Early Childhood Technical Assistant Center (NECTAC) at the Frank Porter Graham Child Development Institute, University of North Carolina. Her research and training interests are family-centered practices, natural environments, home-based services, service coordination, and systems change. Ms. Pletcher has worked in the field of early childhood/early intervention for over 25 years. She has provided home-based services to children and families, managed numerous outreach and training projects funded by the U.S. Office of Special Education Programs, and has been a regional and state administrator of IDEA Part C programs.

Amanda C. Quesenberry, PhD, is an Assistant Professor at Illinois State University in the Department of Curriculum and Instruction. She has worked in early childhood programs across the country as well as in local Head Start programs as a trainer and technical assistance provider. In 2007, Dr. Quesenberry completed a National Fellowship at the Office of Head Start in Washington, D.C. Her research interests include young children's social and emotional development, educators' professional development, and early childhood policy.

Patricia Snyder, PhD, is the David Lawrence Jr. Endowed Chair in Early Childhood Studies and a Professor in the School of Special Education, School Psychology, and Early Childhood Studies and the Department of Pediatrics at the University of Florida. She was founder and Director of the interdisciplinary Early Intervention Institute at the Louisiana State University Health Sciences Center and has held faculty appointments at LSU Health Sciences Center, Vanderbilt University Medical Center, and Peabody College at Vanderbilt University. She has been a recipient of the Alan A. Copping Excellence in Teaching Award from the Louisiana State University system, the Merle B. Karnes Award for Service to the International Division for Early Childhood (Council for Exceptional Children), the Article of the Year Award from the American Psychological Association (APA) Division 16, and a Service to the Profession Award from the American Occupational Therapy Association. Dr. Snyder served from 2002 to 2007 as the editor of the *Journal of Early Intervention*. She currently serves as Associate Editor, Consulting Editor and board member for several journals, including *Topics in Early Childhood Special Education*, *Journal of Early Intervention*, *American Journal on Mental Retardation*, *Infants and Young Children*, and *Young Exceptional Children*.

Efleda Tolentino is an Assistant Professor in the Department of Curriculum and Instruction and is also the Director of the Early Childhood Education program in the School of Education at Long Island University (C. W. Post). Being a social constructivist, she examines the teaching/

learning context: the participants, the environment, the verbal and nonverbal narratives that unfold within; and the ways that teachers and early care and education providers respond to children. By examining children's narratives, she brings to the fore identities that remain invisible and voices that are drowned by dominant discourse. She believes in the role of teacher educators as agents of change, posing dilemmas that challenge students to think in more critical ways. Inspired by Paolo Freire's work, she asserts that teacher education is challenged to be not only a source of information but a vehicle for transformation. In this scenario, education becomes a space that provides prospective teachers countless opportunities to reinvent themselves, shape their beliefs, as well as define and refine their practice. She also believes that the university classroom has the potential to become a learning laboratory that promotes critical discourse, dialogic inquiry and collaborative work between students and members of the community.

Rachel Whittington Saffo is a PhD candidate at the School of Communication Science and Disorders, College of Communication and Information at Florida State University. Her current research and teaching interests are in neurolinguistics, autism, and bilingual language development.

Juliann Woods, PhD, is a Professor in the School of Communication Science and Disorders at Florida State University. Dr. Woods's research and teaching interests include early identification and intervention for autism, communication delays and disorders, family guided routines-based intervention, and professional development. Her research is conducted in applied settings with children and families and the providers that support them.

Robin Miller Young, EdD, NCSP, is the Student Services Coordinator at Prairie Children Preschool (Indian Prairie SD # 204, Aurora, IL), an inclusive, tuition-based EC/"at-risk"/ECSE school. She serves on the administrative leadership team, overseeing daily operations and guiding development, implementation, and evaluation of school improvement initiatives such a Response to Intervention (RtI) and a birth-to-grade-3 "seamless continuum." Her research interests include explicit early academic and social interventions, professional development frameworks such as coaching and mentoring models, and leadership strategies that move organizations into effective and efficient structures and program practices.

Naomi Younggren, PhD, is the personnel development coordinator for the U.S. Army Educational and Developmental Intervention Services (EDIS) supporting early intervention programs in Europe, Korea, and the United States. She is also an adjunct faculty member with Central Texas College–Europe Campus. Dr. Younggren's early childhood special education experiences include being an early intervention provider and preschool teacher, providing technical assistance, and serving in a program development and leadership capacity. She has presented at national conferences including the OSEP (Office of Special Education Programs) National Early Childhood Conference addressing service delivery models and outcomes measurement in early intervention. Dr. Younggren has authored early intervention handbooks and coauthored the OSEP mission, principles, and practice statements for early intervention services in natural environments (2008).

Advisory Board

Heidi M. Feldman, MD, PhD, is the Ballinger-Swindles Endowed Professor of Developmental and Behavioral Pediatrics at Stanford University School of Medicine. She also serves as the Medical Director of the Developmental and Behavior Pediatric Programs at Lucile Packard Children's Hospital. Dr. Feldman received her BA in Psychology (1970), summa cum laude, and her PhD in Developmental Psychology (1975) from the University of Pennsylvania. She received her MD from the University of California, San Diego (1979). Dr. Feldman has memberships in several professional societies such as the Society for Research in Child Development, the Society for Pediatric Research, and the American Academy of Pediatrics. She has served as President at the Society for the Developmental Behavioral Pediatrics. Her research focuses on developmental-behavioral pediatrics, language development in young children, and language and cognition after prematurity. She has published more than 50 peer-reviewed articles in journals like the *New England Journal of Medicine, Science, Brain and Language, Child Development, Journal of Behavioral Developmental Pediatrics, Developmental Neuropsychology*, and *Pediatrics*. She is one of the editors of the current edition of the premier textbook in her field, *Developmental-Behavioral Pediatrics* (4th ed.), published in 2009. She has served as grant reviewer for the National Institutes of Health (1992–1997 and 2008–2012) and an abstract reviewer for the Pediatric Academic Societies. Dr. Feldman has held several academic appointments: Professor at the Medical Center Line, Stanford University (2006 to present), Professor in Pediatrics, University of Pittsburgh (2000–2006), and Faculty Member at the Center for the Neural Bases of Cognition at the University of Pittsburgh/Carnegie Mellon University (2003–2006). Dr. Feldman has received several awards such as Best Doctors in America (2007–2008 and 2009–2010), Academy of Master Educators, University of Pittsburgh School of Medicine (2006), Outstanding Alumna, University of California San Diego (2003), Ronald L. and Patricia M. Violi Professor of Pediatrics and Child Development, University of Pittsburgh (2001–2006), Excellence in Education Award, University of Pittsburgh School of Medicine (2000), and the Chancellor's Distinguished Teaching Award (1999).

Marilou Hyson, PhD, is a consultant in early child development and education and an Affiliate Faculty member in Applied Developmental Psychology at George Mason University. Formerly Associate Executive Director and Senior Consultant with the National Association for the Education of Young Children (NAEYC), Marilou contributed to the development of many position statements on issues including early learning standards, professional preparation standards, early childhood mathematics, and curriculum/assessment/program evaluation. She is the author of the recent book *Enthusiastic and Engaged Learners: Approaches to Learning in the Early Childhood Classroom*, published by NAEYC and Teachers College Press. Two book chapters on early childhood professional development and higher education systems were published in 2010. Internationally, Marilou consults in Indonesia, Bangladesh, Bhutan, and Vietnam through the World Bank and Save the Children. In the United States, Marilou consults with organizations including the Families and Work Institute, the Finance Project, the National Center for Children in Poverty, and the Society for Research in Child Development. Prior to joining NAEYC, Marilou was an SRCD Fellow in the U.S. Department of Education and Professor and Chair of the University of Delaware's Department of Individual and Family Studies. The former editor-in-chief of *Early Childhood Research Quarterly*, Marilou's research and publications have emphasized young children's emotional development, parents' and teachers' beliefs and educational practices, issues in linking research with policy and practice, and early childhood teacher preparation.

Robert Silverstein, JD, is a principal in the law firm of Powers Pyles Sutter & Verville, P.C., and he also serves as the director of the Center for the Study and Advancement of Disability Policy. Mr. Silverstein received his BS in economics, cum laude, from the Wharton School, University of Pennsylvania in 1971. He received his JD in 1974 from Georgetown University Law Center. His main areas of interest are public policy issues and the policymaking process focusing in the areas of disability, health care, rehabilitation, employment, education, social security, and civil rights. In his capacity as staff director and chief counsel to the U.S. Senate Subcommittee on Disability Policy and other positions (1986–1997), Mr. Silverstein was the behind-the-scenes architect of more than 20 bills enacted into law, including the Americans with Disabilities Act (ADA), Rehabilitation Act (1992 Amendments), the Early Intervention Program for Infants and Toddlers with Disabilities (1986), and the Individuals with Disabilities Education Act Amendments (1991, 1997 Amendments). He has presented keynotes speeches before national and state organizations and trained leaders and others in more than 40 states regarding various public policy issues and the police making process. He has more than 75 papers, articles and policy briefs on public policy issues from a disability perspective published in journals such as *Behavioral Sciences* and *the Law, and Iowa Law Review*. Mr. Silverstein has assisted federal, state, and local policymakers and key stakeholder groups to translate research into consensus public policy solutions addressing identified needs.

Sue Swenson is an experienced nonprofit and government leader in the field of advocacy and support for people with developmental disabilities and their families. She is interested in the application of modern management and marketing techniques to help public systems better know and serve the people they are intended to help, with a special interest in interdisciplinary applications and international collaborative efforts. Mrs. Swenson is a frequent public speaker and enthusiastic participant in forums designed to improve the lives of citizens with disabilities. She worked for The Arc of the United States as CEO. She also served as Executive Director of Joseph P. Kennedy, Jr., Foundation. She was appointed by the Clinton White House to serve as Commissioner of the Administration on Developmental Disabilities, U.S. DHHS, and served as a Kennedy Public Policy Fellow at the U.S. Senate Subcommittee on Disability Policy. Mrs. Swenson received her AB in humanities in 1975, and an AM in humanities (1977) from the University of Chicago and an MBA from the Carlson School of Management at the University of Minnesota (1986). She has three adult sons, one of whom has developmental disabilities.

Jane E. West, PhD, currently serves as Senior Vice President for Policy, Programs, and Professional Issues at the American Association of Colleges for Teacher Education (AACTE). West has written broadly on special education, disability policy and teacher preparation. She served as the staff director for the U.S. Senate Subcommittee on Disability Policy in the early 1980s under the chairmanship of Sen. Lowell P. Weicker. She currently leads AACTE's engagement in the education policy discussion related to teacher preparation, the Elementary and Secondary Education Act and the Higher Education Act.

Index

Early Childhood Intervention

Early Childhood Intervention: Shaping the Future for Children with Special Needs and Their Families

Volume 1: Contemporary Policy and Practices Landscape

Volume 2: Proven and Promising Practices

Volume 3: Emerging Trends in Research and Practice

Early Childhood Intervention

Shaping the Future for Children with Special Needs and Their Families

Volume 3

Emerging Trends in Research and Practice

Louise A. Kaczmarek
Editor

Christina Groark, set editor

PRAEGER

AN IMPRINT OF ABC-CLIO, LLC
Santa Barbara, California • Denver, Colorado • Oxford, England

Library of Congress Cataloging-in-Publication Data

Early childhood intervention : shaping the future for children with special needs and their families / Christina Groark, set editor.
p. cm.
Includes bibliographical references and index.
ISBN 978–0–313–37793–8 (hard copy : alk. paper) — ISBN 978–0–313–37794–5 (ebook)
1. Children with disabilities–Education (Preschool)—United States. 2. Children with disabilities—Services for—United States. 3. Child development—United States. 4. Child welfare—United States. I. Groark, Christina J.
LC4019.2.E25 2011
371.9–dc22 2011011997

ISBN: 978–0–313–37793–8
EISBN: 978–0–313–37794–5

15 14 13 12 11 1 2 3 4 5

This book is also available on the World Wide Web as an eBook.
Visit www.abc-clio.com for details.

Praeger
An Imprint of ABC-CLIO, LLC

ABC-CLIO, LLC
130 Cremona Drive, P.O. Box 1911
Santa Barbara, California 93116-1911

This book is printed on acid-free paper ∞

Manufactured in the United States of America

For Paul, my son, and all children with special needs who deserve the best start in life that society in general, policy makers, professionals, and families can give them, and to those who advocate for them, thank you.

Contents

Preface and Acknowledgments

This series of three volumes is about special services known as *early intervention* or *early childhood special education* (EI/ECSE) provided to young children with special needs and their families. As the terms imply, these services provide support early in a child's life, even as early as birth, until the age of school entry. Specifically, early intervention as found in Part C of the IDEA 2004 Statute (P.L. 108-446) is defined as health, educational, and/or therapeutic services that are provided under public supervision and are designed to meet the developmental needs of an infant or toddler who has a developmental delay or a disability. At the discretion of each state, services can also be provided to children who are considered to be *at risk* of developing substantial delays if services are not provided. These services must be provided by qualified personnel and, to the maximum extent appropriate, must be provided in natural environments including the home and community settings in which children without disabilities participate. Early childhood special education (ECSE), as found in Part B, Section 619 of the IDEA, intends for smooth transition of a child from EI to ECSE. It stipulates that the local education agency will participate in the transition planning of a child from early intervention (Part C) to early childhood special education for a preschool-aged child the year she turns 3 years of age. The child may receive all the early intervention services listed on her service plan until her third birthday. Then she must be assessed as eligible for ECSE services

Why is this field important? First, it is scientifically known that early childhood is a time of significant brain development and substantial growth in every domain of all children's development. Second, it is widely accepted that at this time, all learning takes place in the context of relationships, and that families are central to these relationships. Therefore, for better child outcomes, short and long term, families

must be involved at all levels. Third, professionals serving eligible children and families must be on the same page with the families, the children, and each other by coordinating their work and being focused on the skills that are important in the individual child's life. Fourth, this field is important because it demonstrates a connection between instruction and developmental outcomes that benefit children with or without disabilities. For example, the design of certain curricula, individualized educational programs, universal design for environments, tiered teaching methods, and other practices in these volumes are good strategies for all children, not only those with special needs.

But why attend to this particular population of children and families here and now? The prevalence of children with special needs worldwide as well as nationally is increasing. In 1991–1992, the prevalence of children with disabilities in the United States was estimated at 5.75 percent (http://www.cdc.gov/mmwr/PDF/wk/mm4433.pdf). In a more recent review (*Pediatrics* [2008], *121*, e1503–e1509) by Rosenberg, Zhang, and Robinson, the prevalence of developmental delays of children born in the United States in 2001 and eligible for Part C early intervention was indicated at 13 percent.

This growing prevalence also points to economic and public health concerns. Developmental delay, when attended to appropriately earlier in life, is shown to be lessened and thereby alleviate costs to the public. Typically, the estimated lifetime cost for those born in 2000 with a developmental disability is expected to total (based on 2003 dollars) $51.2 billion for people with intellectual disabilities, $11.5 billion for people with cerebral palsy, $2.1 billion for people who are deaf or have hearing loss, and $2.5 billion for people with vision impairment (http://www.cdc.gov/ncbddd/dd/ddsurv.htm). Early services work to significantly reduce these costs.

Also, as society, the economy, and all aspects of life are becoming more globally interdependent, it is our responsibility to help all children reach their potentials and contribute positively to our future. Our society needs a trained, talented, and diverse workforce. We cannot afford to lose the potential of such an important and large sector of children.

In addition to growing prevalence and the need for a diverse workforce, special needs affect all types of families. There is no culture, ethnic group, gender, geographic area, or socioeconomic status group that does not include children with special needs. Special needs and disabilities are inordinately diverse in terms of diagnosis, variability within a diagnosis, intensity, spectrum of characteristics, age of impact, multiplicity, and combinations of disabilities. Further, all children, typically developing or not, need some individualized attention, instruction, and care. They are not little adults. They learn by different styles and at different rates.

Because of this diversity and the importance of the development of this cohort of children, the editors worked diligently to be sure that the most current and best available research is combined with professional experiences, wisdom, and values; clinical expertise; and family-child perspectives. Although no rock was left unturned in the selection of topics and contributors, there was some difficulty in selecting topics. The advisors, editors, and publishers felt strongly that this series is to be of utility to a variety of professionals, parents, practitioners, policy makers, service trainers, students, academics, and scholars, including those not directly related to this field (e.g., a lawyer who is interested in policy, a parent who wants to know about the best supports for her child). Although we strongly intended to have the three volumes provide breadth to the readers, we still wanted them to be as comprehensive as possible. Once the topics were agreed upon, authors were easy to select because we invited the best in the field who could communicate the issues in an accurate, precise, and understandable way. Therefore, information was gathered from experience and scientific evidence by the best in the fields of early intervention and early childhood special education policy and law, medicine and health sciences, and education and child welfare, among others.

So the reader will find that the scope of this series is broad but still covers the critical components of early intervention and early childhood special education. It is organized into three volumes in such a way that readers can skim through each to find the areas of particular interest to them. The chapters within the three volumes are intended to answer key questions regarding how this field works. For instance, how do we identify children needing early intervention or early childhood special education and recognize them as early as possible? Where does this detection and subsequent service take place? Who works in early intervention, and what is their training? What is the families' role in all of this, and what are their rights? How does that role differ in early intervention compared to early childhood special education? Which programs, or what parts of programs, work best, and for whom? What does it cost to provide this service, and how effective is it? What are still some of the unknowns of this field (which is relatively young compared to other fields of study)?

Specifically, Volume 1, *Contemporary Policy and Practices Landscape*, begins with a historical perspective of this field. It then relates state

policies and various attempts to implement them and international laws and sample country responses to the care, education, and development of children with disabilities. This volume also considers who provides these services; their training, background, and experiences; and evaluation of programs for quality and cost-effectiveness. Policies regarding children with special needs nationally and internationally tell us the rights of children and families. Sometimes they even tell us what should be provided and when. However, they do not tell us *how* to implement quality programs; thus, the need for Volume 2.

You will see, therefore, that the chapters in Volume 2, *Proven and Promising Practices in Early Intervention/Early Childhood Special Education*, cover the best available practices that are currently used and studied throughout the field of early intervention. These chapters include information on programs such as Early Head Start and Head Start and new, exciting model strategies and techniques in intervening with children with challenging behaviors, mental health diagnoses, sensory processing, and others. We were fortunate to find the best professionals in the fields of early intervention and early childhood special education, including individuals from occupational therapy, speech and language pathology, psychology, policy development, technology use with children, early literacy and math, teacher education, English-language learning, and specialists in visual and hearing impairments. Yet there is always room for new knowledge and improvement. That is what we hope we captured in Volume 3.

Volume 3, *Emerging Trends in Research and Practice*, creatively takes the reader into the realm of possibilities. It helps the reader think about needs of expanding or emerging populations such as culturally and linguistically diverse families and the need for schools to be prepared for learners with a wide range of needs and abilities. This volume also invites reflection on issues that are not totally resolved, like crossing systems in the delivery of services, how do we get over the financial and administrative silos in these public systems, and how do we get professionals and bureaucrats to work together to cross these systems? However, this volume also provides solutions to current issues that should be considered, advocated for, or debated, such as the Recognition and Response tiered model of instruction.

Finally, the chapters in Volume 3 point us in the direction of future research and trials of models and strategies. For instance, we need to make the best use of technology and research-based practices. Another example includes child progress monitoring and accountability. Monitoring and accountability have evolved over the years, and better

practices actually may include simpler procedures. But are we capturing the complexities of teaching and learning? Do we really understand the needs of children with special needs and how to best engage their families and integrate a variety of professional recommendations for the most effective program? Finding these answers will demand a lot from professionals (e.g., to follow professional practices such as DEC-NAEYC), from researchers (e.g., to develop and test evidenced based practices), and from the public in general (e.g., to advocate).

All three volumes contain special features like matrices, graphs, and diagrams to stimulate readers not only in what is, but in what could be. They are different from other works in that they provide the state of the art in the field while considering the antecedents and the future prospective in the field. They are intended to be appealing to anyone interested in children, especially children with special needs, and to provide enough information to continue and grow that interest.

* * *

I would like to thank many people for their contributions to the creation, writing, editing, and production of this series. First, the volume editors, Steven Eidelman, Susan P. Maude, and Louise A. Kaczmarek, all of whom are first-rate professionals, child advocates, and early interventionists whom I relied upon heavily for chapter ideas, finding the best authors in the field, volume editing, writing chapters for the volumes, and fabulous contributions to the entire enterprise. There would be no series without them.

Second, my assistants, Mary Ellen Colella, Amy Gee, Mary Louise Kaminski, and Kaitlin Moore, who kept me organized, edited me and reedited me, and checked details when I could no longer see the trees through the forest.

In addition, thank you to our illustrious advisers. They came from so many different professions with the highest level of understanding of the nature of the children in these services and of what is needed by our readers. I appreciate their willingness to share their expertise openly and candidly.

And to my students, Amber Harris-Fillius, Claudia Ovalle-Ramirez, Robin Sweitzer, and Wen Chi Wang, thank you for their thorough reviews of the chapters. I learned a lot from them.

Finally, thank you to my family: Brian, Patti, Stephanie, and Paul, for teaching me about children and families and for their patience and encouragement throughout this work.

Chapter 1

Partnerships with Families from Diverse Cultures

Susan M. Moore, Clara Pérez-Méndez,
and Louise A. Kaczmarek

Box 1.1

There exists no generic entity which may be dubbed the Southeast Asian family, the Native American family . . . each of these categories encompasses numerous cultures, and their individual members may share tendencies in some areas and not in others. Individuals and families will be found to lie along different points of their cultural continuum (from traditional, for example to fully bicultural). These are valid cultural distinctions only in the very broadest sense of the term.

Anderson & Fenichel (1989)

A FAMILY STORY

"My name is Marta C. My parents are Mexicans. We come from a family of two languages. As young children we spoke Spanish at home and as adults we decided to change our culture a little bit and now some of us speak English. But my culture is still Hispanic. My school was in Mexico and it was all in Spanish. I was raised in a mining town with about 500 families. We all knew each other. It was a town with lots of traditions. I have six brothers. They all had the opportunity to go out of town to go to school and the University. I was the little one and my dad couldn't afford to give me an education, so I left school. When I was 18, we moved to

Camargo, Chihuahua. I started working there. My grandmother was a United States citizen, but she never had her papers in order, because since she was a baby her father brought her to live in Mexico. She decided to get her United States citizenship papers and benefits in order. She was successful and then all her children were able to apply for citizenship. We all wanted to be together, first my uncle and his family, then my aunt and her family, and then my mother and me and my brothers, and that is how we all immigrated until we established our family here.

"Life in the U.S. for me has been very good. Here is where my life has changed completely. I can, I want, and I will do more with my life; I will improve more. I want to speak English at 100 percent. I have two children. My daughter is 8 years old and my son will be 5 years old in February and we are living in two cultures, the American and the Mexican. My husband is American. We are combining both cultures; we don't want to lose either one. We speak Spanish and English at home. If my husband says the colors in English, I say them in Spanish. When my daughter was 2 years old, she was able to say everything. When my son, Mac, was 2, he didn't. He only pointed to things and used gestures. So I was very worried about what was happening with him. We made an appointment with his pediatrician and he did a checkup. He told us that he was fine. He told us it will take him longer to talk because of the two languages, but he said he was fine. I said to myself that I couldn't be sitting and waiting years for him to talk. I couldn't as a mother just wait. I didn't believe that. The doctor said he may not have any problems, but I felt the need to do something and to look for information. I needed to find help, but who could help me?

Since I was not satisfied to wait, I made many phone calls. I finally called the Child Find at the school district. They gave me an appointment right away. This is when I realized that they spoke my language. They told me in Spanish that at this time, on this date, they will come to your house to have an interview and see about the next steps for your son. They told me that the speech-language pathologist was bilingual and would be a translator for the other professionals who were coming. I thought how perfect that they speak my language. How else could I talk to them since I didn't speak good English, if they didn't speak Spanish? My English was very minimal at this time. They introduced themselves and we talked in Spanish. They asked me lots of questions and did paperwork and then they said they didn't see any problems but they would do an evaluation in Spanish just to be sure. For us, that was the support we needed. They gave us information and suggestions on how we could help him to support his language in both Spanish and English. In the end, Mac didn't need individual therapy. He just participated in El Grupo de Familias (a university-based parent education and support group for families who speak Spanish) with me. When in El Grupo, he started participating more with other children; he started doing the things the other children were doing. He might have known how to do it before, but he felt confident to do more and express more his needs. We noticed that in him and we started using the strategies from El Grupo de Familias, here at home, and now we give him more time and find more time for him. It really has worked for us. Since he has been part of El Grupo, he is talking more and talking in both languages. That was the support he needed; he is a very healthy and intelligent boy.

"In the Hispanic community the language is the biggest barrier. Sometimes we have the information in our hands, but we are fearful to make a phone call because we don't know the English language. We think, 'what can I do if they answer in English?' People hang up. After my experience with my son, some of my neighbors asked me how did I get information. I told them not to wait, but get information now.

"After El Grupo, Mac was in preschool the next year and we were asked if we could give permission to do a screening on him. We gave our permission. That school is English only. They don't have a bilingual staff. And when the results of the test were given to us, they said that he had problems with his hearing and with his language development. I went back to the Child Find and asked if they could help me with these findings. I asked for help again and they said 'yes.' They did another hearing test, a vision test, and a lot more language tests, but this time they tested him in both Spanish and English according to the education laws. We also had an interview with them and they asked us lots of questions about his use of English and Spanish at home. They went to Mac's school and observed him one day. They decided that everything was OK again, but say his Spanish is better than his English. But it was a warning for me again! I asked, 'What is happening? Am I aware of what Mac needs?' The problem was that his school was not bilingual and the teachers didn't know that he was bilingual. He wasn't using his English or Spanish in school. Now in his new school, it's clear for the teachers that Dad is American and speaks English and Mom is Mexican and speaks Spanish and both languages are spoken at home. The bilingual speech-language pathologist who tested Mac at Child Find and observed him in his school stopped by Mac's school to give the teachers some suggestions about how to help Mac use his English more and how to help him feel more confident and comfortable speaking English. Mac speaks more Spanish, but he is trying to speak more English too, and he says, 'I speak English and Spanish,' and he says this with a lot of pride."

LEARNING FROM FAMILY STORIES

What is important about Marta's story? What worked for Marta in her interactions with teachers, professionals, and other resources? What was concerning about her story? How would you respond to her concerns and situation?

Because language and culture are so interdependent, communicating with families from different cultural and linguistic backgrounds can be very complex. When the language of the family and the provider are different, it is clear that communication can be severely compromised. However, speaking the same language does not guarantee communication. Lynch and Hanson (2004) remind us that communication, both verbal and nonverbal, is critical to developing partnerships with families. By taking the time to develop relationships and truly listen to family stories, their concerns, and their priorities, early interventionists and related specialists can understand families' past and present experiences, identify family strengths and resilience, and encourage the establishment of meaningful relationships by understanding the interaction between language and culture in the lives of families (Bruns & Corso, 2001; Moore & Pérez-Méndez, 2006; Sánchez, 1999a). It is important that educators learn about the myriad factors that influence families. These include family structure, personal characteristics, citizenship, length of time since immigration, levels of acculturation and/or assimilation, languages spoken by the family, and most importantly, cultural expectations for their children, early childhood education, and early intervention services. It is critical in this process of listening to families that early childhood educators and providers of services remember that all families vary in the degree in which their beliefs and life ways may represent a particular culture, language group, religious group, or country of origin (Anderson & Fenichel, 1989; Moore & Pérez-Méndez, 2006; Thorp, 1997). To develop authentic relationships with educators and other professionals, family perspectives need to be heard and acknowledged. Families need to feel listened to and trust that early childhood interventionists and professionals have their children's best interest in mind. Knowledge, skills, and attitudes of educators and other professionals need to be

Box 1.2

What they need . . . they need to know about our culture . . . how we raise our kids . . . what we do when they are sick . . . when they are with adults . . . when they eat, and when they go to school. They need to learn how we think and feel as a family about our kids.

—Maria Sandoval, Parent

To make progress and have a family go in a positive direction, the family has to feel valued . . . that the information they are sharing is just as important as is the information the professionals are sharing . . . for the family to feel this is critical to success.

—Linda Roan Yager, Parent

developed to fully address the often complicated issues and circumstances surrounding the education of our youngest and most vulnerable learners, especially those that also have disabilities.

The purpose of this chapter is to explore the concepts of family-centered, culturally competent, and responsive practices that build reciprocal relationships and strengthen partnerships with diverse families in the delivery of early intervention services.

CHANGING WORLD

The rapid growth of our youngest population challenges our present support system for meeting the needs of children and their families who may be culturally and/or linguistically diverse, especially those receiving early intervention services or those at risk for disabilities. The demographic profile of our earliest learners is changing dramatically as we strive to address the developmental and early education needs of our early childhood population generally and to meet the very specific needs of such children with diagnosed disabilities. The PEW Research Center (Passel & Cohn, 2008) projects the racial and ethnic mix of our population will look quite different in 2050, with a significant increase in the Hispanic and Asian populations. By 2050, it is projected that one in four children in the United States will be of Hispanic origin (Forum on Child and Family Statistics, 2010). It is important to consider that 77 percent of children who enter public school coming from non-English-speaking homes speak Spanish, with the next two highest groups being Vietnamese (2.4%) and Hmong (1.8%; Keller-Allen, 2006). However, 325–341 different languages are spoken or represented in the population of the United States and nearly 6 percent of the U.S. population either does not speak English or does not speak English well (Hernandez, 2004; Capps, Michael, Ost, Reardon-Anderson, & Passel, 2004).

UNDERSTANDING THE EVOLVING CONCEPT OF FAMILY THROUGH A CULTURAL LENS

Families are described as "big, extended, nuclear, multi-generational, with one parent, two parents, and grandparents. We live under one roof or many. A family can be as temporary as a few weeks, or as permanent as forever. We become part of a family by birth, adoption, marriage, or from a desire for mutual support. A family is a creature unto itself, with different values and unique ways of realizing its dreams; together our families become the source of our rich cultural heritage and spiritual diversity . . . our families create neighborhoods, communities, states, and nations" (Report from the House Memorial 5 Task Force on Young Children and Families, New Mexico, 1990, p. 2). Every one brings their own culture, values, beliefs, and experiences to each relationship that is developed with a family during the delivery of early intervention services. Background and experiences affect everything one does and provides a "cultural lens" through which we view how children are raised, how households are organized, how one talks, what languages are spoken, how disability is viewed, and how education is viewed. Unfortunately, individuals may not be aware of the impact of culture on their behaviors, habits, and customs (Hall, 1976). Given this breadth and depth of diversity, early intervention professionals need to adjust their cultural lens to "wide angle" to understand others' experiences, values, and beliefs and how these influence each and every family. This understanding, which unfolds as the relationship progresses, provides the foundation from which family-professional partnerships are developed and sustained.

Perspectives on Culture: A Continuum

Anderson and Fenichel (1989) conceptualize culture as a "specific framework of meanings within which a population, individually and as a group, shapes it life ways (p. 1)." The way of life of a group of people includes shared values, beliefs, world views, social reality, roles and relationships, and patterns or standards of behavior (such as communication style, child rearing practices, and family composition). These dimensions of culture often describe features with which an individual may identify.

Although many link cultural features to a sense of shared ancestry and continuity with the past, others may base them upon factors of race, ethnicity, nationality, and geographic locations. However, it is also important to consider other dimensions when describing diversity (Chen, Brekken, & Chan, 1998). Dimensions of culture as described by Sánchez and Thorp (2008) include those that are readily recognizable or "tangible," like dress, food, holidays and artifacts. They contrast tangible aspects to those that are "intangible" and sometimes more difficult to recognize. Yet, they note that in their research and experience, the intangible aspects of culture more powerfully impact interactions among early childhood educators and interventionists, other professionals, children, and family members. These may include deeply held beliefs and traditions about child rearing, appropriate ways for children to interact with adults, play, feeding patterns, and ways to discipline young children. Differences in beliefs between family and professionals can provide fertile ground for cultural conflicts necessitating dialogue and resolution. Lynch and Hanson (2004) offer a set of continua representing other "intangible" values and beliefs, which are particularly relevant to working with families within early intervention. These include the continua of extended family on one end, to the nuclear family on the other; interdependence to individuality; nurturance to independence; tradition to technology; broad ownership to individual/specific ownership; differentiated rights to equal rights; and harmony to control.

Culture is understood by many to be a dynamic, ongoing process, within which individuals are constantly revising or trying out new ideas and behaviors that fit their life ways. According to Lynch and Hanson (2004), culture is not static, but rather dynamic and ever-changing. These authors point out that when describing any culture or cultural practice, *within group differences* are as great if not greater than *across group differences*. Within group heterogeneity is influenced by many factors, yet when terms such as *cultural identity, differences*, or *diversity* are used, it is important to recognize that dimensions of culture and ethnicity are typically framed in terms of differences in relation to another group, most typically the majority/mainstream culture. This is a critical consideration if early interventionists are to widen their "cultural lens" and acknowledge their own beliefs, values, and biases that impact their work with families. Many authors (Hall, 1976; Harry, Kalyanpur, & Day, 1999; Lynch & Hanson, 2004; Moore & Pérez-Méndez, 2003; Sánchez & Thorp, 2008) suggest it is imperative to recognize that each and every person is a product of one or more cultures. Chen and colleagues (1998) describe the concept of cultural assumptions as being beliefs that are so completely accepted within a group that they do not need to be recognized explicitly or questioned. However, there is danger in assuming that because a family has certain cultural beliefs in common, they can be stereotyped in terms of adhering to all beliefs and patterns associated with their culture (Moore & Pérez-Méndez, 2006). Each and every family deserves *individual consideration* regardless of cultural identity. Faulty assumptions, when working with families from cultures different from one's own, can be at the root of misunderstandings and conflicts, such as how young children are disciplined or the role of professionals in the development of young children. Assumptions that lead to conflict can often be successfully avoided or resolved through adoption of a "wide angle" cultural lens—that is, the basic understanding of dimensions of culture and the development of a relationship with each and every family characterized by mutual communication and information sharing.

Perspectives on Assimilation and Acculturation

An understanding of the concepts of assimilation and acculturation are basic to recognizing how culture is dynamic and ever changing. The term assimilation is often used to describe identified groups who give up their culture and adopt the common values and beliefs of a mainstream culture. Assimilation can be forced (e.g., indigenous cultures/tribal groups) or, for many immigrant populations, a reaction to fear of discrimination and prejudice. However, it can also be a choice by those wanting to adopt the life ways of the majority culture, a choice often ascribed to those immigrants coming to the United States to avoid war or religious or political persecution.

Acculturation, in contrast, is a process often considered along a continuum, describing those who hold fast to their traditional life ways and beliefs on one side to those who not only operate primarily within the dominant culture, but also adopt its standard values. Families may move about on this continuum, often associated with choice (e.g., bicultural and bilingual) to maintain aspects of cultural identity while adopting aspects of the mainstream or dominant culture. This conceptualization of acculturation demands that one understands that family stories are not stagnant, or a set of experiences frozen in time (Moore & Pérez-Méndez, 2006; Sánchez & Thorp, 2008; Sánchez, 1999a). For example, many immigrants who have entered this country have given up their culture, language, and prior life ways in attempts to achieve success, based upon the belief that this is what is necessary for themselves and their children to succeed. Other families may retain their native language and traditions while acquiring a new language and adopting life ways similar to the mainstream culture to achieve what they consider to be success. Changes may be made while maintaining key connections to families of origin, including the ability to communicate through their first or home language, and to maintain their self-identity, culture, and self-esteem. In a pluralistic society, many individuals recognize the benefits of maintaining their own cultures of heritage while adopting newly formed life ways and beliefs.

HOME LANGUAGE AND CULTURE

Learning More than One Language

Unfortunately, it is still common that many early interventionists believe that learning a second language is most successful when the first language is abandoned or given up. They then advise parents to stop talking to their children in their heritage language, even when family members are not proficient in English, because their young children enter early education settings and are learning English. Persistence of this “myth” or misperception (Espinosa, 2008; Moore & Pérez-Méndez, 2006) about how children learn languages often creates a conundrum for those families who value their first language and want their young children to become bilingual, thus sustaining their cultural and linguistic identity. Parents often seem confused and frustrated about what languages their child should learn to be successful in school and in life, especially given family priorities to maintain communication with extended family members and maintain aspects of culture. Parents report “losing a language is like losing a world”.

(Pérez Méndez & Moore, 2004). Families and their children may feel disenfranchised, misunderstood, or discriminated against when the first language is essentially devalued (Moore & Pérez-Méndez, 2006; Sánchez & Thorp, 2008; Wong Fillmore, 1991). Many families come from a background or have had prior experiences of prejudice and discrimination based upon their spoken language or even their name. Young children may also experience feelings of isolation and marginalization related to devaluing of their home language and culture (Sánchez & Thorp, 2008).

There is emerging research that suggests eliminating first languages actually results in lowered performance in overall learning and academics (Espinosa, 2008; Genesee, 2008; Sánchez & Thorp, 2008). Current research also speaks to the cognitive, social, academic, and economic advantages of bilingualism (August & Hakuta, 1997; Bialystok, 2001; Genesee, Paradis, & Crago, 2004; Hakuta, 1986; Lindholm-Leary, 2005; Lindholm-Leary & Borsato, 2006; Yoshida, 2008). Growing evidence implies that maintaining home language regardless of disability may strengthen a child's ability to transfer knowledge to learning a second language, while enhancing connections to culture and heritage and communication with family, as well as establishing a strong self-identity (Espinosa, 2008; Genesee, Paradis, & Crago, 2004; Kohnert, Yim, Nett, Kan, & Duran, 2005; Pérez-Méndez & Moore, 2004; Restrepo et al., 2010; Winsler, Diaz., Espinosa, & Rodriguez, 1999). Updated research tells us all children are capable of learning more than one language. Just because a child has a challenge or disability, it cannot be automatically assumed that he or she cannot learn two languages (Genesee, 2008; Genesee, Paradis & Crago, 2004; Kohnert, 2008; Tabors, 2008).

For many families, language learning is more than learning a language for academic success. It is also important to recognize the impacts of language learning as interdependent and developed within a cultural context. The primary cultural environment for young children is the immediate and extended family (Moore & Pérez-Méndez, 2003, 2006; NAEYC, 1995; van Kleeck, 1994). Language is the major vehicle within the family for communicating values and expectations, expressing care and concern, providing structure and discipline, and interpreting world experiences. According to Kohnert, Yim, Nett, Kan, and Duran (2005), it is critical that young children and their primary care providers share a common language, and if it is developed to the greatest degree possible, the shared language can become the foundation for continued meaningful interpersonal communication within the family throughout the child's life.

Sociohistorical Influences on Language and Culture

Clearly the timing of sociopolitical challenges, strife, and wars in our history as a country have significantly influenced patterns of language use and maintenance among various indigenous and immigrant populations. For example, parents of young children of Latino heritage speak of the discrimination of segregated schools that their own parents endured when growing up before and during the 1960s in many parts of the country. This in turn led to a significant loss of the Spanish language within the next generation, given parental fear of discrimination and prejudice against their children (Pérez-Méndez & Moore, 2004; Sánchez, 1999).

Similarly, Native Americans in the nineteenth century were the target of a concerted effort by the American government for assimilation through educational reform when young children were forced to attend residential schools away from the reservation, discouraging all traditional life ways. Children were punished for speaking their heritage language. Historical chronicles and stories of separation of young children from their families on Indian reservations also significantly impacted the numbers of primary language speakers remaining in Native American tribes across the country. According to Darrell Kipp (2007), a Blackfeet linguist, poet, and teacher, the notion of reviving the Blackfeet language was met by hostility by his tribal members when he first began to revitalize the language in preschools and later elementary school during the 1980s. He notes that it was not until 1990 that Congress passed a Native American language bill that as least acknowledged the legality of speaking tribal languages. Efforts to revitalize heritage language is successfully underway in many tribal communities today as a way to reinvest and restore lost cultural and religious traditions and to develop individual self-esteem while preventing or ameliorating current trends of marginalization among the youth from these cultures.

Culturally marginal individuals are those individuals who essentially follow their own way and do not identify with any particular cultural group. In some instances, these individuals reject their culture of heritage but are not accepting of or accepted by the values and life ways of the mainstream, and thus are considered marginalized from society. A seminal article by Wong Fillmore (1991) presents reports from many families (Asian, Korean, American Indian, Arab, Latino) that as their children lost their native language proficiency for various reasons and as they developed English, their cultural identity, values, and beliefs were often put in jeopardy. Most importantly, they lost their connection to home and ability to communicate with family. Wong Fillmore (1991) attributed this to a society that did not value multiculturalism.

Interpersonal Impact of Language Loss

Stories and reports abound in which language loss within families can compromise parent-child attachment, result in less communication, and decrease family cohesion. It is considered critically important by many authors for young children to learn the languages of their parents, who then can take full responsibility for socializing them and preparing them for schooling later on. Culture and language are considered the building blocks of self-identity and connection to family. Language and the associated cultural heritage are viewed as critical components of growth and development in young children. Elimination of languages may in fact lead to negative consequences of discontinuity with language and learning, disconnection with family, and disenfranchisement from community and heritage (Krashen, 1999; Nieto, 2000; Sánchez & Thorp, 2008; Tabors, 2008; Tatum, 2003; Wong Fillmore, 1991).

Losing some aspects of the first language is a possibility for children who are learning English as a second language (Genesee, Paradis, & Crago, 2004). However, the available research evidence does not convincingly support withholding exposure to English during the early childhood years (Genesee, 2008; Kohnert et al., 2005). There are differences in opinions about what is optimal timing for introducing a second language, and there are many influencing factors to be considered given there are an increasing number of children are not formally introduced to a second language of instruction until age 5 or above (Kayser, 2008; Sánchez & Thorp, 2008; Tabors, 2008). The research as yet does not provide clear answers for typically developing young children, nor is there research that addresses this question for children with diagnosed disabilities. But perhaps a more important question is, how can early interventionists and other professionals develop relationships with families that respect and support children's interactions in those languages spoken at home?

FAMILY-CENTERED, CULTURALLY COMPETENT, AND RESPONSIVE PRACTICES

What exactly does it mean when we say early interventionists need to adopt family-centered, culturally competent, and responsive practices when partnering with families of young children they serve? A thoughtful and thorough examination of these concepts is called for as most early interventionists acknowledge the need and are invested in developing positive relationships with families that contribute to the quality of programs provided. In a meta-analysis of the research regarding the concept of family-centered practices, Dunst, Trivette, and Hamby (2008) developed a comprehensive and descriptive profile of what it means to be family-centered.

> Family-centered practices are characterized by beliefs and practices that treat families with dignity and respect; provide practices that are individualized, flexible, and responsive to family situations; involve information sharing so that families can make informed decisions; provide family choice regarding any number of aspects of program practices and intervention options; build parent-professional collaboration and partnerships as a context for family-program relations; and promote the active involvement of families in mobilization of resources and supports necessary for them to care for and rear their children in ways that produces optimal child, parent, and family benefits. (p. 1)

This seems a tall order for many early educators and interventionists who may neither understand the components nor have had experience in implementing family-centered principles. Sánchez (1999a, p. 2) states, "the implementation of family centered practice often seems like an elusive goal, even when working with populations matching our own backgrounds, but is further complicated when working with culturally and linguistically diverse populations whose views and language are different from our own." It can become further complicated when one considers the concept of cultural competence and responsivity in practice, although there are obvious overlaps in these concepts and practice.

Developing Cultural Competence

Sue, Ivey, and Peterson (1996) described a stage approach to developing cultural competence. The first stage or step is development of *cultural awareness*. Cultural awareness involves a provider's sensitivity to his or her own personal beliefs, values, and biases and how they might influence perceptions of a family. The next step towards cultural competence focuses on *cultural knowledge*. Providers seek information and knowledge about the worldviews and expectations of the families with whom they are working. The third step is the development of *cultural skills*, involving the provider's ability to communicate and interact in a manner that is culturally sensitive and relevant to a family and situation.

Lynch and Hanson (2004) suggest a "transactional and situational approach" in which each child is recognized as an individual with unique characteristics, strengths, and needs. Families are recognized as having unique concerns, priorities, and resources. To work effectively with families, it is suggested that providers adjust and adapt strategies continuously with families, and that this may sometimes mean adapting to radically different and individualized values beliefs and practices that are different from their own. These authors suggest that building partnerships with families from cultures different from one's own can sometimes be frustrating and require further study and information gathering; and/or it can be an opportunity to be exposed to a richness of human experiences, to learn new information, and to grow as an individual. Regardless, early interventionists have been directed to address this challenge of developing family-centered, culturally competent, and responsive practices in their everyday interactions with families and children. The development of this "wide-angle lens" demands changes in dispositions, knowledge, and skills (Lynch & Hanson, 2004; Moore & Pérez-Méndez, 2003, 2006; Sánchez & Thorp, 2008; Westby, 2009).

DISPOSITIONS AND ATTITUDE

In terms of dispositions and attitude, a wide-angle lens requires that early interventionists working with families from cultures different from their own embark on a "personal cultural journey" as described by Lynch and Hanson (2004) and suggested by many other authors (Hepburn, 2004; Pérez-Méndez & Moore, 2004; Sánchez, 1999b). This journey involves in-depth self-reflection regarding one's own background, upbringing, history, and recognition of privilege for some and experiences and feelings that involve cultural discrimination and/or prejudice for others. Recognizing one's own cultural perspective opens up the way to discovering how every individual identifies with one or a combination of cultural beliefs, values, and life ways. Many individuals may not recognize how deeply ingrained key messages from our family of origin or our life's journey has impacted our behavior toward others. For example, Sánchez and Thorp (2008) describe the reaction of an early childhood student who, prior to engaging in a self-reflective process about her background, values, and beliefs, thought of herself as being without a culture. "I assumed I was just a regular American and that culture was something exotic, something other people have" (Sánchez & Thorp, 2008, p. 84). The journey can also lead to recognition of one's own cultural biases and how they can influence premature perceptions or assumptions about others. It can lead to an awareness of a historically *subtractive attitude* towards difference in others, attributed to a parochial society that is intolerant of those who speak a different language, hold certain beliefs or values that alienate them from the mainstream, practice a different religion, or engage in child-rearing practices that are assumed to harm a child. An outcome of the cultural journey can be to develop a broader perspective: an *additive* attitude that recognizes strengths and richness in cultural heritage, appreciates differences and life ways of others, and authentically celebrates diversity in classroom practices and connections to home. An additive attitude about differences combines with family-centered practices that assumes competence in families to make the best decisions they can about their children, when provided information and choices. This attitude precludes acting on assumptions about a parent, often associated with stereotypes related to cultural life ways, and thus demands *individual consideration* of each and every family. Development of an additive perspective about differences can lead to positive relationships with families built upon trust and respect.

Dispositions or attitudes can also be described as *responsive* versus *restrictive*. Responsive dispositions that recognize and appreciate the values and beliefs of a family drive responsive practices within early intervention services that enhance connections to home. Restrictive attitudes preclude open dialogue about differences or perspectives different from one's own or implementation of family practices or routines that could be adapted or followed within the delivery of early intervention services. Restrictive attitudes can lead to cultural clashes that are difficult to resolve, and interfere with the development of authentic parent-professional partnerships. There is a risk of isolation and alienation on the part of families who see their choices for early intervention restricted to the ways and beliefs of the dominant society. On the other hand, responsive dispositions recognize that differences in family belief systems, child-rearing practices, and modes of parent-child interaction represent important ways in which culture is embedded in a process of socialization of a child by family during the early childhood years. Different ways of caring for and teaching children at home are not automatically judged as contrary to developmentally appropriate practice. Cross-cultural differences in parental expectations for attainment of developmental milestones may be more representative of a basic value of interdependence than a problem in parenting.

Attitudes and dispositions can also be described as *dynamic* versus *static*. Just as children change over time, so do families. There is considerable variability among child-rearing practices that promote healthy development and learning, much of which is embedded in cultural practices passed on from one generation to the next. Yet these are continually transformed by each generation based upon the times and opportunities available. Culture evolves in a dynamic way that early interventionists can appreciate. Families also may change their stories as well as their expectations for their children with increased experience with educators and programs that allow for and recognize change.

Dispositions or attitudes can also be described as *open* or *closed*—open to the possibilities of new learning and changes in practice, or closed to differences as beyond the boundary of what is comfortable or can be considered. Recognition that changes in practice in the delivery of early intervention services can happen only when one is open to change. *Additive*, *responsive*, *dynamic*, and *open* dispositions toward cultural, linguistic, and ability diversity can shape what is possible in changing practices in the venues in which early intervention services are delivered. These dispositions positively impact foundational processes of building reciprocal relationships with families based on trust and respect.

Knowledge and Skills

Learning and gaining knowledge of cultures is another necessary step toward effective family-centered and culturally competent practices. There are a variety of strategies that a professional might use to assist in widening their cultural lens.

Reading Published Biographies, Memoirs, and Ethnographies

Resources that describe cultural life ways and differences abound. Personal biographies and ethnographic studies provide a rich resource for those open to learning more about differences in culture and experiences. For example, the ethnography *The Spirit Catches You and You Fall Down* (Fadiman, 1997) is a story of a Hmong family with several children who eventually immigrated to California after dislocation following the Vietnam War. Their daughter was diagnosed with a seizure disorder, and the basic lack of interpreters of this family's language led to numerous misunderstandings with the physicians and staff caring for her. In sum, absence of culturally competent and responsive practices, and mounting distrust on both sides, led to tragic and dire consequences for this child. Readers learned of the Hmong culture, including the history surrounding patterns of immigration, and traditional life ways and beliefs that conflicted with Western medical practices. As the story unfolds, readers learn consequences of ongoing misunderstandings and faulty assumptions stemming from a lack of understanding and knowledge of cultural life ways and miscommunications associated with a paucity of trained interpreters or cultural mediators to bridge the gap.

Participating in Diverse Community Activities

Learning often occurs "just in time" when new and diverse children become eligible for early intervention services. Interventionists providing services need to tap into resources that help them understand differences in cultures and what they might need to be aware of in relationship to building partnerships with individual families, to avoid biased ethnocentric value judgments, and prevent intrusive or inappropriate practices. Sánchez (1999) suggests knowledge about cultures can be actively pursued by *moving out of your comfort zone* and participating in community activities that involve people from cultures that are different from one's own, by engaging in activities that involve individuals and families that follow different traditions and life ways to gain perspective and understanding. She also speaks to ethical and professional responsibility to actively counter instances of discrimination or prejudice in the lives of children and families and intentionally advocate for fair and equitable practices in our early care and education systems.

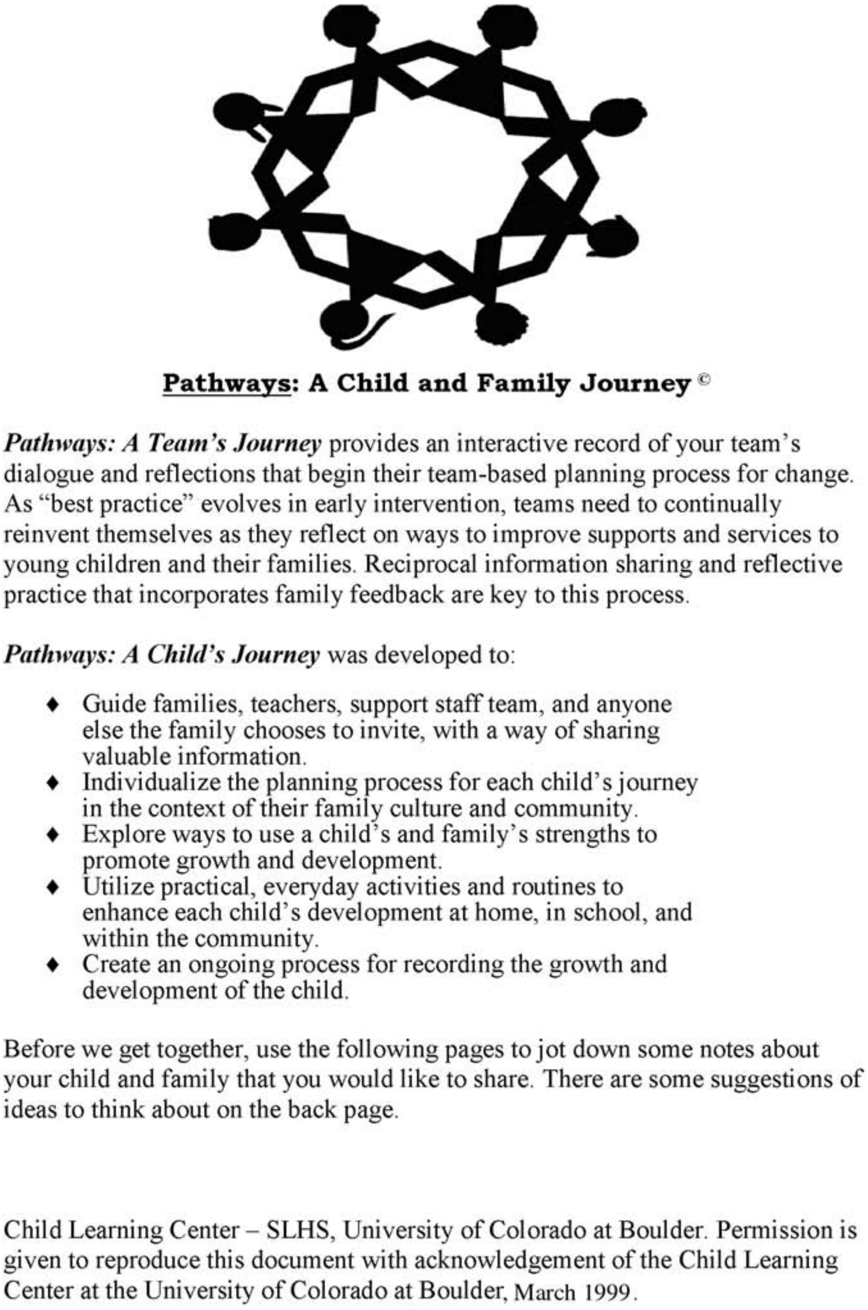
Honing communication skills that facilitate and promote resolution of cultural conflicts through adoption of an *anchored understanding* of family perspectives based upon respect, reciprocity, and reframing of issues are described by Barrera and Corso (2003). Strategies for skilled dialogue with families often demands going to a *third space* to avoid getting stuck in either/or solutions to negatively charged conflicts. These authors advise early interventionists to reframe perceived negative statements and go to a third space to generate alternatives that clarify expectations and resolve conflicting perspectives when working with families.

Dialoguing with Families

Other effective ways to gather information involve dialogue and conversations that utilize ethnographic interviewing strategies with family members (Westby, 1990, 2009) or adapted person-centered planning strategies (Moore & Pérez-Méndez, 2003, 2006) that open up the conversation and dialogue and provide a framework for parents and family members to actively share information and participate in planning programs for their child. *Pathways: A Child and Family Journey* (CLC, 1992), is one example of an individualized planning process that can lead to a richer, deeper understanding of a child you work with, including:

- The family's perspective about their child
- Family expectations, questions, priorities, resources, and supports
- A profile or description of the child's strengths, style of learning, frustrations, and individual characteristics

The process is intended to be used with families as a guide to sharing valuable information with early interventionists, providers, teams, and anyone else the family chooses to participate. The framework individualizes the planning process for each child and family's journey in the context of culture and community. In this process, parents are first encouraged to share words that describe their child. "Who is Carmen?" "What words come to mind when you think about her?" This allows parents to share the strengths they see in their child and sets the tone for early interventionists to listen to descriptions of a child based on their strengths versus their deficits. Other questions are provided to continue the conversation as needed; however, the tool is typically used as a way to record parental perspectives about their child, what they like to do, how they learn, what is hard and frustrating for them, and the key questions that parents may have related to their child's educational plan. Use of this tool allows parents and family members to lead the conversation and share relevant information that can be used to understand the child in the context of their family. The process explores ways to recognize and build upon family and child strengths to promote participatory interactions and utilizes practical everyday activities, routines, and relationships to enhance child development at home, in school, and in community. *Pathways* creates an ongoing process for documenting the growth and development of the child and is easily adapted for use with all families including those who speak a language other than English (see Figure 1.1).



Pathways: A Child and Family Journey ©

Pathways: A Team's Journey provides an interactive record of your team's dialogue and reflections that begin their team-based planning process for change. As "best practice" evolves in early intervention, teams need to continually reinvent themselves as they reflect on ways to improve supports and services to young children and their families. Reciprocal information sharing and reflective practice that incorporates family feedback are key to this process.

Pathways: A Child's Journey was developed to:

- Guide families, teachers, support staff team, and anyone else the family chooses to invite, with a way of sharing valuable information.
- Individualize the planning process for each child's journey in the context of their family culture and community.
- Explore ways to use a child's and family's strengths to promote growth and development.
- Utilize practical, everyday activities and routines to enhance each child's development at home, in school, and within the community.
- Create an ongoing process for recording the growth and development of the child.

Before we get together, use the following pages to jot down some notes about your child and family that you would like to share. There are some suggestions of ideas to think about on the back page.

Child Learning Center – SLHS, University of Colorado at Boulder. Permission is given to reproduce this document with acknowledgement of the Child Learning Center at the University of Colorado at Boulder, March 1999.

Figure 1.1 ***Pathways:*** **A process for documenting the development of a child.**

Through use of a person-centered process as adapted to families, trust between families and professionals is established through information sharing and mutual understanding, which can promote autonomy (i.e., feelings of confidence and competence in decision making) and ultimately lead families to take initiative as true partners in their child's early education and intervention (Moore & Pérez-Méndez, 2006). This sets the groundwork for family engagement, advocacy, and leadership as children progress through the educational system.

Simply listening to a family story as described by Sánchez (1999a) also creates common ground to exchange information and understand the complexities of a parent's perspective about their child. Listening to Marta's story at the beginning of this chapter revealed her strengths as a parent, including her persistence in obtaining information about her son. It also describes the actions of a family-centered, culturally responsive team effort, including a bilingual speech-language pathologist and a bilingual cultural mediator. Marta's story also illustrates concerns about erroneous results of a biased assessment process with a child who was a dual-language learner, based upon inadequate information about his family. Mac was tested only in English by this English-speaking school. The story also illustrates the positive impacts from listening to a parent's concern so that the parent can be linked to appropriate community resources for information and services.

Facilitating family stories leaves control of the direction of conversations and program planning with the family, yet, if done skillfully, allows the provider to gather appropriate information and build understanding and trust. Development of knowledge and skills in gathering information and building relationships with families involves learning how to ask genuine questions that are open-ended and leave room for storytelling and reciprocal information sharing. Families build trust in relationships when their priorities are addressed, their concerns are listened to and understood, and their resources, including their strengths, are recognized and considered. All parents benefit from respectful and trusting relationships with teachers and other early intervention providers, meaningful engagement in all aspects of the assessment processes, and educational planning for their children. Opening up the dialogue and listening so that families can share important information as well as gain information that impacts their options and choices for their children demands preparation. Honing of communication skills creates an atmosphere of exchange, focusing on parent engagement and participation, recognizing the specific needs of a particular parent, refraining from use of professional jargon, and providing information. These communication skills, coupled with those that are sensitive to challenges and recognize strengths and resilience, will enhance open dialogue with families. Use of these skills avoids and precludes premature judgments based upon prior assumptions on the part of the professional. Early interventionists report being cautious, and rightfully so, as they do not want to offend families by making assumptions about their beliefs and life ways based on self-identification with a particular culture. Simply asking families in a respectful way is often the most effective way to determine their perspective, life ways, or practices.

Dinnebeil and Rule (1994) note that families will develop and respond to early educators and professionals they trust. Core competency development in developing trusting and respectful relationships with all families is necessary, yet these relationships may develop in different ways. Some families, because of their beliefs about education and past experiences, may prefer a more formal relationship with an early intervention provider, while others may prefer an informal, friendly relationship.

Respect for the uniqueness of each family system and how it is influenced by beliefs, transitions, life ways, and languages spoken builds the foundation for increasing the ability of professionals to effectively respond to the priorities, needs, and concerns of the family, which in turn can significantly enhance the growth and education of the child. Parents are then able to engage with professionals in partnerships and actively engage in their children's early intervention program both at school and at home (Bruns & Corso, 2001; Dunst et al., 2008: Moore & Pérez-Méndez, 2003, 2006; Sánchez & Thorp, 2008; Santos, Corso, & Fowler, 2005).

Knowing the Legal Requirements

When children are referred for screening and assessment, professionals must execute these processes in accordance with the law, including the communication of sufficient information to parents so that they understand the process and can participate. The Individuals with Disabilities Education Improvement Act (2004) clearly strengthened the provisions pertaining to the referral, assessment, and identification of children with disabilities whose first language is not English, with the intention of reducing the disproportional representation of this group among special education students. Children whose home language is not English have either been over- or under-identified for special education services (Keller-Allen, 2006). The law clearly states that children cannot be identified for special education solely on the basis of *limited English proficiency*. Children must be tested using nondiscriminatory, multifaceted assessment measures *administered in the language and form most likely to yield accurate information on what the student knows and can do academically, developmentally, and functionally unless this is not feasible*. For most, this means assessing the child in the home language as well as English. Testing must be administered by *trained and knowledgeable personnel*, and the assessments selected must be used for the purposes for which they were determined to be valid and reliable.

Parents also are protected under the law. Parents may not be excluded from participation in the special education process because of limited English abilities. Notifications and information about the proposed activity in the special education process must be provided to parents in their native language. Interpreters must also be provided for a parent so that they are able to understand and participate in the child's IEP meeting.

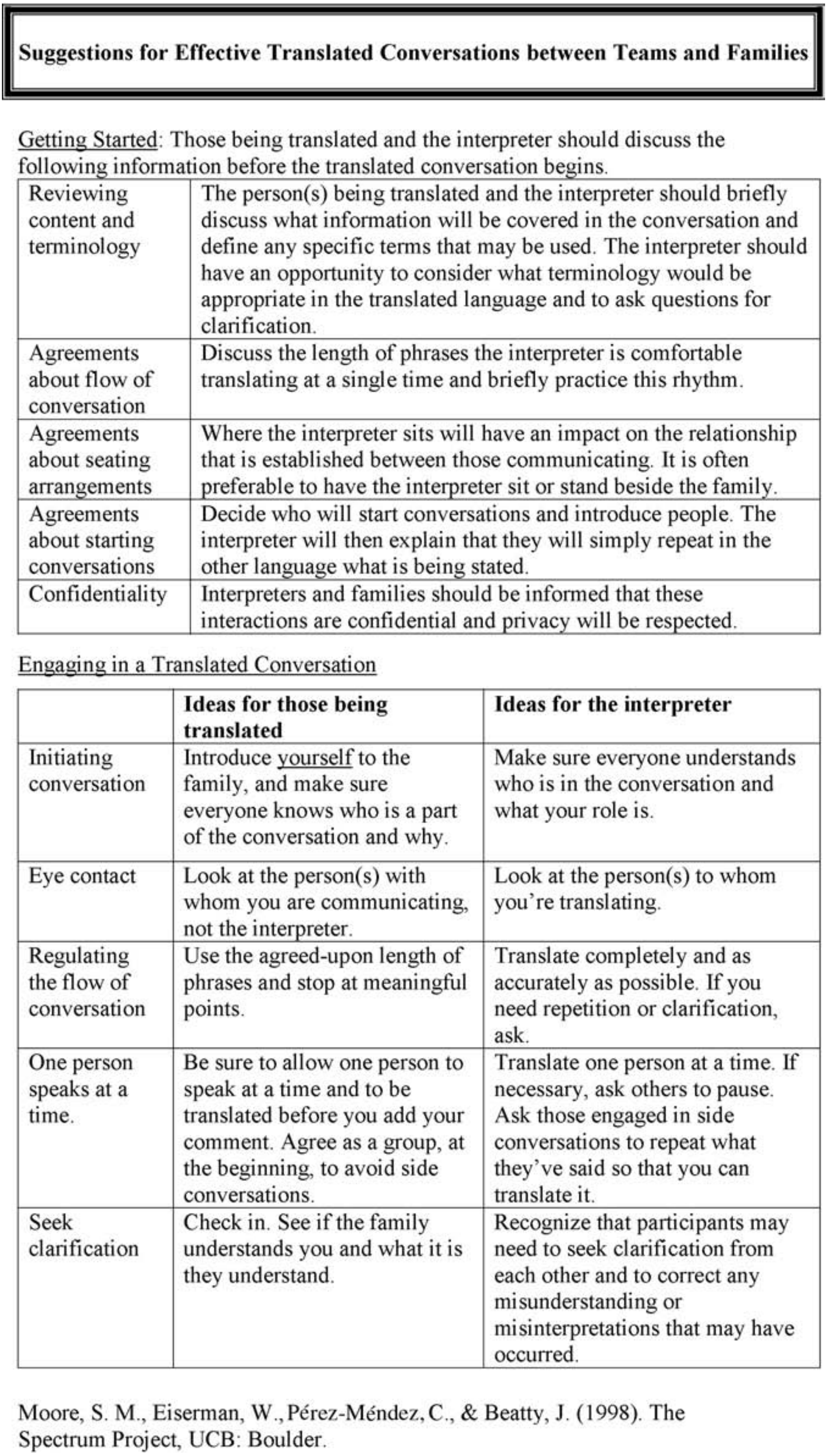
Our lack of complete understanding of second-language learning as well as the availability of appropriate instrumentation make it difficult to execute fully the provisions of the law. Most English-language proficiency tests, for example, have been standardized on monolingual native speakers (Abedi, 2006). A qualitative study (Hardin, Mereoiu, Hung, & Roach-Scott, 2009) identified additional roadblocks to implementation. This study solicited information from focus groups of parents, administrators, and teachers in an urban and rural setting to better understand current and needed practices for the referral, evaluation, and placement of preschool-aged Latino children with disabilities. The results revealed inconsistent screening and evaluation methods, such as the lack of trained test administrators and knowledgeable interpreters; the lack of strategies for ensuring parent participation, such as assuming an interpreter was not needed when parents spoke some English; the absence of professional development opportunities for professionals on test administration and second-language learning; and inconsistent or contradictory policies, such as insufficient time before having to screen, refer, and evaluate children for intervention.

Using Cultural Mediators, Interpreters, and Translators

In addition to executing legal requirements, the services of well-trained cultural mediators, interpreters, liaisons, or translators is also an effective way to obtain knowledge and develop trust with families. Many early childhood and intervention programs also now employ parent-school liaisons to increase effective connections with families. A well-trained cultural mediator or parent-school liaison does more than provide the interpretation of words spoken in conversations with families (Moore & Pérez-Méndez, 2005a, 2006). Cultural mediators or brokers are typically bilingual as well as bicultural, and can easily establish connections with families given their knowledge and experience with the culture and community shared with the family. This was the case with Marta and the Child Find team that provided her with effective early intervention supports. The Child Find team members were in concert with the cultural mediator, who in this case was also bilingual and bicultural, and able to contribute substantially to Marta's comfort level, and she was able to develop trust directly with others in the program. Effective use of cultural mediators or liaisons requires teaming with early intervention professionals as well as training and experience in working with families, especially concerning practices such as confidentiality, rights and responsibilities of families, and procedural safeguards related to services. In addition, team members not familiar with the cultural aspects can learn from the cultural mediator and increase their knowledge and skills in family-centered, culturally competent, and responsive practices when working with families from cultures different from their own.

Effective interpreters and translators must have knowledge and preparation regarding early intervention practices and processes as well as proficiency (comprehension, expression, reading, and writing) in the language of translation and English. Preparation is key. We have suggested (Moore & Pérez-Méndez, 2005a, 2005b), as have others (Chen et al., 1998), that interpreters work with professionals before the targeted event and engage in a debriefing session following it to assure accurate communication. Specific skills and helpful strategies when using translators with families are summarized in Figure 1.2.

It is important to note that different styles for translation can be used effectively for different purposes. For example, a summarization technique usually requires the translator to remember large amounts of information. The danger is that the professional may speak too fast and/or that the translator may not convey important key points. Simultaneous translation often interferes with concentration as the listeners are distracted when both the speaker and interpreter are talking at once, unless equipment suitable for this method is available. Use of this equipment can work well for large and mixed groups when one



Suggestions for Effective Translated Conversations between Teams and Families

Getting Started: Those being translated and the interpreter should discuss the following information before the translated conversation begins.

Reviewing content and terminology	The person(s) being translated and the interpreter should briefly discuss what information will be covered in the conversation and define any specific terms that may be used. The interpreter should have an opportunity to consider what terminology would be appropriate in the translated language and to ask questions for clarification.
Agreements about flow of conversation	Discuss the length of phrases the interpreter is comfortable translating at a single time and briefly practice this rhythm.
Agreements about seating arrangements	Where the interpreter sits will have an impact on the relationship that is established between those communicating. It is often preferable to have the interpreter sit or stand beside the family.
Agreements about starting conversations	Decide who will start conversations and introduce people. The interpreter will then explain that they will simply repeat in the other language what is being stated.
Confidentiality	Interpreters and families should be informed that these interactions are confidential and privacy will be respected.

Engaging in a Translated Conversation

	Ideas for those being translated	**Ideas for the interpreter**
Initiating conversation	Introduce yourself to the family, and make sure everyone knows who is a part of the conversation and why.	Make sure everyone understands who is in the conversation and what your role is.
Eye contact	Look at the person(s) with whom you are communicating, not the interpreter.	Look at the person(s) to whom you're translating.
Regulating the flow of conversation	Use the agreed-upon length of phrases and stop at meaningful points.	Translate completely and as accurately as possible. If you need repetition or clarification, ask.
One person speaks at a time.	Be sure to allow one person to speak at a time and to be translated before you add your comment. Agree as a group, at the beginning, to avoid side conversations.	Translate one person at a time. If necessary, ask others to pause. Ask those engaged in side conversations to repeat what they've said so that you can translate it.
Seek clarification	Check in. See if the family understands you and what it is they understand.	Recognize that participants may need to seek clarification from each other and to correct any misunderstanding or misinterpretations that may have occurred.

Moore, S. M., Eiserman, W., Pérez-Méndez, C., & Beatty, J. (1998). The Spectrum Project, UCB: Boulder.

Figure 1.2 Effective skills and strategies in translated conversations.

speaker is conveying information, such as during parent meetings or workshops. Consecutive translation is an effective way for teachers to share information in conferences. In consecutive translation, the speaker provides information, chunking it and pausing frequently for the interpreter to share the information with the family. This technique is also useful for fostering questions and dialogue with family members. An ideal situation for families would be to have an early interventionist who could speak both languages. However, the paucity of bilingual educators and professionals necessitates alternative strategies to ensure families receive and can share information in their preferred language (Moore & Pérez-Méndez, 2005b).

Sharing Research-Based Knowledge

Early interventionists working with families who speak a language other than English need to increase their research-based knowledge about how children, even those with identified disabilities (Genesee, Paradis, & Crago, 2004; Pérez-Méndez & Moore, 2004), can successfully maintain growth in their first language while learning a second language. They must be familiar with current research about bilingualism and dual-language learners and consider all background variables when providing culturally responsive early learning opportunities. Sharing this information is critically important so that families themselves can make the decision about what languages their children will learn (Pérez-Méndez & Moore, 2004). In addition, parents need an accurate assessment and description of their children's abilities if a communications and/or language challenge exists. This information is necessary to understand and to determine a profile of development, but does not automatically mean that a child cannot learn more than one language (Genesee, Paradis, & Crago, 2004; Kohnert et al., 2005; Kohnert, 2008; Moore & Pérez-Méndez, 2006; Tabors, 2008).

Early interventionists need to assume that family members are competent, and that given the appropriate information, decisions made by families are to be valued and respected, regardless of the personal beliefs of the early interventionist. This is key to building trust with families who are not only concerned about the languages their children will learn, but also how this decision could impact their children's academic success. However, this can become a very complex issue when complicated by conflicting expectations, sociopolitical and/or philosophical beliefs, and contradictions in or lack of research-based evidence.

PARENT EDUCATION AND SUPPORT

Establishing effective partnerships with diverse families also involves educating and supporting families beyond the interactions involved in the delivery of early intervention services. *El Grupo de Familias* (Moore & Pérez-Méndez, 2005c) is one example of a parent education and support model developed to build "participatory" engagement and advocacy with family members who speak a language other than English. The language spoken in this group is Spanish. A cultural mediator (bilingual and bicultural) and family resource consultant meet with families, while children and siblings play and engage in language and literacy activities with bilingual early interventionists and teachers. The model promotes inclusion of those children who are identified with challenges, as well as sharing of research-based information about how children develop languages so parents can make informed decisions about what languages their child will learn. Activities and observations are designed to support parents' understanding of children's learning through demonstration, modeling, and practice of interactive storybook-reading strategies and early language and learning activities that can be transferred to everyday routines and activities in the home.

El Grupo also promotes access to community resources through group visits to library and activation of library cards to encourage future visits. Focus is placed on navigating the system of educational supports and parent-to-parent connections. Gaining trust begins to happen during an initial activity that creates a safe environment for all the parent participants of El Grupo to share their thoughts and feelings. *The Talking Stick* is offered to parents who are asked to talk about their own childhood experiences with parents and family, their first recollections of school, and their dreams and goals for their children. It is often a very emotional and revealing exchange and sets the stage for future in-depth discussions about priorities and concerns. Over several sessions, families meet together, share stories, observe their children during play activities, and learn strategies for interactive storybook reading through videotape review and discussion. The program encourages family members to interact with professionals and advocate for their children. They learn that they can impact the responsiveness of the system of supports and services when they are knowledgeable about how this system works, and when they have enough information to select the appropriate choices for their child and family. This is one model of a parent education and support program that is family-centered, culturally resonant with and responsive to parent and family priorities and need for supports.

FACTORS INFLUENCING CULTURAL COMPETENCY

Personnel Preparation

Teacher effectiveness is one of the most salient predictors of quality and outcomes in early childhood education programs. High quality in early childhood education is identified as a basic first step for educational reform (PEW Center on the States, 2010). Current research on effects of professional development programs on classroom and intervention practices and outcomes for dual-language learners is a promising area in which to effect change (Buysse, Castro, & Peisner-Feinberg, 2010; Castro, Peisner-Feinberg, Buysse, & Gillanders, 2010; Restrepo et al., 2010). Changes in preservice and in-service personnel preparation of early interventionists are needed to ensure the development and ability of personnel to implement evidence-based practices that directly involve teaching children as well as establishing and sustaining relationships with families (Buysse et al., 2010; Maude, Catlett, Moore, Sánchez, & Thorp, 2006; NAEYC, 1995; Sánchez & Thorp, 2008; Winton, McCollum, & Catlett, 2004).

Other issues in personnel preparation are seated in the paucity of native speakers of a variety of languages in our provider workforce. The demographics and cultural characteristics and languages spoken among practicing early interventionists, educators, and other professionals presents a glaring discrepancy when viewed in context based upon the wide range and numbers of culturally and linguistically diverse children and families served. The lack of well-trained interpreters, translators, cultural mediators, or liaisons also compounds the complexity of this discrepancy as noted by Moore, Pérez-Méndez, and Boerger (2006).

Policy and Social Changes

The rapid growth of dual-language learners in education has greatly challenged our present system for educating each and every child, including those representative of social-economic and cultural diversity (Goldstein, 2004). Sheer numbers alone point to the need for increased systemic change driven by policies that address the needs of culturally and linguistically diverse learners. Concern about disproportionate representation in special education, marked by misidentification, under-identification, and/or over-identification of children from different cultures from the mainstream, and who speak languages other than English, persist; although socioeconomic impacts cannot be discounted as a major contributing factor to this situation (Artiles & Trent, 1994; Guiberson, 2009; Ortiz & Yates, 1993). Policies implemented by the Office of Civil Rights and legislative initiatives such as the No Child Left Behind Act and the Individuals with Disabilities Education Act (IDEA, 2004), meant to address these challenges, have not significantly changed the trend for disproportionate representation to date (De Valenzuela, Copeland, Huaqing Qi, & Park, 2006). However, focus on early identification of children's learning abilities, needs, and progress through widespread adoption of "multitiered models" of instruction hold promise for each and every child receiving a developmentally appropriate education and being included at the universal level of instruction. Multitiered models have not only been adopted in K–12 education as recommended in IDEA (2004), but are now focused on preventing challenges from emerging for children in pre-K programs (Burns, Appleton, & Stehouwer, 2005; Coleman, Buysse, & Neitzel, 2006; Coleman, Roth, & West, 2009). Inclusion of each and every child regardless of diverse ability, culture, or language is a policy that has been espoused by family groups and centers for many years, and current work on promising practices to effect change in focus that includes partnerships with families within a context of community appears to be on the rise as a key component to reform educational practices.

Equity and Social Justice

Concerns surrounding disparities in access to opportunities for education for all children are reflected in the current work of many authors and projects. For example, The National Center for Culturally Responsive Educational Systems aims to reduce the disproportionate representation of culturally and linguistically diverse students in special education. The Equity Alliance at Arizona State University is a collaboration that represents a set of funded programs that promote equity, access, participation and outcomes for all students. The goal for these and other projects funded through the U.S. Department of Education are focused on supporting the capacity of state and local school systems to provide high-quality, effective learning opportunities for all students and to reduce disparities in academic achievement. Many of these projects also support parent and family members to actively participate in all aspects of their child's education.

The U.S. Department of Education promotes actualization of parent-school partnerships through parent resource centers located in every state. Parent training and regional assistance centers such as the PEAK Parent Center in Colorado and the PACER Center in Minnesota support parents and family members in their quest for equity, inclusion, and quality of programs for their children with disabilities. For example, the PEAK Parent Center provides training, information and technical assistance to equip families of children from birth through age 26 with strategies to advocate successfully for their children with disabilities. All of these centers and others are members of the National Coalition for Parent Involvement in Education (http://www.ncpie.org).

Other projects such as the Center for Early Care and Education Research–Dual Language Learners (CECER-DLL), housed at the Frank Porter Graham Child Development Center in North Carolina, focuses on the disparity between evidence and research-based practices versus actual practices in early care and education. Clearly, there is a present and persistent concern about equity and social justice for all children in education, including access and equity in early care and education settings. Efforts to develop more effective partnerships with each and every family though collaboration to resolve issues and concerns are addressing the awareness as well as the resources available to end disparities and inequities.

A number of other initiatives and trends are also apparent. In 2007, a national organization was formed through the Center of Applied Linguistics in Washington, D.C., to set a national dual-language research agenda. Support for current and future research that makes direct links for practitioners about dual-language learning can also contribute to improved quality to address issues of cultural, socioeconomic, linguistic, and ability diversity. Attention to articulation of professional standards and position statements from key organizations in early childhood (e.g., NAEYC; DEC; Zero to Three) that address issues of access and equity can also positively impact the improvements in practice that involves family relationships as central to young children's education and development.

The projects mentioned above are but a handful of examples of increasing efforts to examine and attend to continued challenges impacting equity in education, including those issues that impact children and families from socioeconomic, cultural, linguistic, and ability-diverse backgrounds in early care and education.

EMERGING TRENDS AND PROMISING PRACTICES

Enhancing the Knowledge Base

Research efforts increasingly provide evidence that support promising practices that will improve early intervention for all children with disabilities, including those who are culturally and linguistically diverse. These efforts may be in jeopardy in the near future given state and national fiscal funding constraints.

Longitudinal investigations of bilingual models of early childhood instruction, including dual-language programs, transition programs, and supplemental language supports, can, if funded, shed light on effectiveness of educational options and strategies that promote learning. Positive evidence of improved outcomes for all children when instructional strategies are embedded in a multitiered framework is emerging, especially when based upon the concept of a community of learners that includes parents as active participants in their children's early development and education. If support continues, the current focus on high-quality foundational/universal practices, such as use of research-based curriculums, universal screening, and progress monitoring, will provide accountability across the early childhood profession.

The funded research and demonstration projects that seek to understand how parent-professional partnerships can best be formed and sustained over time will offer insights for systemic changes at all levels of interaction. Emerging research sets the trend for improvement in practices that include all children regardless of ability, languages spoken, and cultures of origin, through engagement of parents as partners in this effort. Research can also address issues of personnel preparation focused on teacher quality, including ongoing investigations of effectiveness of family-centered, culturally competent, and culturally responsive practices. Continued funding of projects and research geared towards promising solutions to persistent dilemmas of social justice and equity is also needed. Research and its funding are issues that need to be addressed if we are to achieve desired outcomes that increase our knowledge base when partnering with families to improve educational practices that impact our youngest learners with disabilities.

Parent Education and Supports

Another promising practice involves sustained focus on parent engagement through parent education and support. Active engagement of families in early intervention has proven a viable model, fostering children's growth and development during the critical early childhood years. Many parents are eager to learn more about how they can foster their children's growth and development at home and what options are available and developmentally appropriate for early childhood education and intervention. At another level, the focus on prevention and early identification of challenges inherent in multitiered frameworks for instruction, currently being implemented in early care and education settings, holds promise of fostering active engagement of each and every child's family in their child's education. Prevention programs can lead to systemic changes that promote early identification, early intervention, and equity of access to high-quality early education educational opportunities. Projects like the nationally funded parent information and resource centers that foster and support parent-to-parent networking have proven effective in actively engaging parents and family members in learning about options for educational programs, their rights and responsibilities related to education of their children, and advocacy for their children with disabilities through development of strong parent-school partnerships. Parent leadership programs and opportunities at all levels in early childhood education can feed the desired outcomes of active parent participation predictive of positive outcomes for all children.

Adoption of Family-Centered, Culturally Competent, and Responsive Practices

Given current demographic trends reviewed in this chapter, there is no question that adoption of family-centered, culturally competent, and responsive practices is a current trend and a focus for improvement. Early interventionists that recognize the uniqueness of each and every family are central to success in promoting children's development and learning. Strategies and programs that enhance relationships with families based upon mutual respect, reciprocity, and communication through anchored understanding are considered essential to building partnerships with families that can effect change. Widespread adoption of family-centered and culturally competent attitudes, knowledge, and skills by early intervention professionals is a promising practice that hopefully will continue to drive needed change in our early intervention and education systems.

KEY MESSAGES

This chapter has described issues associated with the changing population receiving early intervention services now and in the future. It explores implications for professionals working with their families. Specific strategies and evidence-based practices that can improve relationships with families and directly impact the learning of young children with disabilities during the early childhood years are described. Family voices, stories, and perspectives are woven throughout with research citations to clarify as well as document the relevance of information shared. Reiteration of a key message that each and every child and family is deserving of *individual consideration*, regardless of their cultural, linguistic, or socioeconomic backgrounds, or differing abilities and identified challenges, pervades discussions. Information that enhances our understanding of culture and its relationship to language is considered integral to an understanding of how to build relationships and partnerships with families who represent diverse cultures.

References

Abedi, J. (2006). The No Child Left Behind Act and English language learners: Assessment and accountability issues. *Educational Researcher, 33*, 4–14.

Anderson, P. P., & Fenichel, E. S. (1989). *Serving culturally diverse families of infants and toddlers with disabilities*. Rockville, MD: National Center for Clinical Infant Programs. Retrieved from http://eric.ed.gov/PDFS/ED318174.pdf

Artiles, A. J., & Trent, S. C. (1994). Overrepresentation of minority students in special education: A continued debate. *Journal of Special Education, 22*, 410–436.

August, D., & Hakuta, K. (1997). *Improving Schooling for Language-Minority Children*. Washington, DC: National Academy Press.

Barrera, I., & Corso, R. (2003). *Skilled dialogue: Strategies for responding to cultural diversity.* Baltimore: Paul H. Brookes.

Bialystok, E. (2001). Bilingualism in development: Language, literacy, and cognition. New York: Cambridge University Press.

Boylan, E., & White, S. (2010). Formula for success: Adding high-quality pre-k to state school funding formulas. Washington, DC: PEW Center on the States. Retrieved from http://www.pewcenteronthestates.org/uploadedFiles/Formula_for_Success.pdf?n=913

Bruns, D. A., & Corso, R. (2001). Working with culturally and linguistically diverse families. Retrieved from ERIC Digest, http://www.ericdigests.org/2002-2/diverse.htm

Burns, M. K., Appleton, J. J., & Stehouwer, J. D. (2005). Meta-analytic review of responsiveness-to-intervention research: Examining field-based and research-implemented models. Journal of Psychoeducational Assessment, 23, 381–394.

Buysse, V., Castro, D., & Peisner-Feinberg, E. (2010). Effects of personnel development program on classroom practices and outcomes for Latino dual language learners. *Early Childhood Research Quarterly, 25*(2), 194–206.

Capps, R., Michael, F., Ost, J., Reardon-Anderson, J., & Passel, J. (2004). *The health and well-being of young children of immigrants*. Washington, DC: Urban Institute.

Castro, D., Peisner-Feinberg, E., Buysse, V., & Gillanders, C. (2010). Language and literacy development of Latino dual language learners: Promising instructional practices. In O. N. Saracho & B. Spodek (Ed.), *Contemporary Perspectives in Early Childhood Education Series*. Charlotte, NC: Information Age Publishing.

Chen, D., Brekken, L., & Chan, S. (1998). *Project Craft: Culturally responsive and family focused training*. Van Nuys, CA: Child Development media.

Child Learning Center (CLC). (1999). *Pathways: A child and family journey.* Boulder, CO: Department of Speech, Language, and Hearing Science, University of Colorado.

Coleman, M. R., Buysse, V., & Neitzel, J. (2006). *Recognition and response: An early intervening system for young children at-risk for learning disabilities. Full report*. Chapel Hill: University of North Carolina, FPG Child Development Institute.

Coleman, R., Roth, F., & West, T. (2009). *Roadmap to Pre-K RTI: Applying response to intervention in preschool settings*, New York: National Center for Learning Disabilities. Available at http://www.florida-rti.org/Resources/_docs/roadmaptoprekrti.pdf

De Valenzuela, J. S., Copeland, S. R., Huaqing Qi, C., & Park, M. (2006). Examining educational equity: Revisiting the disproportionate representation of minority students in special education. *Exceptional Children, 72*, 425–441.

Dinnebeil, L. A., & Rule, S. (1994). Variables that influence collaboration between parents and service coordinators. *Journal of Early Intervention, 18*(4), 361–379.

Dunst, C., Trivette, C., & Hamby, D. W. (2008). *Research synthesis and meta-analysis of studies of family centered practice*. Asheville, NC: Winterberry Press.

Espinosa, L. (2008). Challenging common myths about young English language learners. *Foundation for Child Development, 8*, 2–11.

Fadiman, A. (1997). *The spirit catches you and you fall down*: New York: Farrar, Straus & Giroux.

Forum on Child and Family Statistics. (2010). *America's children in brief: Key national indicators of well-being*, Retrieved from http://www.childstats.gov

Genesee, F. (2008). Early dual language learning. *Zero to Three, 9*, 17–23.

Genesee, F., Paradis, J., & Crago, M. (2004). *Dual Language Development and Disorders*. Baltimore: Paul H. Brookes.

Goldstein, B. (2004). *Bilingual Language Development and Disorders*. Baltimore: Paul H. Brookes.

Guiberson, M. (2009). Hispanic representation in special education: Patterns and implications. *Preventing School Failure, 53*(3), 167–175.

Hakuta, K. (1986). *Mirror of language: The debate on bilingualism*. New York: Basic Books.

Hall, E. (1976). *Beyond Culture*. New York: Anchor Books.

Hardin, B. J., Mereoiu, M., Hung, H., & Roach-Scott, M. (2009). Investigating parent and professional perspectives concerning special education services for preschool Latino children. *Early Childhood Education Journal, 37*, 93–102.

Harry, B., Kalyanpur, M., & Day, M. (1999). *Building cultural reciprocity with families: Case studies in special education*. Baltimore: Paul H. Brookes.

Hepburn, K. S. (2004) *Building culturally and linguistically competent services to support young children, families and their school readiness*. Baltimore: Annie E. Casey Foundation.

Hernandez, D. J. (2004). Demographic change and the life circumstances of immigrant families. *The Future of Children, 14*(2) (Special issue, Children of Immigrant Families), 17–48.

House Memorial 5 Task Force on Young Children and Families. (1990). *First steps to a community-based coordinated continuum of care for New Mexico children and families*. (Available from Polly Arango, P.O. Box 338, Algodones, NM, 87001).

Kayser, H. (Ed.) (2008). *Educating Latino preschool children*. San Diego, CA: Plural.

Keller-Allen, C. (2006). *English language learners with disabilities: Identification and other state policies and issues*. Alexandria, VA: National Association of State Directors of Special Education. Retrieved from http://www.projectforum.org/docs/EnglishLanguageLearnerswithDisabilities-IdentificationandOtherStatePoliciesandIssues.pdf

Kipp, D. (2007). *Keeping a language alive*. Missoula, MT: The Missoulian.

Kohnert, K. (2008). *Language disorders in bilingual children and adults*, San Diego, CA: Plural.

Kohnert, K., Yim, D., Nett, K., Kan, P. F., Duran, L. (2005). Intervention with linguistically diverse preschool children: A focus on development of home language. *Language, Speech and Hearing Service in the Schools, 26*, 251–263.

Krashen, S. (1999). *Condemned without a trial: Bogus arguments against bilingual education*. Portsmouth, NH: Heinemann.

Lindholm-Leary, K. J. (2005). The rich promise of two-way immersion. *Educational Leadership, 62*, 56–59.

Lindholm-Leary, K., & Borsato, B. (2006). Academic achievement. In F. Genesee, K. Lindholm-Leary, W. Saunders, & D. Christian (Eds.), *Educating English language learners: A synthesis of research evidence* (pp. 176–222). New York: Cambridge University Press.

Lynch, E. W., & Hanson, M. J. (Eds.). (2004). *Developing crosscultural competence: A guide for working with children and their families* (3rd ed.). Baltimore: Paul H. Brookes.

Maude, S., Catlett, C., Moore, S., Sánchez, S., & Thorp E. (2006). Educating and training students to work with culturally, linguistically, and ability-diverse young children and their families. *Zero to Three, 2*(3), 28–35.

Moore, S. M., Eiserman, W., Pérez-Méndez, C., & Beatty, J. (1998). The Spectrum Project, UCB: Boulder.

Moore, S. M., & Pérez-Méndez, C. (2003). *Cultural contexts for early intervention*. Rockville, MD: American Speech-Language-Hearing Association.

Moore, S. M., & Pérez-Méndez, C. (2005a). *Beyond words*: *Effective use of cultural mediators, interpreters and translators*, Boulder CO: Landlocked Films. (Available from http://www.landlockedfilms.com)

Moore, S., & Pérez-Méndez, C. (2005b). Parent and family involvement: Module 6. In *English language learners with exceptional needs*. Golden, CO: Meta Associates.

Moore, S. M., & Pérez-Méndez, C. (2005c). *The Story about El Grupo: A parent education and support group*. Boulder, Co: Landlocked Films. (Available from http://www.landlockedfilms.com)

Moore, S. M., & Pérez-Méndez, C. (2006). Working with linguistically diverse families in early Intervention: Misconceptions and Missed Opportunities, *Seminars in Speech and Language, 27*, 187–198.

Moore, S. M., Pérez-Méndez, C., & Boerger, K. (2006). Meeting the needs of culturally and linguistically diverse families in early language and literacy intervention. In L. Justice (Ed.), *Clinical Approaches to Emergent Literacy Intervention*. San Diego, CA: Plural.

NAEYC. (1995). *Responding to linguistic and cultural diversity recommendations for effective early childhood education: A position statement*. Washington, DC: Author.

Nieto, S. (2000). *The light in their eyes: Creating multicultural learning communities*. New York: Teachers College Press.

Ortiz, A. A., & Yates, J. R. (1983). Incidence of exceptionality among Hispanics: Implications for manpower planning. *NABE Journal of Research and Practice, 7*, 41–54.

Passel, J. & Cohn, D'V. (2008). *U.S. population projections: 2005–2050*. Washington, DC: PEW Research Center.

Pérez-Méndez, C., & Moore, S. M. (2004). *Culture and language: Respecting family choice*. Boulder, CO: Landlocked Films. (Available from http://www.landlockedfilms.com)

Restrepo, M. A., Castilla, A., Schwanenflugel, S., Neuharth-Pritchett, P., Hamilton, C., & Arboleda, A. (2010). Effects of a supplemental Spanish oral language program on sentence length, complexity, and grammaticality in Spanish-speaking children attending English-only preschools, *Language, Speech, and Hearing Services in Schools, 41*, 3–13.

Sánchez, S. (1999a). Learning from the stories of culturally and linguistically diverse families and communities. *Remedial and Special Education, 20*, 351–359.

Sánchez, S. Y. (1999b). Issues of language and culture impacting the early care of young Latino children. *Child Care Bulletin, 24*. Retrieved from http://nccic.org/ccb/issue24.html

Sánchez, S., & Thorp, E. (2008). Teaching to transform: Infusing cultural and linguistic diversity. In P. Winton, J. McCollum, & C. Catlett (Eds.), *Practical approaches to early childhood professional development: Evidence, strategies, and resources* (pp. 81–97). Washington, DC: Zero to Three Press.

Santos, R. M., Corso, R. M., & Fowler, S. A. (2005). *Working with linguistically diverse families*. Champaign, IL: CLAS.

Sue, D. W., Ivey, A. E. & Pederson, P. B. (1996). *A theory of multicultural counseling and therapy.* Florence, KY: Brookes Cole Publishers.

Tabors, P. O. (2008). *One child: Two languages* (2nd ed.). Baltimore: Paul H. Brookes.

Tatum, B. D. (2003). *"Why are all the Black kids sitting together in the cafeteria?" and other conversations about race.* New York: Basic Books.

Thorp, E. (1997). Increasing opportunities for partnership with culturally and linguistically diverse families. *Intervention in School and Clinic, 32*, 261–269.

Van Kleeck, A. (1994). Potential cultural bias in training parents as conversational partners with their children who have delays in language development. *American Journal of Speech-Language Pathology, 1*, 67–78.

Westby, C. (1990). Ethnographic interviewing: Asking the right questions to the right people in the right ways. *Journal of Childhood Communication Disorders, 13* (1), 101–111.

Westby, C. (2009). Considerations when working successfully with culturally and linguistically diverse families in assessment and intervention of communication disorders, *Seminars in Speech and language, 30*(4) 279–289.

Winsler, A., Diaz, R. M., Espinosa, L., & Rodriguez, J. L. (1999). When learning a second language does not mean losing the first: Bilingual language development in low-income, Spanish-speaking children attending bilingual preschool. *Child Development, 70*, 349–362.

Winton, P., McCollum, J. A., & Catlett, C. (2008). *Practical approaches to early childhood professional development: Evidence, strategies, and resources.* Washington, DC: Zero to Three Press.

Wong Fillmore, L. (1991). When learning one language means losing the first. *Early Childhood Research Quarterly, 6*(3), 323–346.

Yoshida, H. (2008). The cognitive consequences of early bilingualism. *Journal of Zero to Three, 29*, 26–30.

Chapter 2

Recognition and Response: Response to Intervention for Prekindergarten

Ellen Peisner-Feinberg, Virginia Buysse,
LeeMarie A. Benshoff, and Elena P. Soukaku

KEY CONTEXTS FOR TIERED MODELS IN EARLY CHILDHOOD

Several trends in the United States have focused national attention on early education and helped to influence new directions in this regard: the emphasis on high-quality programs and services; the school readiness movement; and the importance of early detection, prevention, and intervention for learning difficulties.

HIGH-QUALITY PROGRAMS

The quality of early care and education has been at the forefront of research in the early childhood field for several decades. There is now sufficient empirical evidence to show that the quality of early childhood programs is an important determinant of children's social, language, and cognitive outcomes, as well as their school readiness skills (National Institute of Child Health and Human Development Early Child Care Research Network [NICHD ECCRN], 2000, 2002, 2003; Peisner-Feinberg & Burchinal, 1997; Peisner-Feinberg et al., 2001; Vandell, 2004). As a part of a high-quality program, early childhood teachers are expected to implement a curriculum that aligns with program and early learning standards and to make sound instructional decisions for each and every child (Copple & Bredekamp, 2009; National Association for the Education of Young Children [NAEYC] & National Association of Early Childhood Specialists in

State Departments of Education [NAECS/SDE], 2009). Recently, definitions of program quality have expanded to incorporate ways in which teachers can customize teaching and learning to address the needs of an increasingly diverse population of young children and families. Tiered models of instruction described later in this chapter help teachers recognize which children require additional instructional supports to learn key skills and provide teachers with specific interventions that are matched to these children's learning needs.

SCHOOL READINESS

There is now widespread consensus that experiences during the first five years of life provide the foundation for children's development in language, reasoning, problem solving, social skills, behavior, and adjustment to school. The nature of these early experiences affects children's later school success as well as their continued learning and development (Belsky et al., 2007; National Research Council & Institute of Medicine, 2003). Specific skills in the areas of language, literacy, and mathematics now are included in the definition of school readiness for children enrolled in prekindergarten programs and reflected in federal and state program standards that guide early education practices. The growing emphasis on children's academic learning during prekindergarten has been accompanied by the need for teachers to monitor children's progress in learning in these areas, to determine when children are experiencing difficulties in learning, and to use this information to inform decisions and select evidence-based intervention approaches that are beneficial in supporting children's learning needs.

EARLY INTERVENING

For children birth to 3 years old with developmental delays or identified disabilities, the Individuals with Disabilities Education Act (IDEA) provides a comprehensive system of early intervention services and appropriate public education and related services for children with disabilities. Tiered models such as those described in this chapter extend instructional supports to children who may not be eligible for early intervention or special education services, but who show signs of needing additional help from teachers to learn—a concept called *early intervening* because the focus is on helping children before they are referred to special education. Early intervening provided within the context of the general education curriculum can be used to provide additional supports for children at risk for school failure and to extend and complement existing special education services for young children with disabilities.

ORIGINS OF RECOGNITION AND RESPONSE

RtI for School-Age Children

The R&R model for prekindergarten children has its origins in Response to Intervention (RtI) models designed for use with school-age children. Regardless of the grade level or type of classroom, teachers need to provide instruction for children with a range of ability levels. For example, while one elementary school student may struggle with trying to read short words, another student may be reading chapter books with ease. With limited hours in the school day and many different children to teach, teachers need a system to help them best serve *all* students. Prior to the introduction of RtI, most schools used a discrepancy model to determine which students had learning disabilities. In the discrepancy model, schools would wait until children were failing to determine whether they qualified for additional educational services and supports. Typically, teachers would refer students who were performing well below the expected level for their age and/or grade for formal evaluations. From there, school psychologists would administer standardized tests to measure students' cognitive functioning (i.e., IQ) and academic skills. If a "significant" discrepancy was found between a student's cognitive and academic test scores, indicating that cognitive ability was higher than academic performance, that individual would be eligible to receive special education services. One of the chief problems with the discrepancy model is that some students may not meet the required discrepancy upon their first evaluation and will continue to struggle in school. Some of these students may meet eligibility requirements for special education services later in their schooling, but at the cost of months or even years of experiencing academic difficulties.

RtI is a system that was developed as an alternative approach to the discrepancy model. RtI focuses on intervening early to address learning difficulties as soon as problems appear, rather than waiting for children to experience school failure. There are numerous approaches to implementing RtI with school-age children (see Fuchs, 2003; Fuchs & Fuchs, 2002; Fuchs, Fuchs, & Compton, 2004; Haager, Klinger, & Vaughn, 2007; Jimerson, Burns, & VanDerHeyden, 2007; Marston, Muyskens, Lau, & Canter, 2003; Speece, Case, & Molloy, 2003; Torgesen et al., 1999; Vaughn & Fuchs, 2003; Vaughn, Linan-Thompson, & Hickman, 2003; Vellutino et al., 1996). However, RtI is generally based on three common components: (1) the use of a research-based core curriculum and effective instruction for all students, (2) a data-based decision-making system in which teachers gather information (i.e., data) to assess students' skills to determine who needs additional help and what types of supports for learning should be provided, and (3) planned instructional methods for helping students who need additional assistance in the classroom (i.e., interventions). RtI integrates these key components through a tiered model of instruction. Tiered models offer an approach in which teaching methods and interventions become increasingly intensive at each tier (or level) of the model, as needed by children.

Thus far, RtI has been utilized primarily with school-age children. It is currently considered an emerging practice within the fields of early childhood education and early intervention for children birth to age 5. Recognition & Response (R&R), the focus of the present chapter, is a model of RtI specifically adapted for use with prekindergarten children ages 3 to 5 years old.

Evidence for the Effectiveness of RtI

RtI has become a topic of increasing interest over the past several years, with some research studies demonstrating its success in the classroom. Research findings have indicated that RtI is particularly effective when implemented in the early grades and has resulted both in positive outcomes for children's learning and reductions in the use of special education services by schools using this approach. Given the widespread interest in this topic, user-friendly practice guides recently have been developed by the U.S. Department of Education to summarize the currently available evidence and offer recommendations to educators for implementing RtI.

A meta-analysis of 24 studies involving school-age children offers evidence of the effects of RtI at both the child and the school level (Burns, Appleton, & Stehouwer, 2005). This meta-analysis concluded that students attending schools implementing RtI demonstrated greater growth in academic skills, more time on task, and better task completion compared to those attending schools not implementing RtI. The schools implementing RtI also had fewer referrals to special education, fewer students placed in special education, and fewer students retained in a grade (i.e., not promoted to the subsequent grade) compared to other schools. Additionally, fewer students attending schools that implemented RtI were identified as having a learning disability compared to other schools; this finding countered the concern that the use of RtI may result in larger numbers of children being identified as having a learning disability.

Two practice guides by the Institute of Education Sciences (IES), one addressing the use of RtI to improve reading skills in primary grades and the other related to math skills in elementary and middle school, were developed based on the findings of a panel of experts including both researchers and practitioners (Gersten et al., 2008; Gersten et al., 2009). These guides summarize the evidence for the effectiveness of the key components of RtI, as well as indicate the need for further research. Regarding the first component of RtI, an effective core curriculum for all students, the guides note that there is limited research evidence available to inform decisions about the most effective curricula to use for teaching both reading and math in the elementary grades. They emphasize the importance of the second key component of RtI, assessment, as critical for ensuring that children who need additional instructional supports in reading or math are appropriately identified. Assessment within an RtI framework is discussed in the context of conducting universal screenings of children's reading and math skills and monitoring the progress of children who are determined to be at risk for difficulties. The guides state that there is empirical support showing that universal screening measures can predict children's future performance in these areas, and that progress monitoring can help increase teachers' awareness of students' skills, resulting in a positive effect on the instructional decisions that teachers make. Students who demonstrate insufficient progress, based on assessment data, should receive more intensive instruction. Regarding the third key component of RtI, intervention, the guides indicate strong evidence of the effectiveness of targeted interventions in both reading and math for elementary school students who were identified as at risk for later difficulties in these areas. The guides stress that these targeted interventions should be explicit and systematic, and should address foundational skills in each academic area (such as focusing on letter sounds for kindergarten children needing additional help with learning to read).

A separate research synthesis conducted on studies evaluating the efficacy of RtI among younger elementary school students found that when RtI was implemented in kindergarten, fewer children were referred for special education services later in their schooling (Coleman, Buysse, & Neitzel, 2006). This finding suggests that implementing RtI as early as kindergarten, and perhaps even earlier in prekindergarten as in the R&R model, may increase children's experiences of academic success, particularly for those who may be at risk for learning difficulties.

Although there is some evidence to support the efficacy of RtI, nearly all the research has been conducted with school-age children. In the field of early childhood education, current literature relating to the use of RtI in prekindergarten settings remains largely theoretical. Despite this lack of research, there is growing support for the use of RtI in early childhood, as it is consistent with the priorities for educational practice. Commonalities between the goals of RtI and of general early childhood educational practices include a focus on providing high-quality education and care to all children, an emphasis on the importance of educating children in natural and inclusive settings, and the provision of interventions matched to children's needs (Fox, Carta, Strain, Dunlap, & Hemmeter, 2010).

Only a few tiered instructional approaches modeled after RtI exist in early childhood. A review of the various tiered intervention models designed for children up to age 5 concluded that these models generally were congruent with RtI, as they all promoted high-quality learning environments, practices, and interventions to meet children's needs (VanDerHeyden & Snyder, 2006). In contrast to the RtI models for older children, the models for younger children tend to focus on naturalistic interventions to support social-emotional and behavioral functioning rather than interventions to promote academic skills such as reading and math. One key component of RtI that was noticeably absent from most models for younger children, however, was the use of assessment information about children's skills to plan and evaluate instruction (i.e., data-based decision making).

Table 2.1 summarizes the three primary tiered models currently available for early childhood settings that utilize at least some key elements of RtI. R&R can be distinguished from the other tiered models because it specifically addresses academic learning for young children (e.g., language, literacy, math) and includes *all* of the key components of RtI (a core curriculum and intentional teaching for all children; gathering information about children's skills; increasingly intensive, research-based interventions; and a collaborative problem-solving

Table 2.1 Tiered Models Currently Available for Use in Early Childhood

Model	Description	Target Population
Recognition & Response (Recognition & Response Implementation Guide, 2008)	A system that links assessment, instruction, and targeted interventions to support children's learning and development in multiple domains (e.g., literacy, language, math)	Children with learning difficulties/disabilities
Building Blocks (Sandall & Schwartz, 2008)	Instructional strategies organized by level of intensity to support participation, engagement, and learning in inclusive settings	Children with disabilities
Teaching Pyramid (Hemmeter, Ostrosky, & Fox, 2006)	Instructional strategies organized by level of intensity to support children's social-emotional development and help teachers address children's challenging behaviors	Children with social-emotional difficulties

process to support instructional decision making). R&R offers the most comprehensive system designed for use in early childhood education that is aligned with the principles of RtI.

The first study of the implementation of R&R in prekindergarten classrooms focused on the area of language and literacy skills (Buysse & Peisner-Feinberg, 2009). The study found that while children who received the targeted intervention in language and literacy scored lower than their classmates (as would be expected), they made greater pre- to post-intervention gains in scores on measures of letter naming, vocabulary, sound awareness, and print knowledge. Moreover, teachers who participated in the study reported that the model was highly useful and easy to implement.

KEY COMPONENTS OF R&R

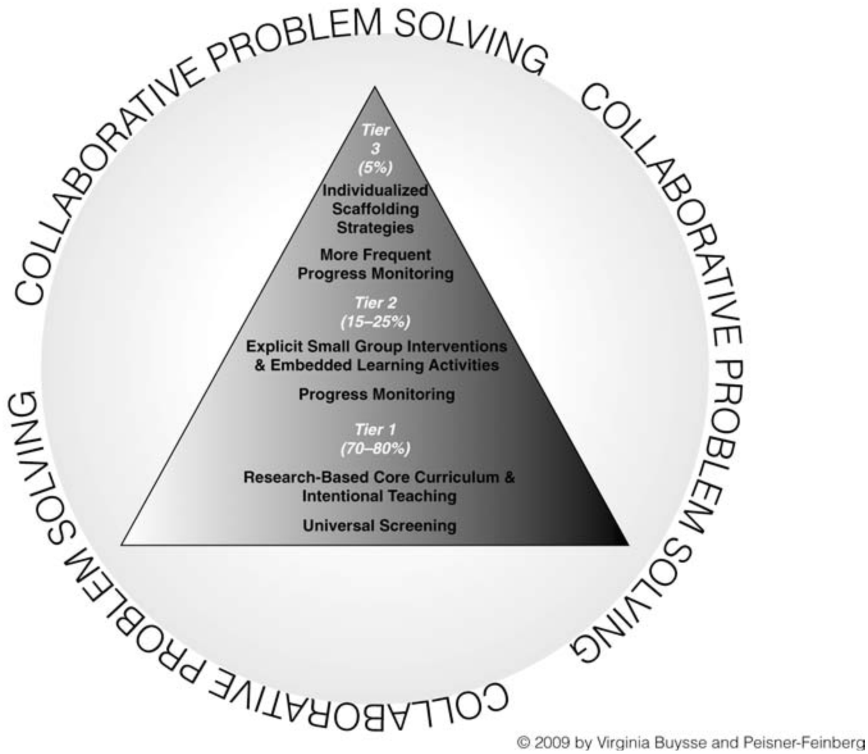
The R&R model can be understood as a system for responding more efficiently to children's learning needs by linking assessment information that teachers gather on children's skills with everyday classroom instruction. The focus of R&R is on helping early childhood teachers organize and implement their instructional practices more systematically to better meet the educational needs of all children. The R&R framework guides teachers to make informed, data-based decisions regarding the level of instructional intensity children need across various content areas (e.g., emergent literacy, language, and math).

The R&R system consists of three key components: recognition, response, and collaborative problem solving. *Recognition* in R&R involves gathering assessment information on children's development, including universal screening of all children and progress monitoring for some children who may need additional instructional supports to learn. *Response* in R&R relates to the instruction that teachers plan and offer to children. Elements of the response component include general instruction through the provision of a high-quality core curriculum and intentional teaching for all children and targeted interventions for some students who show signs of learning difficulties in areas such as language and literacy or math. Recognizing and responding to children's needs effectively and efficiently is facilitated through a *collaborative problem-solving* process, the third component of R&R. Through collaborative problem solving, teachers, specialists, and other professionals work together to link information about children's skills and progress with the kinds and levels of instructional methods that can best support their learning needs.

Each of the R&R components is provided in the context of a tiered approach in which each child receives the level of instructional support needed to learn. The R&R system is designed to provide high-quality instruction for *all* children, along with targeted interventions for *some* children and more intensive instructional strategies for a *few* children. Figure 2.1 shows the key components of this tiered model, and Table 2.2 presents an overview of how each component is implemented across the three tiers.

Recognition: Universal Screening and Progress Monitoring

In the R&R model, the recognition component consists of the systematic use of assessment data gathered through universal screening and progress monitoring. The first element, universal screening, involves gathering assessment information on skill levels for all children in a prekindergarten program to determine whether individual children might require additional help to master certain skills. For example, a



© 2009 by Virginia Buysse and Peisner-Feinberg

Figure 2.1 R&R conceptual framework. (http://randr.fpg.unc.edu)

teacher might gather assessment information on children's alphabet knowledge or counting skills. Teachers then use this screening information to recognize which children might need additional interventions.

Universal screening generally occurs three times a year, on a fall, winter, and spring schedule. Based on these assessment results, if most children meet key learning benchmarks, it can be assumed that the general instruction is of sufficient quality. However, the universal screening data may still indicate that there are some children who are not making adequate progress, even with a good core curriculum and other intentional teaching activities.

The second element of the recognition component of R&R, progress monitoring, is a systematic process for teachers to further measure the progress of those children who are receiving targeted interventions (as determined by the universal screening results). Teachers monitor progress by periodically assessing children's skills during the

Table 2.2 Implementation of Recognition and Response: Tiers 1, 2, and 3

Tier/Focus	Recognition	Response	Collaborative Problem Solving
Tier 1: *All* children	Universal screening	Research-based core curriculum and intentional teaching	Interpret screening results and develop intervention plans
Tier 2 *Some* children	Progress monitoring	Explicit small-group interventions and embedded learning opportunities	Interpret progress monitoring results and adjust intervention plans
Tier 3 *A few* children	Additional progress monitoring	Continued use of explicit and embedded interventions, with added individualized scaffolding	Interpret progress monitoring results and adjust intervention plans

intervention period to see how well individual children are responding to these added instructional interventions. There may still be a few students who do not reach their goals based on progress-monitoring data and therefore need an even more intensive level of instructional support. For these children, teachers may include additional assessments to monitor their progress and make adjustments to the interventions as needed.

To gather information on children, teachers ideally select tools that can be used both for universal screening with all children during the year as well as for monitoring the progress of some children receiving additional learning supports. Such tools share a number of important characteristics. They measure both children's level and rate of growth; that is, how well a child performs at a given point in time and how much a child learns over time. Also, these tools are not tied to a specific curriculum; rather, they measure children's skills within key domains of learning (e.g., language and literacy skills, math skills). In this way, teachers can use the results from their assessments to make decisions about the particular curricula and interventions that best meet children's learning needs. Furthermore, universal screening and progress-monitoring measures are designed to be used multiple times throughout the school year. As such, these measures need to be quick and easy for teachers to administer, generally around 5–10 minutes per assessment.

Response: Instruction and Intervention

The response component in the R&R model refers to the core instruction offered to all children as well as the more targeted interventions that are provided for some children who require additional help to learn. In R&R, classroom instruction and interventions are implemented through a tiered approach; that is, they are organized hierarchically from least intensive to most intensive to reflect how directive and involved a teacher is according to children's learning needs.

According to this approach, Tier 1, the first level of instruction in the R&R model, involves providing a high-quality, effective core curriculum along with intentional teaching of key school readiness skills for all children in the classroom. A high-quality, effective curriculum is one that is based on research evidence; is developmentally appropriate for the children's ages; and is comprehensive, covering all domains of learning. A second aspect of instruction for all children at Tier 1 is intentional teaching of critical skills for school readiness within the key domains of learning (i.e., language, literacy, math), such as vocabulary, story concepts, or simple number skills. Intentional teaching entails thoughtfully and planfully implementing specific aspects of the curriculum and instructional approaches to ensure that children are given regular opportunities to develop critical skills and achieve learning goals. Intentional teaching occurs through the purposeful organization of the classroom environment and provision of planned, developmentally appropriate activities to offer opportunities for children to learn and develop these important skills. A high-quality core curriculum along with intentional teaching of key skills should enable most children to make adequate progress in learning at Tier 1.

At Tier 2, the second level of instruction in the R&R model, teachers make specific adjustments to their instruction for children who require additional supports to learn based on the results of the universal screening data. To enhance learning, teachers implement targeted interventions with small groups of children (generally 3–6 children) who have similar learning goals. In R&R, the interventions at Tier 2 take place in addition to the general curriculum and classroom routines. Children receiving these targeted interventions still fully participate in the instructional activities offered at Tier 1.

The Tier 2 interventions are designed to address specific skills in key academic areas such as language, literacy, and math. The targeted interventions are based on domain-specific curricula, with research evidence to support their effectiveness. Such interventions provide teachers with a sequenced set of instructional activities or lessons to explicitly teach specific skills. They are designed to be used in small groups (generally 3–5 children) and address skills that are developmentally appropriate for the selected age group. For example, a teacher might form a small group of children to implement a research-based intervention for language and literacy development, which teaches skills such as vocabulary, sound awareness, and letter recognition. These small-group lessons would take place for approximately 15 minutes a day while the rest of the class is engaged in other activities. In R&R, such Tier 2 interventions typically occur over an 8- to 10-week period.

The explicit small-group interventions at Tier 2 are complemented by embedded learning activities. These are designed to extend children's learning by offering additional opportunities to practice, generalize, and maintain skills outside the small-group intervention time, such as during center time or during other Tier 1 activities. Teachers create embedded learning activities by intentionally adapting or enriching existing contexts for teaching and learning within Tier 1, including the learning environment, activities, and routines. Examples of embedded learning activities include arranging the environment to support specific skills, such as adding signs and labels in the classroom to support the development of print concepts; or modifying aspects of the curriculum, such as adding a picture-naming game to centers to support the development of vocabulary skills.

At Tier 3, the response component consists of the addition of more intensive scaffolding strategies to further support children's learning within the Tier 2 interventions. These Tier 3 interventions are teaching strategies that have been found to be effective through research and are selected on an individual basis for a few children who require further support to learn certain skills. An example of a scaffolding strategy might include modeling or showing the child how to respond to a question during a storybook reading activity or having a peer help the child with a letter-naming game. These strategies are designed to further support the small-group interventions and embedded learning activities offered in Tier 2. Therefore, scaffolding strategies are provided in addition to the Tier 1 activities and the Tier 2 interventions to ensure that these children are receiving the level of instructional support needed.

Collaborative Problem Solving

Within R&R, collaborative problem solving offers a process by which teachers, parents, and specialists can work together to plan various

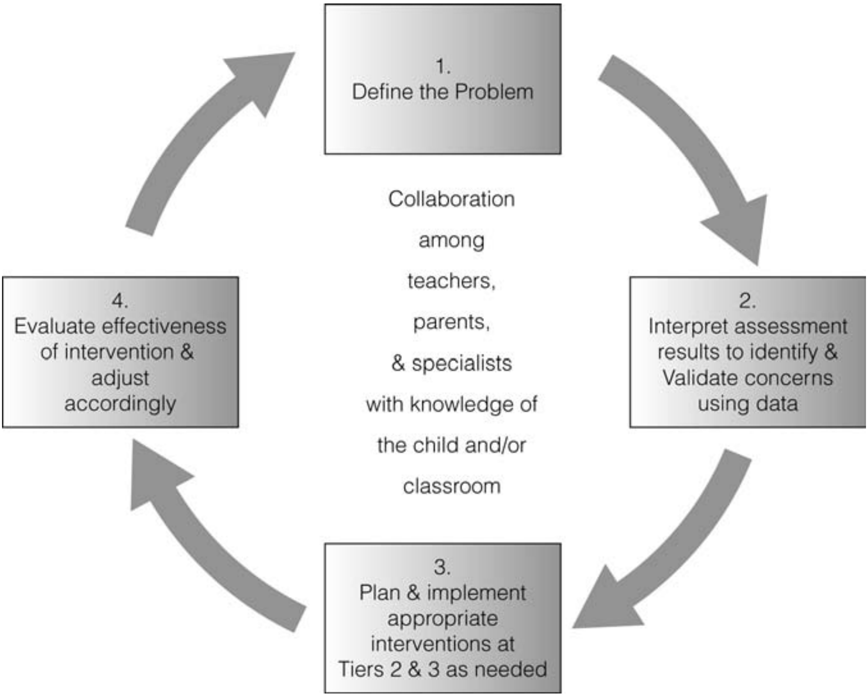


Figure 2.2 The Collaborative Problem Solving Process. (http://randr.fpg.unc.edu)

levels of instructional supports and assess how well children respond to them. Collaborative problem solving has its origins in a framework first described by Bergan and his colleagues (Bergan, 1977; Bergan & Kratochwill, 1990). The R&R model incorporates a process of collaborative problem solving, as depicted in Figure 2.2.

In the R&R model, programs establish core problem-solving teams to make decisions based on this framework. The starting point in this process is to define the problem by reviewing assessment information on children. Next, the collaborative problem-solving team works together to analyze assessment results to make data-based decisions about needed adjustments in instruction. The next step in this process involves developing and implementing a plan for modifying instruction for some children based on the tiered instructional approach of the R&R model. Finally, the team needs to evaluate these modifications, including implementing a plan for monitoring children's progress and continuing to make needed instructional adjustments based on data. The problem-solving team also determines the times and ways for documenting and sharing information with others, including parents, professionals, and specialists.

FUTURE DIRECTIONS

R&R is an emerging practice in early childhood based closely on principles of RtI, but adapted for younger children enrolled in early care and education programs. The practices recommended within R&R are consistent with the current emphasis in early childhood education on high-quality curriculum and teaching, the importance of intervening early using research-based approaches, and the need to connect teaching and learning to positive outcomes for children and families. Although R&R holds promise for supporting learners in prekindergarten, additional research is needed with larger samples and across various content areas to provide further evidence of the model's effectiveness.

The early childhood field also needs policies, guidelines, and resources to support the implementation of R&R in prekindergarten at a broader level. Provisions within IDEA address the use of RtI for school-age children, with a particular emphasis on children in kindergarten through third grade. However, there are no specific provisions within IDEA or any other federal legislation that address R&R/RtI for young children in prekindergarten, child care, early intervention, or Head Start programs. The use of R&R in early childhood settings is intended to complement, not replace, existing special education services for children with disabilities. R&R can complement these special services by helping teachers organize their instructional supports for children with disabilities who have an Individualized Education Program (IEP). It is important that educators not use R&R to delay or deny services or referrals for children with identified disabilities or those for whom parents and teachers have serious concerns.

Because R&R is an emerging early childhood practice, all of the factors necessary to support its implementation in prekindergarten classrooms are not yet known. Some decisions will need to be made at the program level, and teachers will need the full support of administrators, specialists, and families to use R&R effectively in their classrooms. In the meantime, studies are underway to help determine the best ways to implement these practices in early childhood classrooms and to expand the research evidence about the effectiveness of such tiered instructional approaches for supporting learning and development for all young children.

REFERENCES

Belsky, J., Vandell, D. L., Burchinal, M., Clarke-Stewart, K. A., McCartney, K., Owen, M. T., & NICHD Early Child Care Research Network. (2007). Are there long-term effects of early child care? *Child Development, 78*(2), 681–701. doi:10.111/j.1467-8624.2007.01021x

Bergan, J. (1977). *Behavioral consultation*. Columbus, OH: Merrill.

Bergan, J., & Kratochwill, T. R. (1990). *Behavioral consultation and therapy.* New York: Plenum.

Burns, M. K., Appleton, J. J., & Stehouwer, J. D. (2005). Meta-analytic review of responsiveness-to-intervention research: Examining field-based and research-implemented models. *Journal of Psychoeducational Assessment, 23*(4), 381–394. doi:doi:10.1177/073428290502300406

Buysse, V., & Peisner-Feinberg, E. S. (2009). *Recognition and response: Findings from the first implementation study.* Retrieved from http://randr.fpg.unc.edu/presentations

Coleman, M. R., Buysse, V., & Neitzel, J. (2006). *Recognition and response: An early intervening system for young children at-risk for learning disabilities. Full report.* Chapel Hill: University of North Carolina, FPG Child Development Institute.

Copple, C., & Bredekamp, S. (Eds.) (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3rd ed.). Washington, DC: NAEYC.

Fox, L., Carta, J., Strain, P. S., Dunlap, G., & Hemmeter, M. L. (2010). Response to intervention and the pyramid model. *Infants and Young Children, 23*(1), 3–13. doi:10.1097/IYC.06013e3181c816e2

Fuchs, D., Fuchs, L. S., & Compton, D. L. (2004). Identifying reading disabilities by responsiveness-to-instruction: Specifying measures and criteria. *Learning Disability Quarterly, 27*(4), 216–227.

Fuchs, L. S. (2003). Assessing intervention responsiveness: Conceptual and technical issues. *Learning Disabilities Research and Practice, 18*(3), 172–186. doi:10.111/1540-5826.00073

Fuchs, L., & Fuchs, D. (2002). Curriculum-based measurement: Describing competence, enhancing outcomes, evaluating treatment effects, and evaluating treatment nonresponders. *Peabody Journal of Education, 77*(2), 64–84.

Gersten, R., Beckmann, S., Clarke, B., Foegen, A., Marsh, L., Star, J. R., & Witzel, B. (2009). *Assisting students struggling with mathematics: Response to Intervention (RtI) for elementary and middle schools.* (NCEE 2009-4060). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides

Gersten, R., Compton, D., Connor, C., Dimino, J., Santoro, L., Linan-Thompson, S., & Tilly, W. D. (2008). *Assisting students struggling with reading: Response to Intervention and multi-tier intervention for reading in the primary grades. A practice guide.* (NCEE

2009-4045).Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides

Haager, D., Klingner, J., & Vaughn, S. (2007). *Evidence-based reading practices for response to intervention*. Baltimore: Paul H. Brookes.

Hemmeter, M. L., Ostrosky, M., & Fox, L. (2006). Social and emotional foundations for early learning: A conceptual model for intervention. *School Psychology Review, 35*(4), 583–601.

Jimerson, S. R., Burns, M. K., & VanDerHeyden, A. M. (Eds.). (2007). *Handbook of response to intervention: The science and practice of assessment and intervention*. New York: Springer.

Marston, D., Muyskens, P., Lau, M., & Canter, A. (2003). Problem-solving model for decision making with high-incidence disabilities: The Minneapolis experience. *Learning Disabilities Research and Practice, 18*(3), 187–200. doi: 10.111/1540-5826.00074

National Association for the Education of Young Children and National Association of Early Childhood Specialists in State Departments of Education. (2009). *Where we stand on curriculum, assessment, and program evaluation*. Washington, DC: NAEYC.

National Research Council and Institute of Medicine. (2003). *Working families and growing kids: Caring for children and adolescents*. Committee on Family and Work Policies (E. Smolensky & J. A. Gootman, Eds.). Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington, DC: National Academies Press.

National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network. (2000). The relation of child care to cognitive and language development. *Child Development, 71*(4), 960–980. doi:10.111/1467-8624.00202

National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network. (2002). Early child care and children's development prior to school entry: Results from the NICHD study of early child care. *American Educational Research Journal, 39*(1), 133–164.

National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network. (2003). Does quality of child care affect child outcomes at age 4 1/2? *Developmental Psychology, 39*(3), 451–469.

Peisner-Feinberg, E. S., & Burchinal, M. R. (1997). Relations between preschool children's child-care experiences and concurrent development: The cost, quality, and outcomes study. *Merrill-Palmer Quarterly, 43*(3), 451–477.

Peisner-Feinberg, E. S., Burchinal, M. R., Clifford, R. M., Culkin, M. L., Howes, C., Kagan, S. L., & Yazejian, N. (2001). The relation of preschool child-care quality to children's cognitive and social developmental trajectories through second grade. *Child Development, 72*(5), 1534–1553. doi:10.1111/1467-8624.00364

Recognition and response implementation guide. (2008). Chapel Hill: University of North Carolina, FPG Child Development Institute.

Sandall, S. R., & Schwartz, I. S. (2008). *Building blocks for teaching preschoolers with special needs* (2nd ed.). Baltimore: Paul H. Brookes.

Speece, D. L., Case, L. P., & Molloy, D. E. (2003). Responsiveness to general education instruction as the first gate to learning disabilities identification. *Learning Disabilities Research and Practice, 18*(3), 147–156. doi:10.1111/1540-5826.00071

Torgesen, J. K., Wagner, R. K., Rashotte, C. A., Rose, E., Lindamood, P., Conway, T., & Garvan, C. (1999). Preventing reading failure in young children with phonological processing disabilities: Group and individual responses to instruction. *Journal of Educational Psychology, 91*(4), 579–593.

Vandell, D. L. (2004). Early child care: The known and the unknown. *Merrill-Palmer Quarterly, 50*(3), 387–414.

VanDerHeyden, A. M., & Snyder, P. (2006). Integrating frameworks from early childhood intervention and school psychology to accelerate growth for all young children. *School Psychology Review, 35*(4), 519–534.

Vaughn, S., & Fuchs, L. S. (2003). Redefining learning disabilities as inadequate response to instruction: The promise and potential problems. *Learning Disabilities Research and Practice, 18*(3), 137–146. doi:10.1111/1540-5826.00070

Vaughn, S., Linan-Thompson, S., & Hickman, P. (2003). Response to instruction as a means of identifying students with reading/learning disabilities. *Exceptional Children, 69*(4), 391–409.

Vellutino, F. R., Scanlon, D. M., Sipay, E. R., Small, S. G., Pratt, A., Chen, R., & Denckla, M. B. (1996). Cognitive profiles of difficult-to-remediate and readily remediated poor readers: Early intervention as a vehicle for distinguishing between cognitive and experiential deficits as basic causes of specific reading disability. *Journal of Educational Psychology, 88*(4), 601–638.

Chapter 3

Data-Driven Decision Making to Plan Programs and Promote Performance

Kristie Pretti-Frontczak, Stephen J. Bagnato,
Marisa Macy, and Dawn Burger Sexton

Assessment in everyday environments is the key component to planning, monitoring, and evaluating effective early childhood intervention programs for young children with developmental delays and disabilities. Assessment is broadly defined "as a process of gathering information for the purpose of making decisions" (McLean, Wolery, & Bailey, 2004, p. 13). Interdisciplinary professionals in the fields of early intervention (EI) and early childhood special education (ECSE) use assessment to reach a series of critical decisions, and to take actions for the benefit of vulnerable children and families. Some of the critical decisions and actions may include:

- Confirming suspected delays in development
- Setting functional goals for intervention
- Designing individualized intervention strategies
- Modifying instruction and intervention based upon ongoing assessment
- Monitoring expected performance and progress
- Documenting parent and consumer satisfaction with services
- Evaluating the extent to which children are meeting state and federal benchmarks as a result of participation in the program

Despite the critical nature of these decisions and actions, EI/ECSE professionals confront challenges as they assess young children. First, agencies often develop policies and mandate practices that are impractical, invalid, and, arguably, unethical. For example, measures are required that do not have documented technical adequacy and/or validation for specific early intervention purposes. Often, the most popular measures require limited response modes that make it impossible for children with prominent functional limitations (i.e., vision, hearing, communication, motor, behavior) to demonstrate their underlying capabilities.

Second, personnel may lack the training and ongoing administrative support needed to use measures faithfully, and/or to interpret and apply assessment information to better serve young children and their families. Finally, EI/ECSE professionals find that policies and practices regarding assessment for early intervention are often frustrating and contrary to recommended professional standards.

In the chapter, we have three objectives to help interdisciplinary professionals conduct assessment for early childhood intervention:

1. To apply assessment practices that align with *evidence-based standards*
2. To apply assessment practices to fulfill specific early intervention *purposes*
3. To apply assessment practices to *reach data-driven decisions* about effective and high-quality services and supports for young children and families

Recommended standards for professional practice in assessment require that early interventionists make the following data-driven decisions for children: (1) determine which goals should be targeted through which interventions/services; (2) establish which children warrant different or more intensive interventions and when they should be implemented; and (3) determine in what ways programs and services at the local, state, and national levels should be improved (McLoughlin & Lewis, 1990; National Early Childhood Accountability Task Force, 2007).

We divide the chapter into two sections. Section one summarizes six general assessment practices that are required by national professional organizations and supported by emerging research. Section two describes recommended practices for three key decisions made by EI/ECSE professionals: *instructional planning*, *continuous performance monitoring*, and *accountability*. Several key terms are used throughout the chapter. Table 3.1 provides a summary of the key terms and associated definitions.

Table 3.1 Key Terms Used Throughout the Chapter

Key Term	Definition
Accountability	Accountability in public education refers to the "systematic collection, analysis, and use of information to hold schools, educators, and others responsible for the performance of students and the education system" (Education Commission of the States, 1998, p. 3).
Authentic assessment	Authentic assessment of young children refers to "the systematic recording of developmental observations over time about the naturally occurring behaviors and functional competencies of young children in daily routines by familiar and knowledgeable caregivers in the child's life" (Bagnato & Yeh Ho, 2006, p. 29).
Conventional testing	Conventional testing refers to "the administration of a highly structured array of testing tasks by an examiner in a contrived situation through the use of scripted examiner behaviors and scripted child behaviors in order to determine a normative score for purposes of diagnosis" (Bagnato, Neisworth, & Pretti-Frontczak, 2010).
Data-driven decision making	Data-driven decision making is a process by which teams design and revise instruction based upon authentic, comprehensive, valid, and reliable data.
Instructional planning	Instructional planning involves use of assessment information to identify children's strengths, emerging skills, and areas of need to then design appropriate instruction to enhance the child's learning experiences and developmental growth.
Performance monitoring	Performance monitoring is a recursive feedback process of adjusting and revising instruction in accordance with data that are systematically collected through ongoing observation and then documented, summarized, analyzed, and interpreted.

PROFESSIONAL PRACTICE STANDARDS FOR ASSESSMENT

Regardless of the assessment decision, there are recommended practices that must be understood and followed. In the United States, there are three sources for these recommended practices: professional organizations, various committee reports, and legislative policies, all of which influence how young children are assessed and families served.

Professional Organizations

The National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood of the Council of Exceptional Children (DEC) are two major professional organizations in early childhood. Each of the professional organizations has produced specific, cross-referenced practice standards regarding assessment, curriculum, and program evaluation for all young children. These standards drive our daily work with children and families and must, similarly, drive state and national policies and practices to document the progress of children and the impact of programs. Specifically, NAEYC and DEC have produced, published, and updated collaborative documents on recommended assessment practice standards (DEC, 2007; NAEYC & National Association of Early Childhood Specialists in State Departments of Education [NAECS/SDE], 2003; Neisworth & Bagnato, 2005) that cover aspects of assessment relevant to infants, toddlers, and preschool children. These practice standards serve as the foundation for pre-service education of teachers and providers, for daily practice, and for certifying the quality of programs. Professional standards of practice in early childhood intervention distinguish the common and established values of our field, and they show an emerging applied evidence-base that validates adherence to their principles and practices.

Committee Reports

In recent years, summary reports have been published that have influenced the shape of assessment practices (National Academy of Sciences & National Research Council, 2008; National Early Childhood Accountability Task Force, 2007). The committees encompass researchers, policy makers, and practitioners. Their work, while at times controversial, provides input into how practices are identified and sometimes challenged.

Legislative Policies

Professional organizations and committee reports influence practices; however, it is legislation that most directly influences actual practice. The Individuals with Disabilities Education Act (IDEA) and No Child Left Behind (NCLB) are two pieces of federal legislation in the United States that help guide assessment practices. For example, NCLB, also called the Elementary Secondary Education Act, has as one of its goals to make every child “100% proficient” in state reading and math tests within 12 years. As a result, educators across states administer annual reading and math tests in grades three through eight.

A review of recommendations by professional organizations, committees, and legislation resulted in six common assessment themes. Recommendations include the use of assessment practices that are (1) authentic, (2) ongoing, (3) developmentally appropriate, (4) individualized, (5) natural, and (6) multi-factored. Table 3.2 illustrates how professional organizations, expert committees, and/or legislation promote each of the recommendations. Each recommended assessment practice is briefly described next.

#1: Authentic

The foundation for assessment should be to measure skills that demonstrate what the child is capable of doing in a real-world context (Bagnato, 2007). The word "authentic" refers to opportunities created for children that reflect typical experiences rather than discrete isolated tasks that are irrelevant to the child's daily life. For example,

Table 3.2 Policy Recommendations for Early Childhood Assessment Practices

Assessment Recommendations	DEC	NAE-YC	NECA-TF	NRC	IDEA	NCLB	Other
1. Authentic	X	X		X			
2. Ongoing	X	X	X	X	X	X	Head Start Bureau NASP
3. Developmentally Appropriate	X	X	X	X			Head Start Bureau NASDE NASP
4. Individualized	X	X	X	X	X	X	Head Start Bureau NASP
5. Natural	X	X	X	X	X		Head Start Bureau
6. Multi-factored	X	X	X	X	X	X	Head Start Bureau NASDE NASP

Key: DEC (Division for Early Childhood); IDEA (Individuals with Disabilities Education Act); NAEYC (National Association for the Education of Young Children); NASDE (National Association of State Directors of Special Education); NASP (National Association of School Psychologists); NCLB (No Child Left Behind); NECATF (National Early Childhood Accountability Task Force); NRC (National Research Council).

authentic assessment is creating opportunities for a child to demonstrate how they interact with a familiar caregiver, or how they act upon objects, versus asking a child to name pictures from a testing protocol or to tell a test administrator what can fly. Authentic assessment creates linkages between assessment and instructional/programmatic content and outcomes.

When we observe young children participating in authentic activities, we are observing the way they interact with people and their environment in ways that are useful and meaningful to them (Copple & Bredekamp, 2009; Neisworth & Bagnato, 2005). An authentic assessment process involves children performing activities that are functional in their everyday environments with familiar people.

#2: Ongoing

Assessment is an ongoing process, not a one-time observation. Assessment occurs across time and through multiple observations. Children are constantly changing and so is what they know, what they are learning, and what experiences they have had, all of which lead to new knowledge and skills. Therefore, it is necessary for the assessment of young children to be conducted over time to identify the latest thing that the child has learned, what is understood, and what is maintained (Copple & Bredekamp, 2009; DEC, 2007; Grisham-Brown, Hemmeter, & Pretti-Frontczak, 2005; NAEYC & NAECS/SDE, 2003).

Ongoing assessment occurs when a teacher constantly assesses the skills that a child has. In other words, a teacher continuously watches the children in his or her classroom to notice new abilities and to see where the child is in his or her development. According to the National Academy of Sciences (2008), there are ethical principles that educators must adhere to that underlie all assessment practices, making it necessary for teachers not to make decisions based solely on the basis of a single observation. In other words, so as to not deny a child services, educators must observe a child over and over in different settings to verify that they do or do not require special education services (NAEYC & NAECS/SDE, 2003).

#3: Developmentally Appropriate

Assessment practices should be developmentally appropriate for the child. Developmentally appropriate practice means that the assessment is suitable for the ages and dispositions of the children being assessed.

Considerations of culture, home language, poverty level, and ability level are important factors in the assessment of young children relative to developmental appropriateness (NAEYC & NAECS/SDE, 2003).

For example, an assessment is not appropriate for a child who speaks Spanish if the test was designed and field tested on all English-speaking children. DEC states that assessments should also be individually appropriate, which means that the suitability of the test for a student is determined by their personal characteristics, which *could* include factors like those specified by NAEYC—culture, home language, poverty level, and ability level (DEC, 2007).

#4: Individualized

The assessment should be individualized for all children. The assessment must be adaptable, especially for children who have functional limitations; moreover, assessments must be individualized for children who are developmentally delayed, at risk, and from culturally and/or linguistically diverse populations. Service providers should be able to assess the child on any level (e.g., a child with communication delay, a child with developmental delay). Adaptable, in terms of assessment, basically means that a service provider has the flexibility to make changes to the assessment to accommodate the needs of the child being assessed.

Individualization and adaptability of the assessment for children with special needs is a critical aspect of accommodating diverse learners which may include lengthening the amount of time for which a child has to answer, giving the assessors the flexibility to present the information verbally or show the child something, flexibility in how toys are used and demonstrated, and larger pictures and print sizes (DEC, 2007). Other modifications may include, but are not limited to, lessening the number of items, changing the criteria for how a task is to be performed, using a different tool to assess the child, or changing what the child has to do to demonstrate a skill. Providing individualized and specialized practices for children that need greater adaptations ensures that all children can participate and that none are held back from participating because they have a delay (DEC, 2007).

#5: Natural

Assessment must be a natural process in two ways—the use of structured observation as the preferred form of authentic assessment, and observation of each child doing typical things in their everyday settings and routines. Children are most comfortable in their typical setting and will typically perform to their highest capability in their comfort zone. Therefore, assessment should be done in a child's natural environment (Administration for Children, Youth and Families, 2000; Jackson, Pretti-Frontczak, Harjusola-Webb, Grisham-Brown, & Romani, 2009). Examples of familiar settings or natural situations include a child's classroom, at home, at the grocery store with a parent, on the playground, or at childcare (Neisworth & Bagnato, 2004). Assessment data must be gathered from a child's familiar setting to produce results that are reflective of a child's natural performance (NAEYC & NAECS/SDE, 2003). It makes no sense to test a child in a situation in which they are not perfectly familiar and comfortable (Bagnato, 2005).

Authentic assessment should also take place during a child's daily routines (DEC, 2007; NAEYC & NAECS/SDE, 2003; Pretti-Frontczak, Jackson, McKeen, & Bricker, 2008). According to Neisworth and Bagnato (2004), authentic assessment relies heavily on the observation of a child in his or her natural environment during routine happenings to yield results that show a child has had the opportunity to demonstrate his or her competencies in every way possible. For example, a child who goes to childcare each day may follow a strict schedule. This schedule of daily events may include being greeted by the teacher with a hug, playing in the block area with friends, having circle time, playing outside, using the restroom, going to lunch, and then having a nap. If the child does this routine daily, it becomes familiar, like clockwork, in the child's mind. The child begins to predict or understand what will happen next. It would be best for an assessor to collect data on this child in their typical routines to avoid disrupting their routines and learning environment.

#6: Multi-Factored

Assessment information is gathered from multiple sources and using multiple approaches. Early childhood professionals agree that data must be collected from multiple sources to be beneficial to the child, and to be considered a part of an authentic assessment. To gather information from multiple sources means to interview or collect information from people the child comes into contact with in the context of the child's routines. These people could include parents, grandparents, other relatives, foster parents, occupational therapists, speech pathologists, physical therapists, physicians, childcare workers, preschool teachers, Sunday school teachers, and others who are familiar with the child.

DEC (2007) encourages family-centered and team-based processes of assessment. Assessing a child in a team-based format creates opportunities for team members to collect data during a child's routine, across multiple settings, and using multiple measures. These team members may include a child's developmental interventionist, an early intervention consultant, a home visitor, or any type of therapist or physician. Examples of different ways of understanding child development and learning may include examining written artifacts such as pictures, art projects, writing samples, having conversations with individuals familiar with the child (e.g., family and caregivers), and assessing children in their daily classroom and school settings, which may include various activity centers, transitions between activities, free-choice play times, small group activities, meals, and outdoor play. A multi-modal approach leads to a better understanding of the child because of the richness of data that are gathered.

Recommended practices help create an infrastructure to reduce longstanding fragmentation of early childhood policies and practices in assessment. They are intended to aid in decision making. When effective assessment practices are used to assess a child, accurate information is used to make decisions about a child's early childhood program.

DATA-DRIVEN DECISION MAKING

Teachers make decisions on a regular basis. In fact, early research on teacher decision making and efficacy estimated that teachers made as many as 1,300 decisions daily (Jackson, 1968). At the heart of making data-driven decisions is the ability to gather and use information for an individual child and groups of young children. Three key decisions are reached by EI/ECSE professionals: (1) which child outcomes should be targeted through which interventions/services; (2) how children are responding to instructional efforts, and when children warrant different or more intensive intervention; and (3) how educational and developmental interventions at the program/state/federal level can be improved.

A five-step process is suggested to guide providers in making data-driven decisions, including gathering information, documenting, summarizing, analyzing, and interpreting data. The primary way information is *gathered* is through observation. Observation can be defined as a "rigorous act of examining a specific behavior of interest in the context of daily routines" (Johnson, LaMontagne, Elgas, & Bauer, 1998, p. 218). Observations allow early childhood educators to learn about children's interests, preferences, and styles of communication and interaction, as well as their strengths and emerging skills related to the general curriculum. Providers are then encouraged to *document* (i.e., record) children's performance using written narratives such as anecdotal notes, gathering permanent products such as writing samples or videos, and collecting counts and tallies (Grisham-Brown et al., 2005). It is not sufficient, however, to gather volumes of data if they are not used.

A necessary step to using data is *summarizing* using a mixture of narrative summaries, visual summaries, and numerical summaries. *Analyzing* data summaries is the fourth step, when one examines patterns and trends. Analysis can be done through visual inspection, comparison of standard scores to a normative group or criterion set forth in a measure, and/or through discussion with team members, where predictable actions by the children are recognized and their implications for development considered.

Lastly, providers need to *interpret* and make meaning out of the data. Interpretations should lead to decisions regarding who needs to learn what, whether certain outcomes are a higher priority than others, the type and level of instruction that is needed, and how and when to revise or change instructional efforts.

Instructional Planning

Planning instruction for young children has never been more challenging, particularly given the increased number of children with disabilities who are served in community settings and the overall diversity of the population of young children being served. Determining what to teach to whom and/or what level of instruction individuals and groups of children require can be a daunting task, particularly if providers rely on brief checklists that probe skill mastery or conventional tests.

Probes or checklists of mastery skills are problematic for a number of reasons. First, they tend to be dichotomous in nature—either the child demonstrates the skill, or they do not. Second, they are often organized into arbitrary developmental domains or content areas and by ages that, at best, have face validity—but rarely for children with disabilities. Third, they are often brief or may have only select items from a given area of development and may not fully assess a child's ability.

Conventional tests are equally problematic. First, most do not meet recommended practice standards and have no evidence base for use to accomplish specific early intervention purposes. Second, items and procedures are not matched to the objectives of most EI/ECSE programs and are often insensitive to gains made by children. Third, the reliance on standardized procedures results in biased, unfair, and inaccurate conclusions regarding a child's capabilities (i.e., a child's incapability to perform on scripted tasks is misrepresented as their inability). Fourth, test items lack functional content; items do not directly link to instructional efforts and may narrow curricular efforts.

Assessment practices that provide comprehensive information regarding a child's performance across interrelated areas of development and content, information regarding children's interests and preferences, and information regarding family priorities and concerns are needed. Table 3.3 summarizes the quality characteristics of a comprehensive approach to assessment and data-driven decision making for instructional planning

Table 3.3 Quality Characteristics of a Comprehensive Approach to Assessment

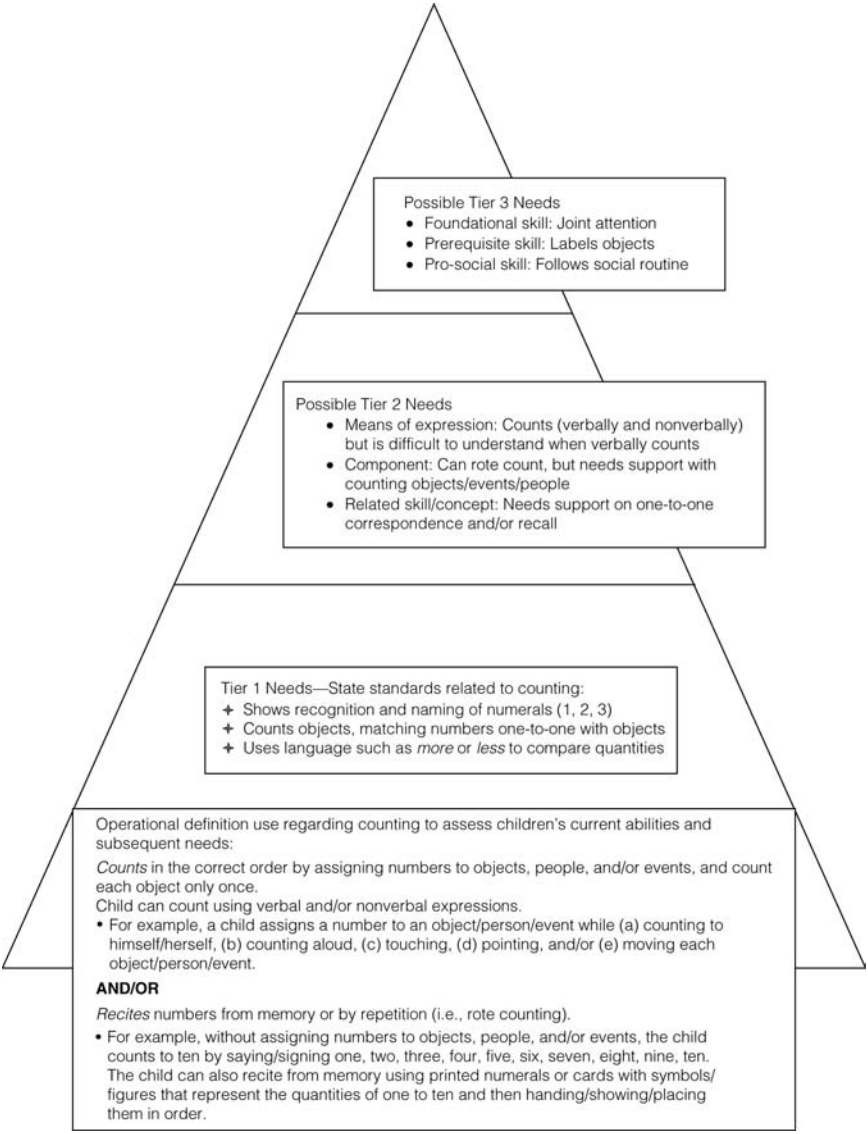
Assessment Component	Quality Characteristics
Comprehensive	• Assess all areas of development (e.g., motor, adaptive, cognitive, communication, social) • Assess all subject areas (e.g., language arts, science, social studies, math, technology, health) • Consider the interrelatedness of development • Gather information regarding strengths, emerging skills, and needs
Interests and Preferences	• Establish what motivates a child • Identify preferred activities, toys/materials, people, and actions • Establish what sustains a child's interest, participation, and engagement
Priorities and Concerns	• Obtain information from families and other familiar caregivers regarding a child's participation in daily routines and events • Discuss priorities for families and other familiar caregivers

Information from assessment for programming is systematically documented and summarized. Summaries should provide a complete picture of the child's current skills, abilities, knowledge, and preferences across daily activities and routines. From the summaries, teams can identify patterns or reoccurring trends that may require varying degrees and types of instruction. Specifically, from such assessment information, teams can interpret or make decisions regarding who needs to learn what and target meaningful outcomes that can be aligned to the appropriate instructional efforts. When serving groups of young children, teams will need to consider individual child patterns and trends as well as how groups of children are doing in terms of meeting common outcomes. Overall, quality instructional planning for individual and groups of children can be conceptualized as a tiered model allowing for differentiation and individualization.

Tiered models, which are not unique to EI/ECSE, often contain a bottom tier which includes common or universal outcomes and needs for all children, a second tier for targeted or temporary needs for some children, and a third tier for highly individualized needs. When planning instruction, providers will need to determine who needs to learn what, or rather identify needs for individuals and groups of children. The more experienced the provider, the more the process will become automatic; however, those who are new to the field may need to use a key part of their planning time (or secure planning time) to "sort" or identify children's needs.

Creating an image of a tiered model may help providers plan instruction and systematically identify children's needs. Thus, Figure 3.1 provides one example of a tiered model that can be used to plan and revise instruction based upon a child's needs. At the bottom tier, or Tier 1, are common or universal outcomes that all children need to learn. Tier 1 needs are derived from federal outcomes, state standards, and developmental milestones appropriate for a given age group. When a child's needs are identified as Tier 1, it means development and growth is considered on track. For example, all preschool-aged children should be learning how to participate in small group activities; use words, phrases, and sentences to inform, ask questions, and provide explanations; carry out all toileting needs; count objects; and engage in cooperative play with others. In Figure 3.1, counting is used and defined as a Tier 1 need to signify that all preschoolers are receiving instruction related to counting.

Depending upon the content/demands of the situation or where a child is in the learning cycle, they may experience difficulty with a



Possible Tier 3 Needs

- Foundational skill: Joint attention
- Prerequisite skill: Labels objects
- Pro-social skill: Follows social routine

Possible Tier 2 Needs

- Means of expression: Counts (verbally and nonverbally) but is difficult to understand when verbally counts
- Component: Can rote count, but needs support with counting objects/events/people
- Related skill/concept: Needs support on one-to-one correspondence and/or recall

Tier 1 Needs—State standards related to counting:

+ Shows recognition and naming of numerals (1, 2, 3)
+ Counts objects, matching numbers one-to-one with objects
+ Uses language such as *more* or *less* to compare quantities

Operational definition use regarding counting to assess children's current abilities and subsequent needs:

Counts in the correct order by assigning numbers to objects, people, and/or events, and count each object only once.
Child can count using verbal and/or nonverbal expressions.

- For example, a child assigns a number to an object/person/event while (a) counting to himself/herself, (b) counting aloud, (c) touching, (d) pointing, and/or (e) moving each object/person/event.

AND/OR

Recites numbers from memory or by repetition (i.e., rote counting).

- For example, without assigning numbers to objects, people, and/or events, the child counts to ten by saying/signing one, two, three, four, five, six, seven, eight, nine, ten. The child can also recite from memory using printed numerals or cards with symbols/figures that represent the quantities of one to ten and then handing/showing/placing them in order.

Figure 3.1 Illustration of children's tiered needs related to the common outcome of counting.

means of expression (e.g., saying, labeling, gesturing, manipulating, compiling), or with a component of a larger/more sophisticated concept or skill (e.g., has difficulty remaining with the group at story time, which is a component of participation). At other times, a child's progress may have stalled, or there is a related or concurrent skill that needs additional support for development and progress to continue. Whether a preschooler is struggling with a means of expression, missing a component of a larger skill/concept, or if their development has stalled, the child is demonstrating a Tier 2 need, meaning the child requires additional scaffolding/support for development and progress to continue. For example, a child may need additional support to remain in a group, to be understood by others, and/or to sequence while concurrently learning to count higher. Figure 3.1 again provides examples of Tier 2 needs related to the common outcome of counting, where a child counts repeatedly only to five and may need instruction on sequencing or recall to see further gains in counting higher or more. As teams determine whether a child has a true Tier 2 need, they should simultaneously consider whether quality Tier 1 instruction has been provided with fidelity, and whether the instruction was developmentally appropriate.

Tier 3 needs are where a child may be missing a foundational or prerequisite skill/concept that is keeping them from accessing, participating, and making progress toward common outcomes. For example, a child may tantrum every time they are asked to follow a social routine, lack joint attention or conversational turn-taking, or still may be working on reaching and grasping objects even though they are of preschool age. When a child is missing a foundational, prerequisite, or prosocial/age-appropriate skill, she is demonstrating a Tier 3 need. Figure 3.1 provides examples of possible Tier 3 needs that would increase a child's access, participation, and progress toward the common outcome of counting.

Once children's needs are identified, providers may find that several children, or even a single child, can have many Tier 2 and Tier 3 needs. Given the complexities of serving diverse children, it is impossible to provide the instruction required to address higher-tiered needs when numerous Tier 2 and 3 needs for multiple children have been selected. Thus, providers should prioritize in terms of where to begin instruction. When setting priorities for individual and groups of children, outcomes that are a priority for all team members and what the child needs to access, participate, and make progress in the classroom as well as outcomes that will benefit the child in the home and community should be discussed.

After deciding upon priorities for instruction, providers are ready to consider the type and frequency of instructional efforts to implement. The level of intensity and frequency of instruction should match the level of the child's need. For example, more individualized, intensive, and intentional instruction should be provided for a Tier 3 need. Providers should use a variety of evidenced-based instructional strategies (from nondirective to directive) again matching frequency and intensity with level of need. Revising initial instructional decisions in terms of their accuracy and efficacy (i.e., to determine if instructional efforts are promoting growth and development, leading to family satisfaction, and resulting in quality programming) is the next critical decision providers need to make.

Continuous Performance Monitoring

As stated in Table 3.1, performance monitoring is defined as a recursive feedback process of adjusting and revising instruction in accordance with data that are systematically collected through ongoing observation and then documented, summarized, analyzed, and interpreted. Once the needs of a child or a group of children have been identified and the appropriate instruction initiated, teams must engage in continuous performance monitoring to determine the impact and success of their instructional efforts and to revise or change as needed. The term "performance monitoring" over "progress monitoring" was chosen to impress upon teams the need to broadly describe and examine changes over time not only in terms of acquisition or mastery of skills, but also in more qualitative and holistic ways. For example, instead of relying on changes in test scores or a checklist that illustrates mastery of a skill to know whether a child is benefiting from instructional efforts, teams should also consider changes in levels of independence, consistency, frequency, and latency. Table 3.4 provides several examples of dimensions of behavior that should be considered when making decisions about a child's performance over time.

As with identifying children's needs and associated levels of instruction, performance-monitoring efforts should also be applied to a tiered approach. In other words, the frequency and intensity of data collection varies depending upon the child's needs and matched level of instruction. Figure 3.2 provides a depiction of performance monitoring within a tiered model. At Tier 1, teams are monitoring all children's performances toward common outcomes. As defined earlier, common outcomes are the standards and milestones expected for all children (regardless of ability) at a given age. Teams should monitor performance toward standards and developmentally appropriate milestones at least once a year, preferably (given the variability of young children's development) three or four

Table 3.4 Examples of Dimensions of Behavior

Dimension of Behavior	Examples of a Child's Performance
Frequency (number of times a Behavior occurs—how often)	• Number of times child initiates toileting each day • Number of times child manipulates objects with both hands during free play • Number of times child initiates greetings to peers during morning arrival • Number of successful transitions from one activity to another across the daily routine
Accuracy (how well a Behavior is demonstrated)	• Completes tasks without assistance • Talks without omitting or substituting particular sounds • Writes first name using upper- and lowercase letters that are recognizable • Correctly categorizes objects based upon their function
Latency (length of time to respond)	• Time between teacher verbal direction and child response • Time between when a visual cue is given a child makes a choice • Time between being asked a question and the child answering the question • Time between a high emotional response and child regaining composure to a more neutral response
Duration (how long a Behavior lasts or is demonstrated)	• How long a child participates in circle-time activity by remaining with the group, looking, and listening • How long a child cries after Mom leaves the classroom • How long a child works to complete puzzles • How long a child plays near peers
Endurance (how many times the behavior is repeated)	• Takes 10 steps • Communicates for two or more exchanges • Counts 10 objects • Remains seated for three minutes

times a year. Information regarding performance at Tier 1 can be obtained through the re-administration of a comprehensive and authentic assessment, often times through the re-administration of a curriculum-based assessment (CBA). Monitoring performance at Tier 1 is important to inform providers as to whether children's needs have changed since the beginning of the year, hence requiring a change in the frequency and intensity of instruction and/or what is being targeted. For example, when monitoring children's performance toward the common outcomes of counting, providers are encouraged to re-administer a CBA containing

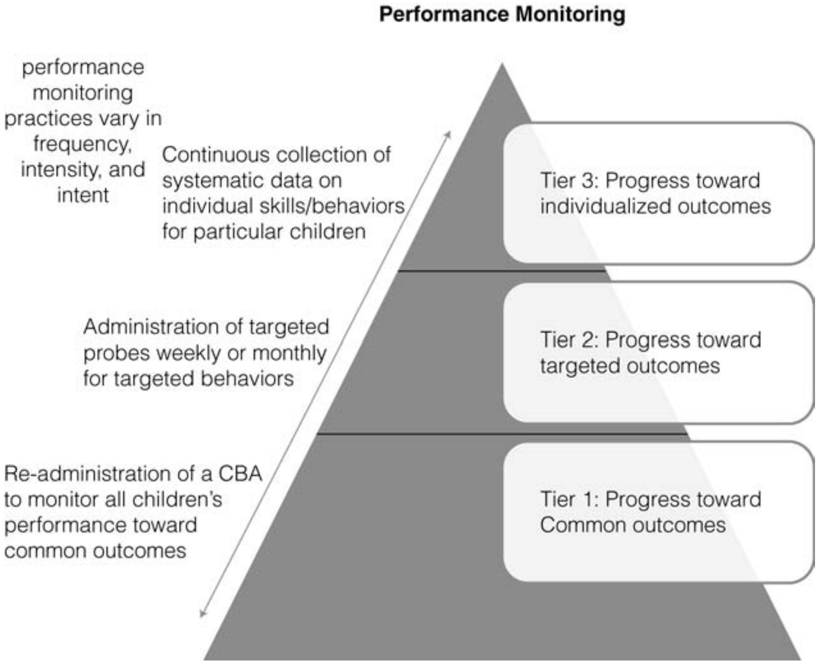


Figure 3.2 Depiction of performance monitoring within a tiered model.

items related to counting near the beginning of the year, at a midpoint, and a few months before the end of the year. Re-administration of the CBA would be done with *all* children regardless of associated needs. In other words, the common outcome of counting would be monitored several times a year even for a child who initially had the Tier 3 need of joint attention as the foundational or perquisite skill needed to see progress toward the outcome of counting.

Within Tier 2, performance monitoring consists of more frequent and targeted efforts; however, not for all skills or for all children. In other words, at Tier 2, providers gather data on select groups of children who may have similar needs related to a component of a common outcome; a challenge with expressing themselves verbally or nonverbally as expected for their age, or even for a skill that has stalled and needs a boost of instruction to become more sophisticated and/or at a level expected. At Tier 2, data are collected perhaps as often as every week or a few times a month. Instructional efforts at Tier 2 should be considered temporary and in prevention of needing Tier 3 support; thus, sufficient and timely data are needed to quickly determine how the child is responding to more intense and more frequent instruction. Curriculum-based measures (i.e., standardized, short tests), re-administration of key parts of CBAs (at least CBAs with enough items to be sensitive to change), and/or the collection of anecdotal notes, written products, or rubrics can all be used at Tier 2; it is just a matter of being able to administer them more than a few times a year. For example, providers may track a group of children whose performance related to counting objects had stalled (i.e., they were able to count only five objects) on a related issue of sequencing. This means instruction was provided on a concurrent skill of sequencing and tracked weekly to see if progress with sequencing would have a positive impact on the children subsequently being able to count beyond five objects.

At Tier 3, data are collected under a rigorous schedule that would likely include daily and/or on given occurrences (e.g., following each conflict, during circle time). It is critical that data not only be collected more often at Tier 3, but with greater individualization and specificity, and that interpretations are made on a daily or weekly basis. Teams cannot wait until a parent-teacher conference or annual review of an individualized education plan to determine if their instructional efforts were aiding a child's increased access, participation, and progress. Closely monitoring performance allows providers to revise instruction routinely to assure the child is reaching their maximum potential. For example, providers may need to collect data during each transition for a child who was struggling with following a classroom routine, which was ultimately keeping the child from engaging in activities or completing tasks.

Accountability

Evaluating the overall impact and outcomes of early intervention programs using performance benchmarks is the third key data-driven decision. The accountability movement associated with NCLB has influenced EI/ECSE in the form of a downward extension of a "tests and testing" model employed by school-age programs. Advocates for young children, while proponents of accountability, are concerned that existing models are detrimental not only to children, but to their families and the programs and personnel who serve them. Much controversy surrounds the testing of infants, toddlers, and preschoolers, particularly those with disabilities and delays. While the early childhood intervention field supports, generally, the need to monitor the progress of young children in diverse programs, little agreement exists on how desired information should be obtained, who should collect the information, and perhaps most importantly, how the information should be summarized and interpreted. Moreover, there is a dearth of research on accountability assessment practices in early childhood intervention. Many of the current efforts are driven by K–12 models or, worse yet, appear to parallel earlier national accountability mandates under the National Reporting System (NRS) initiated by the Head Start Bureau (e.g., narrowing the scope of what is assessed and ultimately taught, distracting from other critical program needs, and linking test findings to funding allocations).

With increasing pressure, government agencies are requiring accountability data from programs serving young children (Harbin, Rous, & McLean, 2005). Many of the efforts, in the form of regulations, are being proposed and implemented without regard for professional "best practices," usefulness and benefits to children and families, and the glaring absence of research. In particular, state and federal outcome indicators are emerging to document accountability. Interdisciplinary professionals in the fields of early childhood intervention (i.e., public and private early care and education, Head Start, and early intervention) have an ethical and moral responsibility to advocate for assurances that sanctioned professional standards will be honored when measurement strategies for accountability are designed and mandated by state and federal entities.

While accountability methods and standards must meet professional standards, they must also be sensible and equitable. Policies must reflect the uniqueness and diversity of the EI/ECSE field (e.g., settings in which children spend time, education level of teachers) compared to school-aged children and the individual needs of its vulnerable young children and families. In the brief discussions below, we operationalize professional standards and relate them to what we believe should be "best practices" in accountability:

1. Young Children Are Individuals, so, Their Programs and Performance Data Must Be Individualized

The distinguishing characteristic of the field of early childhood intervention is that we focus on the strengths and needs of individual children rather than making broad group or age comparisons. At the base, intra-individual (occurring within a child; for example the same child over time) progress is the most important criteria for significant change, not inter-individual (occurring between children; for example, child to child) comparisons. Further, the more one aims to compare young children with differing abilities to a normative group, the less valid and trustworthy the conclusions; this fact makes accountability in early childhood, particularly for those children with disabilities, fundamentally different from school-age accountability standards. All young children should be entitled to individualized instruction that meets their unique learning needs. Even children who are at risk, English-language learners, or those with minor articulation concerns may require individualized programs, and their performance over time on family priorities must be the criteria for accountability. Thus, common outcomes should be universally acceptable for the diverse cultural, linguistic, and individual needs for all young children. Further, if individual performance is to be rated, documented, and then aggregated, the sum should be seen only as valid as its parts.

For children with disabilities, the goal of a programmatic intervention is not to ensure progress toward a typical level of functioning. Rather, parents and professionals seek to document performance toward individual goals and to alter pre-intervention developmental trajectories. For children with significant disabilities, maintenance of performance or prevention of regression, not progress, is the goal of the intervention. All young children deserve performance criteria and measurement methods that are sensible and equitable.

2. Accountability Data Cannot Be Interpreted in the Absence of Additional Information about the Child

A number of variables impact change in children's development and include prior exposure to intervention, regularity of participation and engagement in the program, and mediating factors (e.g., serious head injury between entry and exit data collection; uncontrolled seizure activity). As well, cultural expectations will impact behavioral changes in young children. Differing family ideas about when children should learn certain skills will likely impact how quickly children learn them. In addition, the age of the child must be considered. Younger children may show less apparent developmental delay than older children. Given the various ways in which change in child development can be affected, consideration should be given to defining progress for individual children. For some children with disabilities, developmental changes in some areas are realistic goals. For others, progress may be defined as not acquiring additional disabilities or not regressing in development.

3. Child Progress Data for Accountability Cannot Be Interpreted in the Absence of Data on the Program Itself

Aggregated data on changes in children's acquisition of developmental competencies or changes in trajectory are meaningless unless related to aggregated data about the programs and services in which children participate. There must be a functional interrelationship between each child's patterns of progress and the type, quality, length, and intensity of their programs and the type of teaching and care strategies used. As well, the role of program providers must be considered in the context of analyzing accountability data. The type and amount of educational background of program providers may impact their capacity to deliver high-quality interventions with fidelity sufficient to impact child change. Similarly, the consistency with which program providers collect data to measure child change must be considered (i.e., same provider collecting data; assessment fidelity). Larger program variables also have been found to affect change in children's development and should be considered when interpreting accountability data. These include the quality of the environment, the program's leadership, and family involvement in the program.

4. Developmentally Appropriate Accountability Data Must Be Used Only to Improve Program Quality and Practices, Not to Sanction Teachers or Their Programs

States are reforming their assessment and evaluation policies to meet the federal mandates for IDEA. Specifically, the child outcomes identified by the Office of Special Education Programs (OSEP) include (1) positive social emotional skills, including social relationships, (2) acquisition and use of knowledge and skills, and (3) use of appropriate behaviors to meet needs. For accountability purposes, program personnel are required to assess children's performance in these three areas near entry and again near exit (Hebbeler, Barton, & Mallik, 2008). Although state agencies have in place procedures for collecting accountability data following federal guidelines, the procedures are highly variable and generally unsubstantiated. For example, the legitimacy of interpreting children's performance with regards to the three OSEP child outcomes is open to question for at least two reasons.

First, each outcome is stated in broad language that makes valid and consistent measurement and comparison over time difficult if not impossible. That is, personnel, and the measures and procedures used, may define or conceptualize the three outcomes in very different ways. A cursory comparison of crosswalks that have been created between commonly used assessment instruments and OSEP outcomes indicates startling variability among the specific sets of assessment items that are aligned with each OSEP outcome. Second, measures or procedures for data collection have not been carefully delineated, nor have any measures or procedures been developed for said purpose or adequately tested. Using different measures and collecting information in different ways may lead to child change data that are simply not comparable either across children or for any given child over time.

The lack of empirical verification, in terms of both validity and reliability, for interpreting and operationalizing the outcomes and the categories is of extreme concern, because critical decisions may rest on accountability findings (i.e., future funding of Part C and 619 programs). Accountability data should represent *developmental performance*, not necessarily developmental progress. Thus, accountability data must not be used inappropriately as an excuse or punishment for professionals, their programs, agencies, or states supplying IDEA services to young children and their families. Safeguard procedures need to be implemented for states and programs that do not meet performance expectations. Individualized professional development and mentoring of teachers must be improved by making accountability data available to teachers and supervisors and by ensuring access to high-quality state technical assistance.

5. Metrics for Profiling Child Progress and Program Impact Must Be Sensitive to Small Increments of Individual Child Performances

Standard scores on conventional tests are not sensitive to individual patterns of progress in young children, especially those with disabilities and functional limitations. In contrast, metrics that compare each child's progress to his individual pre-intervention starting point are most sensitive to true progress (i.e., changes in performance over time). Such metrics include expected-actual developmental growth curves, goal-attainment scaling, number of curricular objectives achieved, increases or decreases in the frequency of particular behaviors, and number of skills displayed with and without prompts. Perhaps most important is the fact that progress metrics must focus upon tangible ultimate criterion standards such as the acquisition of functional competencies that improve independent life functioning, performance, and learning (e.g., walks independently), rather than dubious normative comparisons to nonrepresentative standardization samples (walks 15 steps across a balance beam going heel to toe).

CONCLUDING GUIDE-POINTS FOR DATA-DRIVEN DECISION MAKING "IN ACTION"

Early childhood interventionists balance many complementary and sometimes competing assessment responsibilities for young children with developmental disabilities. Assessment in everyday environments is the "key" component for executing these responsibilities and making a series of critical decisions underlying actions for the benefit of vulnerable children and families. In this chapter, we described six general assessment practices required by national professional organizations and supported by emerging research. We then detailed three "linked" assessment activities that are critical "keys" to effective and high-quality early intervention for our most vulnerable young children; that is, the application of assessment practices for (1) instructional planning, (2) performance monitoring, and (3) accountability. We conclude with several summative guide-points for applying data-driven decision making "in action" to link these three assessment activities so that they operate as a seamless and circular process of checks and balances.

- *Rely upon authentic assessment measures and observational processes.* By using authentic assessments, EI/ECSE professionals will both comply with best practices in the field and apply methods that ensure compatible functional content for assessment and instruction. Authentic assessments enable professionals to observe and prompt children's typical capabilities in everyday settings and routines in a natural rather than contrived process.
- *Select a uniform and dense curriculum of functional skills for children in your program.* Best practice presumes that administrators and early childhood intervention professionals will collaborate to choose a functional curriculum that matches the program's philosophy and the capabilities and needs of children in the program. Comprehensive and sequential curricula ensure continuity from birth to the transition at kindergarten. Sequential developmental and

functional content allows professionals and parents to align their authentic observational assessments with the appropriate content within the curricula to create individualized instructional objectives, intervention strategies, and plans that promote child progress. The alignment of assessment and instruction through the curriculum forms the basis for monitoring performance and modifying instruction so that efficacious programs are produced and continuous quality improvement is assured.

- *Align the content of the assessment, the curriculum, and the state and federal benchmarks for program success as the foundation for sensible accountability*. Too often, state and federal benchmarks and indicators used to evaluate child progress are divorced from programmatic content and common sense. Early childhood interventionists and administrators can advocate best for their children and the sustainability of their programs by promoting curriculum-referenced forms of authentic measurement. The developmental and functional content of curricula can be cross-walked with the indicators of success for children contained in state and federal performance standards. These linkages between curriculum content and standards can ensure sensible, sensitive, and synchronized targets for both children and programs.

REFERENCES

Bagnato, S. J. (2005). The authentic alternative for assessment in early intervention: An emerging evidence-based practice. *Journal of Early Intervention, 28*(1), 17–22. doi:10.1177/105381510502800102

Bagnato, S. J. (2007). *Authentic assessment for early childhood intervention: Best practices*. New York: Guilford Press.

Bagnato, S. J., Neisworth, J., & Pretti-Frontczak, K. (2010). *LINKing authentic assessment and early childhood intervention: Best measures for best practices* (2nd ed.). Baltimore: Paul H. Brookes.

Bagnato, S. J., & Yeh-Ho, H. (2006). High-stakes testing with preschool children: Violation of professional standards for evidence-based practice in early childhood intervention. *KEDI Journal of Educational Policy, 3*(1), 23–43.

Copple, C., & Bredekamp, S. (Eds.) (2009). *Developmentally appropriate practice in early childhood programs* (3rd ed.). Washington, DC: National Association for the Education of Young Children.

Division for Early Childhood. (2007). *Promoting positive progress outcomes for children with disabilities: Recommendations for curriculum, assessment, and program evaluation*. Missoula, MT: Author.

Education Commission of the States. (1998). *Designing and implementing standards-based accountability systems*. Denver, CO: Author.

Grisham-Brown, J. L., Hemmeter, M. L., & Pretti-Frontczak, K. (2005). *Blended practices for teaching young children in inclusive settings*. Baltimore: Paul H. Brookes.

Harbin, G., Rous, B., & McLean, M. (2005). Issues in designing state accountability systems. *Journal of Early Intervention, 27*(3), 137–164. doi:10.1177/105381510502700301

Head Start Bureau. (1992). *Head Start program performance standards*. DHHS Publication No. ACF92-31131. Washington, DC: Department of Health and Human Services.

Hebbeler, K., Barton, L. R., & Mallik, S. (2008). Assessment and accountability for programs serving young children with disabilities. *Exceptionality, 16*(1), 48–63. doi:10.1080/09362830701796792

Jackson, P. W. (1968). Life in classrooms. New York: Holt, Rinehart, & Winston.

Jackson, S., Pretti-Frontczak, K., Harjusola-Webb, S., Grisham-Brown, J., & Romani, J. M. (2009). Response to intervention: Implications for early childhood professionals. *Language, Speech, and Hearing Services in Schools, 40*(4), 424–434. doi:10.1044/0161-1461 (2009/08-0027)

Johnson, L., LaMontagne, M., Elgas, P., & Bauer, A. (1998). *Blending early childhood and early childhood special education practices: Collaboration to meet the needs of children and their families*. Baltimore: Paul H. Brookes.

McLean, M., Wolery, M., & Bailey, D. B. (2004). *Assessing infants and preschoolers wth special needs* (3rd ed). Columbus, OH: Pearson.

McLoughlin, J. A., & Lewis, R. B. (1990). *Assessing students with special needs* (4th ed). Columbus, OH: Merrill.

Meisels, S. J. (2000). Readiness and relationships: Issues in assessing young children, families, and caregivers. *Head Start Bulletin*, *69*, 5–6. Retrieved from http://eclkc.ohs.acf.hhs.gov/hslc/Professional%20Development/Organizational%20Development/Cultivating%20a%20Learning%20Organization/FINAL-EHS.pdf

National Academy of Sciences & National Research Council. (2008). *Early childhood assessment: Why, what, and how?* Committee on Developmental Outcomes and Assessments for Young Children (C. E. Snow & S. B. Van Hemel, Eds.). Board on Children, Youth and Families, Board on Testing and Assessment, Division of Behavioral and Social Sciences and Education. Washington, DC: National Academies Press.

National Association for the Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education (NAEYC & NAECS/SDE). (2003). *Early childhood curriculum, assessment and program evaluation: Building an effective and accountable system in programs for children birth to 8 years of age*. Washington, DC: NAEYC.

National Early Childhood Accountability Task Force. (2007). *Taking stock: Assessing and improving early childhood learning and program quality.* Pew Charitable Trusts. Retrieved from http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Pre-k_education/task_force_report1.pdf

Neisworth, J. T., & Bagnato, S. J. (2004). The mismeasure of young children: The authentic assessment alternative. *Infants and Young Children, 17*(3), 198–212.

Neisworth, J. T., & Bagnato, S. J. (2005). DEC recommended practices: Assessment. In S. Sandall, M. L. Hemmeter, B. F. Smith, and M. McClean (Eds.), *DEC recommended practice: A comprehensive guide for practical application in early intervention/early childhood special education* (pp. 45–70). Longmont, CO: Sopris West.

Pretti-Frontczak, K., Jackson, S., McKeen, L., & Bricker, D. (2008). Supporting quality curriculum frameworks in early childhood programs. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 1249–1259). Washington, DC: National Association of School Psychologists; Texas: Psychological Corporation.

Chapter 4

Children with Disabilities, School Readiness, and Transition to Kindergarten

Sharon E. Rosenkoetter, Cristian M. Dogaru, Beth Rous, and Carol Schroeder

Starting kindergarten is a major life experience for most children in developed countries around the world. In the United States, not all states require kindergarten enrollment; nevertheless, about 98 percent of children attend kindergarten in public or private schools, full day or half day, prior to their first-grade year (Zill, 1999). Kindergarten is popularly viewed as the beginning of the school experience in communities across the United States. Kindergarten is the time and place where all children are first asked to demonstrate for the record the competencies that will support their formative educational years and the course of their future lives (Mangione & Speth, 1998; Pianta & Cox, 1999; Pianta & Kraft-Sayre, 2003).

While transition to kindergarten may be anticipated with anxiety, excitement, and stress by children and their families, for the great majority, the emotions of this time have little noted impact on later development (Fowler, Schwartz, & Atwater, 1991; Wolery, 1999). Most children with and without disabilities adjust over time to changes in their environments from what they experienced during the prekindergarten years: the larger class size, the unfamiliar school building, different people, a more demanding curriculum, altered expectations, and new interactions and relationships (Carta & Atwater, 1990; Fowler et al., 1991; Vail & Scott, 1994).

For some children, however, especially those with special needs, the transition to kindergarten presents challenges in adjustment to school and, too often, limited success at mastering the school's demands (O'Brien, 1991). Such negative outcomes are ones that families, service providers, and community planners strive to avoid (Pianta & Walsh, 1996; Rous & Hallam, 2006). Even though many children with identified disabilities have already participated in early intervention and/or early childhood special education through the public school system, and even though most of the families of these children have previously interacted with personnel employed by school districts, research shows that families of young children with disabilities still view transition to kindergarten as a monumental event (Rosenkoetter & Rosenkoetter, 2001). The same is true for children and families at risk for school difficulties due to poverty (SERVE, 1998). Patterns of friendship and mentorship, attendance, class groupings, and teacher-child interaction during the early months of kindergarten affect achievement (Ladd, 2006; O'Connor & McCartney, 2007; Rist, 1970) and are likely to continue on into the elementary school years. Of course, these can be modified by future events including decisions by parents and teams that guide children's school programs.

This chapter will define transition and school readiness and offer two conceptual models for understanding them. The chapter will summarize transition research findings and describe current research. Finally, it will suggest key principles for families and practitioners and describe emerging trends and future directions. We hope that the work described here will aid services to children with disabilities and their families and prompt new research to support them at the pivotal point of kindergarten entry.

WHAT IS TRANSITION?

Transition to kindergarten may be defined as the process of moving children and their families from the prekindergarten environment of home, preschool, child care, or Head Start into a kindergarten setting (Bruder & Chandler, 1996; Head Start, 1989). This change process is multi-faceted, involving new roles for children, families, and service providers as well as altered expectations for their daily interactions and long term planning (Bruder & Chandler, 1996; Ramey & Ramey, 1994, 1998; Rosenkoetter, Hains, & Fowler, 1994; Rous & Hallam, 2006).

For children with disabilities and their families, transition to kindergarten is likely to be more complex than for typically developing children. Due to their disabilities, children with special needs may experience the new environment differently from their typically developing peers (Carta & Atwater, 1990; Katims & Pierce, 1995), and their parents are more likely to worry about both the details of each day and the long-term outcomes of the process (Rosenkoetter & Rosenkoetter, 2001). In addition to a classroom teacher and perhaps an educational assistant, children with disabilities may have a number of therapists, other service providers, and administrators. Transition to kindergarten thus may mean leaving the prekindergarten set of familiar service providers and coming to understand and trust another group of professionals whose policies and practices are likely to differ (Wolery, 1999). Transition requires considerable new learning on the part of both children with disabilities and their parents.

WHAT IS SCHOOL READINESS?

The concept of readiness for kindergarten has received growing attention from policy makers, educators, parents, and researchers as it has become clear that children who struggle initially in kindergarten often continue to be challenged during their later school years (Task Force on School Readiness, 2005). As a result of difficulties in school, many youth drop out of high school and are unable to compete in a society that demands increasing literacy, numeracy, and social skills. Further, the rate of failure to complete secondary school is much higher among students from certain racial, ethnic, and geographic populations, including students with disabilities (U.S. Department of Education [USDOE], 2009; USDOE, OSERS, 2006).

Various professionals disagree on a definition of school readiness, stressing different elements and emphasizing different academic and social skills. The definition that one adopts leads to varying approaches to assessment and intervention with children at risk and guides program standards. Curricula in preschool and kindergarten are also developed based on the adopted definition of readiness. There are three primary approaches to the concept of school readiness.

First Approach: Focus on the Child as Ready or Not Ready

Many elements of the discourse about readiness have focused on the young child's developmental maturity (Ilg, Ames, Haines, & Gillespie, 1978) or skill preparation (Head Start, n.d.) for the tasks that kindergarten will present. For example, Kagan, Moore, and Bredekamp (1995), writing on behalf of the National Education Goals Panel, defined the five dimensions for children's early development and learning that the Panel viewed as the foundations for school readiness: (1) physical well-being and motor development, (2) social and emotional development, (3) approaches toward learning, (4) language development, and (5) cognition and general development. Many approaches to fostering child development, such as that espoused by the Goals Panel itself, have also stressed the importance of children's access to high-quality preschool education, supportive parenting, and essential nutrition and health care to facilitate school readiness and later academic success (USDOE, 1991).

During recent years, movements to increase accountability for performance outcomes swept through the business sector, state and federal government, and K–12 education. States and programs then began to shift this emphasis to early care and education (Hebbeler & Barton, 2007). Head Start identified a set of learning outcomes expected for children who completed its programs (Head Start, n.d.). Individual states developed or adopted early learning standards, guidelines, or benchmarks to define clearly what young children should know and do at specific ages or upon entry to kindergarten (Scott-Little, Kagan, & Frelow, 2005; Scott-Little, Kagan, Frelow, & Reid, 2008).

The downward extension of curriculum and academic expectations from elementary school to kindergarten has exacerbated the child-focused understanding of school readiness (Kemp & Carter, 2000). Growing numbers of parents are waiting a year to send their 5-year-old children to kindergarten (Deming & Dynarski, 2008); now one in six children enters kindergarten at age 6, not 5, a practice known as *academic redshirting*. Increasing numbers of school districts have experimented with various types of transition classes for children who were judged to be not ready for either kindergarten or first grade (Gredler, 2006; Mantzicopoulos, 2003). Local policies on retention in kindergarten for children considered unready for first grade continue to vary from place to place and from year to year (Frey, 2005). States have tinkered with their legal age for school entry in efforts to make all children "ready" for kindergarten (Stipek, 2002). In response to all these efforts, the National Association for the Education of Young Children, the nation's largest professional organization for early childhood personnel, adopted and continues to uphold a position statement on school readiness that opposes redshirting, transition classes, and retention and advocates a broader view of school readiness that is more in line with the definitions to be discussed below (1990; revised 1995).

Second Approach: Focus on the Setting and Social Construction of Readiness

Graue (1993), a former kindergarten teacher, observed that the same child could be ready, very ready, or not at all ready for kindergarten, depending upon the specific kindergarten in which the child enrolled. Her research findings challenged the within-the-child, ready/not ready conception of school readiness. Data from the National Center for Education Statistics (2009) supported an obvious conclusion: Not all children have the same opportunities to develop foundational learning skills prior to school entry, and accordingly, they arrive at kindergarten with different levels of competencies that facilitate school learning. According to Graue's pioneering research, readiness is an idea that is socially constructed by parents, teachers, and children as they interact and compare children's skill level in their schools, neighborhoods, and communities.

Subsequent discussions led to the notion of *Ready Schools* (National Education Goals Panel, 1998), which posited that the school (i.e., the kindergarten setting) must make itself ready to address the skill levels of any children who enroll. The document outlined 10 "keys to ready schools" that resulted in numerous educational change initiatives:

1. Smooth the transition between home and school
2. Strive for continuity between early care and education programs and elementary schools
3. Help children learn and make sense of their complex and exciting world
4. Be committed to the success of every child
5. Be committed to the success of every teacher and every adult who interacts with children during the school day
6. Introduce or expand approaches that have been shown to raise achievement
7. Exist as learning organizations that alter practices and programs if they do not benefit children
8. Serve children in communities
9. Take responsibility for results
10. Have strong leadership (p. 5)

This philosophy of readiness fits well with the growing diversity of American schools, in that a rapidly increasing percentage of young children speak a language other than standard English at home

(*Education Week*, 2004, citing the U.S. Bureau of Citizenship and Immigration Services, 2001). The Ready Schools philosophy is also congruent with inclusion in the least restrictive environment for children with disabilities, even if a child lacks certain normative achievements (Turnbull, Turnbull, & Wehmeyer, 2007).

Third Approach: Combination of Approaches One and Two

In its purpose statement, the No Child Left Behind Act of 2001 blended the two previous understandings of school readiness: First, the law required a series of actions, including "challenging State academic standards so that students, teachers, parents, and administrators can measure progress against common expectations for student academic achievement" (Sec. 1001[1]). Second, it required schools to meet

> the educational needs of low achieving children in our Nation's highest-poverty schools, limited English proficient children, migratory children, children with disabilities, Indian children, neglected or delinquent children, and young children in need of reading assistance. (Sec. 1002 [2])

The stated intent of this complex, demanding, and controversial law is that "all children have a fair, equal, and significant opportunity to obtain a high-quality education" (Sec. 1001 Introduction). Stated otherwise, the aim is that all children become ready to profit from the instruction offered in elementary school and to build a foundation for later school success. A smooth transition for young children from home and prekindergarten programs into kindergarten is a part of developing that readiness.

Results-based accountability has led to a greater emphasis on assessing individual young children to identify their school readiness, age-expected functioning, or achievement of early learning guidelines or standards. Program evaluations and ongoing systems for assessment of children's functioning and school readiness are being implemented to determine the need for changes in specific programs and funded activities to promote successful outcomes (Hebbeler, Barton, & Mallik, 2008). Although there is widespread agreement about the benefits of a well-coordinated system (Rous, LoBianco, Moffett, & Lund, 2005), states vary considerably in the extent to which early learning standards, assessments, and program evaluations are compatible, coordinated, or operative in the daily work of teachers and administrators (National

Early Childhood Accountability Task Force, 2007). How states coordinate the readiness monitoring of children with disabilities with other early childhood accountability efforts varies considerably (Harbin, Rous, & McLean, 2004). This process is highly uneven, as states continue to progress in their approaches to school readiness.

The National Governor's Association (NGA) has provided guidance for the states through its Task Force on School Readiness (2005). While it emphasized the importance of state, community, and family actions, the NGA report also stressed the goal of giving individual children the foundations that they need to be ready for school. Among its other recommendations to promote readiness, the Task Force charged states to "support schools, families, and communities in facilitating the transition of young children into the kindergarten environment" (p. 6). The highest levels of the educational community have linked the importance of transition planning and practices to supporting school readiness.

CONCEPTUAL MODELS OF TRANSITION

Two conceptual frameworks may help readers understand the relationships among the complex elements of transition that reflect its ecology, influence individual children's readiness and adjustment, and promote ongoing family involvement in their children's learning.

The Ecological and Dynamic Model of Transition

Pianta and Walsh (1996) proposed the Contextual Systems Model (CSM), which built on the Developmental Systems Theory as elucidated by Ford and Lerner (1992). CSM emphasizes the frames of culture and history for child development and views transition to kindergarten as a complex system of systems that develops and changes continuously across time. CSM evolved into the Ecological and Dynamic Model of Transition (EDMT; Rimm-Kaufman & Pianta, 2000). Among its systems are the transactive family/child system, peer/child system, teacher/child system, and neighborhood/child system. Each of these systems is embedded within the larger system of the preschool and the larger system of the kindergarten. Figure 4.1 illustrates the EDMT.

EDMT views transition as synergistic in that it is more than the sum of the interactions between subordinate systems. Over time, the

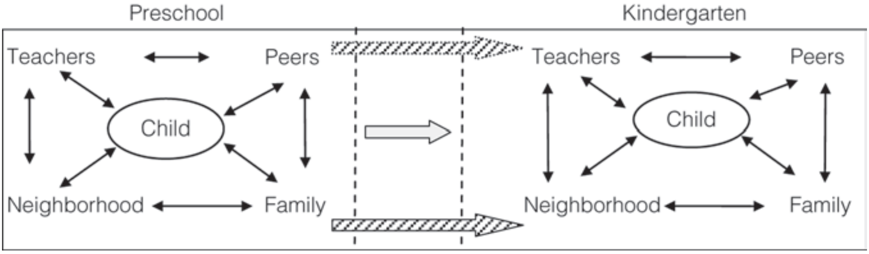


Figure 4.1 The ecological and dynamic model of transition (Rimm-Kaufman & Pianta, 2000).

interactions among transition system components form patterns, create expectations, and ideally grow in quality from their initial encounters. For example, prior to specific planning for the child's kindergarten entry, an important relationship has already developed between the prekindergarten system and the family/child system, and this relationship typically influences transition planning. When parents of young children with disabilities become involved with prekindergarten and kindergarten personnel in planning their child's transition to kindergarten, this new trilateral relationship comes to influence other systems, such as kindergarten teacher/child, kindergarten teacher/parent, kindergarten parent/other kindergarten parent, and kindergarten child/kindergarten child (Eccles & Harold, 1996; Hoover-Dempsey & Sandler, 1997; Smith, Connel, Wright, Sizer, & Norman, 1997). What is important is not only the development of these relationships, but also their characteristics, quality, and quantity. Various factors influence the strength of the developing relationships: for example, the parents' socioeconomic status, their educational and personal resources, the school's collaboration and communication with the family and other service providers, and community and cultural norms (Dogaru, 2008; Pianta & Walsh, 1996).

Thus, the transition to kindergarten is not a single event on a particular day, but rather, it is a process negotiated among the child, the family, the school system, the prekindergarten program(s), the community, and various individuals associated with each of these (Pianta & Cox, 1999; Rosenkoetter, Hains, & Fowler, 1994; Rous & Hallam, 2006). This negotiation is a process that requires time for planning and monitoring, the presence of communication structures to inform participants and promote relationships, preparation rituals to ready the child and family for kindergarten, and shared commitment to nurture the individual child and family. In the EDMT model, the family-child system is the constant. It moves from active participation with the prekindergarten teachers' and therapists' system to relationship building with the kindergarten personnel system. Importantly, the model emphasizes that all participants play significant roles in the nature and outcomes of the child's transition to kindergarten.

The National Early Childhood Transition Center Model

The following conceptual approach was developed by the National Early Childhood Transition Center (NECTC), which is the source of recent transition research related to young children with disabilities. By emphasizing both between-system and within-system dynamics, the NECTC model was proposed to demonstrate specific elements of effective transition and to define the outcomes that should be anticipated from successful transition (Harbin, Rous, Peeler, Schuster, & McCormick, 2007; Rous, Hallam, Harbin, McCormick, & Jung, 2007). Figure 4.2 demonstrates the dynamic context within which early childhood transition occurs, specifying its interactive elements but giving special attention to defining the state and community policies and relationships that are critical to the transition experiences of individual children with disabilities and their families.

Figure 4.3 illustrates the three critical characteristics in an interagency service system that effectively facilitates transition: (1) alignment and continuity, (2) supportive infrastructure, and (3) communication and relationships. This interagency system for transition influences and is influenced by the service policies and practices of local sending (prekindergarten) and receiving (kindergarten) programs, as together they shape the transition's outcomes over time: child preparation for kindergarten and child adjustment to kindergarten as well as family preparation for the transition to kindergarten and family adjustment to the new school. Each of these four areas of activity includes specific desired outcomes that can serve to guide the planning of supports that are provided during the transition process and that lead to the desired long-term outcomes: child success in school, and family engagement and involvement. Each element is affected by and must be responsive to other elements, but child and family remain the focus of the complex system (see Research Brief at http://www.hdi.uky.edu/SF/NECTC/Publications/resbriefs.aspx for additional explanation).

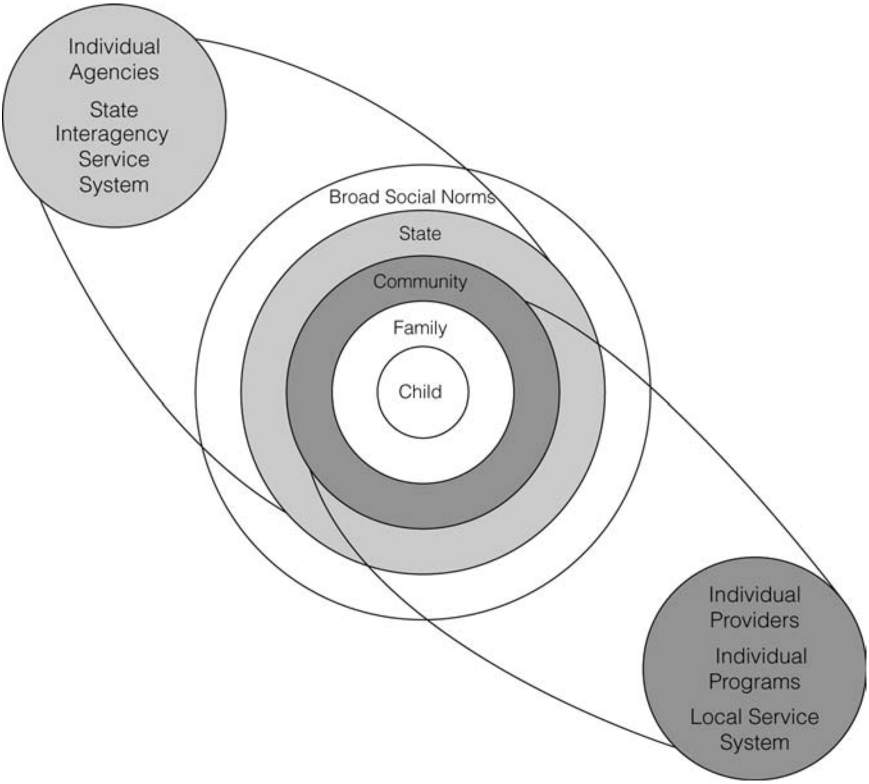


Figure 4.2 Context for transition to kindergarten (Rous, Hallam, Harbin, McCormick, & Jung, 2007).

Similarities across the Two Models

The same supersystems involved in transition to kindergarten are noted in both the EDMT Model and the NECTC Model: the prekindergarten and the kindergarten, with subsystems of family, peers, teacher (s), and the community, all focusing on the child. Both models emphasize the interactions between the supersystems and among the subsystems. Recommended practices for facilitating the transition to kindergarten of children with disabilities address all these factors as well (see Rous, 2008). Research has shown that the desired long-term results of effective transition as noted by the NECTC Model, namely child learning and parent involvement, are both predictors and outcomes for successful education (Love, Logue, Trudeau, & Thayer, 1992; O'Connor & McCartney, 2007; Pianta & Cox, 1999; Pianta &

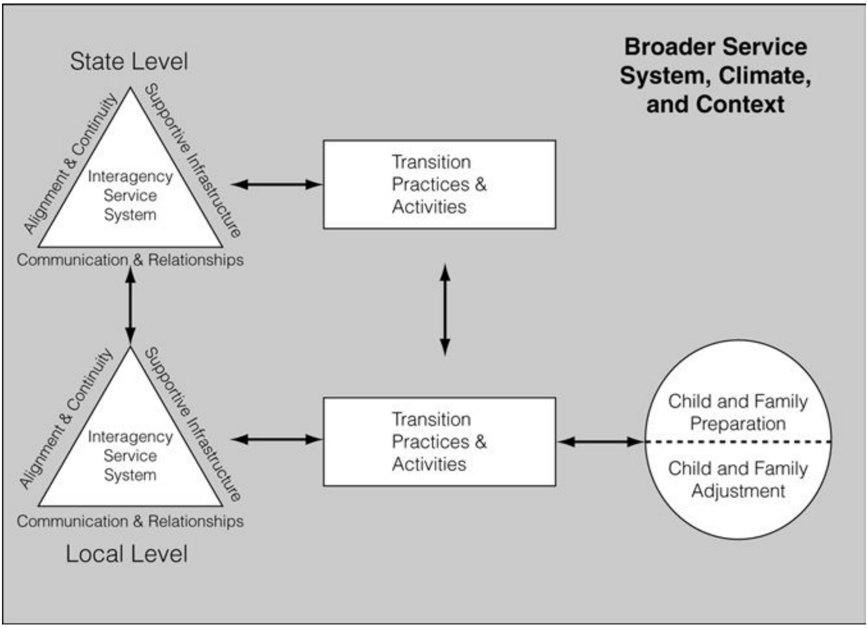


Figure 4.3 NECTC model for interactions in transition to kindergarten (Rous, Hallam, Harbin, McCormick, & Jung, 2007; Harbin, Rous, Peeler, Schuster, & McCormick, 2007).

Kraft-Sayre, 2003; Ramey & Ramey, 1994). The two models can help practitioners and researchers to organize existing research findings, identify gaps in knowledge, and foster coherent thinking about next steps in research and practice.

THE KNOWLEDGE BASE ABOUT SUCCESSFUL TRANSITION TO KINDERGARTEN

A great deal more is known today than 20 years ago about effective transitions for young children with disabilities and their families. Policy, research, and practice related to this issue have advanced in recent years. Most research and recommendations related to the transition of young children with disabilities to kindergarten evolved from numerous and widespread federal and state demonstration projects, technical assistance, and program evaluations in the 1980s and 1990s as well as from the reflections of parents, practitioners, and administrators about contemporary policies (Rosenkoetter, Whaley, Hains, & Pierce, 2001).

Since 1991, specific federal policies have guided the transition of toddlers from early intervention to preschool (Individuals with Disabilities Education Improvement Act of 2004 [IDEA, 2004]). The U.S. Department of Education (USDOE) continues to require policies related to transition at age 3 in each State Performance Plan (SPP). There is no federal legislation prescribing specific practices for the kindergarten transition for young children with disabilities except in Head Start (2003), which does serve more than 100,000 children with disabilities every year. Nevertheless, the federal provisions for children with disabilities leaving early intervention at age 3 have offered a prototype of effective practices for other ages as well, notably for the transition to kindergarten.

There has long been agreement that transition to kindergarten is a process that requires time, planning, written agreements, and commitment from relevant partners (Fowler, 1982; Head Start, 1989; Lazzari, 1991; Pianta & Cox, 1999; Rosenkoetter, Hains, & Fowler, 1994; Rous & Hallam, 2006). Hundreds, perhaps thousands, of advisory articles and state and local guidebooks have been circulated to support and operationalize these concepts (Rosenkoetter et al., 2001). Thousands of communities have grappled with the intent of federal and state policies and have developed local approaches to scaffold their transition efforts with families, yet transition dilemmas raised by the situations of individual children, families, and communities continue to reveal policy and implementation gaps (Harbin, Rous, Gooden, & Shaw, 2008). The continuing challenges appear to reflect the multi-agency, multilevel nature of transition as reflected in the complexity portrayed in the two models presented above.

Further, IDEA (2004) requires the use of a research base to guide all actions intended to support children and youth with disabilities. Section 635(a)(2) of IDEA underscores the need for services (by implication, including transition planning) to be grounded in scientifically based research "to the extent practicable." What, then, does research support regarding transition practices for young children with disabilities and their families?

NECTC Literature Review

A growing body of evidence defines and supports recommended practices. Although reviews of the early childhood transition literature have been included in advisory guides, no comprehensive review of the empirical research across early childhood transition points and populations has appeared in print. Thus, one of the major goals of the National Early Childhood Transition Center (NECTC) was to examine and synthesize existing research related to early childhood transition. NECTC staff searched for transition literature regarding children, both with and without disabilities, or their families. Articles reviewed were published from January 1990 to March 2006 and (1) were research based, (2) had appeared in major refereed journals, and (3) related to the early childhood years, birth to age 8. Since transition strategies for one group might help to inform practice for other groups, the articles concerned typically developing children, those at risk for developmental challenges, and those focusing on children with disabilities and their families. For the methodology, detailed findings, and resulting recommendations from this comprehensive literature search, see Rosenkoetter et al. (2008), which is available on the Internet.

As a result of this process, 50 articles from 29 different journals that met the criteria for inclusion in the review were drawn from 786 nominations. Of these 50 articles, 30 reported findings on the transition to kindergarten, with 19 studying children and 11 focusing on families. Eight of the child-focused studies related to children with disabilities, and four of the family-focused articles reported on families of children with disabilities.

Authors of this literature review noted their surprise at the paucity of empirical research on transition and the very limited number of studies that included more than 50 percent persons of color or second language learners. Two studies specifically addressed issues of children with significant disabilities and/or their families in transition, even though children with significant impairments elicit more concern related to the complexities of transition than do either typically developing children or those with mild impairments (Rosenkoetter & Rosenkoetter, 2001). It was noteworthy that the majority of studies on children with disabilities or their families had been published before 2002.

The authors of the NECTC review had planned to synthesize validated practices related to young children with disabilities in transition and to produce from this review a comprehensive list of validated recommendations for the field. These aims became impossible to achieve based on these past articles alone, because, as the authors noted, the majority of studies were correlational or descriptive rather than experimental in design. Nevertheless, some transition practices had sufficient support across the early childhood years, birth to age 8, to be recommended.

Conclusions from Child-Focused Studies

Based on the transition literature review and using the *Extent of Evidence Categorization Scheme* (What Works Clearinghouse, 2008), several findings were supported by sufficient investigation to receive a rating of moderate/large evidence. Such a rating requires more than one study on the topic, the participation of more than one program or school in the study, and a total sample size of at least 350 children across the studies. Following are findings supported by a moderate/large extent of evidence:

1. High-quality child care and developmentally appropriate preschool and kindergarten classrooms are associated with better academic outcomes, work habits, and social adjustment for children in their next school environments. This was true for children who were developing typically and for low-income, minority, urban children (five studies). Some participants in these studies were enrolled in Head Start, which includes children with disabilities and requires transition preparation activities.
2. Certain ecological factors, including higher socioeconomic status and income level, fewer family risk factors, better quality of neighborhood, and greater parent/school involvement and satisfaction, are associated with children's higher academic achievement and more positive social outcomes through the early elementary grades (three studies, none focused on disability).
3. A positive teacher-child relationship during transition to and in the next environment is associated with better cognitive outcomes for children who are developing typically as well as for those at risk. Such a positive teacher-child relationship also correlated with decreased externalizing behavior and positive social relationships for typically developing children (two studies, neither focused on disability).
4. Preschool and kindergarten teachers and their administrators said that they view social development and social communication skills (for example, expresses wants, takes turns, follows directions) as being more important for school readiness than academic skills (two studies, neither focused on disability).
5. Dissonance between the sending and receiving environments correlates with less successful transitions both for children who are developing typically and for those with developmental delays (two studies, one including children with disabilities).

Teaching children the skills to meet requirements in the next environment (sometimes referred to as "survival skills"; Rule, Feichtl, & Innocenti, 1990) is associated with more successful adjustment and positive outcomes after transition for young children with disabilities, developmental delays, or who are at risk for school failure (six studies, most focused on disabilities).

The NECTC reviewers also noted studies with promising practices related to children in transition. These four findings are strongly suggestive, though they do not meet the moderate/large evidence criteria listed above:

1. Demographic factors may hinder the child's initial adjustment in the next environment; e.g., rural setting, discrepancy between non-minority teachers and minority populations, or the child's initial lack of friends after transition (two studies, neither focused on disability).
2. Use of more transition practices at the beginning of the child's transition year may promote increased parent-initiated school involvement as well as higher academic achievement later in the year, especially for children in low and middle socioeconomic groups (one study, not focused on disability).
3. Providing transition assistance (health and family support services, parent involvement, curricular modifications) for an extended period of time upon entering a school system may prevent children at risk from being diagnosed with a developmental disability in the elementary grades (one study, participants did not have identified disabilities initially).
4. Although adequate preparation for skills needed in the next environment is important, the most crucial factor in a successful transition to an inclusive environment for children with disabilities may be a positive working relationship between the family and the service providers (one study, focused on disability).

Conclusions from Family-Focused Studies

Two findings regarding families in transition were supported in the NECTC review by sufficient evidence to receive a rating of large evidence, using the *Extent of Evidence Categorization Scheme* (What Works Clearinghouse, 2008). A third finding met the first two criteria listed above, but not the third; that is, the total number of subjects in its seven supporting studies was 278, not 350 as predetermined for inclusion.

1. Transition is a complex process, not a static event. It is based on relationships. Positive relationships and transition support activities can ease the stress of transition for families (12 studies, most dealing with families of children with disabilities).
2. Parental sense of self-efficacy is associated with greater school-related parent involvement and improved academic outcomes for children (three studies, none focused on disability).
3. Needs of families must be met before families will be able to help their children with disabilities transition between programs or systems (seven studies, all including families of children with disabilities).

Thirteen studies reported families' agreement about the usefulness of transition support practices though these recommendations were not directly tested. The following practices were recommended by family members:

1. Provide families with options for future placements (five studies, all with families of children with disabilities).
2. Share information with families about their children's next environment, and give them ways to obtain answers to their questions about the new program (eight studies, including seven with families of children with disabilities).
3. Talk with families about accommodations and coping with expectations to help them reduce stress about their children's readiness for the next environment (four studies, including three with families of children with disabilities).
4. Provide transition planning and support tailored to meet the child's and family's needs (two studies, both with families of children with disabilities).
5. Work with interagency agreements and follow up to ensure a timely transfer of records, information about the child's special needs, and accommodations that will be necessary in the new environment (one study).
6. Provide families with contact information for individuals who can assist them with information and problem solving. Provide information in multiple formats and with redundancy to enable

them to assimilate the mass of complicated information (three studies, all with families of children with disabilities).

7. Involve families in all decisions regarding their children's future, including scheduling meetings at times and places that enable families to attend (three studies, all with families of children with disabilities).
8. Prepare the family to advocate for their child during transition and thereafter (two studies, both with families of children with disabilities).
9. Invite families to visit possible future environments and/or meet with the teacher (six studies, five with parents of children with disabilities).
10. Locate and refer families to community services that might supplement the program offered by special education (one study, with families of children with disabilities).
11. Include family participation on agency and interagency transition planning teams that develop the process and procedures (one study, with families of children with disabilities).
12. Link families of children with disabilities together through parent-to-parent activities and one-to-one mentoring (two studies, both with children with disabilities).
13. Provide follow-up support from the prekindergarten staff after the child has entered kindergarten via telephone calls, parent meetings, and additional information as requested (one study, with families of children with disabilities).

Conclusions from the NECTC Literature Search

According to the NECTC review (Rosenkoetter et al., 2008), while the focus on young children and their families in transition has been explored for at least 30 years, the current empirical research base for the transition of young children with disabilities is restricted in scope, focus, size, and rigor, and the results are fragmented. Further, studies of young children with disabilities and their families in transition have seldom been conducted in accord with conceptual models such as the ones presented here, lines of inquiry have been less than systematic, and specific transition practices have seldom been empirically linked to specific outcomes for children or families. The findings that were noted lend empirical support to the recommendations that the authors have observed in countless demonstration projects and technical assistance projects (Rosenkoetter, Whaley, Hains, & Pierce, 2001) and that have been widely publicized for 25 years, but additional investigation is needed to address the limitations cited.

NECTC National Validation Study

In much of the discussion about evidence-based practice, there has been agreement that both the scholarship of professionals and the experience of family members and service providers have relevance to key decisions about intervention (Buysse & Wesley, 2006). Honoring this principle, Rous (2008) set out to identify and validate a set of transition practices.

Twenty-one transition practices were identified from three studies (Rous, McCormick, & Hallam, 2006; Rous, Myers, & Stricklin, 2007; Rous, Schroeder, Stricklin, Hains, & Cox, 2008). A national survey was conducted with 419 early childhood and early childhood special education professionals to validate key practices that support the transition process as children leave early intervention and enter preschool and as they leave preschool and enter kindergarten. Of the 21 transition practices identified, all were validated by at least 75 percent of the respondents, while 20 were validated by 90 percent or more of the respondents (see Table 4.1). More information on the methods and findings of this study are available as Technical Report #3 at http://www.hdi.uky.edu/SF/NECTC/Publications/papers.aspx.

Table 4.1 Transition Practices Validated by NECTC

Interagency Service System (all approved by at least 90% of respondents)

1. A primary contact person for transition is identified within each program or agency.
2. Community- and program-wide transition activities and timelines are identified.
3. Referral processes and timelines are clearly specified.
4. Enrollment processes and timelines are clearly specified.
5. Program eligibility processes and timelines are clearly delineated.
6. Agencies develop formal mechanisms to minimize disruptions in services before, during, and after the transition of the child and family.
7. Staff and family members are actively involved in design of transition processes and systems.

(*Continued*)

Table 4.1 (Continued)

8. Staff roles and responsibilities for transition activities are clearly delineated.
9. Conscious and transparent connections are made between curricula and child expectations across programs/environments.
10. Methods are in place to support staff-to-staff communication within and across programs.
11. Families meaningfully participate as partners with staff in program- and community-wide transition efforts.

Child and Family Preparation and Adjustment (All except #2 were approved by at least 90% of respondents; it was approved by 75% of respondents)

1. Individual child and family transition meetings are conducted.
2. Staff follow up on children after the transition to support their adjustment.
3. Transition team members share appropriate information about each child making a transition.
4. Transition plans are developed that include individual activities for each child and family.
5. Staff know key information about a broad array of agencies and services available within the community.
6. Children have opportunities to develop and practice skills they need to be successful in the next environment.
7. Families are aware of the importance of transition planning and have information they need to actively participate in transition planning.
8. Families' needs related to transition are assessed and addressed.
9. Families have information about and are linked with resources and services to help them meet their specific child and family needs.
10. Families actively participate in gathering information about their child's growth and development.

Source: Rous (2008).

Findings from this multilevel approach provide empirical support for many of the guidelines that have been circulating for 25 years, and they validate the observations of parents, teachers, and administrators engaged in those practices. What continues to be lacking is linkage of the practices to specific outcomes of the transition process.

NECTC Critical Incident Study

Critical Incident Technique is a research strategy used to gather and analyze information from key informants about a significant experience in their lives (Flanagan, 1954). Transition from early intervention at age 3 or from preschool to kindergarten is such an experience for families and service providers of young children with disabilities (Rosenkoetter & Rosenkoetter, 2001). As reported by Dogaru, Rosenkoetter, and Rous (2009), NECTC sought comments nationwide from key informants representing these groups. Thirty-seven usable stories were recounted by parents of children with disabilities along with 28 by service providers.

Quotations from the respondents were found to address four themes: transition processes, evaluation of transition, transition outcomes, and family experiences in transition. Responses identified effective and ineffective practices, linked practices to child and family outcomes, and offered examples of salient events in transition. The study made clear that respectful communication, collaborative behaviors, timely actions, and family empowerment were judged to facilitate successful transition to a new environment by children with disabilities and their families.

Transition Research in Progress

Research on transition to kindergarten for children with disabilities and their families was declining in frequency prior to the USDOE's funding of the National Early Childhood Transition Center. It is anticipated that the release of findings from the Center's 18 studies will stimulate additional work by others. NECTC studies underway, in addition to those reported above, focus on young children with disabilities and include investigations of the kindergarten transition. Significant among them is a longitudinal, five-state study of 225 children at exit from early intervention, and 339 children at exit from preschool and their families, service providers/teachers, classrooms, programs, and states. Data are still under analysis, but the findings will help to answer these questions:

1. What are the characteristics of the transition process for children and families as they exit early intervention and preschool programs?
2. How do providers support the transition process for children and families as they exit from early intervention and preschool programs?
3. What are the characteristics of the transition process for children and families as they enter preschool and kindergarten programs?

4. How do preschool providers and providers support the transition process for children and families as they enter preschool and kindergarten programs?

The series of NECTC studies addresses both the contextual elements of the EDMT and NECTC models and the individual child and family elements. The findings also provide more clues, though not a full accounting of the relationships between transition practices and transition outcomes. Results will be aligned with the NECTC model, and the model itself may be modified pending the results of these investigations. Other NECTC research (see Harbin, Rous, Gooden, & Shaw, 2008) is exploring the state and community elements of transition to learn how structures, policies, recommended procedures and timelines, technical assistance, and resources link to transition outcomes. Those results will be forthcoming.

KEY PRINCIPLES FOR PRACTITIONERS

A successful transition "is influenced by the skills and behaviors the child exhibits during transition and the match between child skills and behaviors and the expectations and requirements of the receiving program" (Bruder & Chandler, 1996, p. 298). This comment sounds very much like the third definition of *school readiness* offered earlier in the chapter. Social, emotional, and academic adjustment to the new school's mores over a period of weeks is what makes the transition a successful or unsuccessful one for any child (Pianta & Kraft-Sayre, 1999), and the child's adjustment also determines how observers will ultimately evaluate the child's readiness for school. Though multiple systems certainly are instrumental in achieving a positive outcome, the focus of the transition to kindergarten continues to be at the child level.

Implications for Children

Although experiences vary by locale, by school, and even by teacher, most children will feel striking differences between prekindergarten and kindergarten. As noted above, the required adjustments may be greater for children with disabilities than for those without identified challenges (Carta & Atwater, 1990). Authors have defined these differences in three categories (Fowler et al., 1991; O'Brien, 1991; Rosenkoetter, 1995; Rosenkoetter, Hains, & Fowler, 1994; Rous & Hallam, 2006; Vail & Scott, 1994):

- *The environment:* This includes physical setting, building size and layout, classroom dimensions and arrangements, classroom equipment, adult/child ratio, length of sessions, daily schedule, and transportation plans; for example, most kindergarten classes are larger than prekindergarten classes, and many have only one teacher, unlike most prekindergarten classes.
- *Curriculum, expectations, and evaluations:* In kindergarten, the curriculum is typically more academic and structured, the materials more standardized, and the expectations more group oriented, evaluative, and regularly assessed than in prekindergarten.
- *Interactions and relationships with peers and teachers:* The role of the kindergarten teacher typically is to initiate activities, talk to the children frequently in a group, direct children's behavior, encourage their compliance, and organize activities for children, whereas in prekindergarten, activities are more likely to be child-directed for a significant portion of time once the teaching team has arranged the environment and provided choices of activities.

Interventions that are implemented to aid children in transition will promote self-care (Rule et al., 1990), membership in a group (Carta & Atwater, 1990), making friends (Peters, 2003), attention to task (McWilliam, Scarborough, & Kim, 2003), direction-following including introduction to the meaning of vocabulary used in schools (Rosenkoetter, 2001), and self-regulation (McClelland, Morrison, & Holmes, 2000). Interventions may reduce stress by visits prior to the beginning of the school year (Delisio, 2007), introduction to the classroom in small groups (Rosenkoetter, 2001), and direct teaching of the skills needed for kindergarten learning (Kemp & Carter, 2000; Rule et al., 1990: Sainato & Carta, 1992). These types of interventions focus on a within-the-child concept of school readiness.

However, in keeping with the Ready Schools notion of school readiness, school personnel also need to welcome the child who actually enters school and help the child feel welcome in what may feel like a very strange environment. Kindergarten personnel can support the child by learning about the child's special interests and needs, talking to prekindergarten personnel about effective intervention techniques, preparing in advance for accommodations noted in the Individualized

Education Program (IEP), mastering health and behavioral management techniques that may be needed, welcoming the parents, and planning ahead to aid the child's social integration (Rosenkoetter, Hains, & Fowler, 1994; SERVE, 1998; Wolery, 1999). Building a relationship of trust between the child and the teacher has been shown to affect eventual child achievement (O'Connor & McCartney, 2007).

Home visits have often been recommended by transition experts to allow kindergarten teachers to meet children and their families in their homes, hear their personal stories, answer questions, and build rapport. Schulting (2009a, 2009b) and Schulting and Dodge (2010) conducted a randomized, controlled trial of home visiting with 44 kindergarten teachers and approximately 928 families, including 81 percent minority and 28 percent non-English-speaking families. Interpretation was provided as needed. Home visits during the first five weeks of kindergarten led to statistically significant differences in child outcomes, teacher attitudes and beliefs, and parent involvement and communication over results obtained with teachers who did not conduct home visits. Effects were greatest for children from non-English-speaking homes. All participating kindergarten teachers said that they would conduct home visits every year if resources were available to enable them to occur. Nevertheless, only 4 percent of schools were found to conduct kindergarten home visits (Schulting, Malone, & Dodge, 2005), and the majority of teachers say that in their settings home visits are not practical (Pianta, Cox, Taylor, & Early, 1999).

Each of the transition practices to foster child and family adjustment that was validated by NECTC (see Table 4.1) supports the evidence-based approaches noted in the literature review as helping the kindergarten be ready for the child with disability that enrolls.

Implications for Families

The changes that families experience between prekindergarten and kindergarten may be significant. According to the findings of a study by Rimm-Kaufman and Pianta (1999), teacher-family contact occurs more frequently, is more informal, and is more positively oriented in prekindergarten than in kindergarten. The family-school relationship typically becomes more formal and less intense, as the new kindergarten setting usually offers fewer opportunities for parents to interact with school personnel.

In transition, parents of children with disabilities need to adjust to new schedules and routines for special education, attend IEP conferences with unfamiliar people in new places, and locate and access different technologies and services (Fowler et al., 1991). According to Harry (2002), Rosenkoetter and Rosenkoetter (2001), and Wolery (1999), the families of children with disabilities may face additional stressors, such as worrying how their children with disabilities will communicate their needs, how the children will fit into the new school environment, and how the unfamiliar teachers will treat their children. Some families show concern about discrimination and rejection of their children, the location and duration of their children's school day, the disability label to be applied perhaps for the first time, or the characteristics of school-provided transportation. Obviously, anything that the school can do to reduce these concerns will assist parents in supporting their children's kindergarten entry. Kemp (2003) noted how much the parents of children with disabilities whom she studied appreciated the supports provided to them by kindergarten personnel.

Pianta and Kraft-Sayre (1999) found that the criteria employed by parents of entering kindergartners for successful transition to kindergarten included (1) positive psychological responses by the child, (2) the development of parents' ongoing relationships with the school, (3) the impact of the prekindergarten on the child's adjustment to kindergarten, (4) families' effective communication with the school, (5) effective transition planning and transition activities, and (6) teacher and curriculum quality. For children with disabilities, Rosenkoetter and Rosenkoetter (2001) found parental concerns about transition were correlated with children's specific behavioral and emotional problems, such as concern that school expectations might be too high for children with limited cognition or worry about insufficient communication of needs for children with minimal language. Other specific concerns of parents for their children with disabilities were related to the child's riding a school bus, being safe on the playground, participating appropriately in large group activities, complying with rules and routines of the classroom, and following directions. Parental concerns increased with the severity of the child's disability, especially in the areas of self-care, ability to communicate the child's needs, and receipt of adequate services.

For all families, the transition to kindergarten has been found to be more successful when the parents become involved in their children's education as well as when they have higher self-esteem, increased confidence in the school and in themselves as parents, heightened expectations for their children, and greater social support (Henderson & Berla, 1994). According to these research findings, the transition to kindergarten is more successful when parents are empowered to work with their children's learning and to participate at school as well as when they become more skilled in the four parental roles that promote their children's success in school: teacher, supporter, advocate, and decision maker. The list of transition practices to foster child and family adjustment that was validated by NECTC (see Table 4.1) support the approaches emphasized from the literature review to help the kindergarten be ready for the family of the child with disability.

Implications for Service Providers

Obviously, individual child and family characteristics influence the nature of the transition to kindergarten (Kemp, 2003), but, notably, its success depends on comprehensive collaboration, ongoing cooperation, and timely and respectful communication among the parties involved (Athanasiou, 2006; Bruder & Chandler, 1996; Fowler et al., 1991; Mangione & Speth, 1998). Clearly, the delivery of such coordinated transition services by personnel from multiple systems requires transition planning (Rosenkoetter, Hains, & Fowler, 1994; Rous & Hallam, 2006; Wolery, 1999). The purposes of this planning by representatives of the multiple systems are, in the words of the NECTC model, (1) alignment and continuity, (2) supportive infrastructure, and (3) communication and relationships. The transition practices to foster child and family adjustment that were validated by NECTC (see Table 4.1) provide empirical support to guide service providers' actions.

Transition: Why Is It So Difficult?

Federal, state, and local agencies and numerous individuals have worked since at least the 1970s to ease early childhood transitions. Countless families have expended considerable efforts in trying to make transition "work" for their children. Most participants approach transition with good will, good intentions, and the commitment of time and energy. In the majority of cases, children adjust and learn, and families participate in the transition and advocate for their children, but enough difficulties remain that thoughtful observers continue to seek to understand and alleviate the challenges.

As described above in the discussion of models, transition to kindergarten represents a supra-system made up of component systems, which, in turn, contain subsystems. These various participants in the process represent different interests, hold different powers in decision making, and experience diverse events related to one child's entry into kindergarten. Personnel and their agencies view the transition from different vantage points. Using the concepts of Bolman and Deal (2008), we see four frames or lenses (and combinations of them) through which various transition participants may view transition:

- *The structural frame:* This lens is exemplified by flow charts, timelines, organization charts, memoranda of understanding, precedents, laws, and regulations. These elements are the important and necessary tools of the midlevel planners who understand early childhood practice and grasp the big picture of the transition process for groups of children, more consistently, perhaps, than they see the individual characteristics of day-to-day transition participants. These leaders may also be challenged to communicate with spokespersons from supra-systems, who may not understand the philosophy and issues of work with young children.
- *The human resources frame:* This viewpoint is exemplified by relationship building, degrees of respect, personality matching, trust, and satisfaction of needs. These transition elements are the priorities of transition participants such as family members and direct service providers who focus attention on the needs, preferences, and talents of individual children and their families.
- *The political frame:* This viewpoint is exemplified by policy, power, budgets, negotiation, scarce resources, and leverage. These elements are critical in delivering services. They are the special province of administrators, who typically assess their own clout and that of their agency in collaborative endeavors and then use the resources that they have available to move transition decisions forward.
- *The symbolic frame*: This lens is exemplified by concepts such as milestone, beginning of school career, family partnership, collaborative decision making, and moving forward together. Truly, transition to kindergarten is a big step for everyone involved. It symbolizes the commitment of the school to the child and family, of the child to a lifetime of learning, and of the family to support their child in an important new experience. Some symbols are discussed in transition interactions, but others are not because they may be below the level of awareness of most transition participants.

Each of these four frames, plus their accompanying responsibilities and tasks, has an important role to play in transition planning. To make transition work, participants must understand their own frames as well as those of the other participants, and they must develop ways to satisfy the needs of participants with different points of view and varying constraints. At the same time, they must focus on easing the transition to kindergarten for the child with a disability and the child's family. Nearly every participant has blind spots related to the transition process as well as competing pressures for time and attention. Unfortunately, as the transition-planning process moves forward, personnel may change, resulting in the need for transition planners to revisit familiar ground, listen, learn, and negotiate procedures and decisions yet again. Written memoranda of understanding can help to alleviate blind spots and gaps in responsibility (Fink, Borgia, & Fowler, 1993). Shared purpose, frequently articulated, is the avenue for progress in transition planning.

Bruder and Chandler (1996) stated that transition efforts should be comprehensive and should address multiple components, including formal planning, implementation, and follow-up. Yet many communities appear to have limited plans in place, or plans that have not been reaffirmed with the current transition leaders. Revisiting the Bolman and Deal (2008) framework along with one of the models presented above may help community planners to move forward to achieve consistently positive outcomes for children and families.

FUTURE DIRECTIONS FOR TRANSITION RESEARCH

The most striking finding from the review conducted by NECTC on child and family issues at transition was the paucity of data-based, peer-reviewed studies. Further, most existing studies related to disability were descriptive in nature. NECTC and others (e.g., Connelly, 2007) are enhancing the research base. A key recommendation for the research community is to fund and conduct more research, especially studies that test strategies to facilitate transition to kindergarten and those that link the use of particular transition practices for children with disabilities and/or their family members with meaningful outcomes that have been shown to have long-term impact. The first step, validation of promoted transition practices, has now been accomplished by several studies. Work has begun on correlations between initial contextual and child-readiness characteristics and subsequent child adjustment to and performance in school (e.g., Greenberg, Lengua, Coie, & Pinderhughes, 1999; Miller et al., 2003; Mistry, Biesanz, Taylor, Burchinal, & Cox, 2004; Silver, Measelle, Armstrong, & Essex, 2004) as well as on correlations between various transition characteristics and subsequent child performance and family engagement (Schulting, Malone, & Dodge, 2005). It remains for research to demonstrate more clearly the long-term behavioral impact of transition practices on child and family outcomes. Causality and its mechanisms are the missing demonstrations that will challenge the next generation of transition researchers.

Critical to achieving a worthy research agenda for the next decade is for researchers to build their inquiry on a conceptual framework such as that proposed by NECTC, a model that incorporates contexts, dynamic elements hypothesized or demonstrated to be critical for positive change, practices and strategies proposed for intervention, and child and family outcomes, both short term and long term. Launching inquiries from a conceptual framework will foster clarity in thinking. It will help to identify which notions already possess clear evidence, highlight gaps in knowledge, promote the study of pivotal interactions, and help scholars to focus on key questions. Use of a conceptual framework will promote the replication of existing research with various populations, including those that have been inadequately studied to date. Populations where transition research has only recently begun and that present challenging issues for practice include children and families from underrepresented racial, ethnic, and cultural groups; individuals whose first language is not standard English; children with significant disabilities; and family members who themselves evidence disability.

Other obvious questions involve empirical evidence for discrete transition practices, the relative importance of various practices, a cost-benefit analysis of specific approaches, and the identification of focal children and families who can most benefit from particular practices. For example, it became obvious during interviews connected with the NECTC longitudinal study that a child with a communication disability would likely need different accommodations and different family support during transition to kindergarten than a child with severe cerebral palsy or a major medical condition. Similarly, a family new to the special education system, the health care system, or the community's social service system, or one suddenly aware of the need for family advocacy, might require different kinds of transition support than a family that has been involved in all of the above since their child's infancy. Rosenkoetter and Rosenkoetter (2001) found that parents whose oldest or only child was entering kindergarten had many more questions and concerns than those who had successfully navigated this same transition with older children. Sontag and Schacht (1994) found different information needs among parents of various ethnicities in early intervention. Use of a conceptual framework will likely increase the number, quality, and precision of research questions that extend the evidence for specific transition practices.

Finally, more research findings on transition for young children with disability are now becoming available. Its findings need to be conveyed in formats that can be easily digested and applied by parents and professionals who are not experts in this area. Family members, physicians, social workers, educators, psychologists, administrators, and therapists of various types need concise, clear, specific guidance as to how to ease transition to kindergarten for young children with disabilities and their families. Limited national and state efforts are underway to make such guidance accessible. Further efforts along these lines should be encouraged, with awareness of the various frames that consumers of information bring to their understanding of transition.

REFERENCES

Athanasiou, M. S. (2006). It takes a village: Children's transition to kindergarten. *School Psychology Quarterly, 21*(4), 468–473.

Bolman, L. G., & Deal, T. E. (2008). *Reframing organizations: Artistry, choice, and leadership*. San Francisco: Jossey-Bass.

Bruder, M. B., & Chandler, L. (1996). Transition. In S. L. Odom & M. E. McLean (Eds.), *Early intervention/early childhood special education: Recommended practices* (pp. 287–307). Austin, TX: PRO-ED.

Buysse, V., & Wesley, P. W. (2006). *Evidence-based practice in the early childhood field*. Washington, DC: Zero to Three Press.

Carta, J. J., & Atwater, J. B. (1990). Applications of ecobehavioral analysis to the study of transitions across early education settings. *Education and Treatment of Children, 13*, 4298–4315.

Connelly, A. M. (2007). Transitions of families from early intervention to preschool intervention for children with disabilities. *Young Exceptional Children, 10*(3), 10–16.

Delisio, E. R. (2007). Rounding up pre-k kids. *Education World*. Retrieved from http://www.education-world.com/a_admin/admin/admin359.shtml

Deming, D., & Dynarski, S. (2008). The lengthening of childhood. *Journal of Economic Perspectives, 22*(3), 71–92.

Dogaru, C. M. (2008). *Applying theories of capital to understand parent involvement at school as a component of family-school interaction: The special case of children with special needs* (doctoral dissertation submitted to Oregon State University).

Dogaru, C., Rosenkoetter, S., & Rous, B. (2009). *A critical incident study of the transition experience for young children with disabilities: Recounts by parents and professionals: Technical Report #6*. Lexington: University of Kentucky, Human Development Institute. National Early Childhood Transition Center. Available at http://www.hdi.uky.edu/SF/NECTC/Publications/papers.aspx

Eccles, J. S., & Harold, R. D. (1996). Family involvement in children's and adolescents' schooling. In A. Booth & F. Dunn (Eds.), *Family-school links. How do they affect educational outcomes?* (pp. 3–34). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Education Week. (2004, September 21). English-language learners. Retrieved from http://www.edweek.org/rc/issues/english-language-learners

Fink, D., Borgia, E., & Fowler, S. A. (Ed.). (1993). *Interagency agreements: Improving the transition process for young children with special needs and their families*. Champaign-Urbana: University of Illinois, FACTS/LRE.

Flanagan, J. C. (1954). The Critical incident technique. *Psychological Bulletin, 51*(4), 327–358.

Ford, D. H., & Lerner, R. M. (1992). *Developmental systems theory: An integrative approach*. Thousand Oaks, CA: Sage Publications.

Fowler, S. A. (1982). Transition from preschool to kindergarten for children with special needs. In K. E. Allen and E. M. Goetz (Eds.) *Early childhood education: Special problems, special solutions* (pp. 229–242). Rockville, MD: Aspen.

Fowler, S. A., Schwartz, I., & Atwater, J. (1991). Perspectives on the transition from preschool to kindergarten for children with disabilities and their families. *Exceptional Children, 58*(2), 136–145.

Frey, N. (2005). Retention, social promotion, and academic redshirting: What do we know? *Remedial and Special Education, 26*, 332–346.

Graue, M. E. (1993). *Ready for what? Constructing meanings of readiness for kindergarten*. Albany: State University of New York Press.

Gredler, G. (2006). Transition classes: A viable alternative for the at-risk child. *Psychology in the Schools, 21*(4), 463–470.

Greenberg, M. T., Lengua, L. J., Coie, J. D., & Pinderhughes, E. E. (1999). Predicting developmental outcomes at school entry using a multiple-risk model: Four American communities. *Developmental Psychology, 35*, 403–417.

Harbin, G., Rous, B., Gooden, C., & Shaw, J. (2008). *State infrastructures to support young children with disabilities: Technical report* #4. Lexington: University of Kentucky, Human Development Institute. Available at http://www.hdi.uky.edu/SF/NECTC/Publications/papers.aspx

Harbin, G., Rous, B., & McLean, M. (2004). *Issues in designing state accountability systems*. Chapel Hill, NC: Frank Porter Graham Child Development Center.

Harbin, G., Rous, B., Peeler, N., Schuster, J., & McCormick, K. (December, 2007). *Desired family outcomes of the early childhood transition process: Research brief*. Lexington: University of Kentucky, Human Development Institute. Retrieved from http://www.hdi.uky.edu/SF/NECTC/Publications/resbriefs.aspx

Harry, B. (2002). Trends and issues in serving culturally diverse families of children with disabilities. *Journal of Special Education, 36*, 131–138.

Head Start Act of 2003. U.S. Code, 42USC 9801. Public Law 105-285, Section 641A. Title 45, Chapter XIII, Part. 1304.

Head Start Bureau. (1989). *Transition*. Washington, DC: Administration for Children, Youth, and Families.

Head Start Child Outcomes Framework. (n.d.) Retrieved from http://www.hsnrc.org/CDI/pdfs/UGCOF.pdf

Hebbeler, K., & Barton, L. (2007). The need for data on child and family outcomes at the Federal and State levels. *Young Exceptional Children Monograph Series, 9*, 1–15.

Hebbeler, K., Barton, L. R., & Mallik, S. (2008). Assessment and accountability for programs serving young children with disabilities. *Exceptionality, 16*(1), 48–63.

Henderson, A. T., & Berla, N. (1994). *A new generation of evidence: The family is critical to student achievement*. Washington, DC: Center of Law and Education.

Hoover-Dempsey, K. V., & Sandler, H. M. (1997). Parental involvement in children's education: why does it make a difference? *Teachers College Record, 97*(2), 310–332.

Ilg, F., Ames, L., Haines, J., & Gillespie, C. (1978). *School readiness: Behavior tests used at the Gesell Institute*. New York: Harper & Row.

Individuals with Disabilities Education Improvement Act of 2004. Public Law, No. 1 108-466 & 632, 118 State. 2744.

Kagan, S. L., Moore, E., & Bredekamp, S. (Eds.). (1995). *Reconsidering children's early development and learning: Toward shared beliefs and vocabulary.* Washington, DC: National Education Goals Panel.

Katims, D. S., & Pierce, P. L. (1995). Literary-rich environments and the transition of young children with special needs. *Topics in Early Childhood Special Education, 15*(2), 219–234.

Kemp, C. (2003). Investigating the transition of young children with intellectual disabilities to mainstream classes: An Australian perspective. *International Journal of Disability, Development, and Education, 50*, 403–433.

Kemp, C., & Carter, M. (2000). Demonstration of classroom survival skills in kindergarten: A five-year transition study of children with intellectual disabilities. *Educational Psychology, 20*(4), 393–411.

Ladd, G. (2006). Peer rejections, aggressive or withdrawn behavior, and psychological maladjustment from ages 5 to 12: An examination of four predictive models. *Child Development*.

Lazzari. A. M. (1991). *The transition sourcebook: A practical guide for early intervention programs*. Tucson, AZ: Communication Skill Builders.

Love, J. M., Logue, M. E., Trudeau, J. V., & Thayer, K. (1992). *Transitions to kindergarten in American schools*. Hampton, NH: RCM Research Corporation.

Mangione, P. L., & Speth, T. (1998). The transition to elementary school: A framework for creating early childhood continuity through home, school, and community partnership. *Elementary School Journal, 98*(4), 381–397.

Mantzicopoulos, P. (2003). Academic and school adjustment outcomes following placement in a developmental first-grade program. *Journal of Educational Research, 97*(2), 90–105.

McClelland, M. M., Morrison, F. J., & Holmes, D. L. (2000). Children at-risk for early academic problems: The role of learning-related social skills. *Early Childhood Research Quarterly, 15*, 307–329.

McWilliam, R. A., Scarborough, A. A., & Kim, H. (2003). Adult interactions and child engagement. *Early Education and Development, 14*, 7–27.

Miller, A., Gouley, K. K., Shields, A., Dickstein, S., Seifer, R., Dodge-Magee, K., et al. (2003). Brief functional screening for transition difficulties prior to enrollment predicts socio-emotional competence and school adjustment in Head Start preschoolers. *Early Child Development and Care, 173*, 681–698.

Mistry, R. S., Biesanz, J. C., Taylor, L. C., Burchinal, M., & Cox, M. J. (2004). Family income and its relation to preschool children's adjustment for families in the NICHD study of early child care. *Developmental Psychology, 40*, 727–745.

National Association for the Education of Young Children. (1990).NAEYC position statement on school readiness. *Young Children, 46*(1), 21–23.

National Association for the Education of Young Children. (1995). *School readiness: A position statement of the NAEYC*. Retrieved from http://www.naeyc.org/positionstatements

National Center for Education Statistics. (2009). *Characteristics of children in early childhood programs: Fast facts*. Washington, DC: U.S. Department of Education. Retrieved from http://nces.ed.gov/fastfacts

National Early Childhood Accountability Task Force, T. Schultz, & S. L. Kagan (Eds). (2007). *Taking stock: Assessing and improving early childhood learning and program quality*. Washington, DC: Pew Charitable Trusts.

National Education Goals Panel, Goal 1: Ready Schools Resource Group (R. Shore, Ed.). (1998). *Ready schools*. Washington, DC: Author. Retrieved from http://govinfo.library.unt.edu/negp/reports/readysch

National Education Goals Panel, Goal 1: Technical Planning Group (S. L. Kagan, E. Moore, & S. Bredekamp, Eds.) (1995). *Reconsidering children's early development and learning: Toward common views and vocabulary*. Washington, DC: Author.

No Child Left Behind Act of 2001. Public Law 107-87, Statutue 1425, enacted January 8, 2002.

O'Brien, M. (1991). *Promoting successful transition into school: A review of current intervention practices*. Lawrence: Kansas Early Childhood Research Institute.

O'Connor, E., & McCartney, K. (2007). Examining teacher-child relationships and achievement as part of an ecological model of development. *American Educational Research Journal, 44*(2), 340–369.

Peters, S. (2003). "I didn't expect that I would get tons of friends . . . more each day": Children's experiences of friendship during the transition to school. *Early Years: An International Journal of Research and Development, 23*, 45–53.

Pianta, R. C., & Cox, M. J. (1999). *The transition to kindergarten*. Baltimore: Paul H. Brookes.

Pianta, R. C., Cox, M. J., Taylor, L., & Early, D. (1999). Kindergarten teachers' practices related to transition to school: Results of a national survey. *The Elementary School Journal, 100*(1), 71–86.

Pianta, R. C., & Kraft-Sayre, M. (1999). Parents' observations about their children's transitions to kindergarten. *Young Children, 54*, 47–52.

Pianta, R. C., & Kraft-Sayre, M. (2003). *Successful kindergarten transition: Your guide to connecting children, families, and schools*. Baltimore: Paul H. Brookes.

Pianta, R. C., & Walsh, D. J. (1996). *High risk children in the schools: Creating sustaining relationships*. New York: Routledge.

Ramey, S. L., & Ramey, C. T. (1994). The transition to school: Why the first few years matter for a lifetime. *Phi Delta Kappan, 76*, 3194–3198.

Ramey, C. T., & Ramey, S. L. (1998). Commentary: The transition to school: Opportunities for children, families, educators and communities. *Elementary School Journal, 98*(4), 293–295.

Rimm-Kaufman, S. E., & Pianta, R. C. (1999). Patterns of family-school contact in preschool and kindergarten. *School Psychology Review, 28*(3), 426–438.

Rimm-Kaufman, S. E., & Pianta, R. C. (2000). An ecological perspective on the transition to kindergarten: A theoretical framework to guide transition. *Journal of Applied Developmental Psychology, 21*(5), 491–511.

Rist, R. (1970). Student social class and teacher expectations: The self-fulfilling prophecy in ghetto education. *Harvard Educational Review, 40*(3), 411–451.

Rosenkoetter, S. E. (Ed.). (1995). *It's a big step*. Topeka, KS: Bridging Early Services Transition Taskforce.

Rosenkoetter, S. E. (2001). Lessons for preschool language socialization from the vantage point of the first day of kindergarten. *Early Education and Development, 12*(3), 325–342.

Rosenkoetter, S. E., Hains, A. H., & Fowler, S. A. (1994). *Bridging early services for children with special needs and their families: A practical guide for transition planning*. Baltimore: Paul H. Brookes.

Rosenkoetter, S. E., & Rosenkoetter, L. I. (2001). Starting school: Parents' perceptions regarding their typically developing children and those with disabilities. *Dialog: The Research Journal of the National Head Start Association, 4*(2), 223–245.

Rosenkoetter, S, Schroeder, C., Hains, A., Rous, B., & Shaw, J. (2008). *A review of research in early childhood transition: Child and family studies: Technical report #5*. Lexington: University of Kentucky, Human Development Institute, National Early Childhood Transition Center. Available at http://www.hdi.uky.edu/SF/NECTC/Publications/papers.aspx

Rosenkoetter, S. E., Whaley, K. T., Hains, A. T., & Pierce, L. (2001). The evolution of transition policy for young children with special needs and their families: Past, present, and future. *Topics in Early Childhood Special Education, 21*(1), 3–15.

Rous, B. (2008). *Recommended transition practices for young children and families: National validation survey: Technical Report #3*. Lexington: University of Kentucky, Human Development Institute. National Early Childhood Transition Center. Available at http://www.hdi.uky.edu/SF/NECTC/Publications/papers.aspx

Rous, B. S., & Hallam, R. A. (2006). *Tools for transition in early childhood: A step-by step guide for agencies, teachers, and families*. Baltimore: Paul H. Brookes.

Rous, B., Hallam, R., Harbin, G. McCormick, K., & Jung, L. A. (2007). The transition process for young children with disabilities: A conceptual framework. *Infants and Young Children, 20*(2), 135–148.

Rous, B., LoBianco, T., Moffett, C. L., & Lund, I. (2005). Building preschool accountability systems: Guidelines resulting from a national study. *Journal of Early Intervention, 28*(1).

Rous, B., McCormick, K., & Hallam, R. (2006). *Use of transition practices by public school teachers: Research brief*. Lexington: University of Kentucky, Human Development Institute, National Early Childhood Transition Center. Available at http://www.hdi.uky.edu/SF/NECTC/Publications/resbriefs.aspx

Rous, B., Myers, C. T., & Stricklin, S. (2007). Strategies for supporting transitions for young children with special needs. *Journal of Early Intervention, 30*(1), 1–18.

Rous, B., Schroeder, C., Stricklin, S. G., Hains, A., & Cox, M. (2008). *Transition isues and barriers for children with significant disabilities and from culturally and linguistically diverse backgrounds: Technical report #2*. Lexington: University of Kentucky, Human Development Institute, National Early Childhood Transition Center.

Rule, S., Feichtl, B. J., & Innocenti, M. S. (1990). Preparation for transition to mainstreamed post-preschool environments: Development of a survival skills curriculum. *Topics in Early Childhood Special Education, 9*, 78–90.

Sainato, D. M., & Carta, J. J. (1992). Classroom influences on the development of social competence of preschool children with disabilities: Ecology, teachers, and peers. In S. L. Odom, S. R. McConnell, & M. A. McEvoy (Eds.) *Social competence of young children with disabilities: Issues and strategies for intervention*. Baltimore: Paul H. Brookes.

Schulting, A. (2009a). *The kindergarten home visit project: Enhancing the transition to kindergarten*. Durham, NC: Duke University, Center for Child and Family Policy. Retrieved from http://childandfamilypolicy.duke.edu/pdfs/schoolresearch/SRP_Kindergarten_visit_2009.pps

Schulting, A. (2009b). The kindergarten home visit project. Retrieved from http://www.hfrp.org/family-involvement/publications-resources/kindergarten-home-visit-project

Schulting, A. B., & Dodge, K. A. (2010). The kindergarten home visit project: A kindergarten transition intervention study. Manuscript under editorial review. Durham, NC: Duke University.

Schulting, A. B., Malone, P. S., & Dodge, K. A. (2005). The effect of school-based kindergarten transition policies and practices on child academic outcomes. *Developmental Psychology, 41*, 860–871.

Scott-Little, C., Kagan, S. L., & Frelow, V. S. (2005). Inside the content: The breadth and depth of early learning standards. *Creating the conditions for success with early learning standards*. Greensboro, NC: University of North Carolina.

Scott-Little, C., Kagan, S. L., Frelow, V. S., & Reid, J. (2008). *Inside the content of infant-toddler early learning guidelines: Results from analyses, issues to consider, and recommendations*. Greensboro, NC: University of North Carolina at Greensboro.

SERVE. (1998). *Terrific transitions: Ensuring continuity of services for children and their families*. Greensboro, NC: Southeastern Regional Vision for Education.

Silver, R. B., Measelle, J. R., Armstrong, J. M., & Essex, M. J. (2004). Trajectories of classroom externalizing behavior: Contributions of child characteristics, family characteristics, and the teacher-child relationship during the school transition. *Journal of School Psychology, 43*, 39–60.

Smith, E. P., Connel, C. M., Wright, G., Sizer, M., & Norman, J. M. (1997). An ecological model of home, school, and community partnership: Implications for research and practice. *Journal of Educational and Psychological Consultation, 8*(4), 339–360.

Sontag, J. C., & Schacht, R. (1994). An ethnic comparison of parent participation and information needs in early intervention. *Exceptional Children, 60*(5), 422–433.

Stipek, D. (2002). At what age should children enter kindergarten? A question for policy makers and parents. *Social Policy Report, 16*(2), 3–17. Retrieved from http://www.srcd.org/index.php?option=com_docman&task=doc_download&gid=120

Task Force on School Readiness. (2005). *Building the foundation for bright futures: Final report of the NGA Task Force on School Readiness*. Washington, DC: National Governors' Association.

Turnbull, A., Turnbull, R., & Wehmeyer, M. L. (2007). *Exceptional lives: Special education in today's schools*. Upper Saddle River, NJ: Pearson/Merrill/Prentice Hall.

U.S. Department of Education. (1991). *Preparing young children for success: Guideposts for achieving our first national education goal*. Washington, DC: Author.

U.S. Department of Education. (2009). *Dropout rates: Fast facts*. Retrieved from http://nces.ed.gov/fastfacts

U.S. Department of Education, Office of Special Education and Rehabilitation. (2006). *28th annual report to Congress on the implementation the Individuals with Disabilities Education Act* (Vol. 1). Washington, DC: Author. Retrieved from http://www.ed.gov/about/reports/annual/osep/2006

Vail, C. O., & Scott, K. S. (1994). Transition from preschool to kindergarten for children with special needs: Issues for early childhood education. *Dimensions of Early Childhood, 22*(3), 21–25.

What Works Clearinghouse. (2008). *WWC procedures and standards handbook: Extent of evidence categorization scheme*. Princeton, NJ: U.S. Department of Education, Institute of Education Sciences, National Center for Educational Evaluation and Regional Assistance, What Works Clearinghouse.

Wolery, M. (1999). Children with disabilities in early elementary school. In R. C. Pianta & M. J. Cox (Eds.), *The transition to kindergarten* (pp. 253–280). Baltimore: Paul H. Brookes.

Zill, N. (1999). Promoting educational equity and excellence in kindergarten. In R. C. Pianta & M. J. Cox (Eds.), *The transition to kindergarten* (pp. 67–105). Baltimore: Paul H. Brookes.

This page intentionally left blank

Chapter 5

Uses of Technology in Early Intervention

Amy G. Dell, Deborah A. Newton, and Jerry G. Petroff

Assistive technology can provide a voice for children who cannot speak (Arnold, 2003; Fried-Oken & Bersani, 2000; Williams, 2006). It can provide access to mobility (i.e., power wheelchairs) for children who cannot walk. It offers opportunities for young children to play even if they cannot manipulate toys or art materials (Mistrett et al., 2006). Technology can enable young children to participate in daily routines that take place in every home and preschool. It can enable young children to demonstrate their understanding of cognitive concepts even if their disabilities prevent them from performing on standard assessments (Male, 2003). Technology can provide access to the general early childhood curriculum and key educational experiences such as early literacy. Access to the curriculum is a critical component of the successful inclusion of children with disabilities in their neighborhood schools (Nolet & McLaughlin, 2000; Salend, 2004; Villa & Thousand, 2000). Appropriate uses of technology can decrease children's reliance on teachers and parents by increasing their independence in many activities (Bryant, Bryant, & Rieth, 2002).

However, technology by itself is useless. Providing young children who have disabilities with the latest, most dazzling devices in the world will not make a difference in their lives unless the initiative integrates the technology into the child's curriculum, addresses the details of implementation, and makes sure everyone involved receives appropriate training (Burkhart, n.d.). Therefore, this chapter's emphasis is on the integration of assistive technology into the early intervention curriculum—how assistive technology can be used in all kinds of environments to enhance the teaching and learning of young children with a wide range of disabilities (PACER Center, 2006). Although it is easy to be seduced by the razzle-dazzle of the latest electronic gizmo, it is important to resist that temptation and instead focus on the *link* between technology and the teaching-learning process. The context for our discussion of technology in early intervention is always the environments and activities in which young children participate and learn. This approach reflects the philosophy of the leading professional organization in educational technology, the International Society for Technology in Education (ISTE), which articulates that "learning with technology should not be about the technology itself but about the learning that can be facilitated through it" (Knezek, Christensen, Bell, & Bull, 2006, p. 19).

WHAT IS ASSISTIVE TECHNOLOGY?

The important role assistive technology can play in the education of children with disabilities is underscored by its inclusion in the most recent reauthorization of the Individuals with Disabilities Education Act (IDEA, 2004). IDEA defines the term "assistive technology" by breaking it down into two parts: assistive technology *devices*, and assistive technology *services*. The delineating of both components is extremely important.

IDEA 2004 defines an assistive technology *device* as "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability" (IDEA 2004, Sec. 1401[1][A]). Let us examine this definition in reverse. An assistive technology device must have an impact on the *functioning* of a child with a disability. For example, a portable magnifier enables a child who has a visual impairment to see the pictures and words in a picture book, thereby improving the child's ability to develop literacy. A motorized wheelchair increases the ability of a child who has a physical disability to move around his or her environment to interact with other children and participate in play activities. A talking augmentative communication system for a child with autism increases the child's ability to communicate and enables him or her to make choices. These three examples show how an assistive technology device can "increase, maintain, or improve functional capabilities of a child with a disability."

The first part of the definition tells us that an assistive technology device can be bought in a store ("acquired commercially off the shelf"), it can be a purchased item that has been "modified," or it can be something that has been customized for a child's particular needs. A large computer monitor is an example of an assistive technology device that can be bought in a store (for children with visual impairments who need an enlarged visual display). Another example of "off the shelf" assistive technology is a talking picture book that uses sound chips to read aloud the text and provide sound effects, both of which engage children with attention problems.

Examples of modifications to "off the shelf products" include adding wooden blocks to the pedals of a tricycle so a child who has short legs can reach the pedals; building up the handle of an eating utensil with foam so a child with poor motor skills can grip and manipulate it better; and adding special software to a standard computer so a child with developmental delays can learn pre-academic skills.

Customized assistive technology devices include a wide variety of items. Communication boards created with pictures and talking computerized devices that serve as augmentative communication devices are usually customized for each individual child. Teacher-made computer-based activities for the teaching of specific skills are another example of customized assistive technology devices.

Assistive Technology Continuum

As you can see from these examples, the definition of assistive technology devices is quite broad. A helpful way of organizing all of these possibilities is to place them on an assistive technology continuum—that is, a continuum from "low-tech" to "high-tech." Low-tech devices use no electronic components and are relatively inexpensive. They are what are often called "gadgets," "gizmos," "doodads," or "thingamajigs," that is, "simple tools that make life's daily activities easier" (Collins, n.d.). A cookbook stand that holds open the pages of a cookbook so a cook can refer to it easily makes a terrific low-tech book holder for a preschooler whose cerebral palsy prevents him from holding a book independently. Oversized crayons, markers, and paint brushes; "chubby" paint rollers; and pencil grips that build up the shaft of a pencil to improve a child's control are examples of low-tech aids for coloring, drawing, painting, and writing, as are clipboards that can be used to hold sheets of paper steady.

"High-tech" devices are items that often are based on computer technology. In general, high-tech devices are more complicated to operate than low-tech devices, require more training than low-tech devices, and are considerably more expensive. However, high-tech devices offer unique benefits that often make their expense and training demands worthwhile. They are powerful and flexible devices, and can be used for many different tasks. For example, desktop computers and laptop computers connected to the Internet and equipped with specialized software can be used for early writing, reading, and learning new skills. Sophisticated augmentative communication systems can be used to provide a voice for children who cannot speak.

In between sophisticated high-tech devices and non-electronic low-tech devices are items classified as "mid-tech" devices. Mid-tech devices are electronic in nature but are much less expensive and require less training than high-tech devices. Digital recorders for recording stories and CD players for reading stories aloud are examples of mid-tech devices. Low-end augmentative communication devices, such as the Go-Talk (Attainment), are other examples of mid-tech devices.

IDEA's definition of assistive technology includes an exception—"The term 'assistive technology device' does *not* include a medical device that is surgically implanted, or the replacement of such device" (IDEA, 2004, Sec. 1401[1][B]). For example, feeding tubes for children who cannot eat and cochlear implants for children who are deaf represent implanted devices that are not considered assistive technology under IDEA.

Assistive Technology Services

The second part of IDEA's definition of assistive technology addresses assistive technology *services*. The term "assistive technology service" refers to "any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device" (IDEA, 2004, Sec. 1401[2]). Assistive technology services include evaluating a child for assistive technology, purchasing or leasing an assistive technology device for a child, customizing a device to meet a child's specific needs, repairing or replacing a broken device, teaching the child to use the device, and providing training for professionals who work with the child and/or for family members who are "substantially involved in the major life functions" of the child (IDEA, 2004, Sec. 1401[2][F]). The inclusion of assistive technology services in the law is extremely important as it recognizes that simply *providing* a device is not enough. The law's wording is public acknowledgement that making a device available without providing essential supports will not lead to successful implementation of assistive technology.

ASSISTIVE TECHNOLOGY DECISION MAKING

IDEA mandates that assistive technology be considered for every child receiving services under the law, including infants and toddlers under Part C. A young child should be considered a candidate for an assistive technology device and service(s) when the child is unable to perform activities that typical peers engage in, and the inability to display these skills is having a negative impact on the child's participation in activities and routines (Pennsylvania Training and Technical Assistance Network, 2005).

Determining *which* assistive technology tools will benefit a child is a critical first step. This process is referred to as assistive technology assessment, or assistive technology decision making. The literature on best practices is very clear on the characteristics of exemplary assistive technology assessments. Decisions about assistive technology must include the following six elements (QIAT Consortium, 2005):

1. Use of a team approach
2. Focus on student needs and abilities
3. Examination of tasks to be completed
4. Consideration of relevant environmental issues
5. Provision of necessary supports
6. Use of assessment information

Use of a team approach: Decisions about assistive technology selection should never be made by one person working alone. Teachers, parents, occupational therapists, physical therapists, speech language pathologists, and others all have in-depth knowledge but possibly different perspectives on a particular child. They, along with assistive technology specialists, have a wealth of assistive technology information and expertise as it relates to their individual fields. Working together, they are more likely to meet a student's assistive technology needs than any one of them working in isolation.

Focus on the child's needs and abilities: Assistive technology assessments must always be child-centered, identifying technology tools that will meet a child's individual needs; the available technology should never drive the assessment process. Although it is easy to be captivated by the latest gizmos and accompanying media hype, teams must start the process with the child, and must match the technology to the child (QIAT Consortium, 2005; Zabala, 2009).

Examination of tasks to be completed: In addition to knowing about the child's needs and abilities, the team needs to answer the question, in which activities does the child's participation and/or independence need to increase? In which part of the activity does the child need support? For example, is the child's play limited to passive observing of other children? Does the child need some adaptation to be able to be a more active participant in class games? Or is the child who has trouble speaking unable to demonstrate knowledge and express choices? Therefore, the specific tasks a child needs to complete will affect the choice of assistive technology solutions.

Consideration of relevant environmental issues: Technology solutions may also vary depending on the environments in which a child will use them. The environment of free play in a preschool or child care center may present different demands than a structured instructional setting. If the task being addressed by the technology relates to communication, the child may need to use the technology in many environments, including on the playground and at home.

Consideration of low-tech to high-tech options: Decisions about selecting appropriate assistive technology for young children should always consider the low-tech-to-high-tech continuum. Low-tech solutions should be considered first, before moving on to more expensive and complicated high-tech tools (Mistrett et al., 2006). This is in keeping with a basic principle in design and engineering—KISS: Keep It Short and Simple.

Provision of necessary supports: Parents and professionals will not be successful in their efforts to integrate assistive technology without adequate training and ongoing technical support (Dell, Newton, & Petroff, 2008; QIAT Consortium, 2005). They need hands-on training so that they become comfortable using the technology and teaching the child to use it effectively. Because technical problems are not unusual, assistive technology users also need to be able to access technical support in a timely fashion.

Use of assessment information: An assistive technology assessment is not an end point; rather, it should be viewed as the beginning of a cyclical process. Once assistive technology tools have been selected for a child, a trial period should ensue (Bowser & Reed, 1995). This is a time period in which professionals, parents, and the child experiment with the recommended technology. This is especially helpful in determining the feasibility of using the assistive technology in the child's natural environments. Following this trial period, the adequacy of the technology must be continually monitored. It is important to periodically reexamine the child's characteristics, tasks to be accomplished, and environments in which the child functions, because these often change over time. The assistive technology solutions that initially meet a child's needs may become inadequate or inappropriate as the child gets older and masters news skills and/or as the demands of the environments change.

SETT framework for decision making: A decision-making framework that is based on the above principles is Zabala's SETT Framework (2009). SETT is an acronym for Student, Environments, Tasks, and Tools. The team begins its discussion by delineating the student's (i.e., child's) needs and abilities. The team then brainstorms the various environments in which the child functions and the activities that take place in those environments. Only after these three issues are explored does the team consider specific assistive technology tools. In this way the focus remains on the child and the child's curricular goals.

TECHNOLOGY TOOLS TO SUPPORT EARLY INTERVENTION GOALS COMMUNICATION

Early communication development requires that children participate actively in their environment—through play, interactions with other children, and interactions with adults during daily routines, for example—and that they be provided with multiple opportunities to engage in communicative-rich environments with a variety of competent partners (Dell et al., 2008). However, social, cognitive, motor, and/or sensory disabilities often limit the accessibility of objects, people, communicative-rich environments, and opportunities. Many children with severe disabilities remain dependent on nonsymbolic behaviors as their primary system of communication (Ogletree, 1996). For example, they use facial grimaces to express dislikes, protest through the use of crying, or exhibit problematic behavior to communicate frustration.

Whereas typically developing children learn communication skills through typical daily interactions, children with significant disabilities often require direct, systematic instruction (Noonan & Siegel-Causey, 1997). They must be taught the fundamental concept that their actions can influence the environment and that deliberate interactions can achieve desired ends (i.e., cause and effect). Assistive technology can be harnessed to teach this fundamental concept to children with cognitive, motor, and sensory impairments. It offers solutions to the problem of providing these children with opportunities to communicate and make choices. Through the use of low-tech devices to request attention, develop understanding of consequences, and stimulate the sensory system, children with disabilities can be provided with opportunities to access environments rich in interesting objects and people (Dell et al., 2008).

Cause and Effect

Direct instruction in cause and effect can be provided through the use of simple switch technology. Switches enable children who have limited motor control to activate battery-operated toys and other electronic equipment with a single movement, such as flexing a fist or turning the head. They enable young children with disabilities to interact positively with their immediate surroundings and exert control over relevant stimuli (Lancioni et al., 2002; Langley, 1990). To adapt battery-operated toys, a small wafer-sized device called a battery adaptor is inserted in the toy's battery compartment between the battery leads. An adapted switch is plugged into the input jack at the other end. When the switch is depressed, the electrical circuit is complete, and the toy is activated. Any battery-operated toy or game can be adapted in this fashion (Levin & Scherfenberg, 1990).

Many different kinds of switches are available. Some switches are large and can be pressed with a fist, foot, or elbow. Others are tiny and require only a light touch; they can be activated with a single finger movement, a chin, or even a muscle twitch. Switches may be positioned and/or mounted in a variety of ways to facilitate activation. Wireless switches are also available.

It is therefore essential to involve a physical and/or occupational therapist when determining which switch will work most effectively with a child, the specific motor behavior that the child will use to activate it, and where and how the switch and the child should be positioned (York, Nietupski, & Hamre-Nietupski, 1985).

To teach cause and effect, a simple switch can be used to turn on a model race car that zooms around, makes car sounds, and flashes lights. For a child who is deaf/blind, a switch can activate a vibrating pillow that tickles. Switches can turn on a CD player that plays a child's favorite song or story. Each time the child presses the switch, the enjoyable consequence results.

Choice Making

This setup can be expanded easily to offer choice making. Choice making provides children with a sense of power and is an important developmental skill that must be exercised often, especially for the child who is still developing intentional communication (Dell et al., 2008). During free play, for example, a child can be provided with two switch setups—the race car mentioned above and a battery-operated pig that snorts and dances. Or the choice could be between listening to a favorite song or a favorite story on CD. All the child needs to do is hit the switch connected to the preferred object with a fist or other body part over which the child has control. To be effective, it is essential that these switch setups use toys, songs, and/or stories that are enjoyed by the individual child, not simply objects that are at hand. It is also essential that the choices be rotated so that the child is truly making a choice and not randomly hitting the switch.

Augmentative Communication

Moving on from promoting the prelinguistic skills of cause and effect and choice making to early communication, assistive technology offers a range of options. From simple single-message communicators to complex computerized devices, this technology is called augmentative and alternative communication (shortened here to augmentative communication). Augmentative communication is "any device, system, or method that improves the ability of a child with communication impairment to communicate effectively" (Pennsylvania Training and Technical Assistance Network, 2005, p. 5). Single-message communicators such as AbleNet's BIGmack or LITTLEmack look like switches but contain sound chips that can be recorded with spoken messages. Children can activate these prerecorded devices to initiate communication and/or respond to another person. For example, a child can invite another child to play a game by pressing a single message communicator that asks, "Would you like to play a game with me?" Or a child could ask an adult to read a book by pressing a LITTLEmack that says "Will you please read this book to me?" A child could participate in story time by using a single-message communicator to recite the refrain from a story (e.g., "But the caterpillar was still hungry"; Carle, 2007). Single-message communicators are often used as calling or alerting devices to enable children to request attention in an appropriate manner. Because messages can be recorded so quickly and easily, single-message communicators can be used to convey news from home, at circle time, or, if sent home with a child, news from school at home.

For slightly longer messages, devices called step-by-step communicators enable teachers and parents to record a series of messages. The child presses it once to speak the first message, again to speak the next message in the sequence, and so on. Step-by-step communicators are good choices for recording verses of a song or a poem, steps in a recipe, or short social scripts to encourage conversational turn-taking. The following profile of a 5-year old illustrates this application (Dell et al., 2008):

Peter is an outgoing and attentive 5-year old who attends a neighborhood preschool. He has cerebral palsy due to prematurity and his speech is unintelligible to most people. He uses a power wheelchair for mobility, which he controls with a set of switches. Peter's peers in his preschool attempt to interact with him, and he responds with smiles and vocalizations, but he rarely initiates an interaction. Since he does not have symbolic communication strategies, these interactions are usually brief and not sustained. A combination of several simple communication devices have been incorporated into Peter's preschool to foster his social interactions and provide opportunities for him to initiate communication.

- Peter uses a fist to activate a single-step communicator, which has been prerecorded by his brother, to greet his peers and ask questions. In the morning when he presses the device, it says, "Hey! Ask me what I did last night!" and he holds an object or picture that provides a hint, such as an advertisement for a DVD he had watched. Thus, a simple conversation can take place between Peter and his classmates.
- When Peter needs assistance, he calls the classroom aide with another single-step communicator that is programmed with the aide's name.
- During circle time, Peter uses a talking photo album from Radio Shack to share a weekend experience. He chooses among a sequence of three pictures, each of which has a message recorded

> on its sound chip. When he activates each message it retells his experience. “We went fishing on Sunday!” “I hooked a really big fish!” “But it got away.”

Single-message communicators and step-by-step communicators are valuable for early communicators and for teaching the power of communication. For children who need to express more than a few words, assistive technology offers a range of devices that are tailored to the needs of young children. They are lightweight for easy carrying and durable enough to withstand daily use. Many come with multiple layouts—for example, 4-, 8-, 16-, and 32-location display options—so the device’s communication capacity can grow along with the child’s skills. Others come with multiple levels so that the device can store more messages. The lower-priced devices, such as the Go-Talk (Attainment), use paper overlays that need to be changed as the child moves to a different level. Higher-priced devices such as the M3 (Dynavox) or the Springboard Lite (Prentke Romich) use dynamic display technology (i.e., touch screens) to change the visual display electronically. This technology offers the ability to store many messages in the device, providing a much larger vocabulary; the trick then becomes how to arrange them so children can find what they need quickly.

Augmentative Communication Decision Making

In addition to the characteristics of exemplary assistive technology assessments discussed in the section above, decisions about augmentative communication solutions need to consider three major components that make up any augmentative communication system: The *symbol system*, which is used to represent vocabulary, the specific *vocabulary* or messages the child will express with the system, and the method by which the child will *access* the system.

Symbol System

In selecting a symbol system, the team must determine which kind of symbols will be most understandable to the child. A symbol system can range from concrete systems such as real objects to abstract symbols, such as letters and words. In between are symbol systems comprised of photographs, line drawings, and icons. Symbol systems are classified according to their degree of “iconicity,” that is, the clarity of their meanings in isolation (Beukelman & Mirenda, 2005). Photographs and real objects are said to be “transparent” because their meaning is clear without any additional information. Written words are considered “opaque” because they can be understood only by people who can read. In between, symbol sets are said to be “translucent” because the meanings of some of the symbols are obvious, but other symbols are more abstract; translucent symbol sets are usually comprised of line drawings. Beginning augmentative communicators usually need transparent symbols. Children learn to identify translucent symbols such as line drawings with some direct teaching.

Boardmaker (Mayer-Johnson) is a widely used software program that enables professionals and parents to create communication layouts using a symbol system that is based on line drawings (Picture Communication Symbols). Many of the symbols for common nouns and verbs are easily understood and are considered transparent; for example, Boardmaker’s rendering of a dish of ice cream. Other symbols require some shared knowledge to understand; these are not as obvious and are considered translucent. The symbol for “football game,” for example, is a picture of a football with two arrows facing each other. It is clear to the viewer that the symbol has something to do with football, but one needs some knowledge or training to recognize the symbol specifically as a football game. With a computer, a color printer, and the Boardmaker software, professionals and parents can easily create customized communication boards that can be used in a variety of settings.

For young children who need concrete symbols, technology offers two convenient options: (1) images downloaded from the Internet, and (2) digital photographs. By searching Google Images (http://images.google.com/) for a specific item, users can find good-quality photos of objects familiar to young children. For example, an exact image of a child’s favorite toy or cookie can be found by searching Google Images. Digital cameras can be used to create concrete symbols of people in a child’s life, rooms in a child’s house, areas in a preschool, the family car, pets, and so forth.

Selecting Vocabulary

Once an appropriate symbol system and the device(s) are identified, an initial vocabulary must be selected. What messages would the child need and want to express to others? Selecting appropriate vocabulary is a critical factor in the successful use of any augmentative communication system (Balandin & Iacono, 1998; Beukelman & Mirenda, 2005). Teams often make the mistake of identifying vocabulary that is important to caregivers or teachers rather than messages that are relevant to the child who will be using the system. The team must make a concerted effort to identify vocabulary that is empowering to the child. This means selecting messages that are highly motivating, such as requests for preferred objects or activities, questions that will enable the child to initiate conversation with another child, and comments that will get a reaction from other people. The selection of specific words and phrases should fit with the child's culture and age group. Early intervention professionals need to become familiar with the slang in use in their location and incorporate these phrases in the device's vocabulary. Humor is often very motivating for children, so including jokes is often effective. Other guidelines for identifying meaningful vocabulary include the following:

- Provide messages that enable the child to greet other children and begin a conversation.
- Include vocabulary that enables the child to comment on events and activities, both as a way to express his or her opinion and as a way to continue a conversation. For example, "Pooh is so funny," "The wolf is scary," "That's gross!"
- Provide vocabulary that includes specific people who are important in the child's life and enables the child to call them.
- Make sure the child has a way of conveying his or her feelings, such as "That makes me really angry."
- Include a method for protest so the child has a way to refuse or say "NO." For example, "I don't want to do that."
- Use age-appropriate and culturally sensitive words and phrases, including slang.

Arranging Symbols

In addition to selecting the symbol system and the vocabulary, the collaborative team must decide how to arrange the symbols on the device. Since efficiency in communicating is the greatest challenge to an augmentative communication user, the arrangement of symbols should maximize the child's rate of communication. Preferred layouts include those that allow the child easy access to vocabulary that is likely to be used often and ease in constructing novel messages. A child who has control over only one hand, for example, needs frequently used words and phrases placed on the side of the device closest to his functioning hand. Decisions about symbol arrangement should take into consideration the child's developmental stage. For children whose language is still developing, a symbol array that provides practice in typical language skills may be helpful. For example, a child who is learning the rules of word order in sentences may benefit from a symbol array that groups parts of speech together—nouns on the left, verbs in the middle, adjectives on the right. As the child constructs a sentence, he or she moves from left to right, an essential skill in literacy development. Children who are learning about classifying items by attributes may need an array that groups categories of items together, such as food, toys, and family members (Beukelmen & Mirenda, 2005).

Visual Scene Display is a symbol arrangement that is effective with beginning communicators and those with complex challenges. Instead of simply arranging symbols in rows and columns, a visual scene display begins with a large picture or photograph that provides a context for more detailed information (Blackstone, 2004). As the child clicks on a part of the large picture, vocabulary related to that selection appears. For example, a picture of a kitchen is shown on the screen. When the child touches the image of a refrigerator, symbols related to juice, milk, fruit, and other favorite items found in the refrigerator are made visible. When the child touches the image of the kitchen table, vocabulary that could be used during family mealtimes is made visible. Using visual scene displays in augmentative communication devices creates a shared context for vocabulary. Research suggests it reduces the learning demands on young users and shifts the focus away from simple requests for desired objects to social interaction (Blackstone, 2004).

Access to the System

In addition to the symbol system and vocabulary selection, the team must consider how the child will access the vocabulary on the device. What parameters and challenges does the child present regarding access to the use of an augmentative communication device? Which access method will be most effective at this time? Physical therapists and occupational therapists are needed to contribute their knowledge about the child's motor abilities. Children who have a reliable point can use direct selection to construct messages on either low-tech language boards or high-tech computer-based systems. The point does not need to be with an index finger; if a child has more control over a thumb or fourth finger, for example, he or she can point with that digit (see Williams, 2006). The augmentative communication device will speak whatever symbols to which the child points.

For children who are unable to point with a finger, the team will need to consider other access methods. Direct selection may also be accomplished with a joystick, a low-tech pointing device such as a dowel held in a child's fist, or a head stick attached with a headband. A joystick is a good choice when a child has enough motor control to maneuver it in at least four directions and hit a button or switch to make a selection. A candidate for a dowel held in a fist is a child who has control of large arm movements without control of a single digit. A possible candidate for a head stick is a child whose head control is better than his or her hand/arm control. A high-tech access method for a child who has decent head control involves an infrared beam that is mounted on a child's eyeglasses, hat, or headband. Both low-tech and high-tech head pointing systems work best when the child has good vision and is able to move his or her head in small increments for precise positioning. High-tech head pointing systems also require the user to be able to keep his or her head still when necessary.

Eye gaze systems are a high-tech access method that utilizes the movements of a child's eyes. Eye gaze systems use infrared-sensitive video cameras to determine the precise spot on a display at which a child is looking. Selecting a symbol is accomplished by activating a switch, blinking the eye, or simply dwelling on the desired item. The augmentative communication system will speak whatever symbols the child selects. Because eye gaze systems require extensive training and positioning and are expensive, they are appropriate for young children only when communication is not accessible to the child with any other access method.

For children who do not have adequate head control or finger/hand control, augmentative communication is still accessible via an access method called single-switch scanning. Using a switch such as those discussed above, single-switch scanning requires reliable control over only a single movement such as flexing a fist, turning a head to one side, or moving a knee. The child watches the screen as an electric highlighter moves from symbol to symbol. When the highlighter reaches the symbol that the child desires, the child activates the switch to select the item and the augmentative communication device speaks the selection. Although single-switch scanning is extremely slow, it is an important access method because it is often the *only* means by which a child with severe physical disabilities can access communication.

Variations of these access methods can also be used to control a power wheelchair. If a child already has a reliable method for accessing his or her wheelchair, a similar method should be considered for the augmentative communication system. This is an example of the importance of the team approach to assistive technology decision making.

Myths about Augmentative Communication

Although the research clearly documents the benefits of augmentative communication, and many first-person accounts attest to its indispensable role in the lives of the writers, its adoption in early intervention has been hampered by a lingering of outdated myths among professionals and parents (Romski & Sevcik, 2005). It is important to examine these misconceptions and counter them with accurate information so that professionals and parents will be open to the possibility of introducing augmentative communication supports to young children who could benefit from them.

Myth #1: Augmentative communication will inhibit further development of speech. Too many professionals and parents are under the false impression that if a child is provided with an augmentative communication system, the child will lose the motivation to speak and will cease trying. The empirical research shows the exact opposite (Romski & Sevcik, 2005; Schlosser, 2003). Augmentative communication interventions have been shown to enhance the development of speech in children who have adequate oral-motor control (Cress, 2003). This makes logical sense because speech is the most efficient form of expressive language; augmentative communication is slow, and even the most skilled augmented communicator cannot reach the speeds of typical speakers.

Myth #2: Augmentative communication should be used only as a last resort. This myth is closely linked to Myth #1 and stems from a set of beliefs from the early days of augmentative communication that have since been discredited (Schlosser, 2003). The use of augmentative and alternative communication interventions (AAC) "should not be contingent on failure to develop speech skills or considered a last resort because AAC can play many roles in early communication development. . . . In fact, it is critical that AAC be introduced before communication failure occurs" (Romski & Sevcik, 2005, pp. 178–179).

Myth #3: A child must demonstrate a set of prerequisite skills before augmentative communication can be introduced. There are no readiness criteria for teaching communication (Beukelman & Mirenda, 2005). Waiting for children to be "ready" only serves to prevent the development of needed communication skills. Young children with severe sensory, physical, or multiple disabilities may not be able to demonstrate cognitive abilities without a means of communication (Romski & Sevcik, 2005). To deny them augmentative communication because they do not display a cognitive skill that they cannot demonstrate without augmentative communication is senseless and potentially damaging circular reasoning.

Myth #4: Augmentative communication requires some level of literacy prior to consideration. Literacy skills are not needed to use and/or learn to use augmentative communication systems. In fact, the research demonstrates that augmentative communication devices can actually provide a *means* to further develop literacy skills (Erickson, 2000; Hetzroni, 2004; Musselwhite & King-DeBaun, 1997).

Assistive Technology to Support Play

Providing access to and increasing participation in developmentally appropriate play is another benefit of using assistive technology in early intervention settings (Hamm, Mistrett, & Goetz Ruffino, 2006). Assistive technology can facilitate toy exploration (Burkhart, n.d.), art activities (Dinse, n.d.), participation in group games, and music making. It can provide alternative means for children with disabilities to interact with their environment, toys, other children, and adults.

For example, low-tech solutions can make puzzle play accessible to young children who have delays in fine motor skills. Pieces of dowels can be glued to puzzle pieces so children who do not have a pincer grasp can manipulate puzzle pieces with a palmer grasp. Place mats made out of nonslip material like Dycem will help keep toys and all their component pieces in place for children who lack fine motor control. Velcro glued to blocks is another low-tech solution for children with motor control problems.

Art activities such as drawing, coloring, and painting can also be supported with low-tech solutions. A clipboard can be used to stabilize the paper for a child who cannot use both hands. Some children may have better control using a slant board to hold their paper at a 15- to 30-degree angle; adults can easily devise a slant board by gluing a clipboard to a large plastic three-ring binder. Children who have a whole-hand grasp can use rubber stamps to create pictures. Utensil grips made out of clay or foam (or purchased) can be used to build up the handles of crayons, markers, paintbrushes, and rubber stamps. Painting mittens are useful for children who cannot grasp at all and for children who are tactilely defensive (Dinse, n.d.).

Assistive technology using adapted switches enable young children with physical, cognitive, and multiple disabilities to partially participate in play activities. Although the severity of their disabilities may prevent them from performing in every part of the activity, technology can involve them to some extent. For example, a child who cannot ambulate for a game of musical chairs can still participate in the game by using a switch to turn the music (CD, tape, or MP3 player) on and off. A child who cannot squeeze the paint bottles to create a spin-art picture can use a switch to turn on the spinner for the other children (Levin & Scherfenberg, 1990). There are even battery-operated water guns that can be controlled with a switch.

Switches can be used to activate battery-operated race cars, trains, singing and dancing animals, talking robots, and talking Christmas trees, to name a few. The key to selecting from the wide range of available battery-operated toys is that the child must *like* the toy he or she will be playing with. Children will be motivated to activate the switch when the result is enjoyable.

Electronic "busy boxes" or activity centers that have already been adapted are available from assistive technology vendors such as Enabling Devices (http://enablingdevices.com). Designed to provide sensory stimulation to children with multiple disabilities, these activity centers offer tactile feedback such as textured pads, vibrating plates, and fans that blow air, as well as blinking lights, visual effects, and sound effects.

With developmentally appropriate software programs, computers offer high-tech options for engaging young children in play activities. (Many software programs are now Web-based, meaning they are played directly on the Internet instead of from a CD or hard drive. The term "software" will be used to refer to activities played on a computer, whether they are housed on a CD, hard drive, or the Internet.) Computer technology is especially powerful as a tool for play because it is flexible, adaptable, responsive, and engaging. Many companies offer interactive activities on their Web sites that use characters from favorite children's movies and television shows. Although adults may not warm to these, children are drawn to them and are quickly engaged in activities that include them.

The commercial software market changes so rapidly that there is no point in recommending specific software titles in this chapter. However, a discussion of desirable features of software for young children will provide guidance on how to select computer-based activities for young children. Since most young children are nonreaders, they need software that that speaks all instructions and reads text aloud.

Children with attention problems or visual impairments need a consistent, uncluttered visual display so they are not distracted or confused by sensory overload (Dell & Newton, 1998). The activities need to be untimed—i.e., self-paced—so children have time to think, make choices, and move without the pressure of a ticking clock. This is especially important for children who have delays in motor development. Feedback needs to be consistent, unambiguous, and appropriate to the task; it should be helpful or neutral, not distracting. Most importantly, the software needs to provide options for teachers and parents to customize it for individual children. For example, for children who are overstimulated by auditory stimuli, it is important to be able to turn the sound off. If the program is designed to encourage young children to explore letters and letter sounds, it is helpful if it offers an option to choose upper- or lowercase letters (Dell & Newton, 1998).

One of the most valuable aspects of using computer technology with young children is that it can make play activities accessible to children whose disabilities preclude them from participating in typical play activities. A child who cannot physically explore, sort, or manipulate objects may be able to participate in comparable activities on a computer. A child who cannot manipulate a crayon or marker can create pictures using a graphics program like KidPix Studio Deluxe (Riverdeep). To do this, teachers and parents need to determine if the child can interact with a computer using a standard keyboard and mouse or if the child needs an alternative method to access the computer.

Young children with decent motor control often respond well to touch screens. They can make selections and move items just by touching, with no intermediate step. Another option is an adapted trackball; this works like a mouse but is much easier to manipulate and provides simple buttons in place of double-click and click-and-drag functions. Expanded keyboards—large keyboards with large keys, sometimes arranged in an alphabetical array—may be appropriate for children who can point but lack fine motor control and/or are confused by a standard QWERTY keyboard. Customizable keyboards such as IntelliKeys enable teachers and parents to design the content and appearance of each key. For example, an adult could design an overlay with pictures and greetings appropriate for a birthday card, and the child could create birthday cards for his family by simply pressing the keys of his choice. This is especially helpful for a child who can only use a fist or a child who has severe attention problems. Additional information on accessing computerized devices is provided above in the section on communication.

Play activities for young children that can be facilitated by assistive technology also include cause-and-effect-type toys, communication, and early literacy activities. These applications of assistive technology are discussed separately in this chapter.

Assistive Technology to Support Daily Routines

Whether a child is using a single-message communicator, a cardboard communication board, or a high-tech device, augmentative communication technology can be used to enable the child to communicate choices and opinions during daily routines in natural environments. Professionals and parents must seek every opportunity for young children to practice their communication skills and conduct conversations throughout the day. They need to provide deliberate interventions that support the use of augmentative communication systems and the development of communication. Using the context of daily routines and naturally occurring events, in both home and intervention environments, is recognized as a powerful approach to communication skill development. A specific protocol for this practice, Environmental Communication Teaching (ECT; Karlan, 1991; Mervine, 1995), focuses on identifying the communication demands of natural environments, teaching parents and professionals to prompt communication efforts, and systematically arranging to expand communication exchanges.

Young children's daily routines provide a perfect opportunity to encourage communication. Morning routines, for example, provide regular opportunities for a child to choose which item of clothing to wear. "I want to wear the green one" and "I want to wear the red one" could be programmed into any of the devices discussed above. Or a "dressing" communication board could be designed in *Boardmaker*, slid into a clear sheet protector, and hung in a child's bedroom. The child could point to the color and/or type of item he or she wishes to wear each day. In cold climates, for example, the child could choose between wearing a sweatshirt and wearing a sweater. During bedtime routines, a child could choose which pajamas to wear or which stuffed toy to take to bed.

Mealtimes present similar opportunities for communication (PACER Center, 2006). Messages such as "please," "thank you," "May I have more," and "I'm full" can be included in the augmentative communication device's vocabulary as can a family's grace before meals. The child's favorite foods should be added to the device so they can be requested. Mealtimes are also the occasion for social interactions and, as such, provide a good opportunity to practice relevant vocabulary.

"I played with the blocks today," "I painted a picture," "I heard a funny story," and "I played in the sandbox" are examples of messages that could be selected to answer a parent's question, "What did you do today?"

In school, daily routines such as arrival and dismissal, circle time, and snack (or lunch) time, present similar opportunities for communication. Single-message communicators can be hung in various places around the room so several children can access them—"Good morning" near the classroom door in the morning, "Bye! See you tomorrow" in the afternoon, "Want to play?" in the block area, and "Would you read this book to me?" in the library corner. A single-message communicator can also be used to enable a child to participate in singing the morning song. Vocabulary on multi-message devices should provide opportunities for the child to utilize a variety of communicative functions in addition to greeting other people, making requests, and answering questions, such as commenting on activities and events ("That's funny!" "That's scary"), expressing emotions ("I'm mad!" "I love you"), and rejecting or protesting ("I don't want to do that," "Leave me alone").

Other kinds of assistive technology can be used to facilitate young children's participation in daily routines. Small grooming appliances like an electric toothbrush and a hair dryer can be adapted so that children can turn them on with a switch (Mistrett et al., 2006; Levin & Scherfenberg, 1990). Battery-operated appliances are adapted and connected to a switch in the same way as battery-operated toys. Using switches to turn on electrical devices that run on 120 volts requires an additional piece of equipment called a PowerLink control unit (AbleNet). The appliance's power cord plugs into an outlet on the PowerLink, and a switch is inserted into its input jack. The appliance's on/off switch is left in the "on" position, but the appliance will not be turned on until the child hits the switch. These setups enable young children with physical and/or cognitive disabilities to partially participate in daily activities. Children can use a switch to turn on an electric mixer during a baking activity at home, or a popcorn popper to make snacks for the family or classmates (Levin & Scherfenberg, 1990).

Early and Emergent Literacy

The behaviors of reading and writing begin to develop at a very young age, much earlier than was previously realized, and the research shows that written and oral language develop concurrently (Sulzby

& Teale, 1991). This means that the practice of waiting for children to develop expressive communication before introducing literacy activities is a mistake and puts children with disabilities at an even greater disadvantage (Koppenhaver & Yoder, 1993).

For children with severe disabilities, the motor, cognitive, and sensory impairments that interfere with their communication development also interfere with their access to early reading and writing activities (Dell et al., 2008). Children who cannot speak are frequently not viewed as literate, and as a result, are not provided with opportunities to experience early reading and writing activities. Therefore, it is essential that young children with severe disabilities be actively engaged in activities that promote emergent literacy (Erickson & Koppenhaver, 1995; Light & McNaughton, 1993; Musselwhite & King-DeBaun, 1997). These children need environments that are rich in both spoken language and the printed word, and they need multiple opportunities to handle books (e.g., orient the book, turn the pages) and interact with print (Hutinger, Bell, Daytner, & Johanson, 2006). In this way, they learn the conventions of print, such as reading from left to right and from front cover to back cover. Early literacy activities enable young children to see the connection between the words on the page and the stories that are read to them (Lewis & Tolla, 2003). Many children with severe disabilities need direct and deliberate instruction in early literacy skills (Musslewhite & King-DeBaun, 1997).

Both switch and augmentative communication technology can be harnessed to provide opportunities for young children with disabilities to engage in literacy-focused activities. Low-tech solutions include making simple slant boards and book stabilizers using carpet, three-ring binders, and Velcro (Spring, 2004). A variety of materials can be attached to book pages with a hot-melt glue gun to create “page fluffers” that keep the pages separate and enable a child with limited motor control to turn the page (Musslewhite & King-DeBaun, 1997). For children who are blind or visually impaired, real objects representing the story can be glued to the pages as tactile cues or collected in a ziplock bag and attached to the book (Lewis & Tolla, 2003). A piece of blanket-like fabric, for example, can be glued to the page in which Goldilocks tries out the bears’ beds and a piece of dry cereal where she tastes the oatmeal. Single-message communicators can be set up to recite the refrain of a story so a child can participate in the choral part of story-telling (e.g., “He huffed and he puffed and he blew the house in!”). Step-by-step communicators can be recorded with sequential refrains.

Board books that talk are now widely available commercially. When a child presses a designated button, a sentence corresponding to the picture on the page is read aloud. An assistive technology device called a BookWorm (AbleNet) can convert any book into a talking book. The BookWorm uses sound chip technology to provide up to eight minutes of recorded speech and provides a button on a strip to correspond to each page. An adult simply attaches a removable sticker to each page of a child's favorite book and records the story, page by page. The child can then listen to the story by pressing on the button that corresponds to each sticker. These low-tech adaptations enable children with disabilities to begin to handle books, interact with print, and listen to the rhythms of spoken stories.

Young children can listen to stories and children's books on CD or on MP3 players (e.g., the Apple iPod) while they follow along in the actual book. A CD player can be adapted so that a child can start and stop it with a single switch. Many children's books' titles are available for download as digital audio files on Internet sites like Project Gutenberg (http://www.gutenberg.net) and Bookshare (http://www.bookshare.org). These files can be transferred to a portable MP3 player so children can listen to them without being tethered to a computer. Video streaming is another technology that offers read-aloud stories. For example, Storyline Online (http://www.storylineonline.net), a Web site run by the Screen Actors Guild Foundation, presents videos of actors and actresses reading favorite children's books aloud while showing the words and illustrations.

Software programs offer high-tech solutions to engaging young children in early literacy activities. Hutinger et al. (2006) categorized early literacy software into three types: (1) interactive literacy-based software, such as the Living Books (Riverdeep) series; (2) graphics and story-making software, such as Kid Pix Studio Deluxe (Riverdeep) and Storybook Weaver Deluxe (Riverdeep); and (3) authoring programs, such as IntelliTools's Classroom Suite, which can be used by teachers and parents to create their own stories based on children's individual experiences. Interactive literacy-based software programs convert popular children's books from the standard presentation of text with pictures in a bound book to a multimedia display that reads the text aloud, provides music and sound effects, and offers young readers opportunities to make things happen on the screen. These software programs also allow children to control the timing and repetition of words and sentences (Hutinger et al. 2006). Using a mouse or trackball, children need only click on pictures or words on the screen to cause the program to react. If used with a touch screen, these programs will react with a simple pointing on the screen. Adaptations are available that will make these programs accessible to children who use single switches.

Graphics and story-making software are software programs that enable children to create pictures and stories of their own design. Using whatever access method they need, children can choose pictures, colors, letters, sounds, clips of music, etc., arrange them on the screen, and manipulate them. This type of program empowers young children to create pictures and storybooks that far exceed their abilities to draw and write. For children who cannot hold a crayon or paintbrush due to physical disabilities, this type of program enables them to produce a creative work that would be impossible without technology.

Simple authoring programs like My Own Bookshelf (SoftTouch) enable teachers and parents to create interactive stories that children can access on computers. The computer reads aloud the text while displaying whatever pictures the teacher or parent has selected for the book. In addition to offering the opportunity to create stories that relate to a child's specific experiences, this technology enables parents and teachers to write stories that *include* the child in it (by importing photos from a digital camera).

Teachers and parents can also create simple switch-accessible talking books using Microsoft PowerPoint, a software program with which many people are already familiar (Spring, 2004). Step-by-step instructions are available on the following Web sites: http://www.cast.org (Center for Applied Special Technology), http://www.setbc.org (Special Education Technology–British Columbia), and http://atto.buffalo.edu (Assistive Technology Training Online Project at the University of Buffalo). Anybody with basic computer skills should be able to create a talking book following these instructions. It is recommended that professionals and parents spend a little time creating a template so that they can produce several books more quickly (i.e., by just changing the text and pictures).

FUTURE TRENDS

As technology becomes further entrenched in our society, its price tag continues to decline, and empirical evidence demonstrates its effectiveness, assistive technology is likely to be used more and more in early intervention. However, the challenge will be to seamlessly integrate it into the early intervention curriculum and not treat it simply as an add-on (FCTD, 2007). Adequate training and technical support for teachers and parents will be critical. Preservice preparation of early intervention personnel will need to incorporate appropriate applications of assistive technology so the field will be staffed by knowledgeable practitioners. There is a particular need for speech-language pathologists who are aware of and skilled in leading the selection and design of augmentative communication systems for young children.

Commercially available toys and technology in the near future are likely to adhere to the principles of universal design (FCTD, 2007). Universal design is "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (Center for Universal Design, 1997, para. 3). Before a product or environment is developed and marketed, universal design recommends considering "the needs of the greatest number of possible users, [thereby] eliminating the need for costly, inconvenient, and unattractive adaptations later on" (CAST, 2006). This concept began in the field of architecture, then broadened to the fields of hardware and software development, and is now a key principle in instructional design.

Two popular conveniences today illustrate the concept of universal design: automatic doors and curb cuts. Automatic doors make stores, airports, and other public spaces accessible to individuals with disabilities, but they also make those places accessible to a broader range of people: shoppers pushing shopping carts, travelers wheeling suitcases, parents pushing children in strollers, elderly people, and others who lack the strength to open heavy doors. Curb cuts were originally designed to make navigating city streets more accessible to wheelchair users, but they turned out to benefit many more people—workers making deliveries with hand trucks, elderly people using walkers, roller bladers, and skateboarders, as well as people pulling city shopping baskets and pushing baby strollers. In sum, automatic doors and curb cuts benefit a wide range of people, including individuals with disabilities.

Toy manufacturers and software publishers have begun applying this principle to the development of toys and software. Many products are now available that are flexible and easily adaptable to be used by the widest range of children. This trend is evident in the *Let's Play Toy Guide* (2006) that was developed by the Toy Industry Foundation in partnership with the Alliance for Technology Access (ATA) and the American Foundation for the Blind (AFB). The toys listed in the guide are available commercially and were selected based on the toy's play value for children with disabilities. Many of the toys have large buttons and thick handles, which make them accessible to children with motor delays. Others talk or provide sound effects and/or blinking lights, features that may be engaging to children with sensory impairments and/or attention difficulties. This blurring of the line between specialized devices designed specifically for children with disabilities and commercially produced toys is likely to continue. The benefit to families is that commercial toys are less expensive and easier to find than toys produced by assistive technology companies.

A similar change is happening in computers, assistive technology devices, and augmentative communication devices. Touch screens, which in years past were specialized items available only through assistive technology vendors, are now mainstream technology. Tablet PCs, which are laptops that utilize touch-screen technology, are likely to become commonplace in early intervention programs. Children will be able to interact with computer games and activities by simply pointing to items on the screen. Teachers and speech-language therapists will be able to create talking communication boards without having to spend thousands of dollars on a dedicated augmentative communication device.

A related trend is that technology tools will continue to get smaller and more portable. Instead of having their children play on a tablet PC, some early intervention programs will utilize the touch-screen technology on an iPod Touch (or similar device). We will probably see an expansion of iPhones being used for augmentative communication. Increases in portability will also mean more wireless technology and longer-lasting batteries.

With the advent of Web 2.0 (i.e., the second generation of the World Wide Web) have come changes in how computer games and educational software are provided and how children interact with them. Buying children's games on CDs is fast becoming a thing of the past as computerized games and interactive educational activities increasingly reside on the Web (Bull & Ferster, 2005). Early intervention programs will purchase subscriptions to content. This means they will need to have fast and reliable Internet access. It also means that computers will continue to get smaller, since so much of the software being used will not need to be stored on the computer itself. An important benefit of Web 2.0 is that applications appropriate for young children will be available from *any* computer—any computer in the building, in another site, or in children's homes. Families will be able to play with their children on the same activities at home as in school. All of this means that timely and skilled training and technical support will be more essential than ever.

SUMMARY

When carefully selected and matched to an individual child's needs and environments, assistive technology has an important role to play in supporting the goals of early intervention. It can be harnessed to teach communication, cause and effect, and choice-making skills. With appropriate selection of vocabulary, it can be used as a means of augmentative communication for children who cannot speak. It can support play activities, facilitate participation in daily routines, and contribute to the development of early literacy. Since the world of computer technology changes so rapidly, it is impossible to predict how future applications will further benefit early intervention, but one thing is certain—new developments will bring with them exciting possibilities for young children with special needs.

REFERENCES

Alliance for Technology Access. (2004). *Computer resources for people with disabilities* (4th ed.). Alameda, CA: Hunter House.

Alliance for Technology Access. (2006). *Let's play: A guide to toys for children with special needs*. Retrieved June 30, 2009, from http://www.afb.org/Section.asp?SectionID=62

Arnold, A. (2003). Augcomm user trouble-shoots for Prentke Romich Co. *TECH-NJ, 14*(1). Retrieved June 28, 2009, from http://www.tcnj.edu/~technj/2003/arnold

Balandin, S., & Iacono, T. (1998) A few well-chosen words. *Augmentative and Alternative Communication, 14*, 147–161.

Beukelman, D. R., & Mirenda, P. (2005). *Augmentative and alternative communication* (3rd ed.). Baltimore: Paul H. Brookes.

Blackstone, S. W. (2004, August). Visual scene displays. *ACN: Augmentative Communication News, 16*(2).

Bowser, G., & Reed, P. (1995). Education Tech Points for Assistive Technology Planning, *Journal of Special Education Technology, 12*(4), 325–338.

Bryant, B. R., Bryant, D. P., & Rieth, H. J. (2002). The use of assistive technology in postsecondary education. In L. Brinckerhoff, J. McGuire, & S. Shaw (Eds.) *Postsecondary education and transition for students with learning disabilities* (pp. 389–429). Austin, TX: Prod-Ed.

Bull, G., & Ferster, B. (2005). Ubiquitous computing in a Web 2.0 world. *Learning and Leading with Technology*, December–January, pp. 9–11. Retrieved July 7, 2009, from http://www.iste.org

Burkhart, L. (n.d.). What we are learning about early learners and augmentative communication and assistive technology. Retrieved July 29, 2009, from http://www.lburkhart.com

Carle, E. (2007). *The very hungry caterpillar*. New York: Philomel.

Center on Applied Special Technology (CAST). (2006). Research and development in universal design for learning. Retrieved June 30, 2009, from http://www.cast.org/research/index.html

Center for Universal Design. (1997). *About universal design*. Retrieved June 30, 2009, from http://www.design.ncsu.edu/cud/about_ud/about_ud.htm

Collins, R. (n.d.) *Independence can be cheap and easy with low tech assistive technology.* Retrieved June 28, 2009, from the Arizona Technology Access Program (AzTAP) Web site: http://www4.nau.edu/ihd/AzTAP/Initiative_on_Aging/AzTAP_AssistiveTechnologyandAginginPlace_Article2.asp

Cress, C. J. (2003). Responding to a common early childhood question: "Will my child talk?" *Perspectives on Augmentative and Alternative Communication, 12*, 10–11.

Dell, A. G., Newton, D. A., & Petroff, J. G. (2008). *Assistive technology in the classroom: Enhancing the school experiences of students with disabilities*. Upper Saddle River, NJ: Pearson/Merrill/Prentice Hall.

Dell, A. G., & Newton, D. A. (1998). Software for play and active early learning. *Exceptional Parent, 28*(11), 39–43.

Dinse, P. (n.d.). Assistive technology and peer socialization in early childhood special education. Retrieved June 28, 2009, from the AT Network Web site: http://www.atnet.org

Erickson, K. A. (2000). All children are ready to learn: An emergent versus readiness perspective in early literacy assessment. *Seminars in Speech and Language, 213*, 193–203.

Erickson, K. A., & Koppenhaver, D. A. (1995). Developing a literacy program for children with severe disabilities. *Reading Teacher, 48*, 8, 676–684.

Family Center on Technology and Disability (FCTD) (2007). Assistive technology and early childhood education: Capturing the teaching moment [interview with Linda Robinson], *FCTD News and Notes, 60*, 7. Retrieved July 24, 2009 from http://www.fctd.info/resources/newsletters/index.php

Fried-Oken, M., & Bersani, H. (Eds.). (2000). *Speaking up and spelling it out*. Baltimore: Paul H. Brookes.

Hamm, E. M., Mistrett, S. G., & Goetz Ruffino, A. (2006). Play outcomes and satisfaction with toys and technology of young children with special needs. *Journal of Special Education Technology, 21*(1).

Hetzroni, O. E. (2004). AAC and literacy. *Disability and Rehabilitation, 26*(21–22), 1305–1312.

Hutinger, P., Bell, C., Daytner, G., & Johanson, J. (2006). Establishing and maintaining an early childhood emergent literacy technology curriculum. *Journal of Special Education Technology, 21*(4), 39–54.

Individuals with Disabilities Education Act (IDEA) of 2004, 20 U.S.C. § 1401D.

Karlan, G. (1991). *Environmental communication teaching training*. Field-initiated research grant award No. H023C9005 from the Office of Special Education, U.S. Department of Education. Lafayette, IN: Purdue University.

Knezek, G., Christensen, R., Bell, L., & Bull, G. (2006). Identifying key research issues. *Learning and Leading with Technology, 33*(8), 18–20.

Koppenhaver, D., & Yoder, D. (1993). Classroom literacy instruction for children with severe speech and physical impairments (SSPI): What is and what might be? *Topics in Language Disorders, 13*, 1–15.

Langley, M. B. (1990). A developmental approach to the use of toys for facilitation of environmental control. *Physical and Occupational Therapy in Pediatrics, 10*, 69–91.

Lancioni, G. E., O'Reilly, M. F., Singh, N. N., Oliva, D., Piazzolla, G., Pirani, P., & Growneweg, J. (2002). Evaluating the use of multiple microswitches and responses for children with multiple disabilities. *Journal of Intellectual Disability Research, 46*(4), 346–351.

Levin, J., & Scherfenberg, L. (1990). *Selection and use of simple technology in home, school, work and community settings*. Minneapolis: AbleNet.

Lewis, S., & Tolla, J. (2003, January–February). Creating and using tactile experience books for young children with visual impairments. *Teaching Exceptional Children, 35*(3), 22–28.

Light, J., & McNaughton, D. (1993). Literacy and augmentative and alternative communication (AAC): The expectations and priorities of parents and teachers. *Topics in Language Disorders, 13*(2), 33–46.

Male, M. (2003). *Technology for inclusion: Meeting the needs of all students*. Boston: Allyn & Bacon.

Mervine, P. (1995). Teaching communication in natural environments. *TECH-NJ, 6* (1), 3, 16.

Mistrett, S., Ruffino, A., Lane, S., Robinson, L., Reed, P., & Milbourne, S. (2006). *Technology Supports for Young Children* [TAM Technology Fan]. Arlington, VA: Technology and Media Division (TAM).

Musselwhite, C., & King-DeBaun, P. (1997). *Emerging literacy success: Merging whole language and technology for students with disabilities*. Park City, UT: Creative Communicating.

National Organization on Disability. (2006). Economic participation: Technology. Retrieved July 28, 2009, from http://www.nod.org/index.cfm?fuseaction=page.viewPage&pageId=16

Nolet, V. & McLaughlin, M. J. (2000). *Accessing the general curriculum: Including students with disabilities in standards-based reform*. Thousand Oaks, CA: Corwin Press.

Noonan, M. J., & Siegel-Causey, E. (1997). Special needs of young children with severe handicaps. In L. McCormick, D. Loeb, & R. L. Schiefelbusch (Eds.). *Supporting children with communication difficulties in inclusive settings: School-based language intervention* (pp. 405–432). Boston: Allyn & Bacon.

Ogletree, B. T. (1996). Assessment targets and protocols for nonsymbolic communicators with profound disabilities. *Focus on Autism and Other Development Disabilities, 11*(1).

PACER Center. (2006). *EZ AT—Assistive technology activities for children ages 3–8 with disabilities: A guide for professionals and parents*. Minneapolis, MN: Author. Retrieved July 6, 2009, from http://www.pacer.org/publications/stc.asp

Pennsylvania Training and Technical Assistance Network (PaTTAN). (2005). *Assistive technology resource pack for early intervention families and professionals: Frequently asked questions*. Harrisburg, PA: Author. Retrieved June 22, 2009, from http://www.pattan.net/Publications.aspx?ContentLocation=/supportingstudents/AssistiveTechnology.aspx

QIAT Consortium. (2005). Quality Indicators for Assistive Technology services: Research-based revisions. Retrieved July 28, 2009, from http://www.qiat.org

Romski, M., & Sevcik, R. A. (2005). Augmentative communication and early intervention: Myths and realities. *Infants and Young Children, 18*(3), 174–185.

Salend, S. J. (2004). *Creating inclusive classrooms: Effective and reflective practices* (5th ed.) Columbus, OH: Merrill/Prentice Hall.

Schlosser, R. (2003). Effects of augmentative communication on natural speech development. In R. Schlosser, *The efficacy of augmentative and alternative communication: Toward evidence-based practice* (pp. 404–426). San Diego, CA: Academic Press.

Spring, D. (2004). Assistive technology supports for early childhood literacy. Retrieved July 22, 2009, from Michigan's Assistive Technology Resource (MATR): http://www.ecac-parentcenter.org/childhood/documents/Assistive Tech.pdf

Sulzby, E., & Teale, W. (1991). Emergent literacy. In R. Barr, M. L. Kamil, P. B. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (vol. 2, pp. 727–757). New York: Longman.

Villa, R. A., & Thousand, J. S. (Eds.). (2000). *Restructuring for caring and effective education: Piecing the puzzle together* (2nd ed.). Baltimore: Paul H. Brookes.

Williams, M. (2006). *How far we've come, how far we've got to go: Tales from the AAC trenches*. DVD. Monterey, CA: Augmentative Communication, Inc.

York, J., Nietupski, J., & Hamre-Nietupski, S. (1985). A decision-making process for using microswitches. *Journal of the Association for Persons with Severe Handicaps*, *10*(4), 214–223.

Zabala, J. (2009). SETT Framework. Retrieved January 25, 2010 from http://www.joyzabala.com

Chapter 6

Evidence-Based Practice in Early Childhood Intervention

Dale Walker

Research supporting early childhood intervention practice has grown extensively over the last 40 years (e.g., Guralnick, 1997; Huston, 2008; National Research Council & Institute of Medicine, 2000; Shonkoff & Meisels, 2000; Smith et al., 2002; Wolery & Bailey, 2002). Beginning research in early intervention and early childhood special education was primarily concerned with demonstrating the necessity for intervening early in life (National Research Council & Institute of Medicine, 2000). A number of early intervention programs designed to improve the developmental outcomes of at-risk children emphasized the importance of high-quality child care and preschool experiences to positive schooling outcomes—e.g., Abecedarian Project (Ramey & Campbell, 1992); CARE (Wasik, Ramey, Bryant, & Sparling, 1991); and Consortium for Longitudinal Studies (Lazar, Darlington, Murray, Royce, & Snipper, 1982). These programs provided intensive, comprehensive interventions to disadvantaged infants, young children, and their families with the purpose of demonstrating that early intervention could improve later developmental and school outcomes (Warren & Walker, 2005).

Once it was mandated under P.L. 99-457, the amendment of the Individual With Disabilities Education Act (IDEA) passed in 1986, that young children with disabilities were to receive educational services (U.S. Department of Education, Office of Special Education Programs, OSEP), the emphasis of early intervention research shifted to documenting how many children were actually being served. The field has since progressed beyond defending the importance of intervening early or marking success exclusively in terms of the numbers of children being served, to measuring the integrity of early intervention practice and effects on child outcomes.

WHY THE EMPHASIS ON EVIDENCE-BASED PRACTICE?

Leading to the emphasis on evidence-based practice in early childhood, early childhood special education has been legislative and policy mandates and recommendations including the Government Performance and Results Act (GPRA; Senate Committee on Governmental Affairs) calling for increased accountability for agencies receiving federal and state support (Office of Management and Budget [OMB], 2006). Foundations and other agencies have also required that agencies receiving funds be accountable for having an impact on children and families (Harbin, Rous, & McLean, 2005). Reporting of child and family outcomes, for example, is now required for all infants and young children with disabilities (Hebbeler, Barton, & Mallik, 2008), and educational policy emphasizes using scientifically based practices as mandated through the Individuals with Disabilities Education Act (IDEA, 2004) and No Child Left Behind (2001; Bruder, 2010; Buysse & Wesley, 2006; Huston, 2008). These, and other federal, state, and policy initiatives (e.g., Education Sciences Reform Act of 2002; Head Start Act of 1998) along with recommendations calling for accountability in early intervention and early childhood special education (EI/ECSE) have been established to ensure that young children with disabilities receive high-quality intervention and education that promotes their development and prepares them for success in their social relationships, in school, and in their community. There are however, few repositories of evidence-based practices from which early interventionists and educators can access the information needed to comply with mandates to use evidence-based practice.

Guiding the current movement to implement evidence-based practice with young children with disabilities are a number of questions asking: Which interventions or practices are most effective for young children with special needs? Under what conditions, by whom, and for whom should they be implemented to make a measurable and meaningful impact on the lives of young children? What level of evidence is needed to determine that a practice or intervention is effective? How does the field of early childhood support the dissemination of evidence-based practice? How can early educators and interventionists access information about evidence-based practices? (e.g., Guralnick, 1997; Odom & Wolery, 2003; Shonkoff, 2000). The process of deciding what constitutes the evidence behind evidence-based practice and how to actually put evidence-based practices into practice that improves the outcomes of young children presents some of the most salient challenges to the field of early childhood.

To better understand what evidence-based practice in early childhood entails, a brief discussion of the terminology related to evidence-based practice in early childhood special education is provided along with information about the criteria proposed for determining what constitutes evidence. Examples of practices that are representative of the best available evidence in early childhood education and intervention are provided along with suggestions for how educators, policymakers and others might currently access evidence-based practices for early education and intervention.

DEFINING EVIDENCE-BASED PRACTICE

Most professionals providing education and intervention to young children with disabilities would agree that using intervention practices supported by research is important. However, there is not general agreement as to the definition of evidence-based practice or necessarily what constitutes the evidence behind evidence-based intervention or practices (e.g., Cook, Tankersley, & Landrum, 2009; Kazdin, 2008; Odom et al., 2005; Slavin, 2008; Snyder, 2006). Although review syntheses concerning research evidence were increasingly available, Dunst, Trivette, and Cutspec (2002) realized that without a working definition of evidence-based practice, the utility of such information by early educators and interventionists in practice would be limited. Indeed, the lack of consensus as to what is meant by the term evidence-based practice, or how to identify evidence-based intervention practices from the myriad of practices available, ultimately impedes their dissemination and use. Early educators and interventionists are at a disadvantage in terms of being able to access and utilize information about intervention practices most likely to result in desired outcomes if the criteria for what constitutes evidence is unclear.

Evidence-based practice encompasses more broadly the process and methods used for making informed decisions regarding intervention, teaching, and learning approaches (see Buysse & Wesley, 2006; Carta & Kong, 2007; Snyder, 2006). A number of definitions for evidence-based practice and outcomes in early childhood intervention have been proposed (e.g., Buysse and Wesley, 2006; Dunst & Trivette, 2009; McWilliam, Wolery, & Odom, 2001; Snyder, 2006) and for the most part, all refer to evidence-based practice as an approach to intervention, and not only to specific practices or interventions that have a scientific, empirical, or research base. Aligned with definitions of evidence-based practice adopted by other fields, including medicine (Sackett, Rosenberg, Muir Gray, Haynes, & Richardson, 2000), clinical psychology (Kazdin, 2008), school psychology (Kratochwill & Stoiber, 2002), communication disorders (ASHA, 2005) and general education (Slavin, 2008), Snyder (2006) refers to evidence-based practice in early intervention as "a process for making informed decisions that involves considering not only the best available research evidence about certain treatments or practices but also knowledge gained through experience and values" (p. 39). Central to the definitions embraced by these and other fields, and generally included in those proposed for EI/ECSE, is that evidence-based practice encompasses an approach that considers research or scientific evidence in addition to professional as well as family experience, knowledge, and values in making decisions about how best to meet the needs of children and families (Buysse & Wesley, 2006 p. 12; Snyder, 2006). When speaking more broadly in terms of an evidence-based practice approach, there are aspects of assessment and measurement of the fidelity of intervention delivery, reliability of measurement, monitoring of progress and outcomes, and professional development activities that are integral components of an evidence-based practice approach (e.g., Carta, 2002; McConnell, 2000).

In the wake of the Education Sciences Reform Act of 2002, the U.S. Department of Education established the Institute of Education Sciences (IES) (http://ies.ed.gov) as the research arm of the department. The mission of the IES through four centers, one of which is the National Center for Special Education Research, as described on their Web site, is to provide national leadership in expanding the knowledge and understanding of education to provide educators, researchers, policy makers, parents, and the public with reliable information about the condition and progress of education. The IES works toward this goal in part by supporting research grants and promoting the use, development, and application of knowledge gained from research evaluated through the What Works Clearinghouse (WWC; http://www.whatworks.ed.gov).

The WWC was designed to review, evaluate, and disseminate rigorous and relevant research and evaluation to educators and others by providing a central source of scientific evidence in education. Through the WWC, intervention reports within specific topic areas, which are rated based on WWC evidence standards, are generated and made available on the WWC Web site. Ratings of interventions conducted through a strategic review process range from "positive," "mixed effects," to "no discernible effects," or "negative." Eligibility screens are conducted to determine whether studies meet evidence standards (e.g., by providing strong evidence, weaker evidence, or insufficient evidence).

Presently, the WWC considers well-designed and well-implemented randomized controlled trials (RCTs) as providing the strongest evidence, while quasi-experimental designs were considered to provide weak evidence or only to meet standards with reservations. Recent papers outlining the evidence standards for regression discontinuity (Schochet et al., 2010) and single-case designs (Kratochwill et al., 2010) have been released and are available on the WWC Web site (http://www.whatworks.ed.gov). Standards for these research designs are provided that may result in the WWC broadening the criteria used to include designs other than RCTs in its database. This is particularly important for research conducted with children with special needs given the smaller sample sizes and heterogeneous characteristics of children with disabilities, making it almost impossible to use research methodology that requires large numbers of participants (Collins & Salzberg, 2005; Dunst et al., 2002; Odom et al., 2005; Snyder, 2006).

Evidence evaluated through the WWC is synthesized into report formats providing summary information as to whether the extent of the evidence was small, medium, or large. From these reports, users can compare ratings of effectiveness across studies. The WWC provides practitioners and policy makers with assessments about the quality of the research evidence, and based on reviews of research as well as the opinions and experiences of nationally recognized expert panel members, practice guides containing recommendations for educators are available to users. Although IES and the WWC includes early childhood and early childhood special education as areas of inquiry and importance for the WWC, to date, very few research syntheses are available for early childhood, which at this time is limited to preschool-aged children between ages 3 and 5 years in the WWC database. This is seen as a missed opportunity to provide summative information in the area of early childhood related to evidence-based interventions.

EXAMPLES FROM RELATED FIELDS

Health Care

Associated fields have approached the process of identifying and disseminating their approach to evidence-based practice in a number of ways that have been informative to the field of early intervention—or could be. For instance, the medical field, in particular through the work of the Cochrane Collaboration, provides summaries of studies across the health care field (Volmink, Siegried, Robertson, & Gulmezoglu, 2004). Each review addresses a specific question related to health care, policy, or methodology and includes research on a topic that meets certain criteria as to whether or not there is conclusive evidence about a specific treatment. An online advisor from the American Medical Association (JAMAevidence) also provides users with tools for understanding and applying the medical literature and for making clinical and diagnostic decisions. The Web site offers users tools to learn how to recognize and ask questions about clinical applications, gather evidence from the literature, check the best available evidence for indicators of validity, importance, and usefulness, and to interpret the applicability of the evidence to specific problems given patient preferences and values (http://jamaevidence.com).

School Psychology

In school psychology, a number of resources have been developed to evaluate the level of evidence in support of interventions, including an edition of the journal of the Division of School Psychology, *School Psychology Quarterly*, in 2002, and a portion of their Web site for the National Association of School Psychology. Work described by Kratochwill and Stoiber (2002), supported in part through the American Psychological Association, chronicles the process of constructing a knowledge base of school psychology research with the purpose of providing consumers the opportunity to draw their own conclusions based on the evidence provided. Information ranges from content about school- and community-based intervention programs for social and behavioral problems, and academic intervention programs, to family and parent intervention and methodological issues including single-subject research designs and group designs. Criteria for coding research included designating treatments as “well-established,” “promising interventions,” or “treatments widely practice with only limited support.” Interventions were coded on dimensions ranging from having at least two good studies demonstrating efficacy through an experimental-control group design or a series of single-case studies. Practice guidelines to facilitate the adoption of evidence-based practices by trainers and practitioners and to yield functional scientific information for psychology and education have also been designed (Kratochwill & Shernoff, 2004; White & Kratochwill, 2005) to facilitate the dissemination of the information.

THE ROLE OF PROFESSIONAL ORGANIZATIONS AND JOURNALS IN DEFINING EVIDENCE-BASED PRACTICE

The Council for Exceptional Children (CEC) is an international professional organization dedicated to improving the educational success of individuals with disabilities (http://www.cec.sped.org). CEC advocates for appropriate governmental policies, sets professional standards, and provides professional development through scholarly professional journals, conferences, and resource materials. The CEC describes evidence-based special education practice as a strategy or intervention designed for use by special educators and intended to support the education of individuals with exceptional learning needs. Through the CEC Professional Standards and Practice Committee, the CEC has proposed criteria for distinguishing the methodological levels of evidence-based practice recommendations (CEC, 2006). Methodological quality indicators published in a special issue of the journal *Exceptional Children* (2005) were used as the basis upon which to develop rubrics for coding of studies that special educators might use to support the education of exceptional children. The proposed criteria included research-based, promising, and emerging practices. Methodological criteria ranging from levels of experimental, correlational, or qualitative studies are outlined along with associated practice recommendations. The CEC publishes a number of journals for researchers and practitioners on current research findings and curricular activities that are useful for informing research and practice (e.g., the *Journal of Special Education and Teaching Exceptional Children*).

The Division for Early Childhood of the Council for Exceptional Children (DEC) is an international organization promoting policies and advances in evidence-based practices for children birth through 8 years of age with disabilities and other special needs, their families, and professionals. The DEC generally defines evidence-based practices as the integration of best available research with professional and family wisdom and experience. The DEC Task Force on Recommended Practices originally published a set of recommended practices in 1993 that has been updated (Sandall, Hemmeter, Smith, & McLean, 2005) to provide guidance on effective practices for improving the development and learning outcomes of young children with disabilities and their families. Using a process that included the examination of the best available research evidence from over 1,000 articles from journals relevant to EI/ECSE and a process of professional and field validation that included focus groups of stakeholders including practitioners, researchers, and administrators as well as family members, national survey respondents, and hundreds of reviewers, the present DEC Recommended Practices guide includes 240 recommended practices organized under topical strand areas covering child-focused interventions, family-based topics, policies, procedures, and systems change, assessment, personnel preparation, technology applications, and interdisciplinary models. The criteria used to determine the inclusion of articles was that they had to be original research that involved children birth through 5 years with disabilities, their families, or personnel, as well as policies and systems change procedures that support effective practice. Articles were evaluated for evidence using criteria that related specifically to the type of design employed (e.g., qualitative, single-subject, random assignment) and included review of the research design, sample, setting, outcome measures, intervention duration, fidelity, findings, and the recommended practice(s) supported by the study. The criteria by which they were selected included evaluation as to the theoretical base, methodological integrity, consensus, reliability, and social validity (Smith, McLean, Sandall, Snyder, & Ramsey, 2005). There are now a number of resource materials that support the DEC Recommended Practices guide designed for early educators and interventionists, including a program assessment guide (Hemmeter, Joseph, Smith, & Sandall, 2001), a videotape illustrating the practices, a personnel preparation guide (Stayton, Miller, & Dinnebeil, 2002) links to research-based practitioner-oriented articles at http://www.dec-sped.org, and a workbook for assessing use of the recommended practices (Hemmeter, Smith, Sandall, & Askew, 2005). Journals published through the DEC that cover topics related to young children with disabilities include the *Journal of Early Intervention*, *Young Exceptional Children*, and the *Young Exceptional Children Monographs*.

The DEC Recommended Practices guide (Sandall et al., 2005) was derived as described from an extensive synthesis of research and experience-based knowledge of the EI/ECSE literature between 1990 and 1998 (Smith et al., 2002). The guidelines, while comprehensive, have differential levels of empirical support given the state of the literature during the review period conducted over a decade ago. They are valuable in that they represent collective wisdom of the field about practices that have been found to be useful, if not effective, for some children. The collection provides a framework for defining quality practices associated to positive outcomes and serve as a resource to help inform the evidence-based practice decisions of educators and interventionists (Snyder, 2006). Research on the use of the recommended practices, however, suggests that like other similar resources, they are not necessarily routinely embedded into personnel preparation programs (e.g., Bruder & Dunst, 2005) or used systematically by practitioners (e.g., McLean, Snyder, Smith, & Sandall, 2002). There continues to be a failure in the field to translate research into practice. Bruder (2010) suggests a number of reasons for these translational research failures, including reliance on process rather than child and family intervention outcomes and a systematic and reliable process for identifying and utilizing evidence-based practices, among other systemic constraints related to professional development.

WHAT COUNTS AS EVIDENCE?

Perhaps the most complex issue facing the evidence-based practice movement, and certainly the thorniest, has been the question of what is considered to be evidence supporting a practice or intervention as evidence-based. Odom et al. (2005) mused that while there was generally widespread agreement that early intervention and education practices should be guided by research, "the devil is in the details" (p. 137). Questions related to whether studies of early intervention practices are sufficiently rigorous, specifically: (1) How many studies or replications are needed? (2) How large an effect is necessary to indicate meaningful change? (3) What format is needed to disseminate information that will be usable by those delivering intervention? These are all questions that, as yet, are undecided (e.g., Cook, Tankersley, & Landrum, 2009; Snyder, 2006). With these important questions about what constitutes evidence-based practices left essentially to interpretation, what has occurred is an overuse of the term evidence-based and, to some extent, a dilution of the evidence that does exit and would be beneficial to inform intervention practice.

The process of distilling which practices have sufficient evidence supporting them and which do not requires some agreement about the methodology used to test their effectiveness. This is perhaps the biggest deterrent to the identification of evidence-based practices in

EI/ECSE. It is generally understood that different research methodologies should be used to address the effectiveness of interventions and specific practices (e.g., Huston, 2008; National Research Council and Institute of Medicine, 2000; Snyder, 2006); as multiple sources of evidence may produce converging evidence about effective practices (Dunst et al., 2002). Unfortunately, however, the acceptance of findings from studies using other than randomized trials to support their use continues to be minimal (Dunst et al. 2002; Kratochwill et al., 2010; Odom et al., 2005). Research findings that weighed most heavily as having the biggest impact on policy initiatives, for example, have been research based on high-quality methodology, including random assignment and longitudinal studies that are replicated (Huston, 2008). While admittedly there is a lot of research in early intervention that has not been conducted under ideal circumstances (e.g., Odom et al., 2005), the field has benefitted from a rich history of blended instructional methodology, some of high quality, some less so, but from which early educators and interventionists have drawn in their treatment of infants, toddlers, and young children with disabilities (Odom & Wolery, 2003). The field will be seriously disadvantaged if instead of continuing to draw upon the research in early childhood that does have adequate evidence as identified using a broad array of appropriate methodology, it instead becomes mired in "nitpicking the limits of existing research" (McCall, 2009, p. 3).

It could be argued that to some extent, this has already been the case. As of yet, early childhood special education, and in general the special education field, does not have agreed-upon guidelines for determining whether a practice or intervention is evidence-based or even effective (Odom et al., 2005). Several approaches have been proposed, including ranking levels of evidence for rigor (Dunst et al., 2002; Dunst & Trivette, 2009; Snyder, 2006) or using stages or standards of evidence (see Groark & McCall, 2008; Odom et al., 2005). While these have some merit for helping to provide an organizational framework for considering the various methodological options, they have been criticized for being misguided because "different kinds of efficacy questions demand the use of different kinds of research methodologies" (Dunst et al., 2002, p. 2). Others suggest that in applying levels of evidence, one need not designate specific levels of evidence as being superior to others; rather, that they permit different levels of inference (Snyder, 2006). Quality indicators are another method proposed for evaluating the contributions of different methodologies (e.g., CEC, 2006; Snyder, 2006; WWC), including group or single-subject experimental designs and correlational, qualitative, and evaluation research. In these systems, the evidence base is ranked using criteria that specifies whether a practice or intervention has a certain number of high-quality studies to support the practice and intervention effect sizes that meet a certain criteria (CEC, 2006; Kratochwill et al., 2010).

In isolation, the research literature does not inform practitioners about which practices will most likely benefit the heterogeneous children and families they serve when implemented under real-world conditions. Nor does it advise how to maintain intervention fidelity when the individualization of interventions is by definition what early interventionists do. "More rigorous research on the 'what'—the intervention-will not tell us 'how' to implement with fidelity and good outcomes over time and across practitioners in complex settings" (Blase, Van Dyke, & Fixsen, 2009, p. 14). How to monitor progress to ensure that children are making expected outcomes, or how to make alterations in intervention protocol to meet individual needs of children, are intervention decisions that require knowledge and experience as well as access to evidence-based practice techniques. McCall (2009) points out that "the simple dissemination of research information is not likely to be sufficient to prescribe what should be done in practice" (p. 7). An evidence-based practice approach encompasses not only the identification of interventions and practices with rigorous research evidence supporting their use, but also the means to translate that evidence into actual practice.

USING THE BEST EVIDENCE AVAILABLE TO INFORM PRACTICE WITH YOUNG CHILDREN

Determining the best fit between practices and the needs of a family or child requires making decisions about how convincing the evidence is in supporting the practice(s) and whether the practices will be implemented within the given context (Cook et al., 2009). Not all interventions will be effective or necessarily appropriate for all children and families under all conditions. While some interventions and practices will be effective for certain children or families under specific conditions, those same practices may not lead to desired outcomes with children and families who have different needs, or by different parents or teachers with divergent interaction or teaching styles (Cook, et al., 2009; Forness, Kavale, Blum, & Lloyd, 1997). The intervention practices evaluated and recommended by the What Works Clearinghouse and the DEC Recommended Practices, through professional organizations (e.g., the American Speech-Language-Hearing Association [ASHA] and the Council for Exceptional Children [CEC]), and technical assistance projects (e.g., NECTAC) provide information that requires skilled users to assemble and translate into intervention practices that can be used and assimilated in practice. These resources constitute what can be considered the best available evidence for use within an evidence-based practice approach.

Using the general strand headings from the DEC Recommended Practices (Sandall et al. 2005), what follows are examples of some recent innovations in early childhood special education for which there is some level of evidence. This summary is only for illustrative purposes about information that may be useful in applications of evidence-based practice and in no way attempts to be inclusive of all practices described in the DEC Recommended Practices guide, the WWC Web site, or from other evidence-based practice resources. Please refer to the WWC, the DEC Recommended Practices guide (Sandall et al., 2005); the National Early Childhood Technical Assistance Center (NECTAC, http://www.nectac.org); the National Association for the Education of Young Children (NAEYC, http://www.naeyc.org); the Center on the Developing Child at Harvard University (http://www.developingchild.harvard.edu); and the National Dissemination Center for Children with Disabilities (NICHCY, http://www.nichcy.org) for more resources related to evidence-based intervention and practices for young children with disabilities.

ASSESSMENT IN EARLY CHILDHOOD

In general, assessment should provide useful information for purposes of screening, diagnosis, guiding intervention and instruction, and for providing information about program effectiveness and impact (National Research Council, 2008; Neisworth & Bagnato, 2005). Assessment should provide meaningful and useful information about infants, toddlers, and young children with disabilities, the environments in which they live and learn, and about their interactions with others. Input from multiple sources, including parents and professionals, and through direct observation, provides the most valuable and comprehensive information upon which to base intervention decision making (Sandall et al., 2005).

Response to Intervention (RtI)

RtI is an approach that integrates identification, assessment and intervention in a problem-solving approach that has been used extensively for school-aged children (Fuchs & Fuchs, 2006) but more recently utilized to inform intervention for young children (e.g., Buzhardt et al., 2010; Coleman, Buysse, & Neitzel, 2006; Fox, Carta, Strain, Dunlap, & Hemmeter, 2009; Greenwood et al., 2008; Koutsoftas, Harmon, & Gray, 2009; VanDerHeyden, Snyder, Broussard, & Ramsdell, 2010). The RtI approach builds on traditional early intervention practice because it gives providers systematic procedures for deciding when a child may not be making expected progress, when a child is responding to intervention, and when to change or modify an intervention. See also the Center for RtI in Early Childhood (CRTIEC, http://www.crtiec.org/index.shtml); the RtI Action Network (http://www.rtinetwork.org/learn/rti-in-pre-kindergarten); and the Center on Social Emotional Intervention for Young Children (http://www.challengingbehavior.org).

Progress-Monitoring Measures

One format used for measuring the progress of young children, known as Individual Growth and Development Indicators (IGDIs; Carta, Greenwood, Walker, & Buzhardt, 2010), has been used successfully to screen, monitor progress, and inform intervention within a decision-making format, including an RtI approach for infants and young children for communication and early literacy (Greenwood et al., 2008; McConnell & Missall, 2008). Developed as an alternative to traditional measures to provide practitioners with an authentic, technically adequate, sensitive, and efficient measure that can be used to generate individual child- and program-level information and that informs intervention (see also http://www.igdi.ku.edu). Customized dynamic reports of child progress, interventions used, staff, and child data including individual growth charts are available to users to facilitate progress monitoring. Published reports documenting the technical adequacy of the IGDIs are available (e.g., Greenwood, Carta, Walker, Hughes, & Weathers, 2006; Greenwood & Walker, 2010).

CHILD-FOCUSED INTERVENTIONS

Child-focused practices and interventions designed to improve the outcomes of young children encompass a large number of the interventions described in the literature. Such practices guide how young children are taught, how practices or strategies are implemented, and how their performance is monitored (Wolery, 2005). The main strategies covered under this intervention strand include adults purposefully designing environments to promote children's active engagement, learning, and to influence children's participation and experiences.

Naturalistic Language Strategies

Decades of rigorous single-subject and group research on naturalistic approaches to early communication and language intervention with young children including Milieu Teaching (e.g., Kaiser, Hancock, & Nietfeld, 2000), Prelinguistic Milieu Teaching (e.g., Yoder & Stone, 2006), and Responsive Interaction (e.g.,Warren, Fey, Finestack, Brady, Bredin-Oja, & Fleming, 2008;Yoder & Warren, 2001) provide the foundation for naturalistic communication interventions. These strategies are designed particularly for use in the context of the everyday interactions between parents, caregivers and children (e.g., Walker, Bigelow, & Harjusola-Webb, 2008).

Dialogic Reading

Dialogic reading (e.g., Dale, Crain-Thoreson, Notari-Syverson, & Cole, 1996, Justice & Pullen, 2003; Whitehurst, Arnold, Epstein, & Angell, 1994), an interactive shared picture-book reading intervention that uses milieu and responsive interaction strategies to improve early literacy skills, expressive vocabulary, and narrative skills, was recently listed by the WWC as a practice that produced positive outcomes in oral language skills (WWC, 2010).

PERSONNEL PREPARATION

The preparation and skill level of those who deliver intervention to young children with disabilities can have a significant impact on the outcomes of the children and families receiving services (Tout, Zaslow, & Berry, 2006). Interventionists and special educators who deliver services to young children and their families may work directly providing services to children, or may provide services in consultation with other special educators, parents, or both (Buysse & Wesley, 2006). Personnel preparation also directly impacts the training of students in higher education to be educators and interventionists at the preservice and consultation level (e.g., Wesley, Buysse, & Keyes, 2000). As described by Buysse, Winton, and Rous (2009), what constitutes professional development can vary greatly, from attendance at a workshop to an entire semester-long course, with as much variability in between. Campbell and Sawyer (2009) analyzed participants' summative statements about their professional development and recommended practices for service delivery, finding that services were more often related to beliefs than professional development levels. Another study found that level of expertise impacted home visiting outcomes when services were delivered by trained nurses rather than paraprofessionals (e.g., Olds et al., 2004; Center on the Developing Child, 2007).

ON BECOMING AN EVIDENCE-BASED PRACTICE

As a field, early intervention/early childhood special education is in the process of embracing evidence-based practice as a paradigm for intervention service delivery. Knowledge about effective practices and how to use the best available evidence to guide intervention decision making will continue to be generated and contribute to improving the quality of the early intervention that young children and their families receive. Understanding how to interpret and assimilate that information into practice is one of our next challenges. The questions asked at the beginning of this chapter will no doubt continue to guide these efforts. We will continue to explore how to identify those intervention and assessment practices that are most effective for young children and their families and to distill the conditions under which those practices will have the largest impact. As a field, we understand that this process will need to be individualized, adding to the complexity of identifying those practices that are most effective and that help to inform evidence-based practice. It is important, however, that we move forward with becoming an evidence-based field in a thoughtful way. Blase, Van Dyke, and Fixsen (2009) caution that "Understanding the contributions and limitations of rigorous intervention research relative to implementation is critical. Scientific rigor is important. Choosing well is important. Implementation is hard work" (p. 14). They remind us that simply identifying the "what" from more rigorous research will not tell us "how" to implement practices with good fidelity or guarantee good outcomes. As we proceed, we will need to make sure that we both install and then support the processes needed to sustain the implementation of evidence-based practice across the complex conditions under which early intervention services are delivered.

REFERENCES

American Speech-Language-Hearing Association (ASHA). (2005). *Evidence-based practice in communication disorders* [position statement]. Retrieved from http://www.asha.org/policy

Blase, K. A., Van Dyke, M., & Fixsen, D. (2009). Evidence-based programming in the context of practice and policy. *Social Policy Report, 23*(3). Society for Research in Child Development.

Bruder, M. B. (2010). Early childhood intervention: A promise to children and families for their future. *Exceptional Children, 76*(3), 339–355.

Bruder, M. B., & Dunst, C. (2005). Personnel preparation in recommended early intervention practices: Degree of emphasis across disciplines. *Topics in Early Childhood Special Education*, *25*, 25–33.

Buysse, V., & Wesley, P. W. (2006). Evidence-based practice: How did it emerge and what does it really mean for the early childhood field? In V. Buysse & P. Wesley (Eds.), *Evidence-based practice in the early childhood field* (pp. 1–34). Washington, DC: Zero to Three Press.

Buysse, V., Winton, P., & Rous, B. (2009). Reaching consensus on a definition of professional development for the early childhood field. *Topics in Early Childhood Special Education, 28*, 235–243.

Buzhardt, J., Greenwood, C., Walker, D., Carta, J., Terry, B., & Garrett, M. (2010). A web-based tool to support data-based early intervention decision making. *Topics in Early Childhood Special Education, 29*, 201–213.

Campbell, P. H., & Sawyer, L. B. (2009). Changing early intervention providers' home visiting skills through participation in professional development. *Topics in Early Childhood Special Education, 28*, 219–234.

Carta, J. J. (2002). An early childhood special education research agenda in a culture of accountability for results. *Journal of Early Intervention, 25*(2), 102–104.

Carta, J. J., Greenwood, C. R., Walker, D., & Buzhardt, J. (2010). *Using IGDIs: Monitoring progress and improving intervention results for infants and young children.* Baltimore: Paul H. Brookes.

Carta, J. J., & Kong, N. Y. (2007). Trends and issues in interventions for preschoolers with developmental disabilities. In S. L. Odom, R. H. Horner, M. E. Snell, & J. Blancher (Eds.) *Handbook of developmental disabilities* (pp. 181–198). New York: Guilford Press.

Center on the Developing Child at Harvard University. (2007). *A science-based framework for early childhood policy: Using evidence to improve outcomes in learning, behavior, and health for vulnerable children.* Retrieved from http://www.developingchild.harvard.edu

Cochran Collaboration. (n.d.) Retrieved from http://www.cochrane.org

Coleman, M. R., Buysse, V., & Neitzel, J. (2006). *Recognition and response: An early intervening system for young children at risk for learning disabilities. Full report.* Chapel Hill: University of North Carolina, FPG Child Development Institute.

Collins, S., & Salzberg, C. (2005). Scientifically based research and students with severe disabilities: Where do educators find evidence-based practices? *Rural Special Education Quarterly, 24*, 60–63.

Cook, B. G., Tankersley, M., & Landrum, T. J. (2009). Determining evidence-based practices in special education. *Exceptional Children, 75*(3), 365–383.

Council for Exceptional Children. (n.d.) *CEC Today, Evidence-based practice—wanted, needed, and hard to get*. Retrieved from http://www.cec.sped.org

Dale, P. S., Crain-Thoreson, C., Notari-Syverson, A., & Cole, K. (1996). Parent-child book reading as an intervention technique for young children with language delays. *Topics in Early Childhood Special Education, 16*, 213–235.

Division for Early Childhood (DEC). (2006, October). *Research priorities for early intervention and early childhood special education*. Author.

Dunst, C. J., & Trivette, C. M. (2009). Using research evidence to inform and evaluate early childhood intervention practices. *Topics in Early Childhood Special Education, 29*, 40–52.

Dunst, C., Trivette, C., & Cutspec, P. (2002). *Toward an operational definition of evidence-based practice*. Retrieved from http://www.nasddds.org/pdf/TowardAnOperationalDefinition.pdf

Education Sciences Reform Act of 2002, Pub. L. 107-229, Title I-B, 20 U.S.C. §§ 9533, 9562.

Forness, S. R., Kavale, K. A., Blum, I. M., & Lloyd, J. W. (1997). What works in special education and related services: Using meta-analysis to guide practice. *Teaching Exceptional Children, 29*, 4–9.

Fox, L., Carta, J., Strain, P., Dunlap, G., & Hemmeter, M. L. (2009). Response to intervention and the Pyramid Model. Tampa, FL: University of South Florida, Technical Assistance Center on Social Emotional Intervention for Young Children.

Fuchs, D., & Fuchs, L. S. (2006). Introduction to responsiveness-to-intervention: What, why and how valid is it? *Reading Research Quarterly, 41*, 92–99.

Greenwood, C. R., Carta, J. J., Baggett, K., Buzhardt, J., Walker, D., & Terry, B. (2008). Best practices in integrating progress monitoring and response-to-intervention concepts into early childhood systems. In A. Thomas & J. Grimes (Eds.), *Best Practices in School Psychology* (pp. 535–547). Bethesda, MD: National Association of School Psychologists.

Greenwood, C. R., Carta, J. J., Walker, D., Hughes, K., & Weathers, M. (2006). Preliminary investigations of the application of the Early Communication Indicator (ECI) for infants and toddlers. *Journal of Early Intervention, 28*, 178–196.

Greenwood, C., & Walker, D. (2010). Development and validation of IGDIs. In J. J. Carta, C. Greenwood, D. Walker, & J. Buzhardt, *Using IGDIs: Monitoring progress and improving intervention results for infants and young children* (pp. 145–177). Baltimore, MD: Paul H. Brookes.

Groark, C. J., & McCall, R. B. (2008). Community-based interventions and services. In M. Rutter, D. Bishop, D. Pine, S. Scott, J. Stevenson, E. Taylor, & A. Thapar (Eds.), *Rutter's child and adolescent psychiatry* (5th ed., pp. 971–988). London: Blackwell Publishing.

Guralnick, M. J. (1997). *The effectiveness of early intervention*. Baltimore: Paul H. Brookes.

Guralnick, M. J. (2005). Early intervention for children with intellectual disabilities: Current knowledge and future prospects. *Journal of Applied Research in Intellectual Disabilities, 18*, 313–324.

Harbin, G., Rous, B., & McLean, M. (2005). Issues in designing state accountability systems. *Journal of Early Intervention, 27*, 137–164.

Head Start Act of 1998. Pub. L. 97-35, 42 W.S.C §§9801, et seq. Retrieved from http://eclkc.ohs.acf.hhs.gov/hslc/Head%20Start%20Program/Program%20Design%20and%20Management/Head%20Start%20Requirements/Heas%20Start%20Act/headstartact.html

Hebbeler, K., Barton, L. R., & Mallik, S. (2008). Assessment and accountability for programs serving young children with disabilities. *Exceptionality, 16*, 2–18.

Hemmeter, M. L., Joseph, G., Smith, B. J., & Sandall, S. (Eds.). (2001). *DEC recommended practices program assessment: Improving practices for young children with special needs and their families*. Missoula, MT: Division for Early Childhood.

Hemmeter, M. L., Smith, B. J., Sandall, S., & Askew, L. (Eds.). (2005) *DEC recommended practices workbook: Improving practices for young children with special needs and their families*. Missoula, MT: Division for Early Childhood.

Huston, A. C. (2008). From research to policy and back. *Child Development, 79*, 1–12.

Individuals with Disabilities Education Improvement Act of 2004, Pub. L. 108-446.

Justice, L. M., & Pullen, P. C. (2003). Promising interventions for promoting emergent literacy skills: Three evidence-based approaches. *Topics in Early Childhood Special Education, 23*, 99–113.

Kaiser, A. P., Hancock, T. B., & Nietfeld, J. P. (2000). The effects of parent-implemented enhanced milieu teaching on the social communication of children who have autism. *Journal of Early Education and Development, 4*, 423–446

Kazdin, A. E. (2008). Evidence-based treatment and practice: New opportunities to bridge clinical research and practice, enhance the knowledge base, and improve patient care. *American Psychologist, 63*(3), 146–159.

Koutsoftas, A. D., Harmon, M. T., & Gray, S. (2009). The effect of tier 2 intervention for phonemic awareness in a response-to-intervention model in low-income preschool classrooms. *Language, Speech, and Hearing Services in Schools, 40*, 116–130.

Kratochwill, T. R., Hitchcock, J., Horner, R. H., Levin, J. R., Odom, S. L., Rindskopf, D. M., & Shadish, W. R. (2010). Single-case designs technical documentation. Retrieved from What Works Clearinghouse, http://ies.ed.gov/ncee/wwc/pdf/wwc_scd.pdf

Kratochwill, T. R., & Shernoff, E. S. (2004). Evidence-based practice: Promoting evidence-based interventions in school psychology. *School Psychology Review, 33*, 34–48.

Kratochwill, T. R., & Stoiber, K. C. (2002). Evidence-based interventions in school psychology: Conceptual foundations of the Procedural and Coding Manual of Division 16 and the Society for the Study of School Psychology Task Force. *School Psychology Quarterly, 17*, 341–389.

Lazar, I., Darlington, R., Murray, H., Royce, J., & Snipper, A. (1982). Lasting effects of early education: A report from the Consortium for Longitudinal Studies. *Monographs of the Society for Research in Child Development, 47*(2–3, Serial No. 195).

McCall, R. B. (2009). Evidence-based programming in the context of practice and policy. *Social Policy Report, 23*(3). Society for Research in Child Development.

McConnell, S. R. (2000). Assessment in early intervention and early childhood special education: Building on the past to project into our future. *Topics in Early Childhood Special Education, 20*, 43–48.

McConnell, S. R., & Missall, K. N. (2008). Best practices in monitoring progress for preschool children. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology* (5th ed., pp. 561–573). Washington, DC: National Association of School Psychologists.

McLean, M., Snyder, P., Smith, B. J., & Sandall, S. (2002). The DEC recommended practices in early intervention/early childhood special education: Social validation. Journal of Early Intervention, *25*, 120–128.

McWilliam, R. A., Wolery, M., & Odom, S. L. (2001). Instructional perspectives in inclusive preschool classrooms. In M. J. Guralnick (Ed.), *Early childhood inclusion: Focus on change* (pp. 503–527). Baltimore: Paul H. Brookes.

National Research Council. (2008). *Early Childhood Assessment: Why, What, and How*. Committee on Developmental Outcomes and Assessments for Young Children (C. E. Snow & S. B. Van Hemel, Eds.). Board on Children, Youth, and Families, Board on Testing and Assessment, Division of Behavioral and Social Sciences and Education. Washington, DC: National Academies Press.

National Research Council and Institute of Medicine. (2000). *From neurons to neighborhoods: The science of early childhood development*. Committee on Integrating the Science of Early Childhood Development. J. P. Shonkoff & D. A. Phillips (Eds.). Board on Children, Youth and Families, Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.

No Child Left Behind Act of 2001, Pub. L. 107-110, 115 Stat. 1425.

Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. H., Thompson, B., & Harris, K. R. (2005). Research in special education: Scientific methods and evidence-based practices. *Exceptional Children, 71*(2), 137–149.

Odom. S. L., & Wolery, M. (2003). A unified theory of practice in early intervention/early childhood special education: Evidence-based practices. *Journal of Special Education, 37*, 164–173.

Office of Management and Budget (OMB). (2006). Program assessment: IDEA Special Education Grants for Infants and Families. Retrieved from http://www.whitehouse.gov/omb/expectmore

Olds, D. L., Robinson, J. A., Pettit, L., Luckey, D. W., Holmburg, J., Ng, R. K., et al. (2004). Effects of home visits by paraprofessionals and by nurses: Age 4 follow-up results of a randomized trial, *Pediatrics, 114*(6), 1560–1568.

Ramey, C. T., & Campbell, F. A. (1992). Poverty, early childhood education, and academic competence: The abecedarian experiment. In A. Huston (Ed.), *Children in Poverty*. New York: Cambridge University Press.

Sackett, D. L., Rosenberg, W. M. C., Muir Gray, J. A., Haynes, R. B., & Richardson, W. S. (1996). *British Medical Journal, 312*, 71–72.

Sandall, S., Hemmeter, M. L., Smith, B. J., & McLean, M. E. (Eds.). (2005) *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education*. Missoula, MT: Division for Early Childhood.

Schochet, P., Cook, T., Deke, J., Imbens, G., Lockwood, J. R., Porter, J., & Smith, J. (2010). Standards for regression discontinuity designs. Retrieved from What Works Clearinghouse, http://ies.ed.gov/ncee/wwc/pdf/wwc_rd.pdf

Senate Committee on Governmental Affairs. (1993). Government Performance and Results Act of 1993 Report (No. 103-58).

Shonkoff, J. P. (2000). Science, policy, and practice: Three cultures in search of a shared mission. *Child Development, 71*, 181–187.

Shonkoff, J. P., & Meisels, S. J. (2000). *Handbook of early intervention* (2nd ed.). New York: Cambridge University Press.

Slavin, R. E. (2008). Perspectives on evidence-based research in education: What works? Issues in synthesizing educational program evaluations. *Educational Researcher, 37*(1), 5–14.

Smith, B. J., McLean, M. E., Sandall, S., Snyder, P., & Ramsey, A. B. (2005). DEC recommended practices: The procedures and evidence base used to establish them. In S. Sandall, M. L. Hemmeter, B. J. Smith, & M. E. McLean (Eds.), *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education* (pp. 27–39). Longmont, CO: Sopris West.

Smith, B. J., Strain, P. S., Snyder, P., Sandall, S., McLean, M. E., Ramsey A. B., & Sumi, W. C. (2002). DEC recommended practices: A review of nine years of EI/ECSE research literature. *Journal of Early Intervention*, *25*(2), 108–119.

Snyder, P. (2006). Best available research evidence: Impact on research in early childhood. In V. Buysse & P. Wesley (Eds.), *Evidence-based practice in the early childhood field* (pp. 35–70). Washington, DC: Zero to Three Press.

Stayton, F. D., Miller, P. S., & Dinnebeil, L. A. (Eds.) (2002) *Personnel preparation in early childhood special education: implementing the DEC recommended practices*. Missoula, MT: Division for Early Childhood.

Tout, K., Zaslow, M., & Berry, D. (2006). Quality and Qualifications. In M. Zaslow & I. Martinez-Beck (Eds.), *Critical issues in early childhood professional development* (pp. 77–110). Baltimore: Paul H. Brookes.

VanDerHeyden, A. M., Snyder, P. A., Broussard, C., & Ramsdell, K. (2010). Measuring response to early literacy intervention with preschoolers at risk. *Topics in Early Childhood Special Education, 27*, 232–249.

Volmink, J., Siegried, N., Robertson, K., & Gulmezoglu, A. M. (2004). Research synthesis and dissemination as a bridge to knowledge management: The Cochrane Collaboration. *Bulletin of the World Health Organization, 82*(10). Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2623032/pdf/15643800.pdf

Walker, D., Bigelow, K., & Harjusola-Webb, S. (2008). Increasing communication and language-learning opportunities for infants and toddlers. *Young Exceptional Children Monograph Series #10*, 105–121.

Warren, S. F., Fey, M. E., Finestack, L. H., Brady, N. C., Bredin-Oja, S. L., & Fleming, K. K. (2008). A randomized trial of longitudinal effects of low-intensity responsivity education/prelinguistic milieu teaching. *Journal of Speech, Language, and Hearing Research, 51*(2), 451–470.

Warren, S. F., & Walker, D. (2005). Fostering early communication and language development. In D. M. Teti (Ed.), *Handbook of research methods in developmental science* (pp. 249–270). Malden, MA: Blackwell.

Wasik, B. H., Ramey, C. T., Bryant, D. M., & Sparling, J. J. (1991). A longitudinal study of two early intervention strategies: Project CARE. *Child Development, 61*, 1682–1696.

Wesley, P. W., Buysse, V., & Keyes, L. (2000). Comfort zone revisited: Child characteristics and professional comfort with consultation. *Journal of Early Intervention, 23*, 106–115.

What Works Clearinghouse (WWC). (2010, April). *WWC intervention report: Dialogic reading*. U.S. Department of Education, Institute for Educational Sciences (IES).

White, J. L., & Kratochwill, T. R. (2005). Practice guidelines in school psychology: Issues and directions for evidence-based interventions in practice and training. *Journal of School Psychology, 43*, 99–115.

Whitehurst, G. J., Arnold, D. S., Epstein, J. N., & Angell, A. L. (1994). A picture book reading intervention in day care and home for children from low-income families. *Developmental Psychology, 30*(5), 679–689.

Wolery, M. (2005). DEC recommended practices: Child-focused practices. In S. Sandall, M. L. Hemmeter, B. J. Smith, & M. E. McLean (Eds.), *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education* (pp. 71–106). Longmont, CO: Sopris West.

Wolery, M., & Bailey, D. B. (2002). Early childhood special education research. *Journal of Early Intervention, 25*, 88–99.

Yoder, P., & Stone, W. (2006). A randomized comparison of the effect of two prelinguistic communication interventions on the acquisition of spoken communication in preschoolers with ASD. *Journal of Speech, Language, and Hearing Research, 49*, 698–711.

Yoder, P. J., & Warren, S. F. (2001). Relative treatment effects of two prelinguistic communication interventions on language development in toddlers with developmental delay vary by maternal characteristics. *Journal of Speech, Language, and Hearing Research, 44*, 224–237.

This page intentionally left blank

Chapter 7

Professional Development in Early Childhood Intervention: Emerging Issues and Promising Approaches

Patricia A. Snyder, Maria K. Denney, Cathleen Pasia,
Salih Rakap, and Crystal Crowe

The critical role of professional development (PD) for ensuring high-quality early care and education that supports the development and learning of all young children is well documented (Bogard & Takanishi, 2005; Winton, McCollum, & Catlett, 2008; Zaslow & Martinez-Beck, 2006). The need to provide systematic, sustained, and evidence-informed professional development has become more urgent as demands for qualified early childhood personnel have increased and the body of knowledge has grown about dimensions of early childhood program quality and effective early childhood practices. In addition, contemporary early childhood quality improvement and accountability systems place significant emphasis on the role of professional development for equipping practitioners with knowledge, skills, and dispositions associated with improved learning outcomes for children and families (Harbin, Rous, & McLean, 2005; Schultz & Kagan, 2007).

Access to high-quality and effective early childhood professional development has not kept pace with the growing recognition of its significance. The Committee on Early Childhood Pedagogy reported that PD for early childhood practitioners is limited, inconsistent, and fragmented (Bowman, Donovan, & Burns, 2000). Investigators associated with the National Professional Development Center on Inclusion (2008) noted early childhood professional development efforts at local, state, and national levels often are uncoordinated, and until recently, no agreed-upon definition of early childhood professional development existed. During a recent federally sponsored listening-and-learning tour (http://www.ed.gov/blog/2010/04/experts-discuss-the-early-learning-workforce) designed to gather information about key issues in early learning, experts identified three key priorities for improving early childhood workforce quality: (1) better preparation, (2) support for ongoing professional development, and (3) higher rewards and compensation.

Specific to the preparation of early childhood practitioners who support young children with disabilities and their families, the Center to Inform Personnel Preparation Policy and Practice in Early Intervention and Preschool Education (2007a, 2007b) found that only 39 percent of Part C early intervention programs and 58 percent of Section 619 preschool programs across 50 states, the District of Columbia, and two territories had a systemic, sustainable approach to professional development. Further, only 23 percent of Part C and 42 percent of Section 619 programs had a comprehensive technical assistance system in place to support ongoing professional development (Bruder, Mogro-Wilson, Stayton, & Dietrich, 2009).

Early childhood personnel often report they lack confidence and competence to serve young children with disabilities in inclusive settings (Buysse, Wesley, Keys, & Bailey, 1996; Center to Inform Policy and Practice in Early Intervention and Preschool, 2007c, 2007d). In addition, early childhood teachers report they are not adequately prepared in their preservice programs for serving children with disabilities (Chang, Early, & Winton, 2005).

In the 25 years since the passage of P.L. 99-457 in 1986, services and supports for infants, toddlers, and preschool children with disabilities and their families have grown exponentially. All 50 states, the District of Columbia, and two territories provide services and supports to eligible young children with disabilities and their families beginning at birth. With this growth has come the development and definition of early childhood intervention (birth to age 5) as a specialized area of study and focused professional development. Although typically referred to as early intervention/early childhood special education, in this chapter, we use the term *early childhood intervention* broadly to include supports and services provided to young children with or at risk for disabilities and their families from birth to age 5.

The ages and unique needs of young children and their families, the manner and settings in which young children learn, and a commitment to inclusive, family-centered, and evidence-informed practices have shaped the early childhood intervention field and its recommended practices, including its recommended professional development practices (Bruder et al., 2009; Crow & Snyder, 1998; Sandall, Hemmeter, Smith, & McLean, 2005; Sexton et al., 1996; Stayton, Miller, & Dinnebeil, 2002). Against this backdrop, the growing emphases on universally designed early childhood curricula, tiered prevention and intervention curricular frameworks, universal early learning standards, and early childhood accountability systems highlight the need to situate emerging issues and promising approaches to early childhood intervention professional development within broader early childhood professional development frameworks (Snyder, McLaughlin, & Denney, in press).

The purpose of this chapter is to consider emerging issues and promising approaches in early childhood intervention professional development. We begin the chapter by describing issues influencing the design, delivery, and evaluation of early childhood intervention professional development. Next, we review contemporary definitions for professional development that have emerged in early childhood. We analyze features of professional development hypothesized to be effective for supporting practitioners' application of knowledge, skills, and dispositions in practice contexts, which in turn affect child learning and development. We summarize findings from a systematic review of the empirical literature designed to characterize key features of early childhood professional development. We consider promising approaches to professional development in early childhood. These approaches focus explicitly on practitioners' implementation of evidence-based practices, and they are designed to lead to young children experiencing high-quality learning environments and instruction to support or accelerate their development and learning. We discuss frameworks and theories of action useful for guiding decisions about aligning professional development content, instructional approaches, and desired professional development outcomes. Finally, we consider key issues related to the future of early childhood intervention professional development.

EMERGING ISSUES RELATED TO EARLY CHILDHOOD INTERVENTION PROFESSIONAL DEVELOPMENT

At least six issues are important to consider with respect to ensuring better preparation of and ongoing professional development support for early childhood intervention practitioners: (1) cross-sector early childhood professional development, (2) early childhood standards and accountability systems, (3) diversity of children and families involved in early care and education programs, (4) tiered prevention and intervention curricular frameworks, (5) workforce issues, and (6) professional development leadership in early childhood intervention. Although in-depth consideration of each issue is beyond the scope of this chapter, it is important to review these issues briefly because they impact the design, delivery, and evaluation of promising professional development approaches in early childhood intervention.

Cross-Sector Early Childhood Professional Development

Early childhood programs and services are often fragmented or loosely coupled across various sectors, including Early Head Start and Head Start, state-funded prekindergarten (pre-K), early care and education, maternal and child health, mental health, and Part C and Section 619 of the Individuals with Disabilities Education Act. As Bagnato (2006) noted, "no [universal] field of early childhood exists, let alone a system" (p. 616). As states and communities work to align and integrate services and supports for young children and families across various early childhood sectors, including those sectors that focus on young children with or at risk for disabilities, the design, delivery, and evaluation of cross-sector early childhood professional development will become increasingly important (Snyder, Crowe, & Woods, 2010; Winton & McCollum, 2008). Cross-sector initiatives consider what knowledge, skills, and dispositions practitioners must have to support high-quality inclusive experiences for young children with or at risk for disabilities and their families (Buysse & Hollingsworth, 2009). As these authors noted, "Combined with what we already know about program quality for young children in general, the dimensions of inclusive program quality along with specific intervention practices are needed to improve existing program standards and guide professional development on early childhood inclusion" (p. 120). Coordination and integration will be needed to ensure that cross-sector early childhood professional development systems support the initial preparation and ongoing development of a cadre of practitioners who have the knowledge, skills, and dispositions to support the development and learning of increasingly diverse young children, including children with or at risk for disabilities.

Early Childhood Standards and Accountability Systems

Early childhood standards and accountability systems have, by necessity, included attention to the knowledge, skills, and dispositions practitioners must have to design high-quality learning environments;

implement planned, intentional, and differentiated instruction; and monitor children's progress toward meeting standards and achieving desired outcomes. Many states have implemented career ladders or pathways that specify competencies early childhood practitioners should demonstrate as they obtain initial and more advanced certifications, degrees, credentials, or licensure to "qualify" them to assume particular roles within and across early childhood sectors (e.g., lead teacher in an early care and education program, Part C early intervention provider, or pre-K teacher in an inclusive public school classroom). These credentialing systems and career pathways often focus on early childhood and early childhood special education and do not include other disciplines involved in providing supports and services to young children and their families, particularly those personnel who support young children with or at risk for disabilities and their families in inclusive early learning settings (e.g., speech and language therapists, occupational therapists, physical therapists, school psychologists). Given the range of preparation levels and disciplines included under the broad heading of early childhood intervention practitioner, a critical need exists to identify what knowledge, skills, and dispositions are needed by which early childhood intervention practitioners and under what circumstances to design a "second-generation" professional development system (cf. Guralnick, 1997).

Diversity of Children and Families Involved in Cross-Sector Early Care and Education Programs

The diversity of children and families involved in cross-sector early care and education programs is well documented (National Association for the Education of Young Children, 2009). According to the Federal Interagency Forum on Child and Family Statistics (http://www.childstats.gov), racial and ethnic diversity in the United States continues to increase. In 2008, 56 percent of children in the United States were White, non-Hispanic; 22 percent were Hispanic; 15 percent were Black; 4 percent were Asian; and 5 percent were other races. The percentage of children who are Hispanic has increased faster than any other group, from 9 percent in 1980 to 22 percent in 2008. Although racial and ethnic data are important, they alone do not reflect fully the diversity of children and their families in the United States. Beyond race and ethnicity, children are diverse with respect to culture, language, ability, family structure and membership, and socioeconomic status. This diversity necessitates attention to designing early childhood professional development to ensure that practitioners, regardless of their preparation and backgrounds, are culturally responsive and competent. Lynch and Hanson (1998) defined cross-cultural competence as "the ability to think, feel, and act in ways that acknowledge, respect, and build upon ethnic, [socio]cultural, and linguistic diversity" (p. 49). Identifying professional development approaches effective for preparing and supporting practitioners to be cross-culturally competent has become increasingly important. In addition, professional development in early childhood intervention must address effective instructional practices for children from diverse backgrounds and abilities, including children whose home language is not English or who primarily speak a language other than English in the home (Buysse, Castro, & Peisner-Feinberg, 2010; Espinosa, 2010).

Tiered Prevention and Intervention Curricular Frameworks

The growing emphasis on tiered early prevention and intervention curricular frameworks and associated practices, which are designed to support and accelerate the growth and learning of all young children in inclusive early care and education settings, necessitates a shift in how professional development is designed, delivered, and evaluated. Those involved in early childhood intervention professional development recognize that programs and practices for young children with or at risk for disabilities will increasingly be situated within, not apart from, the broader array of programs and practices for young children and their families (Snyder et al., in press; VanDerHeyden & Snyder, 2006). This means contemporary approaches to early childhood intervention professional development must include attention to dimensions of environmental and instructional quality that are important for all children, for some children, and for individual children. Early childhood intervention practitioners must be able to use data to make informed decisions about the type, level, and intensity of supports and early learning experiences provided to young children based on their abilities, needs, and circumstances rather than categorical labels or eligibility criteria. Early childhood professional development approaches that support practitioners to implement evidence-based practices with fidelity and to use data to make decisions about support or intervention intensity will become increasingly important as tiered frameworks are implemented in early childhood settings (Snyder, Hemmeter, & Fox, 2010).

Workforce Issues

Professional development is one dimension of larger workforce issues in early childhood and early childhood intervention (Weiss, 2005–2006; Whitebook, 2010). Persistent and challenging workforce issues in early childhood and early childhood intervention exist, including wages and benefits, labor market dynamics, and recruitment and retention (Brandon & Martinez-Beck, 2006; Bruder et al., 2009). As workforce issues are addressed, they will be inextricably linked to professional development and early childhood quality improvement efforts. As Ramey and Ramey (2006) noted, it is not desirable to have a stable but unskilled workforce or to sacrifice the quality of early care and education provided to young children because of turnover issues. When discussing how to attract, train, and sustain a high-quality workforce they stated, "The key is that the highest priority has to be placed on the direct provision of high-quality [education] and care at all times, in all settings, for all children" (p. 362).

Early Childhood Professional Development Leadership

Winton and McCollum (2008) described a pressing need to consider the knowledge, skills, and dispositions needed by professional development leaders. These authors defined professional development leaders as including the faculty, consultants, trainers, mentors, and coaches who help mediate the transfer and application of early childhood professional development content. Winton and McCollum noted professional development leaders, at a minimum, should be expected to have advanced, cross-sector content knowledge in (1) early childhood and early childhood intervention, (2) evidence-based practices, (3) research-based teaching and intervention strategies for supporting young children's development and learning, (4) skills related to working with adult learners, and (5) the ability to implement effective professional development strategies with fidelity. One unique challenge to be addressed by the next generation of professional development leaders is how to align PD across the various systems focused on early care and education. As more is learned about how to design, deliver, and evaluate cross-sector early childhood professional development, professional development leaders in early childhood intervention will be needed who can contribute meaningfully to its practice and research base.

DEFINING PROFESSIONAL DEVELOPMENT IN EARLY CHILDHOOD

According to several widely respected sources, until recently, no agreed-upon definition for early childhood professional development existed (Maxwell, Feild, & Clifford, 2006; National Professional Development Center on Inclusion, 2008). Based on their review of 27 research studies focused on early childhood professional development, Maxwell et al. (2006) constructed definitions for various types of professional development, given there were no consistent definitions offered in the extant literature. These authors identified education, training, and credential as three types of professional development. *Education* was defined as professional development activities that occur within a formal education system. This often has been referred to in the literature as preservice training. *Training* was defined as professional development activities that occur outside the formal education system, which has often been characterized as in-service training. Finally, Maxwell et al. identified *credential* as a third type of professional development that does not fall into the education or the training category. These authors noted organizations that grant credentials such as early childhood teaching certifications or professional licensures often are not the same as those that deliver education and training, yet they play a key role in professional development systems.

To advance efforts related to developing a shared definition for early childhood professional development, investigators associated with the National Professional Development Center on Inclusion used iterative processes, including a review of the research literature and field review and validation, to construct a definition for professional development (Buysse, Winton, & Rous, 2009). The definition developed and disseminated by the Center is as follows: "Professional development is facilitated teaching and learning experiences that are transactional and designed to support the acquisition of professional knowledge, skills, and dispositions as well as the application of this knowledge in practice" (p. 3). As part of the conceptual framework that accompanies the definition, three key components of professional development were specified. These components focus on the *who*, the *what*, and the *how* of professional development. In addition, the framework specifies important infrastructure and contextual supports for early childhood professional development: (1) resources, (2) policies, (3) organizational structures, (4) access and outreach, and

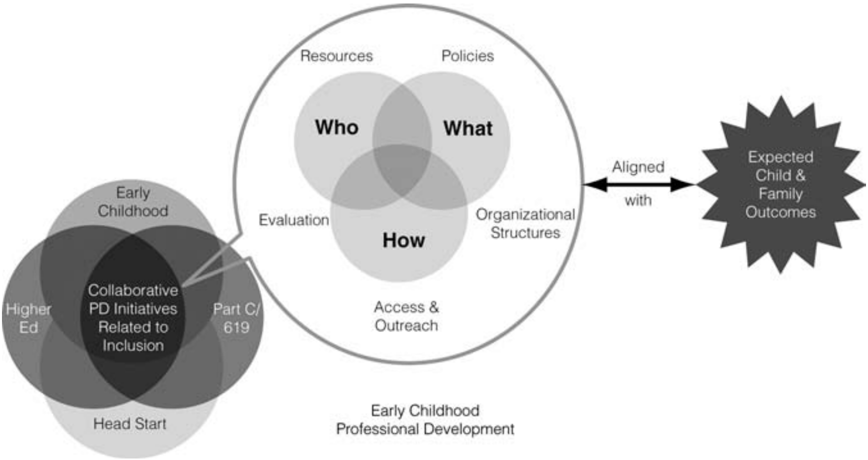


Figure 7.1 Conceptual framework for professional development in early childhood. Adapted from "The Big Picture: Building Cross-Sector Early Childhood Professional Development Systems" by C. Catlett & P. J. Winton, 2009, Smart Start Conference.

(5) evaluation. Figure 7.1 shows the NPDCI framework for early childhood professional development.

The *who* of professional development includes consideration of the characteristics and organizational contexts of learners and the characteristics and organizational contexts of those who design, deliver, and evaluate professional development. It also includes consideration of the characteristics and contexts of the diverse children and families with whom participants in professional development interact.

The *what* of professional development considers the content to be addressed or the knowledge, skills, or dispositions on which professional development is focused. To help determine what knowledge, skills, and dispositions are important for particular early childhood intervention practitioners and under what circumstances, guidance can be found by consulting professional competencies that specify core, specialized, and discipline-specific competencies (e.g., American Speech-Language-Hearing Association, 2008; Snyder, Crowe, & Woods, 2010; Thorp & McCollum, 1988); professional competencies or standards (e.g., Council for Exceptional Children, 2009; Division for Early Childhood, 2008); program quality standards or quality rating systems (Scott-Little, Cassidy, Lower, & Ellen, in press); child-focused early learning standards or guidelines (Scott-Little, 2010); and desired outcomes for children and families specified in early childhood accountability systems (Hebbeler, Barton, & Mallik, 2008).

The *how* of PD refers to the organization and facilitation of professional development experiences, including pedagogical or instructional strategies used to support teaching and learning. It includes consideration of promising instructional approaches that support the achievement of desired professional development outcomes (Snyder & Wolfe, 2008; Winton & McCollum, 2008), principles from adult learning (Knowles, 1984; Knowles, Holton, & Swanson, 1998) and the growing body of evidence related to how people learn (e.g., Bransford et al., 2000; Donovan, Bransford, & Pellegrino, 1999).

The definition of early childhood professional development developed and disseminated by the National Professional Development Center on Inclusion (NPDCI) emphasizes transactional and facilitated teaching and learning experiences and avoids dichotomizing two major categories of professional development that historically have developed somewhat independently (i.e., preservice and in-service training). One long-standing assumption has been that preservice training serves as an introduction to the world of practice, while in-service training develops, expands, or modifies the knowledge, skills, and dispositions of practitioners. Unfortunately, this dichotomy often is deleterious at the practice level in the development and maintenance of separate systems for preparing personnel to deliver early childhood intervention services (Sexton, Snyder, Lobman, Kimbrough, & Matthews, 1997). The emphasis on transactional and facilitated teaching and learning experiences in the NPDCI definition is useful for advancing broader conceptualizations of early childhood professional development and the types of activities that might be characterized as forms of professional development. The definition highlights the need not only to describe the types of professional development available in a comprehensive early childhood professional development system, but to consider systematically the who, what, and how of professional development and necessary infrastructure and contextual supports. Moreover, this definition can be used to support the development, implementation, and evaluation of "second-generation" early childhood professional development that considers which transactional and facilitated teaching and learning experiences focused on what knowledge, skills, and dispositions are needed by which early childhood intervention practitioners and under what circumstances. Of particular relevance to early childhood intervention is the identification of promising professional development features that support practitioners to implement evidence-based practices with fidelity in inclusive early learning settings and link practitioners' implementation of these practices to desired child and family outcomes.

FEATURES OF EFFECTIVE PROFESSIONAL DEVELOPMENT

Despite decades of literature documenting limitations associated with what has been referred to as the "train and hope," "spray and pray" or "one-shot" workshop approach to professional development, much of what occurs as professional development continues to be this approach. This professional development approach often involves a workshop session or two focused on raising awareness or gaining knowledge about a practice or set of practices; limited interactions among trainers and participants; little preparation or follow-up provided for participants; and a lack of consideration for learners' needs, experiences, and opportunities in relation to the professional development topic (Snyder & Wolfe, 2008). These features of professional development generally would be characterized as ineffective for supporting a theory of action or change related to desired relationships among high-quality professional development, practitioners' knowledge and skills related to evidence-based practices, the application of practitioners' knowledge and skills as reflected in intentional teaching and high-quality instruction, and child engagement and learning. Figure 7.2 shows a schematic that illustrates these hypothesized relationships.

In contrast to traditional approaches, contemporary perspectives about early childhood professional development reflect systematic attention to examining the relationships shown in Figure 7.2. This contemporary approach includes identifying and measuring features of professional development provided to practitioners and associating these features with improved fidelity of implementation of evidence-based practices and, in turn, positive outcomes for children and families.

A large body of anecdotal professional development literature, federal policy (e.g., No Child Left Behind Act of 2001; Good Start, Grow Smart Interagency Workgroup, 2005) and accumulating empirical evidence (Yoon, Duncan, Lee, Scarloss, & Shapley, 2007), including research related to how people learn (e.g., Bransford et al., 2000), has identified features of effective professional development. As Snyder and Wolfe (2008, p. 15) noted, effective professional development is

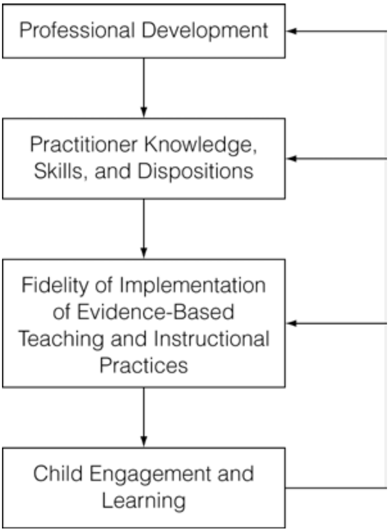


Figure 7.2 Theory of action or change illustrating desired relationships among high-quality professional development; practitioners' knowledge, skills, and dispositions related to evidence-based practices; the application of practitioners' knowledge and skills as reflected in intentional teaching and high-quality instruction; and child engagement and learning.

distinguished from ineffective professional development by its emphasis on coherency, research-based practices, and capacity building.

In K–12 education, consensus has emerged about features of effective professional development that are associated with student learning or achievement (Wayne, Yoon, Zhu, Cronen, & Garet, 2008). These features have also been identified as those most likely to be related to child learning and improved outcomes for young children and their families (Landry, Swank, Smith, Assel, & Gunnewig, 2006; Neuman & Cunningham, 2009; Pianta, Mashburn, Downer, Hamre, & Justice, 2008; Sheridan, Edwards, Marvin, & Knoche, 2009; Snyder & Wolfe, 2008; Winton & McCollum, 2008; Whitebook, 2010).

In the No Child Left Behind (NCLB) Act of 2001 (§ 9101 p. 1963), five features (criteria) of high-quality professional development are specified: (1) sustained, intensive, and content focused to have a positive and lasting impact on classroom instruction and teacher performance; (2) aligned with and directly related to state academic content standards, student achievement standards, and assessments; (3) improves and increases teachers' subject-matter knowledge; (4) advances teachers' understanding of effective instructional strategies based on scientifically based research; and (5) regularly evaluated for effects on teacher effectiveness and student achievement. One-day or short-term workshops or conferences are specifically identified as not meeting the definition for high-quality professional development under NCLB.

Beyond NCLB, several organizations or groups have specified standards or recommended practices for professional development, including the Division for Early Childhood of the Council for Exceptional Children (Miller & Stayton, 2005), the National Association for the Education of Young Children (NAEYC, under revision), the Council of Chief State School Officers (http://www.nectac.org/~pdfs/topics/ecpractices/gsgs.pdf), and the National Staff Development Council (http://www.nsdc.org/standards/index.cfm). Across these organizations and groups, several themes have emerged related to features of effective professional development linked to student achievement or desired child and family outcomes. These themes include (1) sustained over time, (2) grounded in practice (job embedded), (3) linked to curriculum and instructional goals, (4) collaborative, (5) interactive, and (6) the provision of support and feedback in practice settings.

In addition to the features of high-quality professional development specified in NCLB and by professional organizations or groups, features of effective professional development have been identified in empirical studies or systematic reviews of the professional development literature. Although these studies involved teachers working in K–12 education programs, the features of effective professional development identified in these studies likely are relevant for those who design, implement, and evaluate professional development in early childhood.

Kennedy's (1998) systematic review of the effects on student achievement of professional development programs focused on math and science demonstrated support for the conclusion that a coherent content focus was an important feature of the professional development. When examining relationships between professional development and student achievement, Kennedy developed a classification system that differentiated four types of studies included in her systemic review. Group 1 professional development studies focused on teaching behaviors that could be applied across all subjects (e.g., lesson planning or grouping methods). Group 2 professional development studies focused on teaching behaviors applied to a particular subject. Although the behaviors had a generic quality, they were applicable to a subject. Group 3 studies focused on general guidance related to curriculum and instruction, and the professional development content focus was justified on the basis of how students generally learn. Finally, Group 4 professional development studies focused on how students learn subject matter content and how to assess student learning. This type of professional development provided knowledge about how students learn particular subjects, but did not offer specific guidance on practices for teaching a subject. Kennedy found that professional development programs focused on teachers' instructional behaviors that did not have an explicit content focus (i.e., Group 1 studies) demonstrated smaller influences on student achievement than did programs focused on teachers' knowledge of the subject matter, the curriculum, or how students learn subject-matter content.

Building on findings from the systematic review provided by Kennedy, a series of survey and case-study evaluations were conducted to identify key features of effective professional development (Birman, Desimone, Porter, & Garet, 2000; Garet, Porter, Desimone, Birman, & Yoon, 2001). The Garet et al. (2001) study involved a nationally representative sample of 1,027 mathematics and science teachers who self-reported their experiences and behavior following participation in a Title II Elementary and Secondary Act professional development activity. The professional development activity on which the teacher reported was selected using a systematic, hierarchical sampling strategy (Garet et al., 2001). In addition to the survey, as part of the larger national evaluation of the Title II professional development program, 6 exploratory case studies and 10 in-depth case studies in five states were conducted (Birman et al., 2000). Through this work, six features of professional development associated with student achievement were identified as promising practices. Although these features were identified in studies involving mathematics and science teachers, they are relevant to efforts focused on identifying features of effective professional development in early childhood intervention.

Table 7.1 lists and defines the six features of effective professional development described by Garet et al. (2001). These features have been organized under two dimensions: structural and core or substantive. Of note, these two dimensions are similar to the structural and process dimensions identified as key features when examining the quality of early childhood learning environments (cf. LaParo, Sexton, & Snyder, 1998). Three features of effective professional development are organized under the structural dimension: (1) form, (2) duration, and

Table 7.1 Six Features of Effective Professional Development Organized by Two Major Dimensions

Dimension	Feature	Definition
Structural	Form	Type of professional development characterized as reform versus traditional
	Duration	Includes number of hours participants spend in a professional development activity and time span over which the activity takes place
	Collective Participation	Involvement of groups of practitioners from the same program, school, department, subject, or grade level
Core or Substantive	Content Focus	Professional development focuses on specific curriculum or content rather than focus on general teaching methods (e.g., lesson planning, grouping methods)
	Active Learning	Professional development instructional processes include opportunities for learners to be engaged in meaningful analyses of teaching and learning including discussion, planning, observations, analyses, and practice with feedback
	Coherence	Professional development incorporates experiences consistent with the learners' goals; builds on previous knowledge and skills; provides opportunities for learners to discuss their experiences with others; and aligns with standards, curricula, accountability, and assessments relevant to the learners' practice context(s)

Note: Adapted from "What makes professional development effective? Results from a national sample of teachers," by M. S. Garet, A. C. Porter, L. Desimone, B. F. Birman, and K. S. Yoon, 2008, *American Educational Research Journal, 38*, pp. 919–920. Copyright 2008 by the American Educational Research Association.

(3) collective participation. Form refers to the type of professional development provided and whether it is traditional (e.g., short-term workshop or conference) or reform (e.g., communities of practice, mentoring, or coaching). Duration relates to dosage of professional development and includes the number of hours that participants spend in a professional development activity and the time span over which the activity takes place. Collective participation refers to the involvement of groups of practitioners from the same program, school, department, subject, or grade level in professional development as contrasted with the participation of practitioners with no logical or cohesive connection with one another.

Substantive or "core" features specified by Garet et al. included (1) content focus, (2) active learning, and (3) coherence. Content focus is consistent with Kennedy's (1998) findings and emphasize that professional development should have an explicit content focus versus a focus on general teaching methods such as lesson planning or instructional grouping methods (Birman et al., 2000). Content focus is related to the "what" of professional development reflected the NPDCI definition (National Professional Development Center on Inclusion, 2008). Active learning refers to professional development processes that include opportunities for learners to be engaged in meaningful analyses of teaching and learning, including discussion, planning, observations, analysis, and practice with feedback. Active learning strategies are based on accumulating evidence related to how learners acquire, master, and use knowledge and skills (Bransford et al., 2000; Donovan et al., 1999). Active learning is reflected in the "how" of professional development by NPDCI. Finally, coherence refers to the degree to which the professional development incorporates experiences that are consistent with the learners' goals, builds on previous knowledge and skills, provides opportunities for learners to discuss their experiences with others, and aligns with standards, curricula, accountability, and assessments relevant to the learners' practice context(s).

Characterizing effective professional development as including the two dimensions and six features described by Garet et al. (2001), Yoon and colleagues (2007) conducted a systematic review of the empirical literature to evaluate the strength of the evidence related to relationships between teacher professional development and student achievement. Assuming the effects of professional development on student achievement are mediated by teacher knowledge and practice in the classroom, the authors proposed a theory of action or change similar to the one shown in Figure 7.2. They hypothesized that professional development affects student achievement through three interrelated processes: (1) professional development must be high quality as reflected in its theory of action, including planning, implementation, and evaluation; (2) teachers who participate in high-quality professional development must have the motivation, belief, and skills to apply professional development content in their teaching and instructional practices; and (3) teaching and instruction, affected by high-quality professional development, impacts student achievement.

Yoon et al. (2007) noted that to substantiate the empirical link between professional development and desired outcomes (e.g., student achievement, child engagement and learning), studies must present high-quality empirical evidence supporting the hypothesized relationships among professional development, teacher learning and practice, and desired student or child outcomes. After reviewing 1,343 studies conducted between 1986 and 2006 focused on the effects of in-service professional development on student achievement, these authors found only nine studies that met the evidence standards established by the What Works Clearinghouse (http://ies.ed.gov/ncee/wwc). Five of the studies met the "without reservations" evidence standards; four met the "with reservations" standards. Six studies were published in peer-reviewed journals, and three were unpublished doctoral dissertations. Of the nine studies, five were randomized controlled-group experimental trials, and four were quasi-experimental studies. The average standardized mean difference effect size across the nine studies was 0.54 (range –0.53 to 2.39) and the improvement index (i.e., difference between the percentile rank of the intervention group mean and the 50th percentile representing the control group mean in the control group distribution) was 21.

With respect to the "who" of professional development, all nine studies involved elementary school teachers (K–5) and their students. Those providing the professional development were the primary authors of the nine studies or their affiliated researchers, and no train-the-trainer approaches were used. The content focus ("what" of professional development) in four of the studies focused on reading and language arts, two studies focused on mathematics, two other studies focused on mathematics and reading/language arts, one study focused on science, and one study involved content in mathematics, science, and reading/language arts. With respect to the "how" of the professional development, Yoon et al. found the studies "varied much more in content and substance than in form" (p. 12). They noted it was not possible to discern any systematic pattern between how professional development was provided and its subsequent effects on student achievement because of the lack of variability in form and the significant variability in the duration and intensity of the professional development across a small number of studies.

Nevertheless, with respect to features of effective professional development, each of the nine studies involved a coherent set of workshops or summer institutes. Eight studies included some type of follow-up to support application of PD content. Follow-up activities ranged from one follow-up meeting after a four-week workshop in one study, to 13 follow-up meetings after a weeklong summer workshop. The number of contact hours ranged from 5 to 100 and the duration of the PD ranged from 4 weeks to 10 months. Yoon et al. found that studies that had greater than 14 hours of PD showed a positive and statistically significant effect on student achievement, while the three studies that had fewer hours of professional development (i.e., 5 to 14 hours) demonstrated no statistically significant effects on student achievement.

Anecdotal reports, statements from professional organizations, descriptions of recommended practices, and a growing body of empirical evidence have identified promising features of effective professional development. These features are particularly relevant for contemporary approaches to professional development in early childhood intervention that emphasize fidelity of implementation of evidence-based teaching and instructional practices to support young children’s learning and development. Although consensus has been reached about key features of effective professional development, sufficient specificity is not available to confidently guide professional development practices (Yoon et al., 2007).

Specific to early childhood professional development, Sheridan et al. (2009) and Zaslow (2009) have emphasized the need to describe with greater specificity the underlying processes associated with effective professional development. Sheridan et al. noted the science of early childhood professional development necessitates specifying theories of action and examining evidence not only about the form of professional development (i.e., methods, structures, delivery approaches) but about processes or mechanisms associated with desired proximal (practitioner) and distal (child and family) outcomes. Zaslow described these mechanisms as “active ingredients” and asserted that to examine fully these ingredients, particularly in relation to desired outcomes, changes will be required in how the field conceptualizes and shares evaluations of early childhood professional development.

She noted that most reports of early childhood professional development focus primarily on structural features, including type or form, content focus, and dosage provided, but specify limited information about the nature of professional development activities, particularly sufficient and replicable descriptions of the mechanisms or active ingredients hypothesized to be associated with proximal or distal outcomes. A systematic review of the literature conducted by Snyder, Artman, Hemmeter, Kinder, and Pasia (2010) supported Zaslow's assertions about features of early childhood professional development that have been reported most often in the empirical literature. Findings from this review are discussed briefly in the next section.

FEATURES OF EARLY CHILDHOOD PROFESSIONAL DEVELOPMENT REPORTED IN THE EMPIRICAL LITERATURE

Snyder et al. (2010) conducted a systematic review of the empirical early childhood professional development literature to characterize key features using the NPDCI framework. These authors identified 235 empirical studies that involved a type of professional development specified on an investigator-developed coding form (see Table 7.2). In addition, the included studies had to involve early childhood practitioners or practitioners in training and to report empirical evidence about outcomes associated with professional development for either the early childhood practitioner or the children with whom the practitioner worked. As part of the review, the authors summarized the type of professional development provided to early childhood practitioners, the content focus of the professional development (the "what"), which early childhood practitioners participated in professional development (the "who"), and under what circumstances. With respect to the "how" of professional development, Snyder et al. were particularly interested in characterizing if follow-up teaching and learning strategies were used, particularly in-situ experiential strategies described as holding the most promise for supporting application of skills in practice contexts (i.e., coaching or consultation with performance feedback, mentoring, peer support groups, communities of practice or shared inquiry groups; Sheridan et al., 2009; Snyder & Wolfe, 2008). For studies that included the provision of feedback to support skill application, the authors summarized data-related structural and process mechanisms, including the feedback agent; the format for delivery of feedback; and the type, intensity, and duration of feedback provided. In addition, they

Table 7.2 Forms and Definitions of Professional Development Reflected in the Early Childhood Empirical Literature

Form of Professional Development	Definition
Staff Development	Training provided *on-site* to an *individual or group who works together* at a targeted program, facility, or school system. This takes the form of an on-site workshop or series of on-site workshops. This training may also include a needs assessment or follow-up component.
In-Service Training	Training provided to an individual or group in a structured setting *outside their regular work settin*g. This takes the form of an off-site workshop or series of off-site workshops. This training may also include a needs assessment component or follow-up component.
Preservice Training	Training provided to teachers, interns, student teachers, practicum students, or paraprofessionals who are enrolled in coursework for academic credit in a degree program located in a structured setting. This includes preservice internship, practicum, or student teaching where participants receive academic credit.
In-situ Consultation and Coaching	Professional development takes place in practice contexts (i.e., in the classroom, in the home for early intervention providers). Learners receive "on-the-job" experiences, coaching, or feedback but no formal instruction or training occurs outside the practice context. Participants may receive continuing education credit for the experiences, but they are not enrolled in formal preservice academic coursework.
Induction/Mentoring	Professional development conducted on-site for novice professionals or paraprofessionals who have less than three years experience. Professional development is conducted by a teacher or another professional working in the same program.
Web Training	Course or workshop accessed via the Internet. The course or workshop may include interaction (electronic, by phone, or face-to-face via videoconferencing) between trainer and trainee.
Materials Only	Manuals, CDs, or other materials (textbooks, self-guided modules) provided to participant. No organized, formal training or follow-up is provided.
Shared Inquiry	Emphasis is on collaborative inquiry and reflection about learning. Learners work in groups to identify

(*Continued*)

Table 7.2 (Continued)

Form of Professional Development	Definition
	professional development needs and develop learning plans to meet these needs. May include identification or assessment of learning outcomes. Typically, there is limited involvement by "experts" or individuals who are not regular group members.
Other	Organized teaching or learning experiences not reflected in the categories listed above.

examined whether fidelity of implementation associated with the provision of feedback was evaluated.

With respect to the type of professional development provided, more than half of the 235 studies were characterized as providing staff development or inservice training (see Table 7.2 for definitions). Participants in the studies were identified as early childhood educators (78 studies), child care providers (74 studies), Head Start practitioners (67 studies), early childhood special educators (26 studies), early intervention providers (19 studies), kindergarten teachers (18 studies), family care providers (13 studies), and Early Head Start practitioners (7 studies). None of the studies reported including family members as participants in the professional development. Most often, professional development content focused on social-emotional development and challenging behaviors (62 studies) and pre-academic skills (49 studies).

Of the 235 studies that met the inclusion criteria, 185 reported using follow-up strategies as a component of the professional development intervention. In 134 of these studies, in-situ experiential strategies described as holding the most promise for supporting application of skills in practice contexts were implemented. In 108 studies, coaching with feedback was provided. Mentoring was used in 12 studies, peer support groups in 4 studies, and shared inquiry/communities of practice in 2 studies. The majority of individuals involved in organizing the experiential professional development activities were research staff or consultants, but their qualifications were described in only half of the reviewed studies. The length of time the experiential learning activities were implemented was not described in 33 percent of the studies. The most frequently occurring time category of was 7–12 months (22% of studies) and often was linked to a school year. Only 21 percent of the studies reported the experiential learning strategies extended over more than one school year. Experiential activities were most often implemented weekly (31% of studies) or monthly (16% of studies), although 37 percent of the studies did not describe the frequency of contact. The duration of each experiential activity was not specified in 56 percent of the studies, and the most frequently reported duration was 30 minutes or longer (27% of studies).

Verbal and written performance feedback was provided to participants in 56 and 26 of the 134 studies, respectively. Problem-solving discussion and goal setting was reported in 36 studies, and goal setting occurred in 25 studies. Most feedback was provided immediately following the experiential learning activity (48% of the studies), although delayed face-to-face feedback was provided in 24 percent of the studies. Feedback via the Web was provided in 7 percent of the 134 studies.

With respect to fidelity of implementation of the experiential strategy, 113 (84%) of the studies did not present fidelity data. The protocol used to implement the experiential strategy was also not described in 81 percent of the studies. Twelve studies indicated they followed a coaching manual. Overall, very limited information was provided about the mechanisms or active ingredients associated with the experiential learning activities.

PROMISING APPROACHES TO EARLY CHILDHOOD INTERVENTION PROFESSIONAL DEVELOPMENT

The review of the professional development literature by Snyder, Artman, et al. (2010) highlighted that early childhood professional development comes in different forms. It can be characterized by a variety of purposes, participants, contexts, methods, and desired outcomes. For example, professional development in early childhood intervention might be an awareness-level workshop about a new Part C provision under the Individuals with Disabilities Education Act. Alternatively, it might be a comprehensive program-wide initiative to support young children's social-emotional development and prevent challenging behaviors (e.g., Hemmeter, Fox, Jack, Broyles, & Doubet, 2007), a semester-long course on early childhood assessment, or an coherent series of workshops followed by sustained coaching to support application of evidence-based practices in an inclusive early learning program (Snyder, Hemmeter, Sandall, & McLean, 2008). The who, the what, and the how of the professional development (National Professional

Development Center on Inclusion, 2008) are likely to vary across these forms, as are the desired outcomes.

Desired learner outcomes targeted in early childhood professional development might include (1) raising awareness, (2) acquiring or enhancing knowledge, (3) acquiring or enhancing skills, or (4) shaping or modifying dispositions. Sheridan et al. (2009) noted these outcomes might be associated with changes in teachers' interactions with children or families, the design of high-quality learning environments, the use of specific curricular or teaching strategies for particular groups of children or an individual child, or other specific behaviors or meaningful targets.

When considering promising approaches to professional development in early childhood intervention, it is important to map backward from desired outcomes (Guskey, 2002) and to align structural and process features with the desired outcomes. The widely cited work of Joyce and Showers (2002) highlights limitations associated with professional development that involves only presentation of theory without opportunities for modeling, skill practice, and coaching for implementation. As shown in Table 7.3, by extrapolating from their research on effective staff development in relation to practitioners' "executive implementation" in practice contexts and subsequent effects on student achievement, Joyce and Showers predicted the

Table 7.3 Professional Development Components and Attainment of Outcomes in Terms of Percent of Participants

	Participants Attaining Professional Development Outcomes		
Components of PD	**Knowledge**	**Skill**	**Transfer (Executive Implementation)**
Presentation of Theory and Content	10%	5%	0%
Plus Demonstration and Modeling	30%	20%	0%
Plus Practice with Feedback	60%	60%	5%
Plus Coaching for Implementation in Practice Context	95%	95%	95%

Note: Adapted from "Student achievement through staff development," by B. R. Joyce and B. Showers, 2002, p. 78. Copyright 2002 by the American Society for Curriculum and Development.

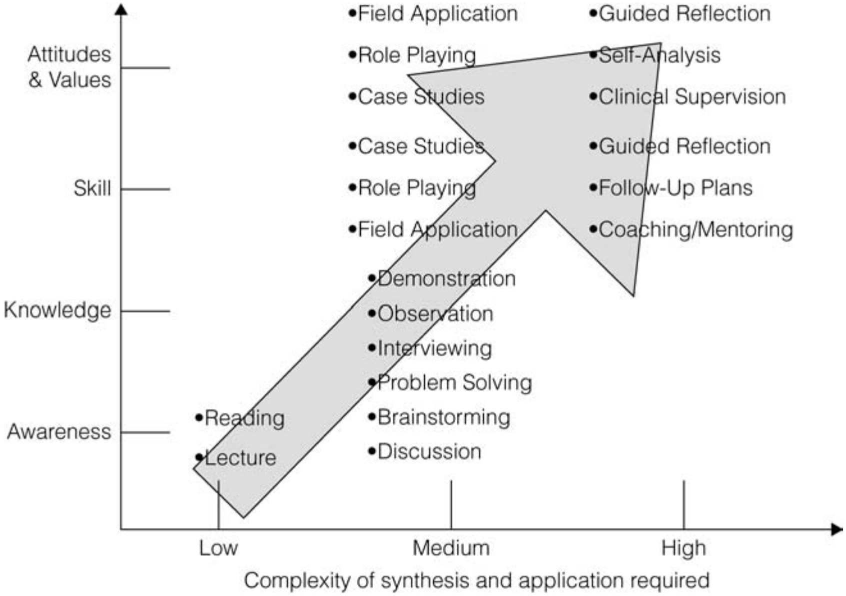


Figure 7.3 Model for matching instructional strategies to desired professional development outcomes. Adapted from "Designing effective personnel preparation for early intervention: Theoretical frameworks," by J.A. McCollum and C. Catlett, 1997, p. 116. Copyright 1997 by Brookes Publishing. Adapted with permission.

percentages of participants likely to attain outcomes of knowledge, skill, or transfer (i.e., executive implementation) when various professional development components are implemented. These authors stated, "Note that the estimates are very rough, but they give rules of thumb for estimating the product of training" (p. 78).

McCollum and Catlett (1997) presented a framework that aligned various pedagogical or instructional strategies with desired professional development outcomes. As shown in Figure 7.3, this framework illustrates how instructional strategies (e.g., reading, case study, and self-reflection) should be considered with respect to both their complexity and the desired training outcome. For example, if the desired PD outcome is that practitioners will be aware of a new Part C regulation related to the natural-environments provision of IDEA, then a reading or self-guided instructional module on a Part C Web site might be an appropriate instructional strategy to achieve the desired awareness outcome. If, however, the desired outcome of professional development is focused on skill implementation in practice contexts, then more complex instructional strategies, including those identified by Joyce and Showers (2002) and the promising experiential learning strategies identified in the early childhood professional development literature, will be needed. These experiential strategies include coaching (Hanft, Rush, & Shelden, 2004), consultation (Buysse & Wesley, 2005), shared inquiry (Dana & Yendol-Hoppey, 2008), and communities of practice (Helm, 2007; Wesley & Buysse, 2006).

Despite growing consensus about features of effective professional development, results of the Yoon et al. (2007) systematic review and commentaries specific to early childhood PD by Sheridan et al. (2009) and Zaslow (2009) suggest the empirical evidence to date is limited with respect to professional development features (i.e., active ingredients) that make a difference in relation to desired proximal and distal outcomes (Wayne et al., 2008). Additional research is needed to guide the growing investments being made in professional development both in K–12 systems and in early childhood.

Wayne et al. (2008) suggested future professional development research be designed to address two main questions: (1) whether professional development programs that have demonstrated efficacy when implemented by study authors in controlled conditions remain effective when delivered by others under routine conditions, and (2) what specific features of professional development appear to matter most with respect to teaching and instructional practice and subsequent effects on student achievement. In addition, these authors noted a major challenge in that most professional development interventions involve at least two theories of action, which they characterized as a *theory of instruction* and a *theory of teacher change*. Wayne et al.'s two-theory analogy has utility for those who plan and implement professional development in early childhood intervention and for those who evaluate promising professional development approaches.

A *theory of instruction* represents the hypothesized links among the specific practitioner knowledge, skills, or dispositions emphasized in professional development, practitioners' implementation of teaching and instruction, and student achievement (Wayne et al., 2008). To illustrate a theory of instruction specific to early childhood intervention, we use an example from a project funded by the Institute of Education Sciences. This project is examining the impact of professional development on preschool teachers' use of embedded instruction practices (Snyder et al., 2008). The theory of instruction posited is that professionals focused on planning for, implementing, and evaluating embedded instruction (an evidence-based practice described by

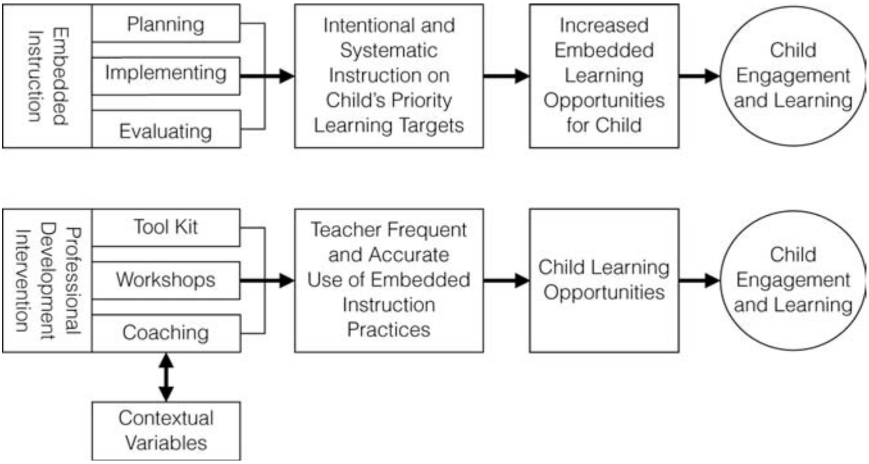


Figure 7.4 Theory of instruction (top) and theory of change (bottom) associated with professional development intervention focused on embedded instruction.

Wolery [2005]) will result in preschool teachers delivering more systematic and intentional instruction on priority learning targets to preschool children with disabilities in the context of activities, routines, and transitions in inclusive preschool settings. In turn, the investigators hypothesize that intentional instruction on priority learning targets will be associated with improvements in child learning and developmental outcomes. Figure 7.4 shows the theory of instruction for this professional development intervention.

Wayne et al. (2008) noted that a *theory of teacher or practitioner change* specifies the features of the professional development intervention hypothesized to promote change in teacher knowledge or practice, including the "mechanisms through which features of the professional development are expected to support teacher learning" (p. 472). This theory of change includes consideration of not only the structural features of the professional development identified by Garet et al. (i.e., form, duration, collective participation), but also the transactional teaching and learning experiences in which practitioners are involved and the intermediate or proximal practitioner outcomes the professional development experiences are expected to support.

In the Snyder et al. (2008) study, the theory of teacher change being examined is illustrated in Figure 7.4. The professional development emphasizes collective participation of 4–8 teachers working in preschool classrooms in a targeted program or school district. The investigators or personnel working with the investigators facilitate the professional development. The components of the intervention involve a series of coherent and content-focused workshops that are approximately 16 hours in duration. Active and experiential learning strategies are used in the workshops and include multiple-case and video exemplars of embedded instruction practices designed to guide learners' observations and analyses of practices. Workshop fidelity is evaluated systematically to ensure adherence to delivering the professional development as planned. Workbook and implementation practice guides are provided to each teacher along with a video camera that is used to record and analyze embedded instruction practices in the teacher's classroom during the series of workshops. With support from the workshop facilitator, teachers spend significant time during the workshop sessions engaged in case application activities related to planning for, implementing, and evaluating embedded instruction. Presently, the investigators are analyzing data related to which instructional strategies have been used in each workshop and how many minutes are spent using each strategy across sessions.

Coaching that includes performance feedback to support implementation of embedded instruction is an additional component of this professional development intervention. The coaching protocol includes a cyclical process that involves self-assessment related to embedded instruction implementation, goal setting and action planning, and monitoring and evaluation of implementation. Two variants of coaching are being examined: 15 weeks of in-situ coaching by an expert coach, or 15 weeks of self-coaching via a project-developed Web site. Both variants of coaching use the same cyclical coaching protocol, but coaching processes associated within each variant of coaching differ.

In the in-situ condition, coaching includes a 60-minute observation of the teacher in her classroom every other week for 15 weeks and an approximately 30-minute debriefing meeting that includes delivery of systematic performance feedback to the teacher about her frequent and accurate use of embedded instruction practices with targeted preschool children with disabilities. The feedback protocol used during debriefing includes the following six components: (1) open the feedback meeting, (2) provide supportive feedback, (3) provide corrective feedback, (4) provide targeted support, (5) discuss planned actions and needed resources or revise goals and action plan, and (6) close the feedback meeting. Debriefing, including feedback, is delivered face to face following each classroom observation and via e-mail, using the feedback protocol described above in each week that follows a scheduled observation. Coaches use a log for each in-situ and e-mail coaching session to report whether they implemented each component of the coaching and feedback protocols. They also report the strategies they used while conducting their observations and debriefings (e.g., modeling, reflective conversation, side-by-side gestural support) and the approximate time spent using each strategy. In addition to the coaches self-report of implementation, a second observer evaluates 33 percent of observation and debriefing sessions to evaluate adherence to the coaching and feedback protocols.

The intermediate practitioner outcomes of these professional development experiences are expected to support teachers' frequent and accurate use of embedded-instruction learning trials. One measure used to evaluate this proximal outcome is the Embedded Instruction Observation System (Snyder, Crowe, Hemmeter, Sandall, McLean, & Crow, 2009). Relationships between teachers' frequent and accurate implementation of embedded-instruction learning trials and child engagement and learning are also being evaluated.

We have used the Snyder et al. study as an exemplar to illustrate how a theory of instruction and a theory of teacher [practitioner] change described by Wayne et al. (2008) might be used to guide the design, implementation, and evaluation of promising PD approaches in early childhood intervention. Several other exemplars of PD studies, focused on promising approaches for supporting early childhood practitioners' implementation of evidence-based practices that can be linked to desired child learning outcomes, have appeared in the literature (e.g., Buysse et al., 2010; Hemmeter, Fox, & Snyder, 2008; Hemmeter, Snyder, Kinder, & Artman, in press; Hsieh, Hemmeter, McCollum, & Ostrosky, 2009; Landry et al., 2006; Neuman & Cunningham, 2009; Pianta et al., 2008). The professional development interventions implemented in these studies could be characterized with respect to the theories of instruction and teacher or practitioner change and the who, what, and how as reflected the NPDCI framework (NPDCI, 2008). Examining studies of early intervention professional development in this way would permit an analysis of the components of the professional development intervention and an evaluation of which practitioners received what professional development content, under which circumstances and in what dosage. In addition, these studies could be examined to identify whether associations were found between teachers' implementation of evidence-based practices and desired child outcomes. These studies and others will contribute importantly to the growing science of early childhood professional development.

THE FUTURE OF EARLY CHILDHOOD INTERVENTION PROFESSIONAL DEVELOPMENT

In 1997, Wolfe and Snyder noted that for too long, the train-and-hope mentality guided professional development in early childhood intervention. More than a decade later, although promising approaches to early childhood professional development are being increasingly implemented and systematically evaluated, we continue to witness a proliferation of one-shot workshops, Web-based training modules, and de-contextualized presentations by experts at national, state, and local conferences as though these are sufficient forms (and doses) of professional development. Although these approaches to professional development might achieve outcomes related to increasing awareness and knowledge, a growing body of evidence suggests they will not be associated with practitioners implementing evidence-based practices with fidelity or desired child and family outcomes.

Early childhood intervention professional development in the future must include content reflecting the latest information from the science of child development, particularly with respect to how to support the development and learning of young children with or at risk for disabilities. It must accommodate the diverse needs of children and families and reflect a second-generation orientation with respect to the adult learners who participate in and deliver the PD. Theories of action, including a theory of instruction and a theory of practitioner change, should be specified to guide PD planning, implementation, and evaluation. These theories of action should provide a depiction for all stakeholders and what, why, and how we do things (Bruder et al., 2009) and should help address important questions related to the growing science of early childhood professional development (Sheridan et al., 2009).

Early childhood intervention professional development in the future should incorporate instructional approaches that hold the most promise for achieving desired proximal outcomes (e.g., practitioners implementing evidence-based practices with fidelity) and distal outcomes (e.g., children who have positive social-emotional skills, take appropriate actions to meet their needs, and acquire and use knowledge and skills). These approaches will be based on what we know from the science of how people learn (Bransford et al., 2000), and from the growing body of empirical evidence related to active ingredients or features of effective PD (e.g., Joyce & Showers, 2002; Yoon et al., 2007).

Finally, early childhood intervention professional development of the future will be integrated within broader cross-sector initiatives occurring at local, state, and national levels. Duplicative and parallel early childhood professional development systems not only are inefficient, but are indefensible within current and projected fiscal and accountability climates (Bruder et al., 2009). If the intent of contemporary and future early childhood programs is to support positive outcomes for all young children and their families, then we must ensure that high-quality PD is provided to each practitioner who implements services and supports to young children with or at risk for disabilities and their families. This will require commitment and infrastructure supports from individuals representing many disciplines, agencies, and institutions at local, state, and national levels (Winton, McCollum, & Catlett, 2008). A cadre of leaders will be needed to advance the science and practice of early childhood intervention professional development. Fortunately, despite many challenges likely to be faced, promising approaches to early childhood intervention professional development are available to help guide these efforts.

References

American Speech-Language-Hearing Association. (2008). *Core knowledge and skills in early intervention speech-language pathology practice*. Retrieved from http://www.asha.org/policy

Bagnato, S. J. (2006). Of helping and measuring for early childhood intervention: Reflections on issues and school psychology's role. *School Psychology Review, 35*, 615–620.

Birman, B. F., Desimone, L., Porter, A. C., & Garet, M. S. (2000). Designing professional development that works. *Educational Leadership, 57*, 28–33.

Bogard, K., & Takanishi, R. (2005). PK-3: An aligned and coordinated approach to education for children 3 to 8 years old. *Social Policy Report, 19*(3), 3–23. Retrieved from http://www.srcd.org/documents/publications/SPR/spr19-3.pdf

Bowman, B. T., Donovan, M. S., & Burns, M. S. (Eds.). (2000). *Eager to learn: Educating our preschoolers*. Report of the National Research Council, Committee on Early Childhood Pedagogy, Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.

Brandon, R. N., & Martinez-Beck, I. (2006). Estimating the size and characteristics of the United States early care and education workforce. In M. Zaslow & I. Martinez-Beck (Eds.), *Critical issues in early childhood professional development* (pp. 49–76). Baltimore: Paul H. Brookes.

Bransford, J. D., Brown, A. L., Cocking, R. R., Donovan, M. S., Bransford, J. D., & Pelligrino, J. W. (Eds.). (2000). *How people learn: Brain, mind, experience, and school*: *Expanded edition*. Washington, DC: National Academy Press.

Bruder, M. B., Mogro-Wilson, C., Stayton, V. D., & Dietrich, S. (2009). The national status of in-service professional development systems for early intervention and early childhood special education practitioners. *Infants and Young Children, 22*(1), 13–20.

Buysse, V., Castro, D. C., & Peisner-Feinberg, E. (2010). Effects of a professional development program on classroom practices and outcomes for Latino dual language learners. *Early Childhood Research Quarterly, 25*, 194–206.

Buysse, V., & Hollingsworth, H. L. (2009). Program quality and early childhood inclusion: Recommendations for professional development. *Topics in Early Childhood Special Education, 29*, 119–128.

Buysse, V., & Wesley, P. W. (2005). *Consultation in early childhood settings*. Baltimore: Paul H. Brookes.

Buysse, V., Wesley, P. W., Keyes, L., & Bailey, D. B. (1996). Assessing the comfort zone of child care teachers in serving young children with disabilities. *Journal of Early Intervention, 20*, 189–204.

Buysse, V., Winton, P. J., & Rous, B. (2009). Reaching consensus on a definition of professional development for the early childhood field. *Topics in Early Childhood Special Education, 28*, 235–243.

Center to Inform Personnel Policy and Practice in Early Intervention and Preschool Education. (2007a, October). *Study VI data report: Training and technical assistance survey of state Part C coordinators*. Farmington: University of Connecticut, A. J. Pappanikou Center for Excellence in Developmental Disabilities, Education, Research, and Service, Author. Retrieved from http://www.uconnucedd.org/projects/per_prep/per_prep_resources.html

Center to Inform Personnel Policy and Practice in Early Intervention and Preschool Education. (2007b, October). *Study VI data report: Training and technical assistance survey of state Section 619 coordinators*. Farmington, CT: University of Connecticut, A. J. Pappanikou Center for Excellence in Developmental Disabilities, Education, Research, and Service, Author. Retrieved from http://www.uconnucedd.org/projects/per_prep/per_prep_resources.html

Center to Inform Personnel Policy and Practice in Early Intervention and Preschool Education. (2007c, October). *Study VII Part C data report: Competence and confidence of practitioners working with children with disabilities*. Farmington: University of Connecticut, A. J. Pappanikou Center for Excellence in Developmental Disabilities, Education, Research, and Service, Author. Retrieved from http://www.uconnucedd.org/projects/per_prep/per_prep_resources.html

Center to Inform Personnel Policy and Practice in Early Intervention and Preschool Education. (2007d, October). *Study VII Section 619 providers report: Competence and confidence of practitioners working with children with disabilities*. Farmington: University of Connecticut, A. J. Pappanikou Center for Excellence in Developmental Disabilities, Education, Research, and Service, Author.

Retrieved from http://www.uconnucedd.org/projects/per_prep/per_prep_resources.html

Chang, F., Early, D., & Winton, P. (2005). Early childhood teacher preparation in special education at 2- and 4-year institutions of higher education. *Journal of Early Intervention, 27*, 110–124.

Council for Exceptional Children. (2009). *What every special educator must know: Ethics, standards, and guidelines*. Arlington, VA: Author.

Crow, R. E., & Snyder, P. (1998). Organizational behavior management in early intervention: Status and implications for research and development. *Journal of Organizational Behavior Management, 18*(2–3), 131–156.

Dana, N. F., & Yendol-Hoppey, D. (2008). *The reflective educators guide to professional development: Coaching inquiry-oriented learning communities*. Thousand Oaks, CA: Corwin.

Division for Early Childhood. (2008). *Early childhood special education/early intervention (birth to age 8) professional standards with CEC common core*. Missoula, MT: Author. Available at http://www.dec-sped.org

Donovan, M. S., Bransford, J. D., & Pellegrino, J. W. (Eds.). (1999). *How people learn: Bridging research and practice*. Washington, DC: National Academy Press.

Espinosa, L. (2010). *Getting it right for young children from diverse backgrounds: Applying research to improve practice*. New York: Learning Solutions.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Education Research Journal, 38*, 915–945.

Good Start, Grow Smart Interagency Workgroup. (2005, December). *Good Start, Grow Smart: A guide to Good Start, Grow Smart and other federal early learning initiatives*. Retrieved from http://www.acf.hhs.gov/programs/ccb/initiatives/gsgs/fedpubs/GSGSBooklet.pdf

Guralnick, M. J. (1997). Second-generation research in the field of early intervention. In M. J. Guralnick (Ed.), *The effectiveness of early intervention* (pp. 3–22). Baltimore: Paul H. Brookes.

Guskey, T. R. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership, 59*(3), 45–51.

Hanft, B., Rush, D., & Shelden, M. (2004). *Coaching families and colleagues in early childhood*. Baltimore: Paul H. Brookes.

Harbin, G., Rous, B., & McLean, M. E. (2005). Issues in designing state accountability systems. *Journal of Early Intervention, 27*, 137–164.

Hebbeler, K., Barton, L. R., & Mallik, S. (2008). Assessment and accountability for programs serving young children with disabilities. *Exceptionality, 16*(1), 48–63.

Helm, J. H. (2007). Energize your professional development by connecting with a purpose: Building communities of practice. *Young Children, 62*, 12–16.

Hemmeter, M. L., Fox, L., Jack, S., Broyles, L., & Doubet, S. (2007). A program-wide model of positive behavior support in early childhood settings. *Journal of Early Intervention, 28*, 337–355.

Hemmeter, M. L., Fox, L., & Snyder, P. (2008). *The Teaching Pyramid Observation Tool research edition*. Unpublished assessment.

Hemmeter, M. L., Snyder, P. A., Kinder, K., & Artman, K. (in press). Impact of performance feedback delivered via electronic mail on preschool teachers' use of descriptive praise. *Early Childhood Research Quarterly.*

Hsieh, W. Y., Hemmeter, M. L., McCollum, J. A., & Ostrosky, M. M. (2009). Using coaching to increase preschool teachers' use of emergent literacy teaching strategies. *Early Childhood Research Quarterly, 24*, 229–247.

Joyce, B., & Showers, B. (2002). *Student achievement through staff development* (3rd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Kennedy, M. (1998). *Form and substance of inservice teacher education* (Research Monograph No. 13). Madison: National Institute for Science Education, University of Wisconsin.

Knowles, M. S. (Ed.). (1984). *Andragogy in action*. San Francisco: Jossey-Bass.

Knowles, M. S., Holton, E. F., & Swanson, R. A. (1998). *The adult learner: The definitive classic in adult education and human resource development* (5th ed.). Houston, TX: Gulf.

Landry, S. H., Swank, P. R., Smith, K. E., Assel, M. A., & Gunnewig, S. B. (2006). Enhancing early literacy skills for preschool children: Bringing a professional development model to scale. *Journal of Learning Disabilities, 39*, 306–324.

LaParo, K. M., Sexton, J. D., & Snyder, P. (1998). Program quality characteristics in segregated and integrated early childhood classrooms. *Early Childhood Research Quarterly, 13*, 151–167.

Lynch, E. W., & Hanson, M. J. (1998). *Developing cross-cultural competence: A guide for working with children and their families* (2nd ed.). Baltimore: Paul H. Brookes.

Maxwell, K. L., Feild, C. C., & Clifford, R. M. (2006). Defining and measuring professional development in early childhood research. In M. Zaslow & I. Martinez-Beck (Eds.), *Critical issues in early childhood professional development* (pp. 21–48). Baltimore: Paul H. Brookes.

McCollum, J. A., & Catlett, C. (1997). Designing effective personnel preparation for early intervention: Theoretical frameworks. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Reforming personnel preparation in early intervention: Issues, models, and practical strategies*. Baltimore: Paul H. Brookes.

Miller, P. S., & Stayton, V. D. (2005). DEC recommended practices: Personnel preparation. In S. Sandall, M. L. Hemmeter, B. J. Smith, & M. E. McLean (Eds.), *DEC recommended practices: A comprehensive guide for practical application* (pp. 189–219). Longmont, CO: Sopris West.

National Association for the Education of Young Children. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (Position statement). Retrieved from http://www.naeyc.org/files/naeyc/file/positions/PSDAP.pdf

National Professional Development Center on Inclusion. (2008). *What do we mean by professional development in the early childhood field?* Chapel Hill: University of North Carolina, FPG Child Development Institute. Retrieved from http://community.fpg.unc.edu/npdci

Neuman, S., & Cunningham, L. (2009). The impact of professional development and coaching on early language and literacy instructional practices. *American Educational Research Journal, 46*, 532–566.

No Child Left Behind Act of 2001, 20 U.S.C. § 9101 (2002).

Pianta, R. C., Mashburn, A. J., Downer, J. T., Hamre, B. K., & Justice, L. (2008). Effects of web-mediated professional development resources on teacher-child interactions in pre-kindergarten classrooms. *Early Childhood Research Quarterly, 23*, 431–451.

Ramey, S. L., & Ramey, C. T. (2006). Creating and sustaining a high-quality workforce in child care, early intervention, and school readiness programs. In M. Zaslow & I. Martinez-Beck (Eds.), *Critical issues in early childhood professional development* (pp. 355–368). Baltimore: Paul H. Brookes.

Sandall, S., Hemmeter, M. L., Smith, B. J., & McLean, M. E. (Eds.). (2005). *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education*. Longmont, CO: Sopris West.

Schultz, T., & Kagan, S. L. (2007). *Taking stock: Assessing and improving early childhood learning and program quality.* New York: Foundation for Child Development.

Scott-Little, C. (2010, May). *Early learning standards: Variations across states and issues to consider.* Presentation at the Listening and Learning About Early Learning Tour, Chicago: Retrieved from http://www2.ed.gov/about/inits/ed/early learning/tour.html

Scott-Little, C., Cassidy, D. J., Lower, J., & Ellen, S. (in press). Early learning standards and program quality-improvement initiatives: A systematic approach to supporting children's learning and development. In P. W. Wesley & V. Buysse (Eds.), *Expanding program quality in early childhood: Raising the bar.* Baltimore: Paul H. Brookes.

Sexton, J. D., Snyder, P., Lobman, M. S., Kimbrough, P. M., & Matthews, K. (1997). A team-based model to improve early intervention programs: Linking preservice and inservice. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Reforming personnel preparation in early intervention: Issues, models, and practical strategies* (pp. 495–526). Baltimore: Paul H. Brookes.

Sexton, J. D., Snyder, P., Wolfe, B., Lobman, M., Stricklin, S., & Akers, P. (1996). Early intervention inservice training strategies: Perceptions and suggestions from the field. *Exceptional Children, 62*, 485–495.

Sheridan, S. M., Edwards, C. P., Marvin, C. A., & Knoche, L. L. (2009). Professional development in early childhood programs: Process issues and research needs. *Early Education and Development, 20*, 377–401.

Snyder, P., Artman, K., Hemmeter, M. L., Kinder, K., & Pasia, C. (2010). *Characterizing key features of the early childhood professional development literature*. Manuscript in preparation.

Snyder, P., Crowe, C., Hemmeter, M. L., Sandall, S., McLean, M., & Crow, R. (2009). *EIOS: Embedded instruction for early learning observation system* [Manual and training videos]. Unpublished instrument. Gainesville: University of Florida.

Snyder, P., Crowe, C., & Woods, J. (2010). *Core inclusion competencies for early intervention and early childhood special education*. Manuscript in preparation.

Snyder, P., Hemmeter, M. L., & Fox, L. (2010, March). *Data based decision-making and the Pyramid Model: Are we doing what we should be doing and is it making a difference?* Presentation at the National Training Institute on Effective Practices: Supporting Young Children's Social Emotional Development, Clearwater Beach, FL. Available at http://www.challengingbehavior.org/do/training.htm

Snyder, P., Hemmeter, M. L., Sandall, S., & McLean, M. (2008). *Impact of professional development on preschool teachers' use of embedded instruction practices* [Abstract]. Washington, DC: Institute of Education Sciences. Retrieved from http://www.ed.gov/about/offices/list/ies/index.html

Snyder, P. A., McLaughlin, T., & Denney, M. K. (in press). Program focus in early childhood intervention. In J. M. Kauffman & D. P. Hallahan (Series Eds.) & M.

Conroy (Section Ed.), *Handbook of special education: Section XII Early identification and intervention in exceptionality.* New York: Routledge.

Snyder, P., & Wolfe, B. (2008). The big three process components of effective professional development: Needs assessment, evaluation, and follow-up. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Practical approaches to early childhood professional development: Evidence, strategies, and resources* (pp. 13–51). Washington, DC: Zero to Three Press.

Stayton, V. D., Miller, P. S., & Dinnebeil, L. A. (Eds.). (2002). *DEC personnel preparation in early childhood special education: Implementing the DEC recommended practices*. Longmont, CO: Sopris West.

Thorp, E. K., & McCollum, J. A. (1988). Defining the infancy specialization in early childhood special education. In J. B. Jordan, J. J. Gallagher, P. L. Huntinger, & M. B. Karnes (Eds.), *Early childhood special education: Birth to three* (pp. 148–161). Reston, VA: Council for Exceptional Children.

VanDerHeyden, A. M., & Snyder, P. A. (2006). Integrating frameworks from early childhood intervention and school psychology to accelerate growth for all young children. *School Psychology Review, 35*, 519–534.

Wayne, A. J., Yoon, K. S., Zhu, P., Cronen, S., & Garet, M. S. (2008). Experimenting with teacher professional development: Motives and methods. *Educational Researcher, 37*, 469–479.

Weiss, H. (2005–2006). From the director's desk. *Evaluation Exchange*, *11*(4), 1. Retrieved from http://www.hfrp.org/evaluation/the-evaluation-exchange/issue-archive

Wesley, P. W., & Buysse, V. (2006). Building the evidence based through communities of practice. In V. Buysse & P. W. Wesley (Eds.), *Evidence-based practice in the early childhood field* (pp. 161–194). Washington, DC: Zero to Three Press.

Whitebook, M. (2010, April). No single ingredient: 2020 vision for the early learning workforce. Paper presented at the Listening and Learning About Early Learning Tour, Denver, CO. Retrieved from http://www2.ed.gov/about/inits/ed/earlylearning/tour.html

Winton, P. J., & McCollum, J. A. (2008). Preparing and supporting high-quality early childhood practitioners: Issues and evidence. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Practical approaches to early childhood professional development: Evidence, strategies, and resources* (pp. 1–12). Washington, DC: Zero to Three Press.

Winton, P. J., McCollum, J. A., & Catlett, C. (2008). *Practical approaches to early childhood professional development: Evidence, strategies, and resources*. Washington, DC: Zero to Three Press.

Wolery, M. (2005). Recommended practices: Child-focused practices. In S. Sandall, M. L. Hemmeter, B. J. Smith, & M. E. McLean (Eds.), *DEC recommended practices: A comprehensive guide for practical application* (pp. 71–106). Longmont, CO: Sopris West.

Wolfe, B., & Snyder, P. (1997). Follow-up strategies: Ensuring that instruction makes a difference. In P. Winton, J. McCollum, & C. Catlett (Eds.) *Reforming personnel preparation in early intervention: Issues, models, and practices* (pp. 173–190). Baltimore: Paul H. Brookes.

Yoon, K. S., Duncan, T., Lee, S. W., Scarloss, B., & Shapley, K. L. (2007). *Reviewing the evidence on how teacher professional development affects student achievement*

(Issues and Answers Report, REL-2007-No. 033). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Educational Evaluation and Regional Assistance, Regional Educational Laboratory Southwest.

Zaslow, M. J. (2009). Strengthening the conceptualization of early childhood professional development initiatives and evaluations. *Early Education and Development, 20*, 527–536.

Zaslow, M. J., & Martinez-Beck, I. (2006). *Critical issues in early childhood professional development*. Baltimore: Paul H. Brookes.

Chapter 8

Crossing Systems in the Delivery of Services

Louise A. Kaczmarek

CROSSING THE COUNTY LINE: THE PRESBYLSKI FAMILY

The Presbylski family lives in Monroe County, very close to the border with Smithfield County. Michael Presbylski, age 4, has been attending the ABC Child Care Center, which is in Smithfield County, about a mile from the Presbylski home, since he was 6 months old. Teresa, Michael's sister, age 7, used to attend this child care center before she started kindergarten in her neighborhood school in Monroe County. John and Elizabeth Presbylski have been extremely pleased with the care their two children have received at the ABC Child Care Center. The location of the child care center has had the added benefit of convenience for the family. The youngest daughter, Carrie, age 2, who has Down syndrome, recently started to attend the ABC Child Care Center. Because of Carrie's special needs, John's mother had been taking care of Carrie at the Presbylski home; but at age 72, with Carrie's development into a very active toddler, she was unable to continue. Carrie has been receiving early intervention services at home, but with some issues that have arisen in child care, the Presbylskis would like the early intervention services to be delivered at ABC Child Care Center so that the early intervention staff can assist the child care staff in better meeting Carrie's needs. However, because the center is not in their county of residence, they will either have to forego receiving early intervention services at ABC Child Care Center, or they will have to find a child care center for Carrie in Monroe County.

WHO TO BELIEVE: THE GARZA FAMILY

Mr. and Mrs. Garza are confused. Their son Paco, who is 26 months of age, was diagnosed with autism at 20 months. Paco is receiving home-based services from two service agencies. Paco has two treatment plans—an Individualized Family Service Plan from the local early intervention agency, and a second treatment plan from behavioral health services. The developmental specialist from the Early Intervention Agency comes to the home once a week and wants the Garzas to be active in executing certain treatment strategies throughout the day with Paco. Soon Paco will also be receiving services from a speech-language pathologist also funded by the Early Intervention Agency, who will begin to teach Paco to use pictures as a means of communication. The Mental Health Center, on the other hand, provides 30 hours of intensive behavioral treatment, including teaching Paco to communicate using signs. There are two therapeutic staff personnel who administer a carefully designed regimen of programs to Paco in a special section of the family's basement six days a week for five hours each day. Although Mr. and Mrs. Garza get periodic updates from the supervisor every couple of weeks, the treatment at this stage requires that Paco's parents not be involved in any of the treatment. The Garzas just do not know what to do—one agency is telling them that their involvement is critical to the success of the treatment, and the other is implying that their involvement is contrary to successful treatment. One agency is advocating a communication method using picture cards, while the other is using signs. Mr. and Mrs. Garza, who have the utmost respect for both sets of professionals, just do not know how to resolve these contradictions. Although they are trying to implement the recommended early intervention strategies within their daily routines, they are finding that the best time for them to do it is after Paco's behavioral health sessions. However, Paco seems so exhausted from the intensive therapy that most of the time, he just ends up tantruming. They are trying to respect the wishes of each service agency, because they know how important the services are for Paco. Recently, they have begun to realize that they have not observed much progress in his behavior, particularly his communication in their daily lives.

The cases of the Presbylski and Garza families demonstrate some of the difficulties that families may encounter in receiving services for their young children with disabilities. In the case of the Presbylski family, there is a conflict with the service regulations of the two early intervention providers. The services that would be most beneficial for the family are blocked by regulations that preclude service delivery across county lines. In the case of the Garza family, the child is receiving services from two different service systems—the educational system providing early intervention services, and the behavioral health system providing wraparound services. The child has two treatment plans that contradict each other, leaving the parents in a quandary about what is best for their child. In both cases, greater collaboration between the two service entities would better serve the needs of the families.

The purpose of this chapter is to identify the need for and the benefits of working across service boundaries in the delivery of services to young children with disabilities and their families and to examine how such collaborations are accomplished.

SYSTEMS OF SERVICE

Young children with disabilities and their families often have multiple needs and require multiple services from professionals, not only within the same service system, but also from other systems. Generally speaking, the more severe a child's disability or the more at risk a child's family, the more likely they are to need services from a variety of disciplines, agencies, and systems. Although services are provided by distinct entities, the services themselves may not necessarily be exclusive; consequently, services from one entity often impact those provided by another. For example, a child might be receiving speech and language services through their health care insurance plan as well as through the school district, the services for each being delivered by a different person following regulations for services in accordance with their specific service system. Neither system requires that one service provider talk to the other, so it could be, as was the case with the Garza family above, that the services can be directly contradictory. In other cases, services might simply not be sufficiently complementary to have the greatest impact on a child's progress. The parent is usually privy to the aims and methods of both. However, the inclusion of parents in making decisions about the goals of therapy, the methods to be used, and the role of parents in the therapy itself varies according to the service entity. Additionally, the dichotomous services require families to take on the role of service coordinator, since they are the common factor. We might broadly define these service systems as Health Care, Education, and Social Services, even though it is almost always true that a so-called "system" is in itself made up of multiple systems. In general, a system is a collection of parts that interact together and function as a whole (Ackoff & Rovin, 2003). Young children with disabilities are typically involved with many such systems.

A child may be receiving health care or aspects of health care through a private insurance plan, a public plan (e.g., Children's Health Insurance Program [CHIP], Medicaid), or a combination of both. Within health care, there are primary care providers and those providing specialized care. The type or the extent of services available will depend upon the nature of the insurance plan itself. There are also a number of other public programs that fall under the health sector. These include services under the Maternal and Child Health Block Grant (Title V), including programs for Children with Special Healthcare Needs and the program for Early and Periodic Screening and Diagnostic Treatment (EPSDT).

Within the educational realm, young children encounter other systems of services. They may be receiving early intervention services through Part C of IDEA if they are under 3 years of age and through Part B, Section 619 of IDEA if they are of preschool age. In some states these represent the same system and in others different systems. In addition to receiving early intervention services, a child might be attending a private or public child care center or preschool. For some, early intervention services might take place within the child care center itself, requiring two systems to interact with each other; for others, early intervention services and child care/preschool programs may be totally separate. Upon reaching school age, a child transfers to school-age services, which, depending upon the educational system delivering early intervention services, may or may not require a change in the educational entity. Children receiving early intervention services within a school district may simply need to transfer to school-aged services within the district, while those receiving early intervention from a private agency or other public unit may need to transfer into a completely new system.

Social services are probably the most complicated of all, because there are many types of services available; and even though they may fall under the same department in a state, such programs often operate in total isolation. Like Paco Garza, a child may be receiving mental or behavioral health services in addition to early intervention services, which in many states is considered an educational service. Additionally, children and their families may be receiving other types of social services such as Social Security income (SSI) for children with disabilities, family counseling, and home visiting services through Early Head Start or family support programs. Programs for other vulnerable populations also fall under social services and might include child protective services, Temporary Assistance for Needy Families (TANF), programs for the homeless and drug/alcohol abuse recovery, childcare subsidies, food (e.g., food stamps, WIC), and housing assistance programs.

LEGISLATIVE UNDERPINNINGS

Recognition of the needs and benefits of collaboration across programs, agencies, and systems spawned legislation to develop and formalize collaborative efforts within and across service entities.

Individuals with Disabilities Education Act (IDEA)

Interagency collaboration on behalf of young children with disabilities and their families was formalized in 1986 with the reauthorization of the Education of All Handicapped Children Act of 1986 (P.L. 99-457; California Department of Education, 2007). This act, which established the Program for Infants and Toddlers (Part H), required that agencies collaborate with one another in the delivery of services to this population and their families and that existing services for infants and toddlers not be supplanted by the establishment of new state programs. To assist in this effort, a National Interagency Coordinating Council was instituted and states that intended to develop an Infant-Toddler Program were required to create State Interagency Coordinating Councils (SICCs) consisting of 15 key representatives who had a stake in the delivery of services, including service providers, state-level administrators, and parents. The purpose of the SICCs, which are independent, multidisciplinary, and cross-systemic, is to advise and assist the lead public agency responsible for early intervention in the development, implementation, and evaluation of a well-coordinated service system (Harbin & Van Horn, 1990; Peterson, 1991).

The focus on interagency collaboration, especially in the Infant-Toddler Program (now referred to as Part C), has continued to be a strong focus in each reauthorization of this legislation. The most recent reauthorization in 2004, under the title of the Individuals with Disabilities Education Improvement Act (IDEIA; P.L. 108-446, 2004), contained a number of changes relating to interagency collaboration, further strengthening the requirements for collaboration with agencies serving specific populations such as homeless children and their families and children who are wards of the state. The reauthorization required the referral of children for evaluation who experience a substantiated case of trauma due to family violence. Additionally, the legislation called for early intervention screening, with referral for evaluation as appropriate, for children involved in substantiated cases of child abuse or neglect, those affected by illegal substance abuse, or those demonstrating withdrawal symptoms from prenatal drug exposure. Although the legislation abolished the National Interagency Coordinating Council, it required the appointment of several new members to State Interagency Coordinating Councils, namely a representative from the state Medicaid agency, the office of the Coordinator of Education of Homeless Children and Youth, the state child welfare agency, and the state agency responsible for children's mental health. Under the Part C program, states must also report their efforts to promote collaboration among Head Start programs, early education, and child care programs. More explicit requirements were specified for interagency agreements to ensure fiscal responsibility and for the continuation of services to children and families while resolving disputes about services (i.e., pendency).

Head Start Act

Head Start legislation, which has mandated the inclusion of children with disabilities since 1972, has also over the years strengthened its mandates for collaboration with other agencies and programs. The 1990 reauthorization of Head Start legislation established the first wave of Head Start Collaboration grants and established the State Head Start Collaboration Offices (Office of Head Start, 2007). The 1998 reauthorization identified eight priority areas for collaboration. The most recent Head Start Act, passed in 2007, requires enhanced collaboration and cooperation of Head Start agencies with a wide range of other entities that are devoted to benefiting low-income children from birth to school entry and their families. Through the legislation, collaboration grants are awarded to states for collaborative activities with other entities such as early care and education, health care, mental health care, welfare, child protective services, services relating to children with disabilities, English-language learners, homeless children, and family literacy programs. The legislation also urges the alignment of Head Start and state early learning standards. States receiving a collaboration grant must appoint a Director of Head Start Collaboration and convene a State Advisory Council on Early Childhood Education and Care consisting of representatives from a variety of service entities.

Keeping Children and Families Safe Act

In 2003, Congress passed the Keeping Children and Families Safe Act (P.L. 108-36), which reauthorized the Child Abuse Prevention and Treatment Act (P.L. 104-235; 1996) and several other acts (National Association of Social Workers, 2003). Like IDEIA, this act also requires states to refer infants and toddlers involved in a substantiated case of child abuse or neglect to early intervention for screening and, as appropriate, evaluation. It also strengthens interagency collaboration in services to children who are abused or neglected by allowing grant funding to be used for coordinating and obtaining services, including financial assistance and health and social services, for families with infants who have disabilities with serious life-threatening conditions. The act further encourages in its research, technical assistance, and demonstration projects interagency linkages to better ensure that children who have been abused or neglected have their physical health, mental health, and developmental needs assessed and treated.

Child and Adolescent Service System Program (CASSP)

After recognizing that children and adolescents with severe emotional disturbance were drastically under- and inadequately served by a fragmented and uncoordinated service system, the National Institute of Mental Health launched the Child and Adolescent Service System Program in 1984 (CASSP; Kysor, 1995). The program not only makes available needed services, but specifically encourages states and local communities to develop comprehensive systems of services that were child-centered, family-focused, community-based, multi-system, and least restrictive. This requires professionals from multiple agencies to plan services collaboratively with the family, the mental health system, the school, and other relevant agencies. Emphasis in recent years has been focused on early childhood mental health initiatives and on broadening the concept of "systems of care" to include other populations including those who have been maltreated (Child Welfare Information Gateway, 2008).

Maternal and Child Health Services Block Grant

In 1981, the Maternal and Child Health Services Block Grant was passed. This legislation, which united seven former categorical programs into a single program, focuses on the comprehensive health and physical, psychological, and social well-being of mothers and children (Maternal and Child Health Bureau, 2000). Its goals include the establishment of a comprehensive, family-centered, community-based, coordinated system of care for children with special health care needs. Of the federal funds that are allocated for state block grants, individual states must use at least 30 percent for children with special health care needs in the achievement of this goal (Davis, 2002). In addition, the development of integrated service delivery systems are also a priority of the Bureau's Community Integrated Service System (CISS) discretionary funding program, which seeks to improve the health of mothers and children through the development and expansion of integrated health, education, and social services at the community level (Roberts & Wasik, 1996). One such effort is the State Early Childhood Comprehensive Systems Initiative (ECCS; Early Childhood Comprehensive Systems Initiative, n.d.), which fosters state planning, development, and implementation of cross-agency partnerships designed to ensure that families and communities are supported in their efforts to foster the development of children who are healthy and ready to learn when they enter school. Family support centers, which provide a range of services for vulnerable families in community contexts, usually in a single location, also receive funding under this legislation.

DEFINING THE TERMINOLOGY

The nature of collaborative terminology across service boundaries has changed over the years. In general, "interagency" or "interdisciplinary" collaboration, which tends to operate at the local or program level, has given way to such terms as "service integration" (Knitzer, 1997), "systems of care" (Child Welfare Information Gateway, 2008), and "integrated service systems" (Epps & Jackson, 2000)—terms that all envision broader systemic reform and change. Whatever the specific terminology used or level of focus, the underlying purpose is to build "partnerships to create a broad, integrated process for meeting families' multiple needs" (Child Welfare Information Gateway, 2008, p. 1). In essence it means that representatives from multiple agencies and organizations meet to identify a goal for meeting the needs of children and families that would not be achievable by any one agency and they then continue to work together to achieve the common goal (Bruner, 1991).

For this to occur, change must take place at the program and system levels of multiple service systems involved in the delivery of services to young children and their families. Many (Child Welfare Information Gateway, 2008; Knitzer, 1997; Pires, 2008) have identified basic concepts that underlie the initiatives to reform service delivery in all service sectors. Although these differ somewhat by author and/or nature of the systems being reformed, the five identified by Knitzer (1997) appear to be common to most:

Strong emphasis on family: Paramount to service integration is the delivery of family-centered services; that is, the involvement of families as partners at all levels of service delivery. Families are the primary decision makers for their children, and not simply the passive recipients of professional advice. Services are designed to meet the needs that families themselves identify. Families are viewed as capable and responsible for the care of their children. The emphasis on family also includes the participation of family members (i.e., those who represent the clientele served) in the planning and development of agency services and cross-agency/systems collaborations. This might include participation on advisory committees and task forces as well as involvement in professional development and other training activities that are sponsored by service providers.

Dedication to cultural competence: The emphasis on family includes the recognition that families are uniquely shaped by their cultural behaviors, beliefs, values, and traditions. As the demographic of the country changes, it becomes increasingly imperative that services honor and respect the cultural diversity of the families being served. Cultural values influence the services needed by a family and how, where, and when the services are delivered. Services that acknowledge cultural differences and respond accordingly are more likely to be effective. Cross-cultural competence requires that service providers understand how their own cultural backgrounds have shaped their beliefs, values, and behaviors. In turn, service providers can better serve those whose values differ.

Engagement in cross-systems collaboration: Meeting the multiple needs of children and families requires collaboration among all the services that a child and family receive. In addition, a true systems approach goes far beyond those agencies that serve a child and family directly to include the full range of potential service providers as well as those who may provide other forms of support, such as local businesses, advocacy organizations, community social groups, churches and other places of worship, and colleges and universities (Child Welfare Information Gateway, 2008).

Delivery of neighborhood and community-based services: The strengths-based-approach focus on families extends to the neighborhoods and communities in which families live. Formal and informal services and supports are available within neighborhoods and communities to help families establish, maintain, and/or strengthen the bond with other family members, friends, school and religious personnel, and others who surround them. Such community-based services also highlight the responsibility of the community/neighborhood for the welfare of its own residents.

Commitment to outcomes-based accountability: All of the defining characteristics above would be meaningless if there were no way to link modifications in service delivery to the positive outcomes of children and families. Accountability refers to the identification of expected child and family outcomes, continuous measurement of whether these benchmarks are being met, and the subsequent actions taken to modify services to better achieve outcomes. The allocation of financial resources, whether public or private, is increasingly dependent upon the measured effectiveness of the services being offered.

BENEFITS TO CROSS-SYSTEMS COLLABORATION

A variety of benefits have been identified as potential outcomes to cross-systems collaboration. Although there has been an emphasis on cross-systems and interagency collaboration since the 1980s, actual measurement of outcomes is still in its infancy (Sloper, 2004; Leslie et al., 2005). The presumed benefits discussed below provide a strong rationale for engaging in such efforts.

Improves services for children and families: The most obvious benefit to collaborative relationships among service entities is improvement in services to children and their families. Traditional service delivery tends to isolate children's needs to the area for which the service provider is responsible, often ignoring the interrelated nature of the various domains of child development. Collaborative efforts, on the other hand, recognize that the various domains of child development are integrated, and that they cannot be separated from the various domains of a child's life.

Traditional services tend to place families as passive recipients of service delivery for their children. Children interact therapeutically with professionals who are the experts, and parents receive reports of child progress. On the other hand, family-centered services recognize that the family is at the center of a child's life, that families are the decision makers for their children, and that the needs of a child must be considered within the needs of the family as a whole (Allen & Petr, 1996; Shelton & Stepanek, 1994). Although services for young children with disabilities can be family-centered without needing to entail collaborative relationships across service boundaries, once a service provider commits to family-centered service delivery, the impetus for collaboration to better meet the needs of the family whose child is receiving services from multiple entities easily becomes apparent.

Avoids costly service duplication and identifies service gaps: For families, the absence of coordination among services often means duplicative and more interactions with more professionals. More services are not necessarily better, and as we have seen in the case example, duplicated services can often be contradictory. A study by Nolan, Young, Herbert, and Wilding (2005), for example, found that children with special health care needs were receiving care coordination from more than one system. Such duplication of services usually means less efficient use of public funds. Looking broadly at the services a community provides through its various agencies (a systems perspective) not only identifies the agencies that deliver the same or similar services, but also highlights the kinds of services that are not being provided.

Reduces service inequities: All too often, the quantity and the quality of the services children receive are dependent upon the resources that their families possess. Early intervention services, for example, are used more frequently by middle-class and upper middle-class families (Kochanek & Buka, 1998; Mahoney & Filer, 1996; Sontag & Schacht, 1994). The socioeconomic class of the family, their geographic location, their ability to advocate for themselves, and their connections with others in the community are factors that influence service utilization (Zero to Three, 2009). A coordinated system of services designed to support all young children and families levels the playing field so that equal access is guaranteed to all (Zero to Three, 2009).

Facilitates an inclusive society: The neighborhoods and communities that we live in are becoming increasingly diverse—a mix of cultures and races, languages, economic levels, sexual orientations, and religions. The delivery of services in neighborhood and community settings helps to insure that young children with disabilities become an integral part of these diverse communities and that they remain a part of those communities as they grow into adulthood, obviously adding a further dimension to the existing diversity. Traditional services, which may be provided in centers separate from nondisabled peers or in neighborhoods distant from those in which they live, tend to isolate children with disabilities from their neighborhoods and communities. Connections made in child care centers and local programs and organizations strengthen the overall bond and support among neighbors, hopefully providing avenues from more informal supports.

Ensures positive outcomes and avoids school failure: A coordinated system of services across health care, education, and social services is intended to provide all families with the supports they need so that their children receive an excellent start in life and develop the foundation to succeed once they reach school age. Children experiencing multiple risks such as homelessness, child abuse, birth abnormalities, inadequate health care, low-quality schools, and violence are at significant risk for school failure; and addressing these factors falls outside of the authority of public education, requiring collaboration among multiple service providers (Rouse & Fantuzzo, 2009).

ACHIEVING INTERAGENCY COLLABORATION

Facilitators and Barriers

Achieving collaboration within an organization is never easy, so achieving collaboration not only across agencies but also across service sectors is ever more daunting. Both facilitators of and barriers to the success of interagency collaboration have been identified in the literature. A study of departments and social agencies in Ohio, for example, identified the facilitators of collaboration as falling into three primary categories: commitment, strong leadership, and communication (Johnson, Zorn, Kai Yung Tam, LaMontagne, & Johnson, 2003). Similar results were obtained by Sloper (2004) in review of the literature relating to the coordination of children's and family's services in England. A solid commitment to the effort must be demonstrated at all levels of the agencies involved and requires that key decision makers in each agency be willing to make the necessary adjustments within their agencies to further the joint goals of the collaboration. A multiagency steering committee made up of individuals who can commit resources to the joint effort helps to ensure the effort's success. Additionally, good systems of communication and information sharing across agencies, including the use of information technology, are necessary as the work of the group progresses. Other facilitating factors that were found to relate to the joint work of the interagency group include the development of clear goals for the collaborative endeavor and the specification of roles and responsibilities with explicit timetables for carrying out the tasks involved. Appropriate support and training for staff on how to work together in new ways also lends itself to facilitating successful collaboration.

It is clear that the relationships among individuals involved in the collaboration can influence the effectiveness of the endeavor. Mutual mistrust of workers from other agencies can undermine joint efforts (Darlington, Feeney, & Rixon, 2005). Respect for the work of other agencies, the disciplines involved in that work, and the workers themselves are fundamental to the success of joint collaboration (Darlington et al., 2005; Johnson et al., 2003). Differences in professional ideologies and agency cultures (Sloper, 2004) as well as disciplinary knowledge domains and boundaries (Darlington et al., 2005), often referred to as "turf issues" (Johnson et al., 2003), can contribute to an atmosphere of mistrust. Unrealistic expectations of what other agencies or disciplines do can further contribute to fundamental mistrust. There is some empirical evidence, however, that interprofessional development and training help to breakdown some of these barriers to working collaboratively (Sloper, 2004). Such occasions may serve to fill in some of the information gaps that professionals have about the roles of other agencies and their workers and to begin to reduce some of the misperceptions that exist across agency boundaries.

Constant reorganization of agencies, financial uncertainty within agencies, frequent staff turnover, and the absence of qualified staff (Sloper, 2004) are among the barriers to cross-agency collaboration. Inadequate allocation of resources, such as lack of time, heavy workloads, and lack of appropriate community resources, can also undermine the achievement of joint interagency goals (Darlington et al, 2005). Laws and regulations relating to confidentiality can limit cross-agency communication about service integration for a specific child or family (Darlington et al. 2005).

Developing a Vision

Specific cross-agency collaborations, whether at the local or state level, require that the parties involved devote time to developing a joint vision of what they expect to transpire. Many of our national professional organizations, policy centers, and foundations, either individually or jointly, have published position statements and white papers to fuel these state and local efforts. These efforts also serve as a way of supporting and motivating service providers within specific disciplines to loosen the boundaries of their own professional cultures to include greater collaborative efforts. Some states, such as Vermont, have also developed detailed vision statements. Several examples are provided below.

American Academy of Pediatrics

The American Academy of Pediatrics (AAP) takes an active role in developing policy statements around a large variety of critical topics delineating the role of pediatricians and pediatric primary care. For example, since the early 1990s with the proposal of the concept of a medical home, it has set forth the standard that all children should have accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective medical care (American Academy of Pediatrics, 2002). Within the medical home, the role of the pediatric health care professional includes surveillance and screening of infants for disabilities and delays in development, referral to early intervention services and necessary medical etiologic diagnostic evaluations, collaborating in the development of Individual Education Programs (IEPs) and Individualized Family Service Plans (IFSPs) if a child is eligible for early intervention services, and supporting families in their efforts to secure and maintain services for their children with disabilities (American Academy of Pediatrics, 2007). Furthermore, the AAP offers a policy that includes an algorithm for developmental surveillance and screening within the pediatric medical home (American Academy of Pediatrics, 2006). Another policy statement has proposed that the medical home of a child with special health care needs is an ideal setting for identifying, referring, and coordinating the services a child receives in the health, education, and other community programs (American Academy of Pediatrics, 2005).

DEC and NAEYC

In April 2009, the Division for Early Childhood of the Council for Exceptional Children (DEC) and the National Association for the Education of Young Children (NAEYC) jointly published a position paper on early childhood inclusion that sets forth a definition and vision. The statement recognizes that it is “the right of every infant and young child and his or her family, regardless of ability, to participate in a broad range of activities and contexts as full members of families, communities, and society" (DEC/NAEYC, 2009, p. 1) and that the achievement of quality early childhood inclusion requires collaboration among key stakeholders (e.g., families, practitioners, specialists, administrators). It calls upon these key stakeholders to develop an "infrastructure of systems-level supports" to include "multiple opportunities for communication and collaboration" among groups, specialized services and therapies that are "implemented in a coordinated fashion and integrated with general early care and education services," and "funding policies that promote the pooling of resources." Among the strategies for achieving high-quality early childhood inclusion is the development of an integrated professional development system.

National Institute for Health Care Management Foundation (NIHCM)

The NIHCM is a nonprofit, nonpartisan organization dedicated to improving the effectiveness, efficiency, and quality of America's health care system. In August 2009, it published an overview describing strategies that support the integration of mental health into pediatric primary care based on advances in research and policy trends. The publication elucidates a rationale and a vision of "coordinated, seamless care that supports emotional well-being" (National Institute for Health Care Management, 2009, p. 2) in which there is collaboration among the private and public health and mental health sectors. Numerous examples of such collaborations are provided throughout the document.

State of Vermont

In 2005, the state of Vermont developed and published a state-level agreement intended to "ensure, guide, and monitor coordination and collaboration" (Vermont Agency of Human Services, 2005, p. 1) among Early Care, Health, and Education Programs and agencies. The agreement (Vermont Agency of Human Services, 2005) developed by 10 service entities, provides guidance for developing interagency agreements at the state, regional, and local levels. The document sets forth a vision that describes shared responsibilities across programs and agencies that are working in partnership with each other to serve young children with disabilities and their families. A set of principles, which includes such terms as family-centered, universally designed system, equitable, and inclusive, are defined. These principles are then applied to a set of agreed-upon practices (e.g., outreach/screening, referrals, initial evaluations, development and implementation of child and family plans, transportation) that all agencies and programs that work in partnership with each other will attempt to operationalize in their selected shared activities. For example, the section on Outreach states that all involved will:

1. Understand and share information about available services and resources
2. Inform families about early care, health and education services, and resources in their communities
3. Promote public awareness of all community resources available to children and families
4. Ensure that families have access to information about health insurance including Medicaid and EPSDT (Vermont Agency of Human Services, 2005, p. 5)

The Process of Collaboration

Obviously, collaboration is not an end in itself; rather the focus is on creating changes within and across programs, agencies, and systems that better support children with disabilities and their families. To this end, we must see the process of collaboration as central to the much broader concept known as "systems change." Systems change can be defined as "change efforts that strive to shift the underlying infrastructure within a community or targeted context to support a desired outcome, including shifting existing policies and practices, resource allocations, relational structures, community norms and values, and skills and attitudes" (Foster-Fishman & Behrens, 2007, p. 191). Fields such as business, social work, and psychology have all been engaged in studying systems change to determine not only how change occurs and how best to achieve it, but also to develop theories that enhance our understanding of the phenomenon independent of the systems marked for change or the goals identified.

Cummings and Worley (as cited in Epps & Jackson, 2000) describe a model for the change consisting of five major activities: (1) motivating change, (2) creating a vision, (3) developing political support, (4) managing the transition, and (5) sustaining momentum. Epps and Jackson (2000) apply this framework to developing integrated and collaborative systems of early intervention services. They explain how the motivation for change emerges from current dissatisfaction with services and exposure to new ideas and practices. The tension between the two creates the motivation for change and sets the stage for the development of a shared vision for change to include a mission statement and outcomes among the agencies and programs involved. Change cannot be accomplished without the active involvement of all the key stakeholders, including families, and the development of external political support for the change. All stakeholders work together in an atmosphere of commitment to plan the activities that are intended to accomplish the reform in services and to execute them accordingly, first as a pilot with corrective actions as needed and then eventually developing and sustaining the momentum to implement on a larger scale. Momentum is sustained by providing the necessary resources and supporting the agents of change by assisting them in developing new competencies and skills and reinforcing their new behaviors. Additionally, the process is cyclical, so that as change is accomplished, the parties strive to continue to identify areas of dissatisfaction that would warrant continued change efforts.

Foster-Fishman, Nowell, and Yang (2007) describe a dynamic approach to systems change in human services that is based upon Soft Systems Methodologies (Checkland, 1981) and Systems Dynamic Thinking (Forrester, 1969). They hypothesize that many systems-change efforts do not achieve the level of outcome that is anticipated because the systemic nature of the contexts involved and the complexity of the change process are ignored. They propose a four-step process for transformative systems change: (1) bounding the system, (2) understanding fundamental system parts as potential root causes, (3) assessing system interactions, and (4) identifying levers for change. Bounding the system entails identifying the stakeholders who then engage in a dialogic process to define the problem, acknowledging as part of Soft Systems Methodologies that different stakeholders, because they have different worldviews, will perceive both the problem and the potential solutions differently. Once the problem has been adequately negotiated among all the parties, the "system" is defined or bounded. This will entail identifying the system levels, programs, organizations, and consumers relevant to the issue. The process of understanding the relevant systems parts requires stakeholders to identify system norms, resources, regulations, and operations that maintain the system's current existence. Such efforts include both the apparent system as well as the "below the surface" attitudes, values, and beliefs of the individuals who work in the system. Exploring these from the perspectives of different levels, programs, organizations, and consumers will assist in identifying potential areas of support or resistance. The assessment of systems interactions provides opportunities for stakeholders to determine how the parts of the system interact with each other so as to identify how interaction patterns need to change for the shared goal to be accomplished. This in-depth study of the system will then permit the identification of strategic levers for bringing about the changes in the system.

Charles Bruner (2004) developed a Theory of Change for the Build Initiative, a multi-state, multi-foundation effort focused on young children and their development to help the participating states to "build a coordinated system of programs, policies, and services—an early learning system—that is responsive to the needs of families, careful in the use of private and public resources and effective in preparing our youngest children for a successful future" (Build Initiative, 2005, p. 1). The Build Initiative embodies three theories of change analogous to the development and implementation of a complex construction project. The first theory recognizes that a master plan must be developed. There are many components to an early learning system, which must be identified. The "system" to be developed must be defined, and the goals of the system must be agreed upon by the people involved. The Build Initiative has identified four components to a state-level early learning system: (1) health and nutrition, (2) early care and education, (3) family support, and (4) special needs/early intervention. The second theory, which focuses on the critical strategies needed to build a state early learning system, consists of eight critical elements. The groundwork consists of the recognition of the need and the development of a shared early learning vision (Elements 1 and 2) with the support of political leadership from the governor and state legislature (Element 3). Implementation is carried out by the capacity and expertise of midlevel managers (Element 4) to develop programs, actions, and policy successes (Element 5). Momentum is built politically to develop and maintain the system by public awareness and support (Element 6), and mobilization and advocacy from outside the government sector to support the changes (Element 7). Capacity is built by the alignment of multiple factors (Element 8) typically focusing attention on several new initiatives and/or policy changes per year. The third theory of change relates to the catalytic role that the Build Initiative has in supporting the states in constructing their early learning systems. Through the technical assistance provided by the Build Initiative, including evaluation to provide essential continuous improvement and development, states identified to benefit from this "inertia-breaking final investment" (Bruner, 2004, p. 11) have been able to move substantially forward in developing an early learning system. These states are Illinois, Michigan, Minnesota, New Jersey, New York, Ohio, Pennsylvania, and Washington.

Functions of Collaborative Models

Systems reform requires significant effort on the part of the agencies involved. Rather than tackling an overhaul of the total system of services all at once, it is often productive to focus collaborations on one area or to develop a plan in which each service function is modified sequentially. Typically these functions might include the following:

Child Find and Screening

Child find and screening refers to the process of identifying a population of children who are in need of further assessment. Traditionally, each early intervention agency in a community might have its own processes and procedures for executing child find and screening. However, agencies might collaborate with one another to develop joint public-service campaigns that educate the general population about disabilities or other risk factors. They also may sponsor joint opportunities for families to bring their children for a more formal assessment of health and developmental risks, referring children as necessary for in-depth evaluations to the appropriate agencies. Collaboration reduces duplication of services, saving taxpayer dollars in the public service campaigns, and may serve families better because screening and referral for evaluation are likely to be more comprehensive.

Primary medical care can also play an important role in child find, screening, and referral for more in-depth assessment and, as appropriate, treatment (National Institute for Health Care Management, 2009). Pediatricians, family practitioners, and other medical professionals who see children for routine care are well positioned to screen for mental health (National Institute for Health Care Management, 2009) and other types of disorders (American Academy of Pediatrics, 2006). Such an approach requires greater coordination and collaboration of primary care physicians with community service providers so as to promote the development of a seamless system of care for both physical and mental health needs. The National Institute for Health Care Management (2009), for example, has proposed three models for the integration of mental health into pediatric primary care: (1) consultation in which primary care providers, particularly in rural areas, consult with child psychiatrists in other locations; (2) co-location of mental health specialists within the practice itself to facilitate treatment planning and referral; and (3) collaboration in which primary care providers using the medical home model establish partnerships with community mental health care providers. Real-life examples of each model type are provided within their report.

Assessment

Assessment encompasses in-depth evaluation for the purpose of determining the need for early intervention services. Traditionally, every service agency develops and executes its own process for assessment following the regulations set forth by the service entity. A collaborative focus on assessment might include agreement on a core of assessment tools that might be used to determine service eligibility or cross-agency acceptance of assessment results for a child or family to limit the number of assessments a child or family must endure.

Service Coordination

Service coordination refers to the function of assisting families to negotiate the range of services that might be available to them within the community. Although some systems and agencies may offer these services to families, others may not. Typically, service coordination for families is a within-system function, so a family may have a service coordinator for health services and another for educational services. Collaboration across service sectors would make it possible to streamline the service coordination function. For example, both health and educational services might be negotiated by a single service coordinator, thus reducing the possibility of service duplication and contradictory services. It also reduces the number of professionals with whom a family must interact.

Intervention

Usually each service provider develops their own plan of services for a young child with disabilities and his or her family. Interventions take place in locations according to the requirements of the individualized plan and the regulations governing the system or agency in which the services are offered. Collaborations across agencies might involve the development of a single individualized service plan in which the roles and responsibilities of the professionals of each agency are carefully identified, resolving any obvious differences in approach. Services might take place in one or more locations that are determined to be convenient for the family (e.g., child care). The coordination of interventions also assists a family and the professionals involved to grasp more easily the full range of services and how they relate to one another. Jointly collecting and sharing progress data can provide the basis for empirically based program modifications for a given child.

Professional Development

Professional development refers to the provision of in-service educational experiences and training that are provided to professionals within an agency or service system. Generally speaking, every agency or service system has its own agenda for professional development. Additionally, professionals may also have continuing educational requirements to fulfill to maintain professional licensure. Collaboration across agencies and systems might involve joint planning of professional development opportunities in a community or service sector so that professionals from multiple agencies can participate. These opportunities for professionals from other agencies to meet each other not only assist in breaking down some of the cultural and attitudinal barriers to cross-agency collaboration, but they can also set the stage for jointly learning new patterns of professional behavior that support collaborative efforts.

Proposed Comprehensive Models

Comprehensive models of systems change focus on the development of the full range of services for a specified population of children and families. The Build Initiative described earlier to develop statewide early learning systems represents one comprehensive model of services for young children. Examples of two additional proposed models are described below.

The Zero to Three Model

Zero to Three, an interdisciplinary organization devoted to the welfare of our youngest citizens, recently proposed a comprehensive model of services for all infants and toddlers (Zero to Three, 2009). The model encompasses services from the three major systems: (1) physical and mental health services, (2) family support services, and (3) early care and education. According to the model, physical and mental health services include health insurance coverage, prenatal care, primary and preventative care, guidance for parents to support healthy child development, and developmental screenings. Family support services include parenting education, family basic economic support, supportive work and family policies (e.g., paid family leave), and special supports for families in crisis. Early care and education includes quality child care in a variety of settings, Early Head Start, and early intervention for children with disabilities. This community-based comprehensive coordinated system of services includes seven essential components: (1) governance and leadership, (2) quality improvement, (3) accountability and evaluation, (4) financing, (5) public engagement and political will building, (6) regulations and standards, and (7) professional development.

Foster Care Model

Leslie et al. (2005) describes a comprehensive model for health, developmental, and mental health professionals to collaborate with child welfare to better serve children in foster care. Children in foster care often have significant developmental and mental health issues (Sedlak & Boadhurst, 1996; Szilagyi, 2009) that lead to school failure and as they grow older, high rates of dropping out of school and delinquency (Cohen et al., 1998; Newton, Litrownik, & Landsverk, 2000; Smucker, Kauffman, & Ball, 1996; Taussig, 2002; Zima et al., 2000). Studies have estimated that the prevalence of developmental disabilities among those in foster care to be as high as 60 percent, in contrast to the general population with estimates of 4–10 percent (Leslie et al., 2005). The framework that Leslie and colleagues describe is based on a study of promising practices in meeting the physical, mental, and developmental needs of young children in foster care (Woolverton, 2002). Eleven components were identified through telephone interviews and site visits to nine programs that together provide a framework for a comprehensive approach to addressing the needs of children in foster care: (1) initial screening and comprehensive health assessment, (2) access to health care service and treatment, (3) management of health care data and information, (4) coordination of care, (5) collaboration among systems, (6) family participation, (7) attention to cultural issues, (8) monitoring and evaluation, (9) training/education, (10) funding strategies, and (11) designing managed care to fit the needs of children in the child welfare system. Although no one program in the study contained all 11 components, taken together, the list identifies the critical components of a model program.

Toolkits and Guidelines

Many projects have been funded in various human service sectors that have focused on the implementation of the cross-agency collaboration and systems reform due to the wide range of legislation described earlier. Many projects have developed toolkits and guidelines that might be helpful to other programs pursuing similar goals. Technical assistance agencies and some states also have published materials. A wealth of such information is available on the Internet. A few of these sites are highlighted here.

Champions for Inclusive Communities

Champions for Inclusion Communities is a "national center designed to support communities in organizing services for families of children and youth with special health care needs" (Champions for Inclusive Communities, n.d.). This organization is devoted to providing assistance in the development of systems of care for this population. There are six national centers, each committed to a different system of care performance indicator: (1) Families as Partners, (2) Access to Medical Home, (3) Early and Continuous Screening, (4) Adequate Insurance, (5) Organized Services, and (6) Transition to Adulthood. Numerous resources are offered to support the development of these measureable indicators, including the identification of "Star Communities" recognized for their implementation of community-based service systems.

Bright Futures

Bright Futures is a national health promotion initiative that was originally begun by the Maternal and Child Health Bureau in 1990. It is now currently administrated by the American Academy of Pediatrics in conjunction with state and federal Bright Futures projects. The initiative is dedicated to the "principle that every child deserves to be healthy and that optimal health involves a trusting relationship between the health professional, the child, the family, and the community as partners in health practice" (National Center for Education in

Maternal and Child Health, Georgetown University, 2008, p. 1). Information and training materials are available on the Web site to assist pediatricians and others to implement systems-of-care principles across agencies in the implementation of a community-based approach to mental health services.

Head Start

The Head Start Web site provides ample resources designed to assist Head Start programs in the development of community partnerships (Early Childhood Learning and Knowledge Center, n.d.). The guide on the collaborative process (Early Childhood Learning and Knowledge Center, 2000), for example, identifies a five-step process: (1) getting together, (2) building trust and ownership, (3) strategic planning, (4) taking action, and (5) evaluation. These steps, which are elucidated on the Web site, capture many of the collaborative principles described in other portions of this chapter.

SUCCESSFUL COLLABORATIONS: THE EVIDENCE BASE

Although legislative mandates for cross-agency and cross-system collaboration have been in existence since the 1980s for a range of populations, the evidence base available measuring the outcomes for children, youth, and their families is very slim (Leslie et al., 2005; Sloper, 2004). Most of the published information has focused on descriptions of collaborations, processes, and changes to service delivery, some of which have been referenced earlier in this chapter. Such information is plentiful and can be found in peer-reviewed journal articles, reports of projects and initiatives supported by government and other funders, and Internet sites of specific projects, technical assistance providers, and government agencies. The few studies that have examined actual outcomes for children and their families have generally focused on older children with emotional and behavioral disorders; little outcome data are currently available for evaluating the effectiveness for young children and their families.

Modifications to Service Delivery

A critical first step in understanding how collaborative initiatives are transforming service delivery across the country is empirical documentation of both the processes used to change service delivery and the manner and extent to which services have been changed.

Reports

Initiatives devoted to the development of early learning systems for young children have published reports of the types of modifications that have taken place in participating states.

The first evaluation report of the Early Childhood Comprehensive Systems Grant Program of the Maternal and Child Health Bureau (Lewin Group, 2007) investigated the progress of the 2005 cohort of 20 states receiving funding. Through a survey of participants, findings reported include increased enrollment in public health insurance programs for children, increased mental health trainings for early childhood providers, improved quality of child care, increased awareness of the importance of parent education, and increased quality of family support programs.

In the evaluation of the Build Initiative from 2002 to 2009 (Bruner & Wright, 2009) there is a chart documenting the changes in the seven participating states. Accomplishments that most directly relate to children with disabilities and the goals of this chapter include expanded health coverage and expanded early intervention services for children with disabilities in five states; expanded developmental health and child mental screening, services, and training in six states; improved integrated planning and actions across systems in all seven states; and improved and expanded family support and parent education in six states. The chart also underscores important achievements in the political, governance, and leadership arenas that are necessary in sustaining and further developing state early childhood systems.

The U.S. Office of Head Start (2007) published a report consisting of state profiles that summarize each state's collaboration efforts. State reports are organized into the 10 current priority areas of health care, homelessness, welfare, child care, education, disabilities, child welfare, community literacy, community services, and professional development. The information is not aggregated across states.

Empirical Studies

Although much descriptive material is available documenting systemic changes, there are few peer-reviewed empirical studies. The studies presented below that were published in peer-reviewed journals address various types of systems modifications, although unfortunately, they are not exclusively focused on young children.

Bruns, Rast, Peterson, Walker, and Bosworth (2006) documented how data collection and analysis were used to inform statewide systems-change efforts in Nevada to provide wraparound services to children with emotional and behavioral disorders. Wraparound services represent a collaborative planning process that includes family members, natural support networks, and service providers from multiple agencies, resulting in an individual treatment plan that maintains the child in his family and community. The evaluative steps in this collaboration between the child welfare and mental health agencies included assessing the statewide need for wraparound services, evaluating a pilot wraparound program, measuring and improving program implementation, and evaluating program impact and unaddressed needs in the state.

Tebes et al. (2005) examined access to services across time in a statewide systems-of-care initiative in Rhode Island for comprehensive services to children with emotional and behavioral disorders. The investigation, which studied 2,073 children over an eight-year period, assessed the extent to which children received the services recommended by multiagency case review teams within three months of their recommendation at the beginning, middle, and end of the establishment of the system. Access to services improved across time. The study also showed that the number and variety of children and agencies involved increased over time.

Lannon et al. (2008) studied the extent to which 15 pediatric practices in nine different states adopted Bright Futures strategies to include a greater focus on mental health following nine months of collaborative learning. These pediatric practices on average increased their usage of the 21 possible Bright Futures strategies from 10 to 15. The most frequently implemented strategies were recall/reminder systems, linkages to community resources, and systematically asking parents if their children had special health care needs. The study demonstrated that the collaborative training program, involving teams from each practice of a doctor, ancillary clinical staff, and an administrative representative, resulted in modifications to pediatric practice.

Several studies point to increased developmental and mental health screening and referral by pediatric practices. We have evidence that children referred to mental health services by their pediatricians are more likely to actually receive those services (Lavigne et al., 1998). Pediatric residents who received training about developmental screening and community referral improved their knowledge regarding these topics (Bauer, Smith, Chien, Berry, & Msall, 2009). One year later, chart audits demonstrated increased use of screening tools and more referrals to community services. A project in North Carolina to establish developmental screening within well-child pediatric visits demonstrated increased screening rates over a two-year period (Earls, Andrews, & Hay, 2009). Physicians were more likely to screen younger children than older children and more likely to refer children to early intervention and other community programs for developmental rather than behavioral concerns of parents.

Measurement of Child and Family Outcomes

One source of evidence supporting positive outcomes for more collaborative cross-systems service delivery is the National Evaluation of the Comprehensive Community Mental Health Services for Children and their Families Program (Center for Mental Health Services, 2003). The evaluation collected and analyzed data from the implementation of the program from 1997 to 2000. Of the 11,814 children who served in the program, more than half were over 12 years of age. Results revealed that children's behavioral and emotional strengths increased, improved school performance was related to improvements in behavioral and emotional problems, and most children received services in community settings rather than in restrictive placements. In a comparison with matched non-systems-of-care communities, the systems-of-care communities were determined to have scored higher on the application of systems-of-care principles and were more family-focused. Greater clinically significant change was also demonstrated from intake to 12 months in the systems-of-care communities (Stephens et al., 2005; Stephens, Holden, & Hernandez, 2004).

Several studies have documented the pre-referral factors (e.g., demographic characteristics, referral) that predict better outcomes in a systems-of-care approach. Anderson, Effland, Kooreman, and Wright (2006) examined data from the Dawn Program in Indiana for youth with DSM IV or special education diagnoses. Results of the study demonstrated that age was the only predictor of outcome, with younger children having better outcomes than older children within the first six months of services. Walrath, Ybarra, and Holdern (2006), using data from the Comprehensive Community Mental Health Services for Children Program, revealed that children with more severe indicators of impairment (i.e., higher levels of functional impairment, higher levels of caregiver strain, and poorer academic functioning) were more likely to improve within the first six months in the system. However, minority racial/ethnic background, out-of-home placement, and history of substance abuse were factors that predicted deterioration within the same time period. Using data from the National Survey of Child and Adolescent Well-Being, Hurlburt et al. (2004) examined mental health service usage among 2,823 child welfare cases in 97 counties across the United States. Results indicated that increased coordination between child welfare and mental health agencies reduced the disparities between mental health service usage among white and African American children.

Horwitz, Owens, and Simms (2000) compared children entering foster care who had received a comprehensive multidisciplinary program with those who had received traditional services. The two groups had comparable medical, educational, developmental, and mental health problems, but children in the comprehensive program were more likely to be referred for developmental, mental health, and medical health services by their providers than those receiving customary services.

EMERGING TRENDS AND NEEDS

This chapter has provided an overview of the goals, benefits and challenges, strategies, and effectiveness of crossing agency and systems boundaries in the delivery of services to young children with disabilities and their families. Young children with disabilities and their families are often involved in multiple service-delivery systems in the domains of health care, education, and social services. The involvement of multiple professionals from multiple systems not only complicates the lives of families, but also may not be the most effective or efficient use of services for children. Integrated services systems are more likely to better serve the needs of children and families and to use the dollars available more efficiently.

Federal legislation in the areas of health and human services and education have responded to this need by calling for system reforms that are family-centered, culturally competent, collaborative across agencies and systems, community-based, and accountable. Government and foundation grants since the 1980s have funded such systems of care primarily in the areas of mental health and child welfare for children over 5 years of age, adolescents, and their families.

More recently, the emphasis has been on the development of early childhood systems that integrate health care, early care and education, early intervention including mental health, and family education and support.

Systems change can take place at the local, regional, or state level and can involve as few as two agencies or the majority, if not all the agencies, in a given community. The potential benefits include, first and foremost, improvements in services to children and families. Modifications in service delivery have been well documented in all sectors, including the practices of pediatricians (e.g., Bauer et al., 2009; Earls et al., 2009; Lannon et al., 2008), mental health services for children (e.g., Bruns et al., 2006; Center for Mental Health Services, 2003; Tebes et al., 2005), children in foster care (e.g., Horwitz et al., 2000), and young children generally (e.g., Bruner & Wright, 2009; Office of Head Start, 2007). A change in services is not necessarily an improvement in services. Although accountability is emphasized as one of the hallmarks of the systems-of-care approach, relatively little information is available, apart from the Comprehensive Mental Health Service Program (Center for Mental Health Services, 2003) documenting modifications in child and family outcomes. More studies in general are needed to demonstrate the comparative effectiveness of a systems-of-care approach over more traditional services and, in particular, there needs to be a specific focus on children under age 5 and their families.

Other presumed benefits also are supported by very little empirical evidence. These include the avoidance of costly service duplication; a reduction in service inequities, for which there is some evidence (Hurlburt et al., 2004); and the facilitation of an inclusive society, a benefit that can be documented perhaps by fewer out-of-home and restrictive placements (Center for Mental Health Services, 2003). More careful study is needed in these areas as well with an emphasis on young children, particularly those with disabilities.

On the other hand, theories of change, and especially the technology to bring about family-centered, culturally competent, community-based systems of services through interagency and intersystem collaboration, are widely available. The facilitators and inhibitors of interagency and cross-system collaboration are well-documented. In addition to the mandates of the federal government, professional organizations, policy institutes, and technical assistance agencies have assisted in furthering the development of the vision for collaboration and systems reform. The steps involved may be conceptualized differently for different collaborative efforts, but they almost always involve a common understanding of need among agencies, the development of a joint vision and joint goals, the development and implementation of a strategic plan, and the collection of data to assist in the developmental efforts and to measure effectiveness. Consumers themselves must play an integral role in these developmental efforts to ensure that the services developed serve the needs of children and families. The technology that is available on Web sites and in other published documents focuses heavily on the initial steps in this process. The technology that assists agencies in the collection and use of data for formative and summative evaluation of the efforts, however, deserves to be better developed.

CROSSING THE COUNTY LINE: THE PRESBYLSKI FAMILY

To address the needs of the Presbylski family, two interagency solutions seem apparent—that the early intervention program in Monroe County provide services to Carrie in her Smithfield County child care program, or that Smithfield County provide early intervention services to Carrie with the assumption that Monroe County compensate them for these efforts. A meeting between the two local early intervention administrators in Monroe and Smithfield counties and Mr. and Mrs. Presbylski resulted in an interagency agreement in which the parties decided that the best solution would be for Carrie's current teacher to go to the ABC Child Care Center located only a mile from the Presbylski home. This logistically simple solution would preserve continuity of services for both Carrie and her family with minimal administrative modification.

WHO TO BELIEVE: THE GARZA FAMILY

The solution for the Garza family could be addressed at either the local or state level. At the local level, a meeting of the two agencies and the family could be held. The relevant personnel from the early intervention agency would include the home-based teacher, the speech-language pathologist, and a program administrator. The therapeutic staff support supervisor would represent the Behavioral Health Agency, since she is responsible for the design and implementation of Paco's program. The meeting should focus on resolving the issues around the nature of Paco's communication program (whether it should be picture- or sign-based) and the role of the parents in implementing the intervention. This will probably require the modification of the treatment plans for each agency and a clarification of the roles of each agency in the implementation of the agreed-upon approach to Paco's communication programming. In accordance with the provision of family-centered services, Paco's parents would be partners in making any decisions. In addition, a plan for communication among service providers might include scheduling periodic meetings and some form of regular communication between direct service providers (perhaps a log that is kept in the home) to communicate activities, progress, and issues that may arise. Financing the joint planning meetings will be an issue that both agencies will need to contemplate. However, since both agencies support periodic meetings with parents as part of their regulatory procedures, the joint scheduling of such meetings could be easily accomplished.

An alternative local solution would be recognition by both agencies that many children receiving early intervention services also receive behavioral health services. The two local authorities could engage themselves in a local systems-change effort to jointly develop a standard set of procedures to be used in such cases. Such efforts would require the agencies to define the need; develop a set of goals/objectives for the collaboration; involve all the relevant stakeholders, including families; develop the procedures; field test the procedures in a pilot run followed by evaluation of the outcomes and adjustment of the procedures; build capacity for these changes within the system through joint training of personnel; and evaluate both the implementation and the child and family outcomes. Many of the procedures and resources identified in this chapter would be useful in these efforts.

A state-level solution to the issues obviously requires greater systemic change. A need for change may include recognition that families statewide who are receiving services from both agencies might be better served if there were more collaboration in planning and implementing services. Such collaboration might avoid wasteful service duplications or contradictions and, consequently, unnecessary confusion for parents. It might help the state find a pathway to greater service efficiency and coherence, potentially more progress for children, and perhaps to resources that might be freed up to design new types of service configurations. For example, the development of a single program/treatment plan that meets the needs of both systems might be developed. The joint efforts of both might provide the brainpower to envision an even more innovative step in the collaboration—the development of a cross-system program for teaching parents intervention strategies to meet the needs of their young children with autism in their homes and communities. Such a program could augment the current service configuration and better empower parents to address the needs of their children.

REFERENCES

Ackoff, R. L., & Rovin, S. (2003). *Redesigning society.* Stanford, CA: Stanford Business Books.

Allen, R. I., & Petr, C. G. (1996). Toward developing standards and measurements for family-centered practice in family support programs. In G. Singer, L. Powers, & A. Olson (Eds.), *Redefining family support: Innovations in public-private partnerships* (pp. 57–85). Baltimore: Paul H. Brookes.

American Academy of Pediatrics. (2002). Policy statement: The medical home. *Pediatrics, 110*, 184–186.

American Academy of Pediatrics. (2005). Policy statement: Care coordination in the medical home: Integrating health and related systems of care for children with special health care needs. *Pediatrics, 116*, 1238–1244.

American Academy of Pediatrics. (2006). Policy statement: Identifying infants and young children with developmental disorders in the medical home: An algorithm for developmental surveillance and screening. *Pediatrics, 118*, 405–420.

American Academy of Pediatrics. (2007). Policy statement: Role of the medical home in family-centered early intervention services. *Pediatrics, 120*, 1153–1158.

Anderson, J. A., Effland, V. S., Kooreman, H., & Wright, E. R. (2006). Predicting functional improvement over time in a system of care. *Families in Society: The Journal of Contemporary Social Services, 87*, 438–446.

Bauer, S. C., Smith, P. J., Chien, A. T., Berry, A. D., & Msall, M. E. (2009). Educating pediatric residents about developmental and social-emotional health. *Infants and Young Children, 22*, 309–320.

Bruner, C. (1991). *Thinking collaboratively: Ten questions and answers to help policy makers improve children's services*. Washington, DC: Education and Human Services Consortium.

Bruner, C. (2004). Toward a theory of change for the Build Initiative: A discussion paper. Retrieved from http://www.buildinitiative.org/content/about-us

Bruner, C., & Wright, M. S. (2009). The first seven years: The Build Initiative and Early Childhood Systems Development, 2002 to 2009. Retrieved from http://www.buildinitiative.org/files/BUILD%20-%20First%207%20years.pdf

Bruns, E. J., Rast, J., Peterson, C., Walker, J., & Bosworth, J. (2006). Spreadsheets, service providers, and the statehouse: Using data and the wraparound process to reform systems for children and families. *American Journal of Community Psychology, 38*, 201–212.

Build Initiative. (2005). The Build Initiative's Theory of Change. Retrieved from http://www.buildinitiative.org/content/about-us

California Department of Education. (2007). *Handbook on developing and evaluating interagency collaboration in early childhood special education programs*. Retrieved

February 12, 2010, from http://www.cde.ca.gov/sp/se/fp/documents/eciacolbrtn.pdf

Center for Mental Health Services. (2003). *Annual report to Congress 2002–2003: The Comprehensive Community Mental Health Services for Children and Their Families Program—Evaluation findings*. Retrieved from http://download.ncadi.samhsa.gov/ken/pdf/SMA03-CBE2002/CongReport20022003FINAL PUBLICATION.pdf

Champions for Inclusive Communities. (n.d.). *Welcome*. Retrieved from http://www.championsinc.org/

Checkland, P. (1981). *Systems thinking: Systems practice*. Chichester, West Sussex: Wiley.

Child Abuse Prevention and Treatment Act (P.L. 104-235). (1996). Retrieved from http://www.acf.hhs.gov/programs/cb/laws_policies/cblaws/public_law/pl104_235/pl104_235.htm

Child Welfare Information Gateway. (2008, February). *Systems of Care*. Retrieved from http://www.childwelfare.gov/pubs/soc/soc.pdf

Cohen, N. J., Menna, R., Vallance, D. D., Barwick, M. A., Im, N., & Horodezky, N. B. (1998). Language, social cognitive processing, and behavioral characteristics of psychiatrically disturbed children with previously identified and unsuspected language impairments. *Journal of Child Psychology and Psychiatry, 39*, 853–864.

Darlington, Y., Feeney, J. A., & Rixon, K. (2005). Interagency collaboration between child protection and mental health services: Practices, attitudes and barriers. *Child Abuse and Neglect, 29*, 1085–1098.

Davis, R. (2002). Maternal and Child Health Block Grant. *Encyclopedia of Public Health*. Retrieved March 11, 2010, from Encyclopedia.com: http://www.encyclopedia.com/doc/1G2-3404000524.html

Division for Early Childhood of the Council for Exceptional Children & National Association for the Education of Young Children. (2009). *Early childhood inclusion: A joint position statement of the Division for Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC)*. Chapel Hill: University of North Carolina, FPG Child Development Institute. Retrieved from http://community.fpg.unc.edu/resources/articles/Early_Childhood_Inclusion

Earls, M. F., Andrews, J. E., & Hay, S. S. (2009). Longitudinal study of developmental and behavioral screening and referral in North Carolina's Assuring Better Child Health and Development participating practices. *Clinical Pediatrics, 48*, 824–833.

Early Childhood Comprehensive Systems Initiative. (n.d.). Retrieved from http://eccs.hrsa.gov

Early Childhood Learning and Knowledge Center. (2000). *Practicing the Collaborative Process*. Retrieved from http://eclkc.ohs.acf.hhs.gov/hslc/Family%20and%20Community%20Partnerships/Community%20Partnership/Building%20&%20Planning%20Partnerships/famcom_fts_00132_081905.html

Epps, S., & Jackson, B. (2000). *Empowered families, successful children: Early intervention programs that work*. Washington, DC: American Psychological Association.

Forrester, J. W. (1969). *Principles of system*. Cambridge, MA: Wright-Allen Press.

Foster-Fishman, P. G., & Behrens, T. R. (2007). Systems change reborn: Rethinking our theories, methods and efforts in human services reform and community-based change. *American Journal of Community Psychology, 39*, 191–196.

Foster-Fishman, P. G., Nowell, B., & Yang, H. (2007). Putting the system back into systems change: A framework for understanding and changing organizational and community systems. *American Journal of Community Psychology, 39*, 197–215.

Harbin, G., & Van Horn, J. (1990). Interagency coordinating council roles and responsibilities, Policy Alert (P.L. 99-457, Part H). Chapel Hill: Carolina Policy Studies Program, University of North Carolina. ERIC ED357578

Horwitz, S. M., Owens, P., & Simms, M. D. (2000). Specialized assessments for children in foster care. *Pediatrics, 106*, 59–66.

Hurlburt, M., Leslie, L., Landsverk, J., Barth, R. P., Burns, B. J., Gibbons, R. D., et al. (2004). Contextual predictors of mental health service use among children open to child welfare. *Archives General Psychiatry, 61*, 1217–1224.

Individuals with Disabilities Education Improvement Act (IDEIA; P.L. 108-446). (2004). Retrieved from http://www.copyright.gov/legislation/pl108-446.pdf

Johnson, L. J., Zorn, D., Kai Yung Tam, B., LaMontagne, M., & Johnson, S. A. (2003). Stakeholders' view of factors that impact successful interagency collaboration. *Exceptional Children, 69*, 195–209.

Keeping Children and Families Safe Act (P.L. 108-36). (2003). Retrieved from http://www.acf.hhs.gov/programs/cb/laws_policies/policy/im/2003/im0304a.pdf

Knitzer, J. (1997). Service integration for children and families: Lessons and questions. In R. J. Illback, C. T. Cobb, & H. M. Joseph (Eds.), *Integrated services for children and families: Opportunities for psychological practice* (pp. 3–21). Washington, DC: American Psychological Association.

Kochanek, T., & Buka, S. (1998).Patterns of service utilization: Child, maternal, and service provider factors. *Journal of Early Intervention, 21*, 217–231.

Kysor, D. F. (1995). Child and adolescent service system program: A multi-systems approach to service delivery for students with mental health needs. ERIC Doc ED386002

Lannon, C. M., Flower, K., Duncan, P., Moore, K. S., Stuart, J., & Bassewitz, J. (2008). The Bright Futures Training Intervention Project: Implementing systems to support preventive and developmental services in practice. *Pediatrics, 122*, 163–171.

Lavigne, J. V., Arend, R., Rosenbaum, D., Binns, H. J., Christoffel, K. K., Burns, A., et al. (1998). Mental health service use among young children receiving pediatric primary care. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*, 1175–1183.

Leslie, L. K., Gordon, J. N., Lambros, K., Premji, K., Peoples, J., & Gist, K. (2005). Addressing the developmental and mental health needs of young children in foster care. *Developmental and Behavioral Pediatrics, 26*, 140–151.

Lewin Group. (2007). State maternal and child health early childhood comprehensive systems grant program (ECCS): Year one evaluation final report. Washington, DC: Health Resources and Services Administration, Maternal and Child Health Bureau.

Mahoney, G., & Filer, J. (1996). How responsive is early intervention to the priorities and needs of families? *Topics in Early Childhood Special Education, 16*, 437–457.

Maternal and Child Health Bureau. (2000). *Understanding Title V of the Social Security Act: A guide to the provisions of the Maternal and Child Health Block Grant.* Washington, DC: U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau.

National Association of Social Workers. (2003). *Keeping Children and Families Safe Act of 2003*. Retrieved from http://www.socialworkers.org/advocacy/updates/2003/030503.asp

National Center for Education in Maternal and Child Health, Georgetown University. (2008). *Bright Futures*. Retrieved from http://www.brightfutures.org

National Institute for Health Care Management. (2009). *Strategies to support the integration of mental health into pediatric primary care*. Retrieved from http://nihcm.org/pdf/PediatricMH-FINAL.pdf

Newton, R. R., Litrownik, A. J., & Landsverk, J. A. (2000). Children and youth in foster care: disentangling the relationship between problem behaviors and number of placements. *Child Abuse and Neglect, 24*, 1363–1374.

Nolan, K. W., Young, E. C., Herbert, E. B., & Wilding, G. E. (2005). Service coordination for children with complex healthcare needs in an early intervention program. *Infants and Young Children, 18*, 161–170.

Office of Head Start. (2007). *Head Start State Collaboration Offices: 2007 Annual State Profiles*. Washington, DC: Department of Health and Human Services. Retrieved from http://eclkc.ohs.acf.hhs.gov/hslc/Head%20Start%20Program/State%20collaboration/HSSCO/HSSCO_2007_Profiles1%5B1%5D.pdf

Peterson, N. L. (1991). Interagency collaboration under Part H: The key to comprehensive, multidisciplinary, coordinated infant/toddler intervention services. *Journal of Early Intervention, 15*, 89–105.

Pires, S. (2008). *Building systems of care: A primer for child welfare*. Washington, DC: National Technical Assistance Center for Children's Mental Health, Georgetown University Center for Child and Human Development, Georgetown University. Retrieved from http://gucchd.georgetown.edu/72382.html

Roberts, R. N., & Wasik, B. H. (1996). Evaluating the 1992 and 1993 community integrated service systems projects. *New Directions for Evaluations, 69*, 35–49.

Rouse, H. L., & Fantuzzo, J. W. (2009). Multiple risks and educational well being: A population-based investigation of threats to early school success. *Early Childhood Research Quarterly, 24*, 1–14.

Sedlak, A. J., & Boadhurst, D. D. (1996). *The Third National Incidence Study of Child Abuse and Neglect*. Washington, DC: U.S. Department of Health and Human Services, Administration for Children, Youth, and Families.

Shelton, T. L., & Stepanek, J. S. (1994). *Family-centered care for children needing specialized health and developmental services*. Bethesda, MD: Association for the Care of Children's health. ERIC ED 381926.

Sloper, P. (2004). Facilitators and barriers for coordinated multi-agency services. *Child: Care, Health and Development, 30*, 571–580.

Smucker, K. S., Kauffman, J. M., & Ball, D. W. (1996). School-related problems of special education foster-care students with emotional or behavioral disorders: a comparison to other groups. *Journal of Emotional and Behavioral Disorders, 4*, 30–39.

Sontag, J. C., & Schacht, R. (1994). An ethnic comparison of parent participation and information needs in early intervention. *Exceptional Children, 60*, 422–433.

Stephens, R. L., Connor, T., Nguyen, H., Holden, E. W., Greenbaum, P. E., & Foster, E. M. (2005). The longitudinal comparison study of the national evaluation of the Comprehensive Community Mental Health Services for Children and their Families Program. In M. Epstein, K. Kutash, & A. Duchnowski (Eds.), *Outcomes* *for children and youth with behavioral and emotional disorders and their families: Programs and evaluation best practices* (pp. 525–550). Austin, TX: PRO-ED.

Stephens, R. L., Holden, E. W., & Hernandez, M. (2004). System of care practice review scores as predictors of behavioral symptomatology. *Journal of Child and Family Studies, 13*, 179–191.

Szilagyi, M. (2009). Children with special health care needs in foster care in the United States. In C. Burns (Ed.), *Disabled children living away from home in foster care and residential settings* (pp. 114–121). London: Mac Keith Press.

Taussig, H. N. (2002). Risk behaviors in maltreated youth placed in foster care: a longitudinal study of protective and vulnerability factors. *Child Abuse and Neglect, 26*, 1179–1199.

Tebes, J. K., Bowler, S. M., Shah, S., Connell, S. M., Ross, E., Simmons, R., et al. (2005). Service access and service system development in a children's behavioral health system of care. *Evaluation and Program Planning, 28*, 151–160.

Vermont Agency of Human Services. (2005). *Supporting children with disabilities and their families: An interagency agreement among early care, health and education programs and agencies in Vermont*. Retrieved from http://www.eric.ed.gov/PDFS/ED486542.pdf

Walrath, C. M., Ybarra, M. L., & Holdern, E. W. (2006). Understanding the prereferral factors associated with differential outcomes among children receiving systems-of-care services. *Psychological Services, 3*, 35–50.

Woolverton, M. (2002). *Meeting the health care needs of children in the foster care system: Strategies for implementation*. Washington, DC: Georgetown University Child Development Center. Retrieved from http://gucchd.georgetown.edu/products/FCStrategies.pdf

Zero to Three. (2009). *Putting the pieces together for infants and toddlers: Comprehensive, coordinated systems*. Retrieved from http://www.zerotothree.org/site/DocServer/SystemsSinglesMarch5.pdf?docID=7903

Zima, B. T., Bussing, R., Freeman, S., Yang, X., Belin, T. R., & Forness, S. R. (2000). Behavior problems, academic skill delays and school failure among school-aged children in foster care: Their relationship to placement characteristics. *Journal of Child and Family Studies, 9*, 87–103.

About the Editor and Contributors

EDITOR

Louise A. Kaczmarek, PhD, is Associate Professor of Special Education and Coordinator of the Early Intervention and Early Childhood Education Programs in the School of Education at the University of Pittsburgh. She has been an active participant in training personnel in multiple discipline as part of the UCLID Center for Individuals with Disabilities at the University of Pittsburgh, a LEND grant that supports interdisciplinary leadership training. Her research has focused on the provision of support to families whose children are served in classroom-based early intervention programs, interdisciplinary training of personnel, and classroom-based language intervention strategies. Her accomplishments include principal investigator or co-principal investigator on many federally funded research, in-service training, model demonstration, and personnel preparation projects; author and co-author of numerous journal articles and book chapters; co-author of a book on social-communication interventions; and presenter at numerous conferences and in-service workshops. Dr. Kaczmarek is an associate editor of the Journal of Early Intervention (JEI).

CONTRIBUTORS

Stephen J. Bagnato, EdD, NCSP, is a Professor of Pediatrics and Psychology at the University of Pittsburgh School of Medicine and a faculty member in the Applied Developmental Psychology Program in the School of Education. Dr. Bagnato is Director of Early Childhood Partnerships (ECP) at Pitt and Children's Hospital of Pittsburgh of UPMC. In over 30 years of research, Dr. Bagnato has specialized in authentic curriculum-based assessment and program evaluation research strategies for young children at developmental risk and with neurodevelopmental disabilities in early childhood intervention programs. He has published 130 research articles, publications, and seven books in this specialty. His latest companion texts are *Authentic Assessment for Early Childhood Intervention: Best Practices* (2007), and *LINKing Authentic Assessment and Early Childhood Intervention: Best Measures for Best Practices* (2010).

LeeMarie A. Benshoff is a graduate student in the School of Education at the University of North Carolina at Chapel Hill and is working on the Recognition and Response Project (R&R). R&R is being developed at the Frank Porter Graham Child Development Institute, University of North Carolina. R&R is a tiered model for prekindergarten based on Response to Intervention (RtI), designed to provide high-quality instruction and targeted interventions that are matched to children's learning needs.

Virginia Buysse is a Senior Scientist at the Frank Porter Graham Child Development Center at the University of North Carolina at Chapel Hill. She directs a program of research on Recognition & Response (R&R), a model of Response to Intervention (RtI) for prekindergarten, funded by the Emily Hall Tremaine Foundation and the Institute for Education Sciences, U.S. Department of Education. She serves as Co-Principal Investigator on the Center for Early Care and Education Research for Dual Language Learners funded by the Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services; and Co-Principal Investigator on the National Professional Development Center on Inclusion and CONNECT (Center to Mobilize Early Childhood Knowledge), both funded by the Office of Special Education Programs, U.S. Department of Education. She is Past President-Elect of the *Division of Early Childhood* (DEC) of the *Council for Exceptional Children* (CEC).

Crystal Crowe is a doctoral student at the University of Florida in Gainesville. Her major area of doctoral study is early childhood special education, with emphases in early childhood policy and research methods. Ms. Crowe completed her M.Ed. in community counseling at Vanderbilt University. She has been an interventionist in early language research projects as well as a coach to parents and Head Start teachers. Currently, Ms. Crowe is involved in an interagency initiative to develop a cross-sector plan for early childhood professional development in Florida. In addition, she is a research assistant on the Embedded Instruction for Early Learning Project funded by the Institute of Education Sciences at the University of Florida.

Amy G. Dell, PhD, is a Professor and Chairperson of the Department of Special Education, Language and Literacy at the College of New Jersey. For 11 years she directed the Adaptive Technology Center for New Jersey Colleges and is now the director of the Center on Assistive Technology and Inclusive Education Studies. Dr. Dell is coauthor of the book *Assistive Technology in the Classroom: Enhancing the School Experiences of Students with Disabilities.*

Maria K. Denney, PhD, is an Assistant Professor in the School of Special Education, School Psychology and Early Childhood Studies in the College of Education at the University of Florida. She received her PhD in education with an emphasis in special education, disability, and risk studies from the University of California, Santa Barbara (UCSB) in 2003. Dr. Denney holds an MA in education with an emphasis in child and adolescent development and a BA in Spanish from UCSB. Her teaching and research interests build directly from over a decade of work with families and children at risk or with established disabilities in early intervention settings. Dr. Denney's research focuses on multicultural and linguistic issues in early childhood special education; families and disabilities; child development, disability, and poverty; integration of early intervention service delivery systems; and preservice and in-service professional development among early childhood professionals.

Cristian M. Dogaru is a pediatrician from Romania, with a PhD in child development from Oregon State University. His research is focused on children with special needs (medical and developmental). Presently he works as a Research Fellow at the Institute of Social and Preventive Medicine, University of Bern, Switzerland.

Marisa Macy, PhD, is an Assistant Professor of Education at Lycoming College. Dr. Macy conducts research in assessment, intervention, and personnel preparation. She serves on two special education editorial boards. She has received grants for both research and personnel preparation and a fellowship at the National Institute on Disability and Rehabilitation Research. Her awards for research on assessment include one from the American Education Research Association.

Susan M. Moore, JD, MA-SLP, CCC, is a Clinical Professor and the Director of Clinical Education and Services for the Department of Speech, Language and Hearing Science at the University of Colorado, Boulder. Her publications include articles and chapters focused on working with culturally and linguistically diverse children and families, early language, and literacy learning. She has collaborated with the Denver Public Schools in the Early Reading First project to help culturally diverse children. Dr. Moore is an ASHA (American Speech-Language-Hearing Association) Fellow and holds Specialty Recognition in Child Language.

Deborah A. Newton, EdD, is Associate Professor and Chairperson of the Special Education and Reading Department at Southern Connecticut State University. Dr. Newton's areas of expertise are assistive technology for education and assistive technology for computer access. She is president of the Technology and Media Division (TAM) of the Council for Exceptional Children, and she is coauthor of the textbook *Assistive Technology in the Classroom: Enhancing* the *School Experiences of Students with Disabilities*.

Cathleen Pasia is a doctoral student in School Psychology at the University of Florida. She is specializing in early childhood studies. She is a research assistant on the Embedded Instruction for Early Learning Project under the direction of Dr. Patricia Snyder.

Ellen Peisner-Feinberg, PhD, is a Senior Scientist at the Frank Porter Graham (FPG) Child Development Institute and Research Associate Professor in the School of Education at the University of North Carolina at Chapel Hill. She is leading a line of research on Recognition & Response (R&R), a model of Response to Intervention (RtI) for prekindergarten funded by the Emily Hall Tremaine Foundation and the Institute for Education Sciences, U.S. Department of Education. Dr. Peisner-Feinberg has wide experience in the study of early care and education programs, including directing the statewide evaluation of North Carolina's More at Four Prekindergarten Program since its inception and serving as a Principal Investigator on the Cost, Quality, and Child Outcomes in Child Care Centers Project, a seminal study of child care in the United States. Other current efforts include serving as a Co-Principal Investigator on the Center for Early Care and Education Research for Dual Language Learners (CECER-DLL) funded by the Office of Planning, Research, and Evaluation, Administration for

Children and Families, U.S. Department of Health and Human Services, as well as on a study of child care utilization patterns for Latino families funded by the Child Care Bureau, U.S. Department of Health and Human Services, and an evaluation of a preschool language and literacy intervention funded by the U.S. Department of Education.

Clara Pérez-Méndez, Founder and Director of Puentes Culturales, was born in Mexico and has lived in the United States since 1975. Clara is an educator, nationally recognized speaker, and consultant focused on building understanding and competence for those in education who work with linguistically diverse children and families. She is a regular lecturer in both pre-service and in-service programs preparing personnel to work with culturally diverse populations. Her involvement and expertise in early education include coordination of a bilingual early Child Find assessment team; consultation and workshop development with the Colorado Department of Education for training cultural mediators, interpreters, and translators; and collaboration with the University of Colorado at Boulder developing El Grupo de Familias (http://www.puentesculturales.com). Ms. Pérez-Méndez has a wealth of experience working with families from traditionally underrepresented backgrounds, especially Spanish-speaking families.

Jerry G. Petroff, PhD, is Associate Professor of Special Education at the College of New Jersey, where he has been teaching since 2001. Dr. Petroff's research interests include transition to postsecondary life for students with severe disabilities, early communication, and family life. Dr. Petroff is the Director of the New Jersey Consortium on Deaf Blindness (NJCDB), a community of family members, professionals, and others interested in promoting quality education for children and youth who are deaf-blind. Dr. Petroff is coauthor with Amy Dell and Deborah Newton of the book *Assistive Technology in the Classroom: Enhancing the School Experiences of Students with Disabilities.*

Kristie Pretti-Frontczak, PhD, is Professor of Early Childhood Intervention at Kent State University. She has written extensively on the topic of authentic assessment and is a coauthor on *LINKing Authentic Assessment and Early Childhood Intervention: Best Measures for Best Practices* and *Assessing Young Children in Inclusive Settings: The Blended Practices Approach.* She specializes in effective approaches to working with young children in inclusive settings (specifically regarding the implementation and evaluation of curriculum frameworks), and most recently on the application of Response to Intervention principles to early childhood settings.

Salih Rakap, MEd, is a doctoral student in the School of Special Education, School Psychology, and Early Childhood Studies at the University of Florida. He received a MEd in early intervention at the University of Pittsburgh. His research interests include the application evidence-based early intervention strategies in preschool classrooms, personnel preparation in early childhood special education, and inclusion. He has researched opinions of general education teachers working in public elementary schools in Turkey regarding the inclusion of students with disabilities in their classrooms. Mr. Rakap has published his work in the *European Journal of Special Needs Education*. He is a Research Assistant for the Embedded Instruction for Early Learning project funded by the Institute of Education Sciences (IES).

Sharon E. Rosenkoetter, PhD, is in the College of Health and Human Sciences at Oregon State University. Dr. Rosenkoetter studies children's development from ages 0–8, including the impact of special needs. Her research has focused on prekindergarten transition planning, emergent literacy, television viewing, and personnel development. Dr. Rosenkoetter is Project Director of Early Childhood Leadership Directions, a model demonstration project, and Rural Links, a personnel preparation project, under the U.S. Department of Education. Dr. Rosenkoetter also served as Co-Principal Investigator in Project REViEW, a study of interventions to mitigate the effects of television violence, sponsored by the U.S. Department of Education.

Beth Rous, EdD, is Associate Professor of Educational Leadership Studies at the University of Kentucky. She also serves as Director of Early Childhood at the Human Development Institute at the University of Kentucky, a center for excellence in developmental disabilities, education, research, and service. Dr. Rous has conducted research and written on early childhood topics such as accountability systems, transition, and professional development. She has authored and coauthored numerous articles and book chapters related to policy in early childhood education, and early intervention.

Carol Schroeder, MS, has been providing direct services and managing programs in the early intervention and child care fields for over 30 years. She has been active in Kentucky's coordination of a personnel development system for early care and education providers and contributed to the research activities of the federally funded National Early Childhood Transition Center (NECTC). Currently, she holds the position of Early Childhood Associate Director, Human Development Institute, University of Kentucky, and directs the Training Into Practice Project, a component of Kentucky's KIDS NOW Early Childhood Initiative.

Dawn Burger Sexton is currently a preschool teacher in a public preschool in rural Kentucky. Her class includes children who are at risk because of economic factors and children with identified disabilities. Ms. Sexton is currently enrolled in a graduate program and will receive her master's degree in Interdisciplinary Early Childhood Education through the University of Kentucky (UK). While at UK, she has worked on a number of research projects, including KIDS NOW: Kentucky Invests in Developing Success NOW; Project LINK: A Partnership to Promote LINKages among Assessment, Curriculum and Outcomes; and PROJECT PLAY: Promoting Positive Learning Outcomes through an Activity Based Approach with Young Children with Severe Disabilities. She also served as an assistant for two years at the University of Kentucky Laboratory School. Her research focuses on authentic assessment as used in a preschool setting.

Patricia A. Snyder, PhD, is the David Lawrence Jr. Endowed Chair in Early Childhood Studies and a Professor in the School of Special Education, School Psychology, and Early Childhood Studies and the Department of Pediatrics at the University of Florida. She was founder and Director of the interdisciplinary Early Intervention Institute at the Louisiana State University Health Sciences Center and has held faculty appointments at LSU Health Sciences Center, Vanderbilt University Medical Center, and Peabody College at Vanderbilt University. She has been a recipient of the Alan A. Copping Excellence in Teaching Award from the Louisiana State University system, the Merle B. Karnes Award for Service to the Division for Early Childhood (Council for Exceptional Children), the Article of the Year Award from the American Psychological Association (APA) Division 16, and a Service to the Profession award from the American Occupational Therapy Association. Dr. Snyder served from 2002 to 2007 as the editor of the *Journal of Early Intervention*. Her research focuses on the developmental impacts of early experiences and learning, social-emotional foundations for early learning, and ways families and practitioners support young children's development and learning. She has been engaged in interdisciplinary professional development activities for over 25 years. Dr. Snyder currently serves as the principal investigator for a study funded by the Institute of Education Sciences focused on examining the impacts of professional development practices on preschool teachers' use of embedded-instruction practices.

Elena P. Soukaku, DPhil, is a Postdoctoral Research Fellow at the Frank Porter Graham Child Development Institute, University of North Carolina. She is part of the team that is evaluating the results of the Recognition and Response Project (R&R), a prekindergarten high-quality instruction program. Her research interests include the quality of classroom practices in inclusive and special education settings, the effectiveness of early educational assessment and interventions, and the social and emotional development of young children. Dr. Soukakou received an American Educational Research Association (AERA) Dissertation Award in 2009.

Dale Walker, PhD, is Associate Research Professor at the Schiefelbusch Institute for Life Span Studies at the University of Kansas Juniper Gardens Children's Project and courtesy faculty in the Departments of Special Education and Applied Behavioral Science. Her research has focused on identifying the effects of early experience on language development and school readiness and developing and testing the use of meaningful outcome measures to inform intervention for infants and toddlers. She recently completed a longitudinal study of the effectiveness of interventions to promote the communication of infants and toddlers and directs a Model Demonstration Center for Promoting Language and Literacy Readiness in Early Childhood with infants and toddlers with disabilities. Dr. Walker has served as the Research Chairperson for the Division for Early Childhood, Past President of the Kansas chapter, and is a member of the State Interagency Council to advise early childhood work in Kansas. She is an associate editor of the *Journal of Early Intervention* and consulting editor for *Early Childhood Research Quarterly, Topics in Early Childhood Special Education and Young Exceptional Children Monographs*.

Advisory Board

Heidi M. Feldman, MD, PhD, is the Ballinger-Swindles Endowed Professor of Developmental and Behavioral Pediatrics at Stanford University School of Medicine. She also serves as the Medical Director of the Developmental and Behavior Pediatric Programs at Lucile Packard Children's Hospital. Dr. Feldman received her BA in Psychology (1970), summa cum laude, and her PhD in Developmental Psychology (1975) from the University of Pennsylvania. She received her MD from the University of California, San Diego (1979). Dr. Feldman has memberships in several professional societies such as the Society for Research in Child Development, the Society for Pediatric Research, and the American Academy of Pediatrics. She has served as President at the Society for the Developmental Behavioral Pediatrics. Her research focuses on developmental-behavioral pediatrics, language development in young children, and language and cognition after prematurity. She has published more than 50 peer-reviewed articles in journals like the *New England Journal of Medicine, Science, Brain and Language, Child Development, Journal of Behavioral Developmental Pediatrics, Developmental Neuropsychology*, and *Pediatrics*. She is one of the editors of the current edition of the premier textbook in her field, *Developmental-Behavioral Pediatrics* (4th ed.), published in 2009. She has served as grant reviewer for the National Institutes of Health (1992–1997 and 2008–2012) and an abstract reviewer for the Pediatric Academic Societies. Dr. Feldman has held several academic appointments: Professor at the Medical Center Line, Stanford University (2006 to present), Professor in Pediatrics, University of Pittsburgh (2000–2006), and Faculty Member at the Center for the Neural Bases of Cognition at the University of Pittsburgh/Carnegie Mellon University (2003–2006). Dr. Feldman has received several awards such as Best Doctors in America (2007–2008 and 2009–2010), Academy of Master Educators, University of Pittsburgh School of Medicine (2006), Outstanding Alumna, University of California San Diego (2003), Ronald L. and Patricia M. Violi Professor of Pediatrics and Child Development, University of Pittsburgh (2001–2006), Excellence in Education Award, University of Pittsburgh School of Medicine (2000), and the Chancellor's Distinguished Teaching Award (1999).

Marilou Hyson, PhD, is a consultant in early child development and education and an Affiliate Faculty member in Applied Developmental Psychology at George Mason University. Formerly Associate Executive Director and Senior Consultant with the National Association for the Education of Young Children (NAEYC), Marilou contributed to the development of many position statements on issues including early learning standards, professional preparation standards, early childhood mathematics, and curriculum/assessment/program evaluation. She is the author of the recent book *Enthusiastic and Engaged Learners: Approaches to Learning in the Early Childhood Classroom*, published by NAEYC and Teachers College Press. Two book chapters on early childhood professional development and higher education systems were published in 2010. Internationally, Marilou consults in Indonesia, Bangladesh, Bhutan, and Vietnam through the World Bank and Save the Children. In the United States, Marilou consults with organizations including the Families and Work Institute, the Finance Project, the National Center for Children in Poverty, and the Society for Research in Child Development. Prior to joining NAEYC, Marilou was an SRCD Fellow in the U.S. Department of Education and Professor and Chair of the University of Delaware's Department of Individual and Family Studies. The former editor-in-chief of *Early Childhood Research Quarterly*, Marilou's research and publications have emphasized young children's emotional development, parents' and teachers' beliefs and educational practices, issues in linking research with policy and practice, and early childhood teacher preparation.

Robert Silverstein, JD, is a principal in the law firm of Powers Pyles Sutter & Verville, P.C., and he also serves as the director of the Center for the Study and Advancement of Disability Policy. Mr. Silverstein received his BS in economics, cum laude, from the Wharton School, University of Pennsylvania in 1971. He received his JD in 1974 from Georgetown University Law Center. His main areas of interest are public policy issues and the policymaking process focusing in the areas of disability, health care, rehabilitation, employment, education, social security, and civil rights. In his capacity as staff director and chief counsel to the U.S. Senate Subcommittee on Disability Policy and other positions (1986–1997), Mr. Silverstein was the behind-the-scenes architect of more than 20 bills enacted into law, including the Americans with Disabilities Act (ADA), Rehabilitation Act (1992 Amendments), the Early Intervention Program for Infants and Toddlers with Disabilities (1986), and the Individuals with Disabilities Education Act Amendments (1991, 1997 Amendments). He has presented keynotes speeches before national and state organizations and trained leaders and others in more than 40 states regarding various public policy issues and the police making process. He has more than 75 papers, articles and policy briefs on public policy issues from a disability perspective published in journals such as *Behavioral Sciences* and *the Law, and Iowa Law Review*. Mr. Silverstein has assisted federal, state, and local policymakers and key stakeholder groups to translate research into consensus public policy solutions addressing identified needs.

Sue Swenson is an experienced nonprofit and government leader in the field of advocacy and support for people with developmental disabilities and their families. She is interested in the application of modern management and marketing techniques to help public systems better know and serve the people they are intended to help, with a special interest in interdisciplinary applications and international collaborative efforts. Mrs. Swenson is a frequent public speaker and enthusiastic participant in forums designed to improve the lives of citizens with disabilities. She worked for The Arc of the United States as CEO. She also served as Executive Director of Joseph P. Kennedy, Jr., Foundation. She was appointed by the Clinton White House to serve as Commissioner of the Administration on Developmental Disabilities, U.S. DHHS, and served as a Kennedy Public Policy Fellow at the U.S. Senate Subcommittee on Disability Policy. Mrs. Swenson received her AB in humanities in 1975, and an AM in humanities (1977) from the University of Chicago and an MBA from the Carlson School of Management at the University of Minnesota (1986). She has three adult sons, one of whom has developmental disabilities.

Jane E. West, PhD, currently serves as Senior Vice President for Policy, Programs, and Professional Issues at the American Association of Colleges for Teacher Education (AACTE). West has written broadly on special education, disability policy and teacher preparation. She served as the staff director for the U.S. Senate Subcommittee on Disability Policy in the early 1980s under the chairmanship of Sen. Lowell P. Weicker. She currently leads AACTE's engagement in the education policy discussion related to teacher preparation, the Elementary and Secondary Education Act and the Higher Education Act.

Index