**UNIVERSITRY OF GONDAR**

**COLLAGE OF EDUCATION**

**Department of Special needs and inclusive education**

**Reading material for the course of students with learning disability**

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**CHAPTER ONE**

**Introduction of Learning Disability**

1. Definition of Learning Disabilities

Learning disability (LD) is a general term that describes specific kinds of learning problems. A learning disability can cause a person to have trouble learning and using certain skills. The skills most often affected are reading, writing, listening, speaking, reasoning, and doing math. Learning disabilities vary from person to person. One person with LD may not have the same kind of learning problems as another person with LD. One person may have trouble with reading and writing. Another person with LD may have problems understanding math. Still another person may have trouble in each of these areas, as well as with understanding what people are saying (National Dissemination Center for Children and Youth with Disabilities [NICHCY],2004).

LD is a group of disorders that affects people’s ability to either interpret what they see and hear or to link information from different parts of the brain. These limitations can show up in many ways: as specific difficulties with spoken and written language, coordination, self-control, or attention. Such difficulties extend to schoolwork and can impede learning to read, write, or do math.

A learning disability is a neurological disorder that affects the brain’s ability to receive, process, store, and respond to information. The term learning disability is used to describe the seemingly unexplained difficulty a person of at least average intelligence has in acquiring basic academic skills. These skills are essential for success at school and work, and for coping with life in general. “LD” does not stand for a single disorder. It is a term that refers to a group of disorders. Interestingly, there is no clear and widely accepted definition of learning disabilities. Because of the multidisciplinary nature of the field, there is ongoing debate on the issue of definition, and currently at least twelve definitions appear in the professional literature. There are several technical definitions offered by various health and education sources. Overall, most experts agree on the following descriptions:

* Individuals with LD have difficulties with academic achievement and progress.
* Discrepancies exist between a person’s potential for learning and what that person actually learns.
* Individuals with LD show an uneven pattern of development (language development, physical development, academic development, and/or perceptual development).
* Learning problems are not due to environmental disadvantage.
* Learning problems are not due to mental retardation or emotional disturbance.
* Learning disabilities can affect one’s ability to read, write, speak, spell, compute math, and reason. They also can affect a person’s attention, memory, coordination, social skills and emotional maturity.
* Individuals with LD have normal intelligence, or are sometimes even intellectually gifted.
* Individuals with LD have differing capabilities, with difficulties in certain academic areas but not in others.
* Learning disabilities have an effect on either input (the brain’s ability to process incoming information) or output (the person’s ability to use information in practical skills, such as reading, math, spelling, etc.).

Research suggests that learning disabilities are caused by differences in how a person’s brain works and how it processes information. Children with LD are not stupid or lazy. In fact, they usually have average or above average intelligence, but their brains process information differently. A learning disability affects the way kids of average to above average intelligence receive, process, or express information. Even if the person learns to compensate and, in effect, overcomes the disorder, the difference in brain processing lasts throughout life.

In general Learning disability refers to a disorder that interferes with one’s ability to store, process or produce information. Such disorders may be manifested by specific delays in early development and/or difficulties in any of the following areas: attention, memory, reasoning, coordination, communication, reading, writing, spelling, calculation, social competence and emotional maturation. Learning disabilities are intrinsic to the individual and may affect learning and behavior in any individual, including those with potentially average, average, or above average intelligence. Learning disabilities may arise from genetic variation, bio-chemical factors, events in the pre- to post-natal period, or any other subsequent events resulting in neurological impairment.

**1.2. Causes of Learning Disability**

Learning disability is a problem related to the central nervous system or neurological deficit. Nervous system dysfunction or neurological deficit could be the result of genetic, prenatal, peri natal, and postnatal factors.

**1. Prenatal causes**

**A. Genetic causes of learning disabilities**

Many of our physical features (phenotype) originate from our genetic makeup (genotypes). The information required for the development of these characteristics exists in the form of genes that are passed from parents to offspring during the process of cell division. Gene scan be found on structures called chromosomes that are present within the nucleus of every human cell and consist of the genetic material DNA (Deoxyribose Nucleic Acid. This nucleus, and every other cell nucleus, contains 23 pairs of chromosomes, of which 22 are referred to as auto some and 1 which is referred to as the sex chromosomes (XX in females and XY in males). This is shown as the normal (male) karyo type.During the process of cell division (meiosis), the chromosomes from each parent combine and then divide. During this process, changes in both the structure of the chromosomes and their respective genes can occur and this may give rise to genetic. It is believed that between 30-40% of moderate to severe learning disabilities are caused by changes in the genetic makeup of an individual (Knight et al, 1999) and developments in genetic technology arising from The Human Genome Project suggest that the percentage may be higher. A relatively recent study by Knight et al (1999) has shown that a number of previously undiagnosed conditions in learning disabilities could be attributed to subtle chromosomal rearrangements abnormalities that are the cause of some learning disabilities.

**B. Chromosomal abnormalities**

During pregnancy, certain maternal factors can influence the development of the fetus. The neurological deficit in the child may be brought about if the mother uses drugs, consumes excessive alcohol and suffer from malnutrition and severe sickness.

**2. Prinatal causes**

Prenatal factors refer to those that occur at birth. These causal factors include:

* Anoxia( loss of oxygen) during birth;
* Injury to the child’s brain as she/he passes through the birth canal or immediately after birth;
* Unsafe method of delivery causing injury to the brain cells of the child.

**3. Postnatal causes**

The postnatal causes of learning disability are biological or biochemical, environmental and developmental factors.

The factors in this category responsible for learning disability include;

* Low blood sugar/hypoglycemia;
* Nutritional deficits;
* Food allergies, particularly to sugar, eggs, wheat and chocolate;
* Hyperactivity due to certain substances in the diet such as artificial coloring or certain chemicals found in fruits;
* Use of certain types of drugs.

**II. Environmental causes**

Several environmental factors are linked to a learning disability. Environmental factors include accidents or other types of trauma to the brain, ingestion of certain substance (lead), and exposure to fluorescent lights and lights from television because of low-level radiation.

**III. Developmental causes**

A learning disability may be caused by lags in neurological development (not loss of neurological function). This is called as maturational lag. This cause is related to delay in the development of certain central nervous system components.

**1.3. Historical development of the filed**

**1.4. Prevalence and co-morbidity**

Mathematics difficulties are common in both children and adults. It has been estimate that up to 25% of economically active individuals lack basic numerical knowledge, skills, and understanding that would be essential for them to operate confidently and independently in everyday life, educational settings, and work (Bynner & Parsons,1997; Gross, Hudson, & Price, 2009; Snyder & Dillow, 2012). Nevertheless, there can be various reasons why an individual does not achieve appropriate levels of numeracy. In particular, researchers have discriminated between innate factors (that can lead to cognitive and behavioral problems that affect numeracy) and environmental factors(such as inadequate home or school learning environments, and negative stereotypes about one’s group) that might contribute to the development of mathematics difficulties(e.g., Butterworth, 2008; Kaufmann et al., 2013; Price & Ansari, 2013)

In past research, the most commonly reported co-occurring condition was dyslexia. Nevertheless, co morbidity estimates varied widely, from 17% (Gross-Tsur et al., 1996) toas high as 64% (Lewis et al., 1994). It has been suggested that children who displayed maths difﬁculties with/without reading difficulties showed differences in their cognitive proﬁles (Rourke & Finlayson, 1978; Sz}ucs, 2016). Other researchers (e.g., Landerl & Moll,2010; Moll et al., 2014) argued that there was a closer link between arithmetic and spelling difficulties than arithmetic skills and reading.

Co morbidity with other developmental disorders has been much less investigated, although several studies reported that maths difﬁculties might co-occur with attention deﬁcit hyperactivity disorder (ADHD). For example, Gross-Tsur et al. (1996) reported that 26% of children with maths difficulties showed symptoms of ADHD, whereas Shalev, Auerbach, and Gross-Tsur (1995) reported a ﬁgure of 32%. A recent review paper (DuPaul, Gormley, & Laracy, 2013) stated that about 45% of children with ADHD have a learning disability, although speciﬁc estimates for reading, writing, and maths problems were not provided. The link between attention deﬁcit and maths difficulties has been further investigated and conﬁrmed by other research groups (Currie & Stabile, 2002; Kaufmann & Nuerk, 2008; Lindsay, Tomazic, Levine, & Accardo, 2001; Marzocchi, Lucangeli, De Meo,Fini, & Cornoldi, 2002; Passolunghi, Marzocchi, & Fiorillo, 2005; Rubinsten & Henik,

2009).

**CHAPTR TWO**

**2. Behavioral manifestation of LD**

**2.1. Problems of learning disorder**

**2.1.1. Academic achievement deficit**

**1. Dyslexia**

***Definition*:** difficulty with learning to read, spell, write, pronounce and recognize words.

***Characteristics*:**

* Difficulty learning letters and their sounds
* Trouble organizing written and spoken language
* Mixing up similar words
* Slow or inaccurate reading
* Difficulty understanding longer reading assignments
* Poor spelling and writing

***Accommodations*:**

* Teach using a multisensory approach-hearing, seeing, touching
* Provide structured reading practice
* Allow extra time for work and help with taking notes
* Alternate means of assessment: oral answers instead of written
* Instruction given in small steps
* Use visuals to reinforce verbal and written information

**2. Dysgraphia**

***Definition*:** Difficulties with spelling, grammar, memory, vocabulary, poor handwriting and trouble putting thoughts on paper.

***Characteristics*:**

* Tight, awkward pencil grip and body position
* Illegible handwriting
* Avoiding writing or drawing tasks
* Saying words out loud while writing
* Unfinished or omitted words in sentences
* Difficulty organizing thoughts on paper
* Difficulty with grammar

***Accommodations*:**

* Allow more time for written assignments
* Provide a partial outline(frame) for the students
* Remove ‘neatness’ or ‘spelling’ as grading criteria
* Give handout with probems already on them
* Allow oral report or visual project rather than written report
* Practice writing letters in the air with big arm movements

**3. Dyscalculia**

***Definition*:** Difficulty with recognizing numbers and symbols, memorizing basic math facts, lining up numbers properly, and understanding math concepts like place value or fractions.

***Characteristics*:**

* Difficulty with number sense, comparing and contrasting using idea of smaller/bigger or taller/shorter
* Difficulty remembering basic math facts, learning to count
* Poor mental math ability, matching numbers with amounts
* Trouble with the concept of time-chronically late, difficulty remembering schedules

***Accommodations:*** Use graph paper for students who have difficulty organizing ideas on paper

* Find different ways to approach math facts instead of just memorizing the multiplication tables
* Practice estimating as a way to begin solving math problems
* Introduce new skills beginning with easy examples and later moving to more difficult problems

**4. Dysorthographia:** a learning disability that interferes with an individual's ability to spell and/or write correctly. Learning disabilities are neurological or developmental impairments that cause issues with learning.

Articulation Disorder

***Definition*:** Difficulty with the pronunciation of speech sounds.

***Characteristics*:**

* Difficulty learning to speak
* Speech tends to be unusual in pitch, and nasal sounding
* Difficulty hearing sounds properly and/or producing sounds to match adult speech
* Trouble controlling the rate of speech

***Accommodations*:**

* Model correct sounds and syllables for the child, often using play activities
* Physically show the child how to make certain sounds, such as the "r" sound
* Demonstrate how to move the tongue properly to produce specific sounds
* Use repetition exercises to build speech and language skills

Expressive Language Disorder

***Definition*:** Difficulty expressing oneself by speaking.

***Characteristics*:**

* Lower than normal vocabulary knowledge
* Can understand complex sentences but has difficulty forming sentences which are complex
* Trouble remembering words
* Does not have problems pronouncing words but has difficulty putting sentences together using appropriate words
* Can not communicate thoughts, needs, or wants at the same level as other children

***Accommodations*:**

* Strengthen child’s vocabulary
* Help the student practice what they will say before saying it
* Have the child practice using language in social situations
* Use pictures, books and objects to stimulate language development

Receptive Language Disorder

***Definition*:** Difficulty understanding others through spoken language. Receptive language disorder does not affect what is heard, but how that info is processed by the brain.

***Characteristics*:**

* Difficulty recognizing the sounds in a word
* Trouble storing verbal information in the brain
* Difficulty following instructions
* Trouble remembering the order of things
* Struggle to put sounds together

***Accommodations*:**

* Provide written instructions as well as verbal instruction
* Use visual aids to complement the verbal instruction
* Talk at a slower pace
* Give one task at a time
* Sit the child closer to you

Visual Processing Disorder

***Definition*:** Difficulty making sense of visual information. Visual processing does not affect what is seen, but how that info is processed by the brain.

***Characteristics*:**

* Difficulty with spatial relation
* Difficulty with recognizing an object when a child can not see the entire object
* Placing something on the edge of a table or missing their seat when they sit down
* Difficulty with organizing their writing on paper

***Accommodations*:**

* Read directions aloud
* Color code written things
* Provide handouts so students don’t have to write everything
* Allow students to take tests orally
* Give students a pointer when reading to follow along

Motor Skills Disorder

***Definition*:** Difficulty performing tasks involving the use of muscle movement.

***Characteristics*:**

* Children are clumsy, they fall, and bump into things
* Difficulty with running, climbing, and swimming
* Difficulty writing, children have slow and poor handwriting
* Difficulty with eye movements - child may move the whole head instead of just the eyes
* Personal grooming and self-help activities(cooking, household chores)

***Accommodations*:**

* Teach the activities needed for daily life like basic cooking, hygiene
* Encourage physical exercises
* Provide step-by-step practice with simple tasks so children can move to more complex tasks

Nonverbal Learning Disability

***Definition*:** Difficulty understanding communication that is done without any talking or verbal exchange.

***Characteristics*:**

* Child may display inappropriate and unexpected behavior
* Often they get label of ‘behavior problem’ or ‘emotionally disturbed’
* Deficits in social awareness and social judgment
* Interpret social situations inaccurately so other children end up seeing them as ‘annoying’

***Accommodations*:**

* Provide verbal interpretations for nonverbal experiences.
* Anticipate situations in which they might have difficulty.
* Teach them to interpret facial expressions, gestures and other nonverbal aspects of communication.

**2.1.2. Attention Deficit Hyperactivity Disorder**

ADHD is a neurologically based disorder that can cause behaviors, such as hyperactivity–impulsivity and/or inattention, thus potentially interfering with and individual’s ability to sit still, concentrate, and think before responding. Historically, children with learning difficulties and those with attention deficits have been thought of as fitting the same profile. These diagnostic terms are frequently confused in the lay world as well as in some professional circles, perhaps because these two disorders co-occur in so many children, often presenting with similar issues(e.g. ,under achievement, poor school performance, inattention, over activity, impulsivity, and social-behavioral challenges and difficulties).

Inattention, hyperactivity, and impulsivity are the core symptoms of Attention Deficit Hyperactivity Disorder (ADHD). A child’s academic success is often dependent on his or her ability to attend to tasks and teacher and classroom expectations with minimal distraction. Such skill enables a student to acquire necessary information, complete assignments, and participate in classroom activities and discussions (Forness & Kavale, 2001). When a child exhibits behaviors associated with ADHD, consequences may include difficulties with academics and with forming relationships with his or her peers if appropriate instructional methodologies and interventions are not implemented.

The behaviors associated with ADHD change as children grow older. For example, a preschool child may show gross motor over activity always running or climbing and frequently shifting from one activity to another. Older children may be restless and fidget in their seats or play with their chairs and desks. They frequently fail to finish their schoolwork, or they work carelessly. Adolescents with ADHD tend to be more withdrawn and less communicative. They are often impulsive, reacting spontaneously without regard to previous plans or necessary tasks and homework.

Individuals with ADHD exhibit combinations of the following behaviors:

▪ Fidgeting with hands or feet or squirming in their seat

(adolescents with ADHD may appear restless);

▪ Difficulty remaining seated when required to do so;

▪ Difficulty sustaining attention and waiting for a turn in tasks, games, or group situations;

▪ Blurting out answers to questions before the questions have been completed;

▪ Difficulty following through on instructions and in organizing tasks;

▪ Shifting from one unfinished activity to another;

▪ Failing to give close attention to details and avoiding careless mistakes;

▪ Losing things necessary for tasks or activities;

▪ Difficulty in listening to others without being distracted or interrupting;

▪ Wide ranges in mood swings; and

▪ Great difficulty in delaying gratification

**2.1.3. Cognitive, Meta-Cognitive & Memory Deficits**

Cognitive impairment is when a person has trouble remembering, learning new things, concentrating, or making decisions that affect their everyday life. Cognitive impairment ranges from mild to severe. With mild impairment, people may begin to notice changes in cognitive functions, but still be able to do their everyday activities. Severe levels of impairment can lead to losing the ability to understand the meaning or importance of something and the ability to talk or write, resulting in the inability to live independently.

Cognitive impairment is not caused by any one disease or condition, nor is it limited to a specific age group. Alzheimer’s disease and other dementias in addition to conditions such as stroke, traumatic brain injury, and developmental disabilities, can cause cognitive impairment. A few commons signs of cognitive impairment include the following:

• Memory loss.

• Frequently asking the same question or repeating the same story over and over.

• Not recognizing familiar people and places.

• Having trouble exercising judgment, such as knowing what to do in an emergency.

• Changes in mood or behavior.

• Vision problems.

• Difficulty planning and carrying out tasks, such as following a recipe or keeping track of monthly bills.

Meta cognition refers to diverse processes of self-knowledge, self-monitoring, and self-regulation that contribute to adaptive behavior in complex and changing environments. Meta cognition is considered a domain of information processing that comprises personal awareness and knowledge as well as adaptive strategies. These processes can be operational zed as experimental measures in certain tasks. For example, individuals can be asked to predict their expected performance in a particular task, such as learning a word list. This entails derived self knowledge of abilities (established on the basis of various previous experiences, incorporation of feedback, and self reflection), experiences and synthesis of that information for judgment purposes. Individuals can also be asked how harder easy it will be to learn particular words, as in judgment of learning measures that draw upon knowledge of stimulus characteristics and previous experience with those types of items.

Meta cognition is defined most simply as “thinking about thinking.” Meta cognition consists of two components: knowledge and regulation. Meta cognitive knowledge includes knowledge about oneself as a learner and the factors that might impact performance, knowledge about strategies, and knowledge about when and why to use strategies. Meta cognitive regulation is the monitoring of one’s cognition and includes planning activities, awareness of comprehension and task performance, and evaluation of the efficacy of monitoring processes and strategies. Recent research suggests that young children are capable of rudimentary forms of Meta cognitive thought, particularly after the age of 3. Although individual developmental models vary, most postulate massive improvements in Meta cognition during the first 6 years of life. Meta cognition also improves with appropriate instruction, with empirical evidence supporting the notion that students can be taught to reflect on their own thinking. Assessment of meta cognition is challenging for a number of reasons: (a) meta cognition is a complex construct; (b) it is not directly observable; (c) it may be confounded with both verbal ability and working memory capacity; and (d) existing measures tend to be narrow in focus and de contextualized from in school learning. Recommendations for teaching and assessing meta cognition are made.

**Memory deficit**

It is well documented that children and adolescents with LD have significant difficulties remembering academic information and nonacademic information, such as doctors’ appointments, homework assignments, multiplication facts, directions, and telephone numbers. Teachers frequently comment that, with these students, it seems to be “in one ear and out the other,” which can be highly aggravating for teachers as well as parents (Gargiulo, 2004).

Teachers and parents also report that memory skills are inconsistent. For example, a student may know the multiplication facts on Thursday and then fail the test on Friday (Hardman et al., 2005). Several studies have suggested that students with LD have more deficits in memory than students without LD except in the area of long-term memory (Swanson, 1994). Students with memory deficits have difficulty retaining learned information, repeating information read or heard, following multiple directions, and performing tasks in the right sequence (Smith et al., 2004). The memory difficulties faced by students are normally either in short-term memory (STM) or working memory (WM). STM involves the ability to recall information after a short period of time. Short-term memory tasks involve the recall, incorrect order, of either aurally or visually presented information (such as a list of digits, letters, or pictures) shortly after hearing or seeing the items several times (Hallahan, 1999). Working memory requires that the individual retain information while simultaneously engaging in another cognitive activity. According to Silver (2001), people with LD are more likely to have concerns with short-term rather than long-term memory. He explained that children and youth with these limitations need to concentrate on new information, and to repeat it continually, in order to keep it in short-term memory. If their attention is disrupted, the information may be lost (Bowe, 2005).

**2.1.4. Socio-Emotional Problems**

When we think of children with [learning challenges](https://childmind.org/article/recognizing-learning-disorders-in-the-classroom/), we think of difficulty with reading or math, with being organized, with paying attention and staying focused in school. But many students with learning and attention disorders also have social and communication problems. They have trouble connecting with other kids, [making friends](https://childmind.org/article/kids-who-need-a-little-help-to-make-friends/) and [understanding what’s expected of them in social situations](https://childmind.org/article/how-to-help-anxious-kids-in-social-situations/).

Some of them miss social cues, and misinterpret body language and tone of voice. Kids with learning disabilities may talk too much, or at the wrong time, or say things that are inappropriate. Some are stiff in conversation, have trouble expressing them and miss the point of a lot of humor. They don’t “get” things that seem to come effortlessly to other kids. They may have trouble understanding what’s happening in a group, and finding a way of fitting in.

For children and teenagers, being “just a little off” in their social behavior can easily trigger rejection by their hyperaware peers, and make them targets of [teasing and bullying](https://childmind.org/topics/concerns/bullying/). Sometimes young children with social awkwardness or deficits are misdiagnosed with [autism](https://childmind.org/guide/guide-to-austism-spectrum-disorder/), because these behaviors are one component of an autism diagnosis. But it’s important to recognize that these behaviors occur in a lot of kids who aren’t on the spectrum, too.

“Most kids with learning problems have social dimensions to their problems,” observes Scott Bezsylko, the executive director of Winston Preparatory School, which specializes in teaching children with learning challenges. learning disabilities have been found to occur in approximately 4.7 % of children and adolescents. (Fristad, Topolosky, Weller, & Weller, 1992). However, Peck (1985) found that 50% of children under age 15 who committed suicide in Los Angeles County over a 3-year period had been diagnosed as learning disabled. As mainstreaming and inclusion become increasingly pervasive, it is especially important for all teachers to understand the interaction of emotional concerns and learning disabilities and the impact of that interaction on children's functioning. Indeed, Sabornie (1994) suggested, "Educators' lack of concern for social- affective problems among pupils is analogous to educational neglect" (p. 268).

At the risk of oversimplification, one can conceptualize five main ways in which emotional concerns and learning disabilities interact.

* Learning disabilities may lead to emotional distress.
* Learning disabilities may raise or exacerbate existing emotional concerns.
* Emotional issues may mask a child's learning disability.
* Emotional issues may exacerbate learning disabilities.
* Conversely, emotional health may enhance the performance of children with learning disabilities.

***Learning disabilities may lead to emotional distress***

Much research has demonstrated that students with learning disabilities experience emotional distress related to their difficulties. Students with learning disabilities tend to have higher levels of emotional concerns, such as depression, loneliness, and low self-esteem, than do their peers without disabilities.

***Low academic self-concept***

Sabornie's (1994) literature review confirms that students with learning disabilities have poor self-concepts related to their school functioning, but not necessarily to their global self-concept. Other researchers have also found that students with learning disabilities, as early as in Grade 3, have negative academic self-concepts that may be generalized from low self-views in specific academic subjects (Hiebert et al., 1982). In his study of middle school students with and without learning disabilities, Sabornie found that students with learning disabilities expressed more loneliness, felt less integrated in the schools, and were victimized (e.g., physically assaulted, had their possessions removed) more often than were other students. These findings suggest that the emotional effects of learning disabilities make life in school more difficult for children with learning disabilities than for their peers without disabilities.

***Anxiety***

Learning disabilities have also been linked to greater anxiety in children. For example, Margalit and Zak (1984) found that children with learning disabilities have higher levels of anxiety than do their peers without disabilities. Specifically, they tended to feel more often that events beyond their control were happening to them. Increased levels of anxiety are also reflected in more frequent somatic complaints by students with learning disabilities (Margalit & Raviv, 1984).

***Depression***

Researchers have consistently linked depression to children with learning disabilities. Fristad et al. found the presence of learning disabilities among a sample of clinically depressed hospitalized children to be seven times higher than in the general population. Other researchers have also noted the high "co morbidity" of learning disabilities and depression (Bender & Wall, 1994; Livingston, 1985; Peck, 1985). Fristad et al. suggested that the "additional difficulties experienced by [depressed] children [with learning disabilities] in the classroom may be due to the stress and frustration caused by their learning disabilities" (p. 57).

***Attempts to cope***

The mechanisms by which emotional issues arise are not clear, but researchers have postulated some causal means. Chandler (1994) suggested that some emotional adjustment disorders result from "attempts to cope with a difficult learning process and the resultant failure, frustration, and feelings of incompetence that those attempts engender" (p. 162). For some, "school achievement has become equated with self-competency, and the loss of competence has led to feelings of inadequacy, depression, withdrawal and an uncaring attitude" (p. 163). For others, "poor school performance [leads] to dependency and learned helplessness as a maladaptive style of coping" (p. 163).

**2.1.5. Perceptual-motor problems**

* Motor skills disorder, also known as developmental coordination disorder, is diagnosed when motor skills problems significantly interfere with academic achievement or activities of daily living. ... Children with ADHD and other learning disabilities frequently have motor skills disorder as well. A characteristic seen in people with learning disabilities such as Dysgraphia or Non-verbal LD, it can result in missing subtle differences in shapes or printed letters, losing place frequently, struggles with cutting, holding pencil too tightly, or poor eye/hand coordination. SLD might exhibit a number of perceptual, motor, or perceptual-motor deficits.
* Perception: the ability to see, hear and aware of something by senses which is important to understand and interpreted.
* Visual perception deficit
* Problems in spatial relations (identifying the position of objects in space)
* Visual discrimination (differentiating one object from another)

**2.1.6. Motivational problems**

Motivational problems are far more common than true learning problems. In determining a course of action, teachers must decide if the child cannot do the work or will not do the work. Jumping to conclusions, they warn, can lead to inappropriate and, therefore, ineffective remediation.Motivation has several effects on students' learning and behavior. ... Motivation also leads to increased effort and energy. Motivation determines whether a student will pursue a task (even a difficult one) with enthusiasm or a lackluster attitude. Motivation increases the initiation and persistence of activities.

Students with learning disabilities often be-‐come frustrated because they see themselves as being incompetent in many areas of school, thus generally making them unmotivated and unexcited to read, write, and complete tasks for fear of failure, embarrassment, and disrespect. As competence in a subject or task improves, however, motivation typically increases, generating a cycle of engagement, motivation, and competence that supports better academic achievement for students with varying abilities (Irvin, Meltzer, & Dukes, 2007). Because motivation leads to engagement, motivation is where parents and teachers need to begin, especially for students that are experiencing learning disabilities (LD) in reading, writing, spelling, and mathematic problem solving.

**Chapter Three**

**3. Prevention & Early Intervention of LD**

**3.1. Prevention**

**Intervention:** consists of all planned attempts to promote the general welfare of ndividuals. Intervention can be characters from informal social support to the more structured and systematic provision of services**.**

**Early-implies** the provision of support and necessary resources to children and families as soon as developmental problems are detected or even before when they are presupposed. This might be at or even before birth. Early intervention is a system of coordinated services that promotes the child's growth and development and supports families during the critical early years.Early Intervention helps the child, family and community as a whole. Early intervention is eliminating existing or anticipated deficits in children during the first 36 months (3 years) it provide developmentally appropriate activities to babies and toddlers who have been or who are at risk of suffering a variety of conditions.Early intervention services delivered within the context of the family can:Improve both developmental, social, and educational gains;Reduce the future costs of special education, rehabilitation and health care needs;Reduce feelings of isolation, stress and frustration that families may experience; Help alleviate and reduce behaviors by using positive behavior strategies and interventions; and Help children with disabilities grow up to become productive and independent individuals.

Early intervention focuses on:

* Physical (reaching, rolling, crawling, and walking);
* Cognitive (thinking, learning, solving problems);
* Communication (talking, listening, understanding);
* Social/emotional (playing, feeling secure and happy); and
* Self-help (eating, dressing).
* Psychological services

There are three broad types of intervention:

A. Preventive (Primary Prevention)

B. Remedial (Secondary Prevention)

C. Compensatory (Tertiary Prevention)

**Preventive intervention**- includes efforts to prevent/impede the appearance of the problems.

**Remedial intervention**- means the process of overcoming a problem or a disability by directly improving the problematic or disabling situation.

**Compensatory intervention**- consists of for example teaching a child to use technological advances to reduce or circumvent negative consequences of their impairment.

There are four primary reasons for intervening early:

* The enhancement of the development of the child;
* The provision of support and assistance to the family;
* The cost effectiveness of the program; and
* The maximization of the child’s and family’s benefit to society.

**3.2. Early identification and assessment of LD**

The identification process for students with learning disabilities is called discrepancy formula: gap between achievement and potential. Two test results are needed**.**

**1. IQ. Score**

**2. Standardized Achievement Tests.**

IQ. tests are not reliable and are unfair to many groups of children, Results have little utility in planning a student’s educational programme, The process is not helpful in determining which intervention might be successful,The outcomes are not related to performance in the classroom.

**Challenges of Identification of SWLD**

1. The association of learning disabilities and learning problems.

2. There is no single observable characteristic or syndrome.

3. Each child has her/his own unique learning pattern.

4. Symptoms of specific learning disabilities might also arise with other impairments/problems.

5. With the presence of multiple disability, learning disability may be overlooked

Assessment stresses the idea of prevention and early childhood support.

Central consideration:

A. Holistic approach: considering varied aspects of child development.

B.The assessment should not be externally imported but going well within the Ethiopian context.

C. The cooperation among professionals.

**What Does a Learning Difficulty Assessment Include?**

* Child’s cognitive, social, family and emotional history
* Standardized cognitive (IQ) test
* Standardized achievement (academic) test
* Other relevant assessment tools
* Detailed assessment report
* Modified learning recommendations for school and home
* Comprehensive feedback session to answer all your questions

**UNIT 4: EDUCATIONAL APPROACHES  
4.1. Conceptual Models & Educational Approaches**

**Medical Model:**

The problem is physiological and the solution is medical treatment. Focus on finding the etiology (physiological causes) of a problem and correcting it. Physicians distinguish 5 groups: Clinical-psychiatric diseases like school anxiety Development distractions like Dyscalculia and Dyslexia Low intelligence /I.Q. Physical/neurological/genetic/biochemical factors Abnormal psycho-social condition

**Interactive Model:**

Learning disabilities are regarded as a result of an interaction processLearning disabilities are grounded in social interaction between adult and child or learner and teacher. Genetic and biological influences are renounced/rejected**.**

**School-Systemic Model:**

Learning disabilities as a systemic, conditioned deviance of school carers, meaning Non fitting between an individual’s abilities and the offers and demands of a system. Dichotomies: learners deviances which are not within the school context**.**

**Cognitive/Learning/Developmental Model:**

Learning and development is set of process of activity. During this process new cognitive structures are developed. What has to be considered as new and relevant depends on the already existing knowledge. And, only information that can be related to already existing emotional and cognitive structures will be assimilated.

**Systemic-Constructive Model**

Reality in which we live is a result of us living together, our communication and our interaction. Students must construct their own knowledge; Educational tasks must be authentic (intrinsic, real life) and socially mediated.

**4.2. SLD in General Education Classroom  
4.2.1. Legal Mandates & Placement Issues**

All children are born with the right to have their learning needs.

* ECCE.
* Education for All
* Special Needs Education
* Inclusive Education
* IEP

**4.2.2. Modifications for SwLD**

SwLD Are not strategic learners; They have not learned how to learn. Without instruction in how to approach learning, they are unable to compensate for their learning problems. They needs additional support and accumudation like: Alternative exam formats , Extended time, Alternative access to oral and written materials,Tutors,Readers, classroom note takers,Adaptive technology and equipment,Textbooks on tapes,Course waivers/ reduction etc.

**4.2.3. Effective Teaching Strategies**

Cognitive training (including self- monitoring or self- instruction), Mnemonics (including the use of keywords and other ways of assisting memory), Direct instruction (including careful sequences of instruction, rapid and frequent responding, and immediate feedback and correction of errors), Meta-comprehension training (which provides students with strategies for thinking about remembering the major points in the material being read) and Scaffold instruction (which includes gradual reduction of assistance and reciprocal training). Repeat important information Organize content systematically, Provide students with relevant information,Connect examples to student’s experiences, Associate content with familiar/similar information, Sensory integration is based on the importance of sensory (visual, auditory, tactile) stimulation,

Some keys for effective instruction for students with learning disabilities are:

1. Directly teach or instruct the subject, skill or content area.

2. Be certain that students have opportunity for repetition and practice.

3. Work in small active groups.

4. Break learning units into small segments “step by step.”

5. Use strategy instruction

**General approaches are often classified into two different types of instruction:**

**1. Specific skill instruction**

Focuses on teaching skills that can be applied to texts, such as vocabulary, finding the main idea, making inferences, and finding facts.Skills such as finding the main idea and making inferences can be taught by having the children read short passage of a text and answer questions.

**2. Strategy Instruction**

It is viewed as “instruction in cognitive processes, requiring decision making and critical thinking”. The reader brings her/his individual psychological framework or “mental schema” to the text. While reading facts must be added or adjusted to the reader’s mental schema to comprehend what’s read.

Becoming a capable reader requires five competencies to be acquired:

1) Fluency: recognize words rapidly and read effortlessly.

2) World/ General Knowledge: They use their knowledge of the world to construct the meaning of what they read. They try to refer it to their own experiences**.**

3) Flexible strategy use: Capable readers adapt their reading e.g. if they read unfamiliar or difficult words, they slow down, read carefully, reread.

4) Motivation: capable readers read because of the benefit they take of reading by it-self

5) Continued Reading: reading becomes a lifelong pursuit.

**Instruction of Students with Mathematical Disabilities**

Effective interventions for students with mathematical disabilities are emerging for difficulties in both foundational skills and higher order skills like problem solving. Debates continue on how calculators and computer software should be used Give earning opportunities for students with mathematical disabilities.Teach language in purposeful contexts, Follow the sequences of normal language development, Teach comprehension and production, Use conversation to promote language development, Use effective teaching strategies when presenting a new skillse self- talk (verbalizing thoughts while working) and parallel-talk (verbalizing the actions of others while they complete a task)Use modelling to demonstrate language, Use expansion (responding in an interpretative way to children’s utterance) and elaboration (repeating and adding additional information to a child’s spoken language),Use language as an intrinsic motivator,Systematically plan and instruct for generalization

**Effective handwriting instruction**

* The teacher models a large letter at the blackboard.
* The student traces the letter while saying the name
* The student copies the letter while saying the name
* The student writes the letter from memory while saying the name. later on words and sentences can be instructed.

**Educational approaches used for students with ADHD**

**Stimulus Reduction:** Too many environmental stimuli within the classroom should be avoided. The teaching material should be designed to draw the student’s attention to it e.g. in the early stages of reading the teacher would present that child only a few words per page, no pictures etc.

**Structure:** As students who are distractible depend too much on their impulse, their instruction should be highly structured. The teacher maintains a highly prescribed schedule of educational activities for students leaving hardly any opportunities for the child to engage in non-productive behaviours.

**4.3. Research Based Practices**

Besides using instructional methods that have been subject to the analysis of research. Students with learning disabilities are a heterogeneous group of learners they have different learning needs and styles. The “right” instructional method has been selected:

Data collection

Dynamic assessment.