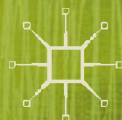




Dana Lee Baker +  
Brandon Leonard

# NEUROETHICS IN HIGHER EDUCATION POLICY



# Neuroethics in Higher Education Policy

Dana Lee Baker • Brandon Leonard

# Neuroethics in Higher Education Policy

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*For Karen Schmaling, with gratitude, for all the walks and wisdom  
And for Laurie Drapela, who makes both of our lives better.*

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## Neuroethics and Higher Education

Higher education exists to elevate humanity. Colleges and universities work to prepare students for enhanced participation in the economy, culture, society, and political system in which they reside. Higher education also aims to provide students with the capacity to create and make good use of the ever-expanding knowledge, skills, and abilities underpinning advancement of complex societies. If for no other reason, diversity rests at the core of contemporary higher education since it is key to the strength of sophisticated societies. Without diversity, higher education does not exist as such.

In North America, higher education started as a vehicle for a greater understanding of human knowledge and principles of faith. During the nineteenth century, its purposes began to expand more to applied training, especially in the land-grant colleges. The twentieth century ushered in professionalization, a focus on research, and expansion of access through both increased student density and proliferation of campuses (Eaton 2014). Thus far, the twenty-first century continued the digital expansion of access, growing tension between research and corporatization, and overall reduction of state support for public education, combined with expressed concerns about the overall cost to the student (Milheim 2013; Zumeta 2010).

The meaning of diversity evolves. Defining diversity at the beginning of the twenty-first century incorporates many identifiers, caveats, and explanations. Diversity involves contested space, even among its strongest proponents and becomes easily confounded with both individual identities

and discourses of oppression, particularly in regard to instances where social and individual justice interact. In the context of public policy, diversity refers primarily to reversing **systemic oppressions** deeply embedded in all modern democracies, and a reinvented commitment to keeping the republic through an emphasis on strengths involved incorporation of difference into human endeavors. Baseline definitions, such as the list of immutable characteristics found in the **Office of Equal Opportunity** policy statements, have consistently expanded (Pfeffer 2014; Wallace and King 2013). As of 2016, the list provided by the US Equal Opportunity Commission includes age, disability, genetic information, national origin, pregnancy, race/color, religion, and sex (U.S. Equal Employment 2016). While such guidelines are crucial to both representativeness and inclusion, diversity is not linearly defined and instead exists on a spectrum that, once articulated, contradicts its own intent. Diversity means difference and difference implies a commitment to change.

Higher education in the United States of America embraces a commitment to diversity, at least in principle. However, advances in neuroscience and changes in attitudes toward disability have identified mechanisms by which higher education infrastructures diminish students' capacity to enter, persist, and complete higher education. Often, but not always, such challenges are associated with neurological difference, whether identified or not. Much work remains to be done to enhance inclusion of neurological difference in higher education. A **neuroethical** approach to higher education precludes systematic exclusion. This book explores neuroethics and **neurodiversity** in higher education in the United States of America. After introducing readers to the philosophical and policy foundations of the neuroethics of higher education, this book explores essential conundrums in the neuroethical practice of higher education in modern democracies. Current higher education policy and access programs underestimate the effect of ill-fitting infrastructures on those considered neurologically typical (Markoulakis and Kirsh 2013; Salzer 2012). Many of the policies also serve to unnecessarily stratify the student body through identification requirements and the design of accommodations or infrastructures. As a result, neuroethical gaps abound in higher education.

## LANGUAGE OF DISABILITY

In considering neuroethics of neurodiversity, language of disability becomes complicated. Until recently, most disability scholars, activists, and stakeholders in support of greater inclusion of disability in society favored

**person first language** (Prizant and Fields-Meyer 2015). This language was adopted for two primary purposes. First, as the name suggests, proponents of this language form asserted that when thinking about difference, remembering that every person is a person first holds primary importance. Second, disability came to be understood as including different capacity differences depending on the era, socioeconomic circumstances, and political environment in which a person existed. Given this understanding of disability, personhood always precedes disability.

In recent years, **issue stakeholders**, especially disability activists, have increasingly questioned the habitual use of person first language (Prizant and Fields-Meyer 2015). These concerns are not entirely novel. Jim Sinclair wrote in 1999 about his concerns about people first language tied to the fact that it perpetuates existing perceptions that disability is both shameful and separate from an individual's core identity. As Sinclair explained:

I can be separated from things that are not part of me, and I am still be the same person...I am usually a "person with a purple shirt," but I could also be a "person with a blue shirt" one day, and a "person with a yellow shirt" the next day, and I would still be the same person, because my clothing is not part of me...But autism is part of me...Autism is hard-wired into the ways my brain works. I am autistic because I cannot be separated from how my brain works (1999, 1).

Arguably, questions about the construction of identity hold particular relevance for young people and people undertaking deliberate self-transformation, making concerns about the language of disability particularly pertinent to higher education. As Shattuck et al. describe, "identity refers to one's self-image and has multiple facets including racial and ethnic identity, gender identity, and disability identity...identity formation is a dynamic, nuanced, multidimensional, and lifelong process that takes on particular importance during emerging adulthood when questions about life purpose and direction move to the foreground" (2014, 1). The place of disability in each identity will likely differ and, especially during early adulthood, fluctuate. Difference in identity construction depends not only on individual preference but also to intersectional identity characteristics, whether a disability is acquired or innate and a society's contemporary response to a given difference. The ethical principle of respect for **autonomy** includes an individualized conception of autonomy. **Nonmaleficance** also demands responsible handling of the regretful circumstance that implications of highlighting disabilities vary by

the nature (and, too often, name) of the difference. Space and time constraints preclude listing all permutations of identity in a comprehensible discussion. Given this, in this book, both person first and disability first language are employed, at times together and where appropriate, independently. Use of this language embraces both the strengths and imperfections in all facets of current discourse.

## DIVERSITY IN HIGHER EDUCATION

Increased transparency of **inclusion** of neurological difference on college and university campuses creates a responsibility to consider the philosophical and policy implications of neuroethics in higher education. Education across differences in capacity is governed in primary and secondary education under *The Individuals with Disabilities Education Act* (IDEA). First created as the *Education for All Handicapped Children Act* in 1975 (PL-94-142), IDEA establishes a positive right to free and appropriate education in the least restrictive environment to children identified as having a disability (Janiga and Costenbader 2002). However, higher education across differences in capacity is governed primarily under the *Americans with Disabilities Act* which focuses more exclusively on remediating discriminatory practices and infrastructure and Section 504 of the *Rehabilitation Act* (Denhart 2008). Some of the differences contributing to neurodiversity are routinely identified as disabilities. Other differences in capacity exist outside the continuum of recognized disabilities or formal diagnosis (Denhart 2008; Manthey et al. 2015; Ness and Vroman 2014; Sarrett 2016). In this text, an inclusive definition of neurological difference encompassing both recognized diagnoses included in the fifth edition of the *Diagnostic and Statistical Manual* and those with more emergent characteristics yet to be fully vetted by the academy is employed unless otherwise specified.

Rights-based disability movements began with an emphasis on physical disability (Shakespeare 2013). Early successes in public policy involved requiring changes and accommodations in physical infrastructure. Exclusion of people on the basis of physical characteristics still happens all too frequently in higher education, and work on this injustice must continue. For example, despite the routine presence of ramps on university campuses, their placement often reflects insufficient consideration of the utility of those ramps for daily users on campus (Armstrong 2012; Baker 2011). Even so, exclusion of people with neurological differences or

mental health concerns involves not only design challenges similar to those associated with physical accessibility but is also hindered by less developed understandings of how to practice inclusion even in the best circumstances and with unlimited resources (Gidley et al. 2010). Furthermore, not all stakeholders agree that people with neurological differences or mental health belong on college and university campuses. Articulated justifications for such discrimination and exclusion include biases about the intellectual capacities of people with neurological differences and a belief that a neurological difference makes a person dangerous to others (Scior 2011). Disability is not fully recognized as a form of diversity on the majority of campuses in North America and is more often than not excluded from lists of personal characteristics associated with diversity upon which the college or university focuses diversity efforts (Banks 2016; Rendon 1994; Shallish 2015). Neurodiversity is even less routinely valued than other forms of disability in higher education, in part because of misconceptions about essential relationships between neurotypicality, intelligence, and potential.

Neurodiversity refers to the belief that neurological variation naturally exists in all populations. As a natural aspect of the human condition, the mere presence of difference implies nothing beyond difference. The term originated with autistics but in recent years has expanded to include the full gamut of neurological and behavioral differences such as Attention-Deficit/Hyperactivity Disorder (ADHD), bipolar disorder, and schizophrenia (Armstrong 2012; Silberman and Biech 2015). One of the earliest known references to neurodiversity in print was by an Australian mother of a child on the autism spectrum, Judy Singer (Solomon 2008). Though the concept depends on the body-brain division modern neuroscience has repeatedly demonstrated illusory, our sense of self in Western society still embraces the brain as distinct enough from the body and physical function to make neurodiversity a necessary field of study beyond disability diversity in general.

Neurodiversity also describes a social and political movement, one of the rights movements that have characterized the twentieth and twenty-first centuries. The advancements in disability rights have been staged in their progression similar to feminism and other civil rights movements tied to particular identifying characteristics (Woodhams and Danieli 2000; Shapiro 1994a). Neurodiversity as a social and political movement was initially both lead and defined by autistic adults (Denhart 2008; Baker 2011). Many of the initial efforts of the movement were coordinated and conducted online to create advances for neurologically different people similar to what feminism and gay rights movements had done for their



respective populations. Locating initial efforts online reflected the communication preferences and lack of geographic proximity between founding leaders, and the era in which the movement came about.

Focal points of the neurodiversity movement included reclaiming the human rights and civil liberties of those who have been diagnosed with neurological differences, redefining neurological differences as positive elements of human identity, for both individuals and groups, and reasserting the **constructivist** understandings of disabilities. The goals of this movement required more than accommodations to existing infrastructures allowing for the participation despite neurological difference while still favoring the infrastructure preferences of people considered neurologically typical. The degree to which individuals with neurological differences, including autism, have been historically denied their rights is still largely unrecognized by society at large (Silberman and Biech 2015). By the second decade of the twentieth century, the neurodiversity movement, like the definition of neurodiversity as a human condition, expanded to also include the interests of those identified as having other neurological differences. For example, during the fall of 2015, Ari Ne’eman, a leader of the neurodiversity movement in the USA, publicly criticized discourse surrounding mass shootings for too-frequently scapegoating people who are diagnosed with mental illnesses (Pitney 2015).

Enhancing neurodiversity on campuses arguably involves an even more nuanced approach to remediation, restoration, and inclusion than is the case for other forms of diversity. Neurological disability is often difficult to detect with initial contact, especially if casual. Often characterized as **invisible disability**, such ways of being are incompatible with intuitive, adaptive models commonly employed by public programs and other provisions established by the *Americans with Disabilities Act* and provided for under Section 504 of the *Rehabilitation Act* (Shakespeare 2014). Voluntary identification as a person with a disability in higher education is required for disability-related educational services. Similarly, ADA complaints or lawsuits are not filed anonymously.

The model for disability services in higher education differs from the special education required under the *Individuals with Disabilities Education Act* (IDEA) which obligates schools to make efforts to identify eligible children. The Individualized Education Plan requirement under IDEA (ideally) includes provisions for a personalized, holistic, and developmental plan as opposed to simply a series of accommodations considered necessary for a particular course or activity as articulated under

ADA and Section 504 (Janiga and Costenbader 2002; Myers et al. 2014). This distinction is of particular relevance for neurodiversity and the neuroethics of higher education more generally. Brains continuously adapt to environments. College course structures and expectations in a program of study in higher education vary alongside both academic discipline and professors' teaching styles. These factors interact to create dynamic barriers to access and participation in higher education for students with neurological differences and neurodiverse students.

Disability involves **social construction**. This conception means that disability exists only when limitations of the flexibility of surrounding infrastructures intersect with the limitations in the capacity of the individual with the difference to stress their capacities to suit the prevailing infrastructures of their social infrastructures. It is useful to consider capacity differences through a taxonomy reflecting the interaction between the infrastructures and the individual. It is also useful to highlight which public policy strategies tend to prove most effective as counterweights to tendencies toward exclusion of individuals with disabilities and disabled people (Baker 2011). In recognition of the social, political, and economic progress of the last five years, the **taxonomy** employed in this book includes an additional category of difference, in which the difference is transformed into an identity rooted in pride in difference.

In seeking to understand the nature of neurodiversity and in enhancing neuroethics, it is important to understand that there are five basic ways in which capacity can diverge from that which is considered typical within a given society: difference (an atypicality considered irrelevant or ignored by the given society); impairments (a difference considered relevant but not a hindrance to daily life functions or participation in a given society); disability (an impairment understood as limiting daily life functions of the person); handicap (a disability understood as inherently connected to lower socioeconomic status (SES) in the surrounding society). In twenty-first-century America, another category of atypicality has increasingly gained attention, disabled. Disabled differs from disability (or having a disability) in that it considers the condition as a positive element of identity, regardless of where the momentary implications of the difference fall on the handicap, disability, impairment, difference continuum. In other words, from the disabled perspective, an atypical capacity is a point of pride, nearly exclusively so long as it is not connected with essential decline in overall health (i.e. a disease). This changes the balance of where flexibility is anticipated to be both possible and necessary. It also

brings into question the very principle of daily life functions, at least those outside of necessities attached to daily survival. Finally, it calls into question the sufficiency of accommodations designed primarily to allow for participation in a world and its infrastructures still built almost exclusively in accordance with the preferences of the neurological majority.

The position that an atypicality takes in the capacity continuum described above depends on the intersection of the social infrastructures and the policy interventions designed to mediate the effects of their insufficient flexibility. The medical model of understanding specific characteristics as inherently disabling is premised upon the acceptance of a singular preferred form of existence in the world (Prizant and Fields-Meyer 2015). The model is described as medical not necessarily because of its exclusive or predominant use by physicians. It is also not medical in the sense that without health care intervention or treatment, the individual would become sick or die. Rather, it refers to the understanding that (negative) outcomes of difference are predominantly or exclusively the result of characteristics of an individual's mind, body, or choices. There is, archetypically, little to no consideration of the role of surrounding infrastructures on implications of characteristics. Under the medical model, for example, a fish laying on the sidewalk would be considered to be disabled or handicapped because it is incapable of performing the requirements of daily life based on its physical characteristics; when in fact, the potential for the fish to be of a superior design in a different environment exists. Other conceptions of disability, such as the social models of disability, consider the interaction between the individual and the environment as the location of disability. When an environment can be transformed or made more flexible, many characteristics that are considered disabilities can be transitioned to differences. The inability to move without an electric wheelchair may be disabling in a House of Escher, but exchanging stairs for ramps may eliminate any restrictions. This potential creates a greater significance to the language used to identify individuals with disabilities and disabled individuals.

In understanding social construction, it is important to keep in mind the category in which individuals experiencing atypicality in a particular human capacity find themselves in this taxonomy can vary from moment to moment and from infrastructure to infrastructure. Different forms of public policy move atypical capacities along the continuum from handicap to disabled. To mediate the effects of handicaps, human and civil rights policies must be established. In other words, a person must be understood as a person of the same status as other humans in order to avoid handicap.

Policies designed to maximize inclusion must be implemented into the surrounding society through policies in areas such as education, labor, and transportation policy. To mediate the effects of impairments, health care and, where necessary, social welfare policy. Differences do not require public policy beyond cultural and arts policies that acclimate members of the population to diversity, ideally to the point of celebration of difference as a social, political, cultural, and economic strength. In order for individuals to have the options to compose their primary identity around disability (or a particular form of disability), a general sense of security in the existence or near potential of the entire disability policy subsystem is a necessary condition. In the contemporary United States of America, including the higher education system, progress has been made toward establishing a strong and complete disability policy subsystem. Nevertheless, under current conditions, almost any atypicality can become handicapping. This book explores how enhancing the neuroethics of higher education systems can strengthen the design, formulation, and implementation of the disability policy subsystem so as to better practice inclusion of both students with disabilities and disabled students in this nation.

### HIGHER EDUCATION IN THE TWENTY-FIRST CENTURY

Access to higher education expanded dramatically throughout the twentieth century. In the United States of America, this expansion occurred most famously *Servicemen's Readjustment Act of 1944* (P.L. 78–346, 58)—commonly called the GI Bill. At the same time, access to higher education was increasing, the proportion of employment opportunities understood as being available only to those with a college education grew. As a result of increased social opportunities, expanded civil rights, and fundamental changes in the economy, both the demand for and supply of higher education grew over the course of the twentieth century. Table 1.1, prepared by Shain Wright and Jubilee Lawhead, lays out increases in higher education campuses and enrollments over the twentieth century and into the twenty-first century.

By the end of the twentieth century, the number of college and university campuses in the USA had grown from 1,162 in 1921 to 4,706 in 2012. The number of enrolled students grew from approximately 598,000 to 20,643,800 in the same time period. The growth does not include the very rapid growth of the first two decades of the twentieth century and outpaced the growth rate of the overall population (a 34.5 times higher as compared to 2.89 times higher).

**Table 1.1** Enrollment in higher education in the USA (1899–2012)

<i>Year</i>	<i>Number of institutions<sup>b</sup></i>						
	<i>Total institutions</i>	<i>Four-year colleges</i>			<i>Two-year colleges</i>		
		<i>Total</i>	<i>Public</i>	<i>Private</i>	<i>Total</i>	<i>Public</i>	<i>Private</i>
1899	977	–	–	–	–	–	–
1909	951	–	–	–	–	–	–
1921	1,162	780	182	598	52	10	42
1931	1,460	984	279	705	277	129	148
1941	1,720	1,259	385	874	456	217	239
1951	1,832	1,326	350	976	506	291	215
1961	2,033	1,443	374	1,069	590	344	246
1971	2,606	1,675	440	1,235	931	697	234
1981	3,253	1,979	558	1,421	1,274	940	334
1991	3,601	2,157	599	1,557	1,444	999	445
2001	4,182	2,450	–	–	1,732	1,076	656
2010	4,599	2,870	–	–	1,729	978	751
2012	4,706	2,968	–	–	1,738	–	–

<i>Year</i>	<i>Enrollment</i>		
	<i>Total enrollment<sup>a</sup></i>	<i>Enrollment</i>	
		<i>Public</i>	<i>Private</i>
1899	238,000	–	–
1909	355,000	–	–
1921	598,000	–	–
1931	1,101,000	–	–
1941	1,494,000	–	–
1951	2,281,298	1,139,699	1,141,599
1961	4,145,065	2,180,982	1,583,618
1971	8,580,887	6,428,134	2,152,753
1981	12,096,895	9,457,394	2,639,501
1991	13,819,000	10,844,717	2,973,000
2001	15,312,000	11,752,786	3,560,000
2010	21,016,800	15,142,809	5,873,000
2012	20,643,800	14,880,800	5,763,000

Sources: Bureau of Census (1975); Snyder (1993); Snyder and Dillow (2012, 2015)

<sup>a</sup>Fall enrollment at postsecondary four- and two-year degree granting institutions

<sup>b</sup>Does not include professional (medical, nursing, dental, or law), technical, or trade schools

Of course, these data do not fully address the question of capacity, total number of seats available or demand, and the total number of students who would have attended higher education programs given the opportunity to do so. They also do not control for the growth of the population over time or the degree to which international students have enrolled in programs based in the United States of America. Nevertheless, the steep rise in both number of campus and number of enrollments over the decades speaks to a dramatic expansion in higher education over the century.

Demand for higher education did not grow evenly across different groups making up the population of the United States of America. The cost of attending college also grew rapidly during the last decades of the twentieth century (Ehrenberg 2012). Public funding for state colleges and universities decreased as a proportion of state budgets. At the same time, administrative costs are driven by factors including enhanced reporting and administrative expectations and (perceived) market forces driving up compensation for the highest echelons of university leadership and athletic coaching. Owing to these changes, tuition and fees charged to both undergraduate and graduate students rose nationwide and on almost all campuses. As a result, many potential students understanding that attending college would be beneficial either could not afford to attend higher education or did not know how to best access resources which could help offset the out of pocket costs of higher education. While a full treatment of the cost of higher education is beyond the scope of this book, it is important to note that on average people with disabilities are more likely to experience poverty than other members of the general population making them especially price sensitive to higher education.

The social and political contexts of higher education have also morphed dramatically in the last 25 years (Altbach et al. 2011; Baker 2011). Despite reduced funding and affordability, policymakers sought increased control over the management and delivery of public education. Recent trends especially affecting higher education include a reconsideration of accountability, ongoing tensions between provision of training for immediate employment as compared to education for long-term careers and civic engagement, and the employment of fewer professional faculty as a proportion of the teaching faculty. In its more extreme form, these trends resemble misguided influence of corporate America and the politicization of research through a focus on grants guided more by politics and popular culture than genuine innovation.

## BOOK ROADMAP

This text focuses on a wicked problem, meaning that the definition of the challenges might be debated by reasonable people and the mechanisms by which the challenges might be addressed are subjective (Brown et al. 2010). Furthermore, the importance of neuroethics and neurodiversity in higher education campuses will grow for the foreseeable future. More people will experience neurological difference while still expecting to participate fully in society, the economy, and the polis. Addressing these rights will expand to include the efforts of more and more stakeholders in higher education and beyond. More campuses will seek to diversify their student bodies owing to both a commitment to justice and increased fiscal pressure.

Importantly, this book focuses primarily on neurodiversity of the student body. There are, of course, other human stakeholders (e.g. faculty, staff, alumni, community partners, and the community at large) representing neurodiversity who experience oppression and exclusion in the context of higher education. The selection of focus should not be understood as a statement of relative importance. It is nothing more, or less, than a selection of focus for this particular work. A full realization of neurodiversity in a neuroethical context will depend upon future analysis focused on other higher education stakeholders. In this particular work, neurodiversity in stakeholders other than student is discussed only incidentally as it relates to neurodiversity in students.

A fundamental goal of this book is to create an accessible reference and guide to key dynamics of neurodiversity—that is, consideration of the existence of different kinds of brains as both a natural human condition and a desirable characteristic of community. The book will also help to promote individual awareness for neuroethical consideration relevant to many academic fields and the general public. A fundamental hope present in the creation of this book is that the information and quandaries presented will soon become dated as a result of progress toward a neuroethical approach to neurodiversity in higher education rendering the management of neurodiversity appear an obvious component of the daily work of higher education. At the time of this writing, however, neurodiversity remains a seemingly novel concern that many simply do not yet detect as relevant to their practice of higher education. Given this, it is important to situate neurodiversity in stories likely to be recognized by higher education stakeholders as concerns present on their own campuses. Throughout the text,

a consistent set of fictional characters serve as descriptive examples used as touchstones for discussion of real-world implications of the philosophy of neuroethics and neurodiversity. These characters should not be employed to reinforce stereotypes. Instead, they serve only to communicate otherwise complex interactions in more accessible, less abstract format and facilitate discussion of the text with other readers. The profiles of these characters are discussed below.

### CAST OF CHARACTERS

Isabel, 18, identifies as a Mexican American woman but was raised as a man for a majority of her life. She was removed from her parents at age 4 due to a pattern of neglect documented by social workers and transitioned through several foster homes before aging out of foster care and going off to college. Isabel struggled with a lack of acceptance of her identity by her various foster parents and siblings. She scored well in standardized testing, but grades suffered throughout school due to frequent moving. She still maintains contact with her latest foster home and her younger biological brother whom she was separated from in foster care. Isabel is making every effort to be properly housed and identified at her university and suffering from anxiety at the potential difficulties.

John, 32, identifies as an African American man. He enlisted in the Army immediately following high school graduation and served three combat tours as an engineer. John has been medically retired due to combat-related injuries including a traumatic brain injury (TBI) and post-traumatic stress disorder (PTSD). John grew up in poverty and is attempting to show his kids the importance of a college education by finishing the degree he started while in the military. John is carrying extra credits in an attempt to maximize his GI Bill benefits. John also wants to be involved in campus events, but is careful managing PTSD triggers.

Shawna, 19, identifies as a white woman. Shawna comes from an upper middle class household, where both parents hold professional degrees from the university that Shawna is now attending. Shawna has a lot of support for her educational goals from her family and friends, but also feels a lot of pressure to excel and continue on one of her parents' chosen career paths. Shawna attended private school for her entire life and had tutoring support when she struggled through adolescence. Shawna is



intelligent, but has difficulty focusing on extended assignments, note taking, and adjusting to the large class sizes. She is popular among her peers and generally well regarded.

Travis, 18, identifies as a Native American man. Travis is the first member of his family to leave the state and attend college. Travis struggled with attendance through school due to a variety of environmental and personal factors, but is generally viewed as intelligent, hardworking, and highly regarded by his teachers. Travis is frustrated by the lack of representation in classrooms, both in representation of Native American's in undergraduate required courses, and in the composition of the students taking the same courses.

These characters are not real human beings, though it would surprise neither of the authors to know that an individual sharing each of the listed characteristics exists in the real world. Furthermore, each of these character descriptions includes characteristics correlated at the population level with historical inclusion in higher education and, in the estimation of some, potential for success in higher education. Every human being embodies multiple characteristics including both those considered relevant by the society in which they live and those not so considered. In contemporary (academic) discussion of human characteristics, when a person embodies two or more characteristics historically associated with systemic oppression, this is described as an intersectionality.

**Intersectionalities** hold particular relevance for the study of wicked problems in the contexts of sociology and public policy. One challenge relating to intersectionality in public policy involves the tendency of public policy frame policy problems around a narrowly defined issue, often relating to an individual characteristic (Minow 1990). As a result, policy texts like this one become most effective when using a single identified characteristic as the guiding point of view while still consciously attending to intersectionality. Another related challenge involves the fact that every human being constructs their own identity meaning that while some individuals choose to lead with their neurodivergent identity characteristic, another person embodying the same characteristic might choose to lead with another element of his or her identity. This book leads with neurodiverse elements, which may result in discussion appearing less relatable for those who lead with other characteristics. Again, the dominance of the neurodivergent identity should not be interpreted as prescriptive; it is simply the focus of this book as part of a larger discourse on higher education policy.

## DISCUSSION QUESTIONS

1. How does disability identity interact with higher education?
2. What is the difference between neuroethics and neurodiversity?
3. Which member of the cast of characters do you think would be most likely to be successful in higher education? Why?
4. Which member of the cast of characters do you think would be most likely to leave higher education prior to degree completion? Why?

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## History of Higher Education in the USA

The neuroethics of neurodiversity do not exist in a vacuum. Higher education is a human construction, deeply intertwined with the public sector and designs of governments. While a full treatment of the development of contemporary higher education is beyond the scope of this book, understanding neurodiversity in higher education depends on a basic understanding of fundamental aspects of higher education in North America. Furthermore, in order to understand dynamics of neurodiversity, the history of disability policy and disability provides contextual insight into how enhancement of inclusion can be undertaken in coming years. Higher education is considered, appropriately, an ever-evolving and cutting-edge aspect of the human experience. It is nevertheless important to keep in mind that many of the pillars of practice retain something of a medieval flavor.

### HISTORY OF HIGHER EDUCATION

The academy constitutes one of the oldest infrastructures of contemporary nations, especially as compared to how much of how society, the economy, and the government operate today. At the beginning of the twenty-first century, thinking about higher education revolves around a sense of rapid evolution. After all, introduction of technology, creation and recreation of academic disciplines, and diversification of the student body over the past several decades collectively create a sense of transformation. Even so, venerable foundations of the practice of higher education remain largely intact.

Higher education as it is practiced in North America originated in the Catholic Church through an affiliation with the monastic model. As Sanford Shugart explained, during the twelfth century Western European universities were created in response so that “eldest sons of wealthy families could be sent to a far-away place made of stone and covered with ivy... where they spent their days sitting at the feet of priestly teachers” (2013, 3). A primary goal in this context was to prepare worthy men to become priests. Design elements drawn from this model include the academy’s focus on sustained mentorship under the direction of a more established scholar and use of rank in person to denote level of academic accomplishment attained by an individual that, once conferred, stays with them regardless of the job duties or position. For example, the contemporary academic system still includes rank in person, particularly with regard to tenure track positions but also in other instructional positions at many institutions.

As Shugart goes on to explain, with the advent of democracy and increasingly complex social and economic systems, demand arose for a broadening of higher education to include more secular concerns. In the late eighteenth and the early nineteenth centuries, innovation of the polytechnic model involved the goal of supporting knowledge and expertise applicable to industry, warfare, and other areas considered especially vital to the state (Shugart 2013). Components of the polytechnic innovations included “balkanization of the curriculum, the organization of academic departments, the dominance of career and technically oriented majors, the university research laboratory, industry sponsorship of universities and their research agendas, the marginalization of theological and eventually humanistic studies in the economy of institutions” (Shugart 2013, 10). This innovation also involved greater reliance on the delivery of lectures in the area of specialization of a given professor with an established reputation for content expertise.

As the USA expanded during the nineteenth and early twentieth centuries, state colleges and universities were established. Many of the first public campuses were created as land grant institutions in which lands held by the federal government (generally recently seized from native populations) were given to qualifying states. The Morrill Land Grant Act of 1862 (7 U.S.C. § 301 et seq.) and the **Morrill Act of 1890** (the **Agricultural College Act of 1890**) (26 Stat. 417, 7 U.S.C. § 321 et seq.) established the purpose of land grant colleges as “without excluding other scientific and classical studies and including military tactic, to teach such branches

of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life” (Abdallah 2012, np). Under these acts, the federal government gave states land located within their boundaries (or immediately adjacent) in the amount of 30,000 acres that the state could either use to set up campuses or sell for proceeds to set up campuses in more desirable locations. Originally applicable only to states that had not succeeded during the Civil War, the act was eventually expanded to include all states.

The first land grant university, Kansas State University, opened its doors in 1863. Land grant universities were required to teach mechanical and technical arts. The universities included the specific goal of expanding access to higher education to more of the general population. In theory, land grant universities were not allowed to discriminate on the basis of race or ethnicity. However, provisions were soon put in place which facilitated the separation of subgroups of the population on this basis. In addition to a focus on research and academic training understood to be practical in nature, land grant universities were expected to perform systematic community outreach, especially through the establishment of extension services.

After World War II, education for young veterans returning from service became a national priority tied to their reintegration into society and the economy. As is further discussed in Chap. 7 of this book, the GI Bill and the 2.2 million veterans it addressed spurred the “massification” (Shugart 2013, p. 11) of higher education. The baby boom also inspired a general growth in building schools, colleges, and universities. As a result, hundreds of campuses were founded or expanded during the 1960s and 1970s. This dramatic increase in volume also coincided with standardization of educational practices to allow for the mass delivery of higher education including a tendency toward more specified programs of study, an increasingly professional advising system, and creation of more student services to assist with a variety of academic and co-curricular activities.

During the last decades of the twentieth century, evolution of higher education turned toward **marketization**. This marketization involved turning at least partly away from the understanding of education as a public good, toward its interpretation as private commodity. Understanding higher education as a private benefit to the individual student paved the way for broader acceptance of increased tuition and proportionally less state funding. Once the baby boom moved through colleges and

universities, declines in enrollment also fed concern about campus balance sheets, inspiring increasing concern regarding the reputations or brand names of individual colleges and universities. Focus on grant funding of research and pressure to take research discoveries to market inspired even more of a market ethos. Introduction of new technologies into education also provided impetus for moves to teach classes to larger groups and across space through online education. While this innovation created important opportunity through increased access, it also led to an overall reduction of the amount of time per student for which a professor was compensated to interact directly with each student. Consideration of the implications of such factors is crucial, especially in the context of the consistently lower enrollments rates for students with disabilities and the disabled documented over the course of the past several decades (Weber 2007) and of the generally higher failure and withdrawal rates of online courses. Enhancing neurodiversity in higher education implies bringing forth a construction of higher education designed around the expected participation of students, faculty, and staff with neurological differences above and beyond rights-based, individual accommodation.

## EDUCATION AND DISABILITY POLICY

There are two primary federal policies that dictate the accommodation requirements of public education institutions in primary and secondary education, the *Individuals with Disabilities Education Act (IDEA)* and **Section 504 of the Rehabilitation Act of 1973**. IDEA provides federal funds to state and local agencies to provide special education and related services to children with disabilities up to age 21 with an identified, qualifying disability (IDEA). Disability under IDEA is determined at an individualized education plan (IEP) meeting of stakeholders with an interest in the child's education.

If the child's disability does not fall under one of the federally mandated categories but still interferes with the child's education and performance, the student may still be eligible for a 504 plan. This civil rights-based law seeks to eliminate disability-related barriers to full participation in areas of life such as education and the workplace (Bennett and Frank 2009). Section 504 prohibits disability discrimination by recipients of federal funding, which includes almost all colleges and universities in the USA. The purpose of a 504 plan is to provide accommodations and modifications needed to access the curriculum at the same level as peers. A student with



a disability who is IDEA eligible is also covered by Section 504, though IEP plans tend to be more specific and involved than school-based 504 plans and no student can have both a 504 plan and an IEP.

If the student no longer or never qualified for an IEP under the *IDEA*, students pursuing a 504 plan prior to leaving high school have one distinct advantage under current policy. While the IDEA only covers students up to high school graduation or age 21, 504 plans apply to students at an institution receiving federal funding which would facilitate more direct transfer to higher education. As the Office of Civil Rights explains on a site designed with the intention of providing information to students as they transition into higher education programs:

Unlike your high school, however, your postsecondary school is not required to provide FAPE (*Free and Appropriate Public Education*)...Rather, your postsecondary school is required to provide appropriate academic adjustments as necessary to ensure that it does not discriminate on the basis of disability...In addition, if your postsecondary school provides housing to nondisabled students, it must provide comparable, convenient, and accessible housing to students with disabilities at the same cost (<http://www2.ed.gov/about/offices/list/ocr/transition.html>).

While the services provided may not be identical between institutions, increased portability removes some burden from the student and allows for greater continuation of accommodation. This transition capability is supportive of the neuroethics of neurodiversity and likely creates more beneficent educational environments.

As previously mentioned, no federal law addresses the education of the disabled and people with disabilities in higher education as specifically as the IDEA does for public education up until that point. A student (or their family) who experienced well-implemented programs since well before kindergarten might be surprised to learn this fact. From the perspective of some students, this difference in policy design could seem in conflict with non-maleficence despite the fact that the design of a broad spectrum of public policies change as a person enters adulthood. Furthermore, the majority of the professoriate would have no particular reason to be familiar with the principles and programs run under IDEA. After all, many working professors grew up prior to routine and effective implementation of IDEA and the (known and acknowledged) representation of the disabled or people with disabilities on the faculties of colleges and

universities is relatively low, especially when it comes to disabilities not acquired through aging (Damiani and Harbour 2015). Some increases in general familiarity with disabilities, especially neurological differences, can be anticipated as a result of the fact that professors' families experienced the same rise in prevalence of neurological differences as all families in North America. Even so, a change in guiding policy and a general lack of first-person experiences creates challenges in enhancing neurodiversity in higher education.

The absence of a targeted education law does not, however, imply a lack of effort or firm policy regarding the inclusion of disability on college and university campuses. Professors generally comply with accommodations articulated by campus disability services (Rostoum and Smith 2015). Since the 1960s, disability activists such as Ed Roberts have successfully challenged incidences of oppression and exclusion of disability from college and university campuses. The Rolling Quads group led by Roberts evolved into the Independent Living Movement and started as response to the insistence on the part of U.C. Berkeley that students using wheelchairs live at a hospital while attending the university (Fleischer and Zames 2011). Berkeley was, at the time, actually more inclusive than other colleges and universities which systematically denied admission to students with disabilities, including those who used wheelchairs (Frieden 2015). The fight for inclusion was hard won. Full detailing of the history of the disability rights movement is beyond the scope of this book (e.g. see *What We Have Done: An Oral History of the Disability Rights Movement* (2012); *No Pity: People with Disability Forging a New Civil Rights Movement* (1994); and *From Good Will to Civil Rights* (1984) for excellent discussion of this history). Needless to say, the presence of disability on college and university campuses owes much to these efforts and personal sacrifices.

In the USA, access to higher education in the context of disability is established primarily through the *Americans with Disabilities Act* (ADA). As mentioned above, accessibility in higher education in any way funded by the federal government is also covered under Section 504 of the *Rehabilitation Act*, which includes the vast majority of colleges and universities in the USA. According to the PACER center:

Title II of the ADA covers state funded schools such as universities, community colleges and vocational schools. Title III of the ADA covers private colleges and vocational schools. If a school receives federal dollars regardless of whether it is private or public it is also covered by the regulations

of Section 504 of the Rehabilitation Act requiring schools to make their programs accessible to qualified students with disabilities (located online at: <http://www.pacer.org/publications/adaqa/504.asp>, accessed on February 26th, 2016).

Unlike for primary and secondary education, “the duties imposed by these statutes are essentially the same, so often authorities refer to one or the other law or the section 504-title II combination” (Weber 2007, 122). For the purposes of this text, we will refer primarily to the ADA to describe such obligations established for colleges and universities under federal rights-based disability law in the USA. Specifics of accessibility vary by the circumstances of the individual student, the campus of attendance, and the degree the student is pursuing. The American Psychological Association describes typical elements of accommodation as follows:

these accommodations can be in the form of academic adjustments or modifications such as extended time for test taking or completing course work; substitution of specific courses to meet degree requirements; modification of test taking or performance evaluations so as not to discriminate against a person’s sensory, speaking or motor impairments, unless that is what is being tested. Accommodations can also take the shape of auxiliary aids and services such as qualified sign language interpreters, note takers, readers, braille, large print, and electronic formats of print materials, and adaptive equipment (located online at: <http://www.apa.org/pi/disability/dart/legal/ada-basics.aspx>).

As with other aspects of the ADA, such accommodations must be delivered in a timely fashion and only to the extent reasonably feasible without undue hardship. Making such accommodations can be especially complicated in the context of higher education programs as students are often enrolled in a variety of courses each taught by different professors who do not habitually coordinate their efforts and are not required to meet an educational plan, as is the case with primary and secondary education. In addition, while students with disabilities may be given preferential registration for courses, they are not usually required to register any earlier than other students and have the same right to change their plans as other students. As a result, professors may not be informed of accommodations until after a course has been fully designed and a syllabus has already been distributed to students and filed with the university. In such circumstances, accommodations may challenge (or, sometimes, trigger)

a professor's sense of professional competence and due care, rendering them less capable of negotiating the ethics of their teaching practice, with regard to both the student body as a whole and the student with a disability or disabled student.

A related challenge involves the fact that colleges and universities cannot include features in their application processes specifically designed to sort students according to disability status. This feature of the policy design works to prevent discrimination in admission. Once students have been admitted to a college or university, a campus must make reasonable accommodations so that all campus programs are accessible to students with documented disabilities registered with the campus. Students uninterested in accommodations for their disabilities are not required to disclose disability status. Under both the ADA and Section 504, colleges and universities are only legally required to change infrastructures and practices so that students have an equal opportunity to participate in education. This differs from the IDEA's requirement that students with disability be provided a free and appropriate education in the least restrictive environment in which such education can be accomplished.

Nonetheless, the intent of the ADA is well in keeping with the principles of inclusion and universal design in that there is nothing that prevents colleges and universities from reducing the number of necessary accommodations by building already accessible infrastructures. Furthermore, in addition to the above-mentioned legislation, in 1998, Congress revised Section 508 of the *Rehabilitation Act*, which covers information technology and the federal government. According to the University Systems of Georgia, "as written, 508 does not automatically apply to institutions of higher education, even if they receive federal funding...however, States that receive funds through the Assistive Technology Act are required to comply with 508" (located online at: [http://www.usg.edu/sit-info/higher\\_education\\_the\\_americans\\_with\\_disabilities\\_act\\_and\\_section\\_508](http://www.usg.edu/sit-info/higher_education_the_americans_with_disabilities_act_and_section_508), Accessed on February 27, 2016). Especially as colleges and universities more habitually include information technology in their operations and course delivery, they are increasingly likely to have received funds under the *Assistive Technology Act* and to be required to pay special attention to the accessibility of their technological resources not only under the *ADA* but also as part of the *Rehabilitation Act*. Attending to the core legal responsibilities of accessible web-based technologies challenges many colleges and universities. Current efforts to improve accessibility of electronic and web-based resources are under way. As this work

continues, the degree to which the diversity of disabilities is considered will greatly influence the level of success achieved in the creation of accessible content and resources.

### JUDGING ACCESSIBILITY

The US Department of Justice Civil Rights Division details case history involving the ADA, including a series of cases involving exclusive practices and infrastructures in higher education. As with most civil rights–based law, the cases focus on experiences of specific students on specific campuses, often resulting in piecemeal or patchwork approaches to policy innovation. However, decisions made in the cases are used to create new standards and can also inspire campuses to reconsider accessibility efforts, if for no other reason than to avoid costly or embarrassing litigation. In such circumstances, progress in public policy and neurodiversity in higher education can become proactive rather than simply being reactive. In addition to court cases, the Department of Justice can also undertake compliance reviews, inspired by complaints or ongoing cases, designed to determine whether or not campuses are complying with the ADA in a more holistic sense. While the outcome of such reviews can certainly be developmental in the long run, such (perceived) intrusion into campus operations is not usually anticipated with much excitement by those whose professional practice is being so reviewed resulting in defensive actions.

The first Supreme Court Case affirming the principle of access to higher education in the context of disability was *Southeastern Community College v. Davis*, 442 U.S. 397 (U.S. Supreme Court, 1979). As Mark Weber points out, this case was also “The Supreme Court’s first case on section 504 of the Rehabilitation Act” (2007, 123), a fact which underscores the importance of accessible and inclusive higher education to full participation in society. This case involved the rejection of a student with a hearing impairment from a nursing program on the grounds that the clinical components of the program required an ability to hear. Even though hearing aids permitted Davis to hear, “she needed to look directly at the speaker and read lips to understand spoken language” (Weber 2007, 124). Even though Davis already held credentials allowing her to do private duty work as a licensed practical nurse, program expectations at Southeastern Community College required the ability to hear and receive spoken language in dynamic conditions because “nurses and doctors in various settings wear surgical masks or need to communicate instantly with vocal

means” (Weber 2007, 124). In this case, the court upheld the school’s ability to reject that applicant because the student was not technically qualified to participate in the program to which she was applying. The decision held that accommodations were reasonable only if they did not required changes to the essential nature of the program or creates undue burden for the college or university. While this ruling did not establish specifics on the discerning of balancing rights and responsibilities developed later in the twentieth century, the decision included preliminary reflection on the concept of reasonable accommodation that would become of key element of the design of the ADA. Later cases heard prior to the passage and implementation of the ADA would continue to refine the individualized nature of both disability and accommodation.

Under the ADA, court cases have focused on the accessibility of tangible infrastructures, academic deference, and questions surrounding the creation of a welcoming, inclusive campus (or, rather, in the language of civil rights–based legislation, avoiding the creation of a hostile learning environment in response to disability). These infrastructures include both physical accessibility of campus buildings and the technological infrastructures of technology employed both in as part of course work and in co-curricular activities. The intention of the *ADA* is, after all, to eliminate barriers to participation in society at large by removing all unfairly constructed infrastructures. In addition, evidence presented in cases have also shed light on the brutality of ongoing disability discrimination and how speech about disability intersects with principles of free speech and academic freedom similarly to how bigoted speech affects other minority or historically oppressed groups. For example, as Mark Weber points out about the 1997 case, *Guckenberger v. Boston University* (957 F. Supp. 306):

In that decision the court considered allegations that the university created a hostile learning environment with speeches by the president referring to students with disabilities as ‘a plague’ and other conduct...the court rules that an ADA title III and section 504 cause of action exists for the creation of a hostile learning environment, but determined that the conduct alleged was insufficient to support the claim, particularly in light of First Amendment concerns over academic freedom (Weber 2007, 130)

A full treatment of the tensions between freedoms of thought and speech and the implications of certain expressions of thought in the context of discrimination is beyond the scope of this book. However, enhancing the neuroethics of neurodiversity in higher education requires understanding

the fundamentals of the policy infrastructure surrounding higher education and disability. In *The Americans with Disabilities Amendments Act of 2008*, Congress reemphasized society's responsibility to change exclusionary infrastructures. According to the U.S. Equal Employment Opportunity Commission, "the Act emphasizes that the definition of disability should be construed in favor of broad coverage of individuals to the maximum extent permitted by the terms of the ADA and generally shall not require extensive analysis" (Accessed April 17, 2016). Considering disability as diversity changes the standards of professionalism concerning disability by implying more stringent formal and informal limitations regarding how college and university personnel speak about disability.

### ABLEISM AND ETHICS IN HIGHER EDUCATION

The social and political construction of disability in the USA extends beyond the current disability policy infrastructure. **Ableism** shapes disability. E.J. Hutcheon and Gregor Wolbring explain "ableism as a concept describes, and is reflected in, individual and group perceptions of certain abilities as essential...ableism can be treated as both a **hegemony** which promotes ability preference and as an analytical tool used to understand these preferences and their impact" (2012, 40). Ableism is rooted in the assumption that the common way of accomplishing any task is generally better (Hehir 2002). Because ableism is often habitual and not simply addressed for all differences, ableism can prove difficult to detect and address in all public institutions, including colleges and universities.

Ending ableism involves moving beyond universal design to flexible and responsive design. Universal design remains a laudable goal. If fully realized, universal design would erase any role the surrounding infrastructures have in creating disability out of difference. Completely universal design has thus far proven elusive. In part this is due to the unwillingness (or inability) of campuses to invest sufficient resources in creating or changing infrastructures. In part this is due to the diversity of disability itself. Work in universal design can neglect the fact that first-person experience with one kind of difference provides limited (at best) insight into other forms of difference. Furthermore, needs can directly contradict. For example, one student may feel more secure in a smaller space, whereas a student using a wheelchair would need bigger spaces to negotiate. Or, similarly, a student with an allergy to dogs might attend the same program as a student with a service animal. Such complexities in the practice

of diversity are not unique to disability as diversity. Balancing contradictory or conflicting needs and preferences in real time across the full continuum of diversity elements remains an honorable quest in all collective settings. A fundamental responsibility of the twenty-first century involves bringing this work along.

Though frequently confused and often coincident, personal morality is distinct from ethics. Ethics are built around theoretical frameworks comprised of agreed-upon principles and other mechanisms by which the quality of decisions and actions is understood. Ethical theories vary with regard to their emphasis on process versus outcome, duties, the priority of generalized goals, and role of individualized choice. A full treatment of the spectrum of ethical theories, even if limited to the Western world, is beyond the scope of this book. Even so, most engaged in public service can agree upon and more or less practice professional ethics built on the ethical foundations of the society in which they work. Despite such divergences of perspectives and interpretation, common themes in professional ethics guide the practice of higher education in North America.

The Association of American Educators (AAE) is one of the largest professional groups for educators outside of the teachers' unions. Though their membership includes primarily primary and secondary educators, an overview of their code of ethics for educators provides insight into the lens through which ethics in education is perceived. According to the *AAE Code of Ethics for Educators*, these include:

The professional educator strives to create a learning environment that nurtures to fulfillment the potential of all students; the professional educator acts with conscientious effort to exemplify the highest ethical standards; the professional educator responsibly accepts that every child has a right to an uninterrupted education free from strikes or any other work stoppage tactics (located online at: [www.aeteachers.org](http://www.aeteachers.org), accessed on February 17, 2016).

Two points are especially worthy of note. First, that while these overview statements do directly reference disability, absolute inclusion is articulated without exceptions. Second, as can be found across a broad spectrum of statements of professional ethics, the code of ethics is defined in part through the articulation of what one group is *not*, effectively placing those who hold differing viewpoints outside of ethical behavior regardless of their goals, motives, or other shared values. In this case, the overview statements are clear that select collective actions on the part of unions are to be considered unethical.



Just as with primary and secondary education, no single group speaks for all practitioners of higher education. There are, however, several influential organizations with relatively long history that articulate principles common to the core of the ethical frameworks guiding most professors and the colleges and universities for which they are employed. For example, the Council for the Advancement of Standards in Higher Education (CAS), which has existed for over a quarter century, describes itself as “a voice for quality assurance and promulgation of standards in higher education” (CAS Statement of Shared Ethical Principles). The CAS is also an organization to which many other higher education organizations belong. The CAS embraces seven principles articulating shared beliefs. They are as follows:

1. Principle I—Autonomy: We take responsibility for our action and both support and empower an individual’s and group’s freedom of choice.
2. Principle II—Non-Maleficence: We pledge to do no harm.
3. Principle III—Beneficence: We engage in altruistic attitudes and actions that promote goodness and contribute to the health and welfare of others.
4. Principle IV—Justice: We actively promote human dignity and endorse equality and fairness for everyone.
5. Principle V—Fidelity: We are faithful to an obligation, trust, or duty.
6. Principle VI—Veracity: We seek and convey the truth in our words and actions.
7. Principle VII—Affiliation: We actively promote connected relationships among all people and foster community (2006, located online at: <https://www.naspa.org/images/uploads/main/CASethicsstatement.pdf>).

While these statements are fairly general, they provide a basis upon which more specific standards can be adopted by individual universities, colleges, and professional organizations of specific academic disciplines.

The majority of the most prestigious institutions of higher education in the USA belong to the American Association of University Professors (AAUP). The AAUP first adopted a statement of professional ethics in 1987 and revised their statement 2009. According to their Statement of Professional Ethics, “membership in the academic profession carries with it special responsibilities” (AAUP 2009, located online at: <http://www.>

[aaup.org/report/statement-professional-ethics](http://www.aaup.org/report/statement-professional-ethics)). Furthermore, the preamble to the statement articulates:

the academic profession differs from those of law and medicine, whose associations act to ensure the integrity of members engaged in private practice... in the academic profession the individual institution of higher learning provides the assurance and so should normally handle questions concerning propriety of conduct within its own framework by reference to a faculty group (AAUP 2009, located online at: <http://www.aaup.org/report/statement-professional-ethics>).

The statement articulates professional ethics as both tied to the profession and embedded in particular institution in declaring:

as members of an academic institution, professors seek above all to be effective teachers and scholars...although professors observe the stated regulations of the institution, provided that regulations do not contravene academic freedom, they maintain the right criticize and seek revision...professors give due regard to their paramount responsibilities within their institution in determining the amount and character of work done outside it (AAUP 2009, located online at: <http://www.aaup.org/report/statement-professional-ethics>).

Colleges and universities adopt and maintain ethical codes of conduct for the faculty in their employ. These general practices are generally described under the umbrella of both professional responsibility and academic integrity (MacFarlane et al. 2014). Often expressed through faculty manuals or handbooks, such ethical codes are less frequently actively consulted that passed through mentoring and word of mouth when it comes to teaching and service. Furthermore, as MacFarlane, Zhang, and Pun describe, a challenge of academic integrity exists in the fact that it tends to be defined primarily in terms of unethical as opposed to ethical behavior. Especially because both teaching and service tend to involve dynamic and, often, complex human interactions positive guidance would often be helpful, though difficult to specifically and relevantly articulate. In the case of enhancing the neuroethics of neurodiversity in higher education, one perennial source of complication involves often murky relationships between social justice and justice on behalf of a particular individual. Despite tensions and lack of clarity regarding specifics, in general codes of conduct involve fair and equitable grading and instruction, appropriate

relationships with students, apartisanship (at least at public universities), and the avoidance of conflicts of interest.

In the practice of research, faculty members are generally required to periodically complete ethical training provided through institutional review boards. In addition to the completion of core work duties associated with research given the stipulations of their contract and expectations of their institution, faculty members are responsible for ensuring that they respect and protect the dignity, privacy, and safety of individuals involved in research projects. In addition to any harm incurred by research subjects in projects failing to appropriately protect human subjects, universities and colleges can lose access to federal funding. Faculty members also have a core ethical responsibility to be disinterested in the outcome of their research and to seek to publish results regardless of whether or not they are comfortable with results obtained through responsible and rigorous conduct of research. Some are concerned that this “honest broker” responsibility has been threatened through increasing focus on grant-based funding of research, especially because of political interest in particular research questions and results that support a particular definition of a policy problem with a presupposed linkage to a favored solution (Pielke 2007). While some faculty may have found their research so compromised, most have made substantial financial, personal, and professional sacrifices in demonstrable commitment to their primary or exclusive interest in the pursuit of knowledge making a contribution to their chosen field. Even so, in the context of neurodiversity in higher education, incomplete consideration of students’ lived experiences as research subjects may compromise aspects of a campus’s climate of neurodiversity. Students with disabilities and disable students have typically experiences much more of the academic gaze growing up than have students without disabilities. As a result, incorporation of data collection into courses for the (hopefully joint) purposes of research and education can have differential affect across the study body given the presence of disability.

Finally, one of the key infrastructures shaping the ethics of professional practice of higher education involves use of student data. Over the past several decades, capacity to collect, summarize, and communicate data about students exploded. In some higher education contexts, limitations to either technical or human resources dampened the effect of the information revolution. Nevertheless, the technical potential to do more with more data unquestionably exists in the twenty-first century. Enhancing neuroethical higher education through enhanced attention to

neurodiversity involves careful attention to both use and perceived use of data about students. Remembering this standard can appear in tension with inclusion and, potentially, even the development of universal design itself. However, this is a challenge to be managed not an insurmountable barrier to progress.

*The Family Educational Rights and Privacy Act (FERPA)* (20 U.S.C. § 1232g; 34 CFR Part 99) guides and restricts handling of student data by institutions of higher education in the USA which collect any federal funding. The focus of the law, which is also called the Buckley Amendment, is on circumstances under which consent must be secured by college or university personnel prior to release. In particular, the law articulates under what circumstances parents can access or be provided information about their child's performance at a university. The US Department of Education summarizes FERPA as follows:

Parents or eligible students have the right to inspect and review the student's education records maintained by the school...Schools are not required to provide copies of records unless, for reasons such as great distance, it is impossible for parents or eligible students to review the records... Parents or eligible students have the right to request that a school correct records which they believe to be inaccurate or misleading...Generally, schools must have written permission from the parent or eligible student in order to release any information from a student's education record (located online at: <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>).

As the above description suggests, FERPA permits distribution of quite a bit of basic information about students prior to consent. The list of such information detailed by the US Department of Education includes “‘directory’ information such as a student's name, address, telephone number, date and place of birth, honors and awards, and dates of attendance” (<http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>). Students are mostly able to ask that such information be removed from publicly available sources, to the extent possible.

Widespread faculty and staff concern, confusion, and consternation routinely surround ground-level implementation of FERPA in many colleges and universities (Hope 2014; Werosh 2013). Transitions in popular approaches to parenting also create tensions around information and student privacy. Since the 1990s, emphasis on direct and guiding involvement of parents in the lives of their children increased expectations for more direct responsibility, and tracking on children's public behaviors on

the part of parents has also been designed into a substantial amount of public policy including, for instance, social welfare, education, and juvenile justice policies. This change in parenting style also inspired some counter trends, including most famously the Free Range children movement (Skenazy 2010). While these policies may not at first glance seem intimately connected with the neuroethics of neurodiversity, they are fundamental to the information infrastructure of the university or college. In the twenty-first century, these infrastructures have an exceptionally relevant role to play, especially with regard to the effective actualization of diversity in complex institutions.

### ETHICS FOR STUDENTS

Students attending colleges and universities become bound by ethical standards by virtue of their enrollment at a college or university. While much of the practice of neuroethics of neurodiversity in higher education flows from the professional ethics of the faculty, the professional ethics of students affects campus culture and environment as well. Arguably the most (in)famous of student code of ethics involve those regarding academic honesty. For the purposes of brevity, in this chapter the discussion will focus on the students' professional ethics related to academic performance. In later chapters, particularly Chap. 6, there is further discussion of the ethics of surrounding other aspects of student behavior as it relates to neurodiversity on campuses. Focusing on the ethics of the professional aspects of attending college or university represents a place to start the consideration of student decisions and behaviors, not the complete set of ethical issues negotiated by students relevant to the neuroethics of neurodiversity in higher education.

Completion of college and university courses and the evaluation thereof represented in assigned grades is meant to be reflective of the work, knowledge, skills, and abilities of the student who submitted the work. As such students are required not to make use of unauthorized assistance in the completion of work assigned for a course. Examples of such expectations include not using materials disallowed for certain evaluations (especially tests), attending class or completing online class exercises oneself, and submitting assigned tasks that the student authored. The principle of authorship tends to entangle well-intentioned students most frequently as a result of incomplete understandings of how to credit the work and thoughts of others. In some cases, students became accustomed to help

that actually constituted co-authorship or co-production from parents, guardians, tutors, or other adults over the course of their primary and secondary education (Vinson 2013). Another challenge involves differences in cross-cultural standards with regard to individual versus collective authorship, leading to different interpretations of what should be cited in diverse contexts. Representing another person's work as one's own falls under the general category of plagiarism and rules against such acts are consistently found in student codes of ethics. Some cases of plagiarism are egregious—services are available wherein a student purchases an existing paper or hires another individual to complete a test or assignment on their behalf.

Resources available online have complicated discovery of such events in most cases (though not all, one company providing such sources has actually taken the step of contacting the professor to let them know a student in their course has become a client with the subsequent offer of providing the name of the student for a fee). Because involvement in higher education involves, in Isaac Newton's phrase, "standing on the shoulders of giants" and creating original knowledge, there is a constant tension between what is considered original work with reference to other sources and what is plagiarism. However, there is little debate that the former is a basic task of higher education and the latter is grounds for removal from the institution. This situation is reflective of the origins of higher education in the mentorship, and assumed building of knowledge between generations is unique from the memorization and recitation of primary education. Academic dishonesty, such as plagiarism, can be understood as a violation all seven of the overarching ethical principles of the Council for the Advancement of Standards in Higher Education.

## CONCLUSION

Over the past 400 years, there have been significant changes to higher education with regard to disability policies, but the fundamental structure of colleges and universities around the country has remained largely the same. This makes sense when you consider the colleges and universities were founded over 800 years ago for the education of the elite and the most significant advances in education disability policies have taken place over the last 50 years. Throughout much of the twentieth century, disability policy focused on education concentrated at primary and secondary levels with significant shortfalls at the higher education level. These shortfalls

have previously been justified by the understanding that higher education is a luxury. However, this elitist perspective is quickly falling, or maybe even already has fallen, to the wayside as education creep is establishing a bachelor's degree as the minimum qualification in many careers that were previously available with a high school education or less and as cultures and democracies have become more complex. These changes in our society require both public and administrative policy changes regarding higher education to mirror societal standards. A major area of emphasis has to be in adjusting to educate the neurodiverse, starting with a consideration of the neuroethics of admission.

### DISCUSSION QUESTIONS

1. What elements of the history of higher education do you find most surprising? Why?
2. Why is some understanding of the history of higher education important to enhancing neurodiversity in contemporary education?
3. Which aspects of the history of higher education present the greatest challenges to neurodiversity?
4. Does enhancing neurodiversity work against any of the traditional ethics of higher education? Why or why not?
5. Which ethical traditions in higher education are most relevant to enhancing neurodiversity at contemporary colleges and universities? Why?

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## Tending the Gate: Admitting Students

Access to higher education involves sorting and selecting. Though popular understanding how many students should be allowed to participate in higher education grew over the course of American history, this expansion has generally not included the notion that every student should be able to attend whatever school they choose. Selectivity is defensible. First of all, even in the context of ideal approaches to maximizing diversity,

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Isabel has been sifting through a stack of papers, forms, and tri-fold pamphlets trying to sort out where to begin. She knows some of her grades were mediocre, but she knows she is smart enough, and college is the only way to change her future. The community college is close to her foster family's home, it has no dorms, and she can't stay with them past her 19th birthday unless she has been admitted to the college. Her 19th birthday falls before the date when acceptance letters are issued. Because of policies and bureaucratic red tape within the dependency system, she has few options and there is a high likelihood that she will become homeless.

Another issue plaguing Isabel with the admissions process is that she had a problem with financial aid documents. She had to provide proof that she was a ward of the court and in foster care during the last year. The school's financial aid administrator was not sure which box to check on Isabel's form. It has been almost two weeks and she still has not heard back from financial aid. So, even if she can be granted a waiver before her birthday, she doesn't know how she will pay for college. Isabel sits among the scattered, colorful brochures in her shared room at her foster home and cries.—*Jubilee Belle Lawhead*

human beings will vary with regard to interests, needs, drive, and lifetime choices affecting the degree to which relevant talents have been developed when the time comes to apply for places at institutes of higher education. Second, as discussed in Chap. 1, though the average density of student populations at campuses has increased dramatically over time, capacities to effectively serve students is almost certainly finite in all academic programs. Finally, higher education goes beyond primary and secondary education, meaning that in most cases a standard of preparation related to success in prior education precedes participation in higher education. The combination of these factors underscores a need for an admissions process based on a deliberated philosophy. Ethical principles of least harm, beneficence, and justice connect to a philosophy of admission that seeks to match students to programs, using the deliberative judgment of not only the student's (or parents') judgment, but also the professional insights of educators and other academic professionals. Though often subject to controversial (if not regrettable) interpretations, both overmatch and undermatch in terms of the alignment between a given student's abilities and the program's expectations have been shown detrimental to students, especially when once intersectional identities are considered (Smith et al. 2013).

Some colleges and universities pride themselves on low admission rates, in the hopes of attracting highly credentialed or extraordinarily capable students (Hout 2012). Institutes of higher education with a mission of serving the most academically prepared or talented students tend to recruit competitive students (or, sometimes, their parents) through direct communication of a philosophy of elite admission. For example, the website of the admissions office of Rice University articulates, "consistently ranked among the best values in higher education, with a highly recognized and respected residential college system, Rice transforms outstanding students into global scholars who envision new possibilities and leave their imprint on the world" (Rice Admissions, located online at: <https://futureowls.rice.edu/home.aspx>, accessed on February 16, 2016). Universities like Rice further signal their exclusive intent by publicizing statistics such as the high average Standardized Achievement Test (SAT) scores of successful applicants, the proportion of incoming students who are National Merit Scholars, and the low percentage of applicants who are accepted into the college. In addition, some elite colleges employ early admission protocols including provisions such as asking students to commit to attend the institution if offered one of the early admission spots (Clinedinst and Hawkins 2011).

Access to elite education can provide exemplary opportunities for hard working and highly capable students who might otherwise never have such rarified opportunities to connect with elite individuals, especially when coming from families of origin in the lower or middle classes. However, such opportunities can be quite fragile in the face of minor changes in the admission process. For example, small increases in the cost associated with sending out scores on standardized tests has been shown to systematically decrease the number of colleges to which students from lower-income families apply, particularly with regard to the number of free reports a student is allowed to send with the initial cost of the test (Pallais 2013). Furthermore, despite the availability of financial aid, parents have been shown to be most focused on list-price of colleges when it comes to determining college choices. Fundamentally, as Hoxby and Turner put it, “only a minority of high-achieving, low-income students apply to colleges in the same way that high-achieving students do” (2013, 1). A student in Isabel’s circumstances cannot be justly anticipated to apply to colleges in the same way as a similar student from a higher-income family. In the context of enhancing neuroethics through neurodiversity, it is important to remember that those who are neurodivergent can also be extraordinarily academically talented in the traditional sense. To the extent that elite colleges employ admissions practices that discriminate against those with neurological difference, elite colleges are also practicing ableism.

Most colleges seek to balance a philosophy of inclusive education and exclusion of those not fully prepared to participate in higher education and contribute to society, the polis, and the economy. The decision also makes sense. After all, even Harvard, as one of the most universities most focused on elite academic performance in the nation, has recently articulated interest in expanding approaches to admission to include a focus on empathy and kindness (Postrel 2011). This twenty-first-century concern is echoed in pop culture such as in the character Kylo Ren who is presented as a prodigy lacking compassion and kindness in contrast to Rey. One example of an admission statement reflecting this balance is Amherst College:

Amherst seeks, above all, to enroll men and women of strong and vibrant intellectual promise who have the demonstrated qualities of mind and character that will enable them to thrive in our dynamic academic and social environment and to take full advantage of the remarkable resources our community offers. A successful Amherst student is someone who will

embrace the academic freedom provided by our open curriculum, engage with our talented and accomplished professors, and contribute significantly to a student population whose diversity of both background and perspective fosters a process of mutual education within and beyond the classroom curriculum (located online at <https://www.amherst.edu/admission/apply/transfer>, accessed on April 21, 2016).

Statements from public institutions also include descriptions of standards that are not directly academic in nature. For example, the admissions information for the University of Alabama states:

The **Capstone Creed** (sic) requires that members of the University community “pursue knowledge; act with fairness, honesty, and respect; foster individual and civic responsibility; and strive for excellence.” In order to foster an environment conducive to those goals, the University requires you to answer questions related to disciplinary and criminal history. Such history will not automatically bar your admission. Each application will be reviewed on its individual merits (located online at: <http://gobama.ua.edu/apply/>, accessed April 21, 2016).

As this statement describes, this public institution desires to attract students who not only are academically capable, but also demonstrate pleasant and ethical behavior. Furthermore, while the most elite schools have become ever more selective in recent decades, admissions rates for most colleges and universities have remained largely unchanged, with an average acceptance rate close to seven out of ten (Clinedinst and Hawkins 2011).

Open access colleges also exist. In part, open admission exists in response to the belief that “equal access to learning environments lies at the heart of an equitable and just society” (Thurston 2014, 61). Community colleges tend to embrace open admission policies (Mellow and Heelan 2014). Furthermore, successful completion of community college often allows for direct or easier transfer to four-year institutions upon completion of an associate’s degree. This does not mean that admission to the four-year university of choice is automatic in all cases. Rather it means that the colleges have communicated a vested interest in making sure that students successful at the community college level are able to transfer into a four-year university, and that they have staked part of their professional reputation on success in this endeavor. As a

result, even if a four-year college does not itself practice open admission for incoming first-year students, admission to many four-year colleges may be de facto more open once possibilities for transfer are taken into consideration. From an admissions perspective, to the extent that current selection processes work against neurodiversity in higher education, open admission practices at two-year colleges play a part in creating a more neuroethical system of higher education in the United States of America. While obviously not a complete solution in and of itself, it is a start and is, from the perspective of allowing people a chance, beneficent.

As is discussed above, low admission rates to particular colleges or universities are not inherently unethical. However, potentially biased screening of students based on inability to navigate increasingly complex application processes can become a threat to the neuroethical practice of higher education, assuming that the application process itself is not deliberately designed to test the capacity of the student to be successful in higher education. Having a way of being that does not innately connect to what admissions personnel would expect to see on an application essay or a social anxiety rendering required interviews or group meetings arguably result in impressions derived from admissions processes far from reflective of a student's academic potential. Such an outcome would not be in keeping with the core ethical principles of either justice or veracity. Furthermore, people embodying characteristics traditionally associated with oppression have been shown to opt themselves out of application processes for which they hold all qualifications at greater rates than those who do not (Schur et al. 2013). Students like Isabel may infer barriers. Finally, while multifaceted admissions produce multiple opportunities for applicants to demonstrate potential, thereby potentially enhancing neurodiversity, this benefit is balanced against selection rooted in the amount of available time for applying to higher education and financial resources available for completing applications. More complex processes take more time or resources, which can be anticipated to be often more restricted for those with neurological differences. In addition to the resources, time, and, often, transportation constraints often correlated with neurological differences, barriers connected to an individual's ability to quickly comprehend the variety of social contexts and rule structures implied by different application protocols can exacerbate these factors. Ableism, both intended and otherwise, results in complex application processes.

## STANDARDIZED TESTING

On solution to a complex admission system involving multiple measures, each potentially associated with threats to the successful composition of a neurodiverse student body might be to suggest a single, uniform, and universally designed metric. **Standardized testing** was born of scientific optimism that such a metric could be devised through the careful creation of a single, uniform test. Unfortunately, unfolding history has revealed the other parent of standardized testing to be entrenched, largely unquestioned discrimination against a plethora of human characteristics including race, ethnicity, religion, gender, disability, primary language, and sexual orientation. From the view point of the beginning of the twenty-first century, it can be difficult to comprehend fully the degree to which presumed superiority some members of society clouded the observations and thought processes of those living in previous eras. Prejudice has by no means passed, and humanity is far from immune from reviving old or creating new systemic biases. Given that, the moment of birth of standardized testing constructs free of prejudice and cognizant of the benefits of diversity has yet to arrive. This origin and intention to measure innate capacity separately from past academic performance imbue standardized testing with neuroethical concerns surrounding its capacity to coexist with neurodiversity in higher education.

Standardized testing has deep roots. According to Nicolas Lemann, “standardized testing had its beginnings in Chinese civil services assessments during the Han dynasty, or possibly even earlier” (Zwick 2004, xi). In Europe, during the Renaissance and Enlightenment, standardized tests were periodically suggested as mechanisms by which selection for university administration could be effectively managed. During the late nineteenth and early twentieth centuries, standardized testing surged in popularity in North America. This popularity was driven both by the desire to handle human endeavors by ever more scientific means and, at least in the USA, a desire to democratize access to higher education and employment. The Progressive Era is particularly associated with a belief in the scientific measurement of merit and potential. In creating standardized testing, the hope was to remove bias derived from connections and parenthood so that all suitable candidates could be fairly located.

From the twenty-first-century perspective, of course, quite problematic limitations upon suitability remained accepted. This discrimination is exemplified by the fact that in 1900, a team of College Presidents

co-created the College Entrance Examination Board. In creating these entrance exams, “these examinations were not used primarily for selection but to force boarding schools in New England to adopt a uniform curriculum” (Calvin 2000, 20). In other words, when the tests were created, the goal of standardization of the education of those who were considered most likely to become suitable candidates for college admission shaped the creation of the test. The test was not intended to locate or discover talented individuals not sharing characteristics typical of college students. As such, the primary intention was to define and detect merit that incorporated privilege rather than to recognize potential in members of the population at large and across all elements of diversity.

Social and economic conditions soon began to expand the definition of likely characteristics associated with academic potential in the United States of America. The SAT has arguably been the most famous and influential test employed in admission to colleges and universities both in the United States and around the world. The SAT was created in 1926 through a committee-based process led by a Princeton Professor of Psychology, Carl Brigham. The test design was modeled after earlier work conducted by Brigham and others, especially the Army Alpha and Beta Tests implemented during World War I as a mechanism by which to screen officer candidates (Calvin 2000). Use of this model was considered reasonable and fair because it had been shown in a field test to be a strong predictor of college success regardless of the socio-economic background of the student taking the test. The test was not, as is often assumed, intended to measure innate intelligence per se so much as it was hoped to measure how well a particular student would fit and thrive at an institution of higher education as they were already designed.

Unlike some infamous work conducted explicitly to advance eugenics movements tied to foregone conclusions, the test was not designed with deliberate, malicious intent, at least within the overarching ethical frameworks of democratic education conducted in the absence of intensive consideration of diversity. Brigham believed in the inherent superiority of white people, and the data collected in the administration of the SAT quickly served to create confirmation bias in support of this belief. Most obviously when examined through the clarity of hindsight, the original design of the SAT was explicitly racist, sexist, and ableist in that test questions focused on topics that white students were taught that African Americans were typically not, such as Latin (Carl 1997). Furthermore, research into the actual performance of students suggests that grades in

high school courses predict performance in college or university better than standardized tests (Sawyer 2013). Even so, the combination of both high school grade point average (GPA), the standard compilation of academic performance in all courses completed by a student and standardized test performance appears to better predict performance in higher education than GPA alone, suggesting that standardized test scores reveal different information than academic performance in high school (Radunzel and Noble 2012). As Sawyer points out, scores can be especially helpful in determining admission at highly selective schools.

Despite these known and reasonably well-publicized difficulties, the SAT dominates the standardized testing arena concerning college admissions to this day. The SAT is managed by the Educational Testing Service (ETS). The ETS was founded in 1947 with the mission of operating the SAT and other standardized tests at the request of colleges, universities, or public sector entities (Segal 2013). The ETS exists to this day and under the mission described as follows: “our commitment to education extends beyond developing assessments, evaluating results and conducting research...from partnering with our local communities to supporting learners across the globe, we work diligently to ensure a fairer, more equitable and more knowledgeable world” (ETS, located online at: <https://www.ets.org/mission>, accessed February 2, 2016).

The test that has competed most successfully with the SAT, the American College Test (ACT) was created in 1959. In 2013, 1.7 million students took the ACT, and the number of students taking the test has consistently increased over the past decade (Bradshaw 2014). By 2015, more students took the ACT than the SAT. Of all students graduating high school in 2015, 59 percent took the ACT and about 52 percent took the ACT (Adams 2015). While proponents of the ACT are quick to describe relative superiority of the ACT as compared to the SAT, the exams are highly comparable in content, time, approach, and tasks. As such, discussion of the SAT in the context of enhancing the neurodiversity of higher education is similarly applicable to the ACT. It should be noted, of course, that the existence of more than one standardized test between which a student must decide or come up with the resources to take both contributes to the complexity barriers discussed above.

While widespread belief in the accuracy, effectiveness, and quality of standardized testing waxed and waned over the course of the twentieth century, by the beginning of the twenty-first century, use of standardized testing in primary and secondary education had reached a zenith. According to a two-year study released by the Council of the Great City



Schools entitled “Student Assessments in Public Schools Not Strategic, Often Redundant” released on October 24, 2015, students were taking on average eight standardized tests per year, which, in total, took time equivalent to a full week in school to take. On average students were required to take 112 standardized tests before graduating from high school, which, in general, exceeded the number of report cards they received from their direct and personal observation actual scholastic performance by their professional teachers. Extensive use of testing conditions students to understand education as a directed rather than a cooperative process, and one for which a single standard of success exists and can be reliably measured.

All of this testing has not produced better primary and secondary education, even as measured by standardized tests. As reported by *Education Weekly*, in recent years, scores on college entrance examinations have, on the whole, either declined or remained stagnant, and the proportion of students planning to attend colleges or universities, while diversifying by many measures, has remained relatively constant (Adams 2015). Furthermore, “although an increasing number of colleges have adopted test-optional admission policies in recent years, NACAC survey data show that the importance of standardized testing across all four-year colleges and universities has increased over the past 15 years” (Clinedinst and Hawkins 2011, vii). Though research into the subject on contemporary standardized tests is inconclusive, bias has been notoriously difficult to design out of standardized tests, including bias against disability and, especially, against intersectionalities including disability (Meier and O’Toole 2013; Davis et al. 2013). Given the problematic features and, at best, mixed success of standardized testing as an admission tool, use of results as such tests in managing admissions decisions is a threat to both justice and nonmaleficence. Such threats become of augmented concern in conditions under which admission personnel members are each expected to examine many hundreds of applications each admission cycle (Clinedinst and Hawkins 2011).

## APPLICATION FORMS

Applying to higher education involves filling out an official form, either online or—surprisingly often in the twenty-first century—on paper. Formats of applications for admission to higher education vary, especially for private schools. For example, applying to Rice in the 1990s required that applicants fill a small box with whatever they choose. However, public colleges and universities located in a given state employ common applications allowing students to apply to multiple campuses at once and, on the other side of the admissions

decision, allowing for more efficient, technology-based consideration of a high volume of applications. Finding the balance between completely individualized applications seeking to capture the essence of a potential student and the mass formatted web portals often embraced by large public universities creates an ethical challenge to higher education and to neurodiversity itself. After all, especially at public institutions focused on maintaining as low as possible costs to students, admissions offices are leanly staffed and tend to experience high turnover owing, in part, to the travel and performance pressure typically associated with these positions.

Admissions offices or other stakeholders entrusted with the responsibility of crafting admission protocols hope to design their applications to find students that are a match for their schools and have to do so with an eye to maximizing efficiency. Success in this process is fraught with challenges. For example, as Chade, Lewis, and Smith point out, “in equilibrium, student-college sorting may fail: weaker students sometimes apply more aggressively, and the weaker college might impose higher standards” (2014, 971). Such challenges create a tension between efficient performance and justice, especially in the context of neurodiversity.

As a preliminary step, standardized applications should aim for universal design. However, one common challenge with universal design is illustrated in the experience of US Air Force when trying to design universal cockpits. What the Air Force rediscovered is that the average person does not exist. A cockpit designed for the average service member proved cumbersome for all (Rose 2013). Similarly, a universally designed application process can potentially reduce the overall usefulness and appropriateness of the tool. Universal design works best when the design incorporates flexible elements. Applications are specifically designed to be barriers, so there is need for reflection on who is being restricted as both universal design elements and flexibility are considered. At best, a neuroethical approach in this process will be iterative. The need for ongoing redesign of tools will have to be consistently explained and justified to often rushed and pressured staff. Given such tensions for street-level bureaucracy, changes in federal or state policy may be required to provide for such an approach to application design at public institutions.

## ESSAYS AND INTERVIEWS

Many colleges and universities include as part of their admission processes either personal essays, interviews with alumni and admissions staff, or both. These elements are intended to allow prospective students to

communicate a personal element in an otherwise impersonal application process. They are also a way for those who are conducting the interviews or evaluating the essay to directly consider fit, in terms of personality and social presentation. Finally, at least in the context of an interview, personal interactions provide the opportunity for personnel conducting interviews to actively recruit desirable candidates through the provision of details about the college or the university expected to be considered desirable by the candidate.

A variety of neurological differences involve ways of being encompassing difficulty with standard social interactions. Autism, for example, can involve distinctive speech patterns and body language considered unfriendly by those less acquainted with individuals with autism and the autistic. Similarly, conditions such as PTSD, depression, being bi-polar, or having social anxiety disorder can result in a less than predictable level of success with social interaction from day to day. Such variances tend to correlate positively with stress and novelty of a situation (Hendrickx 2010). On the other hand, some neurodivergences actually improve performance in interviews, providing individuals with certain neurological differences with an ability to over-represent their capacities for brief periods (Armstrong 2010; Sumner and Brown 2015). Under these circumstances, a less prepared and academically capable student could find themselves admitted to a college or university that they will find too challenging. To the extent that the goal of personal aspect of an admission process involves the goal of optimizing match between student and school, both ends of the continuum create challenges for the neuroethical approach to neurodiversity in higher education with regards to the principles of fidelity and nonmaleficence.

## TRANSFER CREDITS

Communication and transportation innovations increased educational opportunities for postsecondary education students at most institutions. Even a move out of state might not necessarily mean that a student would have to transfer to another college or universities in an era when significant numbers of courses and even entire degree programs are available online. Students and faculty are increasingly interested in engaging multiple academic environments, including at schools in foreign nations (Junor and Usher 2008). More commonly, however, students choose to begin their educations at lower cost institutions (such as community colleges) prior to transferring to the institution at which the student hopes to complete their degree (Mullin 2012).

College and universities in individual states create transfer policies focused on course equivalencies designed to either offer courses with the same description and number at multiple institutions or articulate which courses can be considered equivalent for particular degree programs. Such efforts rest in something of a natural tension with the necessity of avoiding over intrusion into individual professor's classrooms or a loss of diversity across courses available across colleges and universities, both of which have proven a threat to diversity in education and the ethical principles of autonomy and fidelity in the practice of higher education. Nevertheless, provisions for transfers designed to recognize previous academic performance are essential in ensuring a neuroethical framework for higher education and require thoughtful, ongoing effort on the part of institutions and state administrators to avoid doing more harm than good for neurodiverse student bodies. Credit transfer systems can help further lifelong learning, improve and widen postsecondary participation rates, eliminate unnecessary student tuition and educational costs, and reduce postsecondary noncompletion rates, all of which challenge neurodivergent students. The issue of credit transfer is important not just to the student but also to governments and postsecondary institutions.

Remembering that colleges and universities benefit from student mobility speak to the worthiness of such an investment of time, resources, and efforts of both personnel and students. Diversity involves engagement of students from a multitude of previous learning environments. Barriers to student mobility share fundamental similarities with barriers preventing aspiring students from attending postsecondary education in general. Many students fear the loss of academic credits and standing resulting from a transfer to another college or university. Courses required at one college or university may not transfer to another university. In many cases, it might make sense to then complete the first (typically Associates) degree before transferring, and this practice is both helpful to student progress and common. Even so, a student transferring with an Associate's degree to a four-year college (or applying to a graduate program after finishing a Bachelor's degree) might still encounter **prerequisite course requirements** associated with the program of interest that were not included in the previous degree. As with the consideration of transfer credits more generally, it is vital to avoid single-dimension consideration of this issue. After all, allowing students to complete prerequisite courses not yet taken after admission to the next level degree enhances both the diversity of student bodies in advanced degrees and the (rather unique) ability of

students at colleges and universities in the United States of America to change or refine their interests as they progress through education. Too narrow thinking about prerequisite requirements incurred as a result of transferring institutions lacks both beneficence and justice. Even so, as the proportion of students funding education through debt increases, the tipping point of inclusion versus exclusion surrounding this aspect of transferring between institutions and programs requires active tending.

Lack of adequate financial resources is often an important factor in a student's decision not to leave home in order to attend the first two years of higher education, especially for students who are the first in their families to pursue higher education (Horn et al. 2006). Motivations for establishing community colleges included reducing overall costs by providing the opportunity to stay close to home to attend the first two years of college. This reality affects some students with neurodiverse conditions especially forcefully for reasons including, in some cases, developmental delays in areas such as social interaction or costs associated with finding new therapeutic or service providers in a new location. Additionally, the need to carefully comply with protocols associated with applying for federal (and, sometimes, state) financial aid especially through the timely filing of a US Department of Education Free Application for Federal Student Aid (FAFSA) makes staying in close proximity to parents of benefit to some students with neurodiversity since students embodying characteristics associated with underrepresentation in higher education are especially likely to miss out on grants and loan opportunities as a result of falling out of step with student aid protocols (McKinney and Novak 2013).

Two years of successfully managing these challenges can be anticipated to provide a solid foundation for subsequent success at a more remote campus, assuming additional barriers associated with transfer credit complications do not work actively against the student's progress. Students who attend community college because of intrinsic motivations rooted in a desire for competence or autonomy have been shown to have higher success as measured by both grade point averages and a desire to continue in higher education (Guiffriada et al. 2013). When a neurological difference involves a social or developmental delay, community colleges can serve as crucial scaffolding in support of education pursued for these reasons. Communities and institutions of higher education support this aspect of transition in instances where information about financial aid and protocols for transferring credit are broadly explained in a multitude of contexts. As with previous discussion about admissions, best ethical practices for

achieving this goal involve sufficient investment in well-trained admissions personnel. Ensuring that recruitment strategies address these tensions directly with students is also essential to managing this tension, especially in the likely contexts of resource constraints.

Transfer students aspire to accumulate educational credits along their entire academic career that contribute to a credential upon completion of studies. Clarity regarding the potential for transferability of credits can be especially challenging in the context of military education courses. Given the distinctness of military education, challenges in determining transferability of credits are most structurally similar to those experienced by students coming from institutions of higher education located in foreign nations. In transitioning to civilian institutions, veterans find themselves duplicating effort in courses that are comparable to previously completed education in an educational environment that might also feel less comfortable for reasons discussed in Chap. 7. On the other hand, veterans finding themselves placed in upper-level coursework after having received credits for a military education course could find the previous coursework insufficient to prepare them for the upper-level course, resulting in increased stress and the potential for academic failure. Respect for the service of student veterans involves as accurate as possible acknowledgment of their educational successes prior to higher education. The overall process should seek to reduce harmful errors and stress, as with other aspects of the admission process requiring time and attention of admission and advising staff. After all, this is potentially the initial interaction with a student **veteran** post admission and may set the tone for future interactions.

## GRADUATE ADMISSIONS

Though much of the discussion in this text focuses on undergraduate education, higher education also includes graduate programs. Over time, completion of graduate programs has become required for entry into specialized professions. Whereas at the beginning of the twentieth century, many professions required participation in undergraduate education at most (including some that might be surprising such as medicine), by the end of the twentieth century, employment across many professions either explicitly required graduate-level training or could not be easily secured without it. Admission to graduate programs depends in part on performance on standardized tests. There are too many tests to cover in depth in this text. However, as Table 3.1 prepared by Shain Wright shows, the

**Table 3.1** Number of graduate exams administered

<i>Year</i>	<i>LSAT</i>	<i>MCAT</i>	<i>GRE</i>
30/31	–	9,220	–
40/41	–	–	–
50/51	6,557	16,500	–
60/61	23,800	14,200	–
70/71	104,408	45,324	293,600
80/81	112,143	48,646	262,855
90/91	152,685	43,490	379,882
2000/2001	109,030	54,763	433,109
2010/2011	155,050	91,600	457,642

Sources: Moss (1940); Jolly and Hudley (1994); Evans (2016); Marks et al. (1972); Solomon (1983); Adelman (1984); Julian et al. (2004); “Average scores on Graduate Record Examination (GRE) general and subject tests: 1965 through 2009.” (n.d.). Retrieved March 14, 2016, from [https://nces.ed.gov/programs/digest/d10/tables/dt10\\_344.asp](https://nces.ed.gov/programs/digest/d10/tables/dt10_344.asp); “Percentages and Scaled Score Tables.” (n.d.). Retrieved March 14, 2016, from <https://students-residents.aamc.org/advisors/article/percentages-and-scaled-score-tables/>; “Total LSATs Administered—Counts and Percent Increases by Year and Administration.” (n.d.). Retrieved March 14, 2016, from <http://www.lsac.org/lisacresources/data/lisats-administered>; “GRE General Test Volumes by Country 2005-2014.” (2015). Retrieved March 14, 2016, from [https://www.ets.org/s/gre/pdf/gre\\_volumes\\_by\\_country.pdf](https://www.ets.org/s/gre/pdf/gre_volumes_by_country.pdf)

number of students taking these exams has increased dramatically over the course of recent decades.

The numbers presented in the table do not include international students taking the exams in the United States of America. While these data were drawn from different sources and should, therefore, be considered an approximation, these numbers clearly speak to greater demand for graduate education (Adelman 1984; Evans 2016; Jolly and Hudley 1994; Julian et al. 2004; LSAC n.d.; Marks et al. 1972; Moss 1940; Solomon 1983). Students representing neurodiversity should be expected to be as interested in admission to graduate education as any other students.

Graduate admissions mirror and enhance admissions procedures for undergraduate programs. However, in addition to the application components typical in Associates or Bachelor’s level of higher education, admission to graduate programs tends to involve much more active decision making on the part of the disciplinary faculty. One aspect of this involvement revolves around the concept of fit. Conception of fit varies

by discipline and, sometimes, department or program or even individual faculty member. Common definitions of fit include that a research faculty member is both interested in working with the particular applicant given their stated research interests, that the program has funding available to cover the applicant, that the applicant performed as desired in an interview with an individual or committee, the applicant impresses the individual or committee as demonstrating qualities associated with success in the profession or field, or that the applicant's letter of intent reflected the norms, values, skills, knowledge, and abilities for which the program is currently recruiting. Differences in determination of fit can result in two equally academically qualified applicants receiving polar opposite responses to their applications. Such consideration of fit is not necessarily unethical because graduate programs tend to involve narrowly specialized training for a limited number of professional posts. From this perspective, tending to issues of fit represents both good stewardship of resources invested in higher education and an appropriate exercise of fidelity.

From the perspective of neurodiversity, however, consideration of fit can become a threat to the neuroethical practice of higher education. Most obviously, decisions around fit are difficult to make transparent, even to the individual making the decision since such decisions always involve an element of a best guess made on the basis of a professional judgment. Unfortunately, this lack of transparency leaves open the door for deliberate exercise of discrimination. When more than one faculty member is involved, such threats become reduced, especially given the fact that most faculty self-identify as professionals committed to the success of the discipline rather than the success of particular human groups. However, in the context of neurodiversity, especially for professions and fields from which students with neurological differences and neurodivergent students have been routinely excluded, fit becomes discriminatory if the comparison basis in play is the population of individual who have previously enjoyed success in the program, discipline, or profession.

### BALANCING ACCESS, ADMISSION, AND ACHIEVEMENT

Access and exclusivity rest in tension. Barring the ill-advised goal of seeking utter uniformity in higher education programs, there is distinct value in unique criteria for admittance to academically diverse institutions. Recognition of the diverse educational capabilities and interests of the populace requires recognition of institutions that reflect similar values.



However, this recognition is premised upon the open communication of these interests by all stakeholders with selection-based specific academic interests and not immutable characteristics beyond the scope of academia. As previously identified, institutions that receive federal funding under Section 504 of *the Rehabilitation Act of 1973* must ensure that their programs do not discriminate based upon disability. This protection applies to nearly all higher education institutions through financial aid and adds a compounding challenge to matching individuals with the proper institutions for their educational goals.

The Office of Civil Rights (OCR), a part of US Department of Education, maintains websites and other materials intended to help students with disabilities and disabled students' transition into higher education. The site clearly articulates that discrimination in admission on the basis of disability is not allowed in stating "if you meet the essential requirements for admission, a postsecondary school may not deny your admission simply because you have a disability" (Duncan and Ali 2011, <http://www2.ed.gov/about/offices/list/ocr/transition.html>). However, the question immediately following asks whether or not the student must inform the school that they have a disability. Office of Civil Rights (OCR) stated response to that question suggestive of how disclosure in admission is not necessarily a straightforward decision, "No... But if you want the school to provide an academic adjustment, you must identify yourself as having a disability...Likewise, you should let the school know about your disability if you want to ensure that you are assigned to accessible facilities...In any event, your disclosure of a disability is always voluntary" (Duncan and Ali 2011, <http://www2.ed.gov/about/offices/list/ocr/transition.html>). In other words, disclosure is advised for logistical reasons but recognized as potentially not inconsequential given that it is explicitly described as voluntary.

Recruitment is key to transcending and smoothing barriers. In the general public's imagination, recruiting efforts made by institutional of higher education are focused primarily on potential students who are extraordinarily talented in one way (academics) or another (athletics). However, substantial time and resources also go into recruiting the rest of the student body as well. Efforts ranging from precollege programs to social media to mass recruitment events exist (Diepenbrock and Gibson 2014; Wazed and Ng 2015). These efforts work, including with students representing diversity. Fidelity in the practice of enhancing neurodiversity in higher education depends on the diversity-oriented training and

proper professional and technical support of recruitment personnel. The technical support component arguably includes most especially availability of as accurate and specific as possible information about transfer credits for students increasingly expected to arrive at institutions of higher education with complicated and multifaceted transfer credit portfolios.

## CONCLUSION

This chapter illustrates a handful of the barriers to enhancing neurodiversity through admissions to colleges and universities. Many of these barriers include deliberately challenging elements for all participants as a means of vetting aspiring students. Neuroethical justice requires attending to whether the anxiety induced is not disproportionately and systematically experienced by applicants with select characteristics not directly related to academic potential. This concern also raises issues regarding the intersections of mental health and higher education more generally. As is discussed further in Chap. 6, public discourse surrounding the admission of students with mental or behavioral health challenges often borders on panic despite the fact that 50 percent of all serious mental health crisis resolve spontaneously and permanently with no intervention (Rapp and Goscha 2011), and most people with mental health challenges pose no threat to others. Deliberately inducing stress that is either targeted or perceived as targeted in the application and admissions process fails to meet the ethical standard of nonmaleficence. Such motivations should be carefully and continuously pondered by stakeholders responsible for designing application protocols.

When otherwise qualified students are prevented from accessing the institution of their choice for reasons beyond their control, the system as a whole is unnecessarily impoverished.

A neuroethical approach to admission to higher education depends on collective reflection by higher education stakeholders across the nation in conjunction with advocacy groups supporting neurodiversity to identify areas of concern as well as potential resolutions. Addressing neuroethical concerns in the admissions process will likely translate to further identification of similar concerns in education delivery, the topic to which we turn in Chap. 4.

## DISCUSSION QUESTIONS

1. From a neurodiversity perspective, what are the advantages and disadvantages of universal admission to public universities? What are the advantages and disadvantages of selective admission?
2. How could a standardized test be constructed to honor neurodiversity in the prospective student population?
3. What characteristics of an application process are most likely to enhance neurodiversity? Which aspects could hinder neurodiversity?
4. Is it important that the process of applying to be stressful? Why or why not?
5. Do graduate admissions involve fundamentally different questions than admission to undergraduate programs in the context of enhancing neurodiversity in higher education? Why or why not?
6. If you had to describe what fidelity in admissions means to aspiring recruitment personnel what would you say? How would you describe this ethical principle to aspiring students?

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## Teaching and Learning

In the popular imagination, college courses take place in large and crowded lecture halls. Professors are hardly more than tiny specs at the front of the room sometimes but not always attached to a loudspeaker. They deliver stylized lectures outlined on PowerPoint presentations only occasionally checking for student consciousness, calling out “Bueller? Bueller?” like Ben Stein in *Ferris Bueller’s Day Off* (1986). Many college courses are, in fact, delivered to large numbers of students crammed into stadium seating. Furthermore, some professors rely extensively on preplanned, packaged, and sometimes commercially prepared lectures. As discussed in the introduction, this format comes about in part as a result of increasing

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Shawna finds a seat in the crowded, stadium style auditorium of her anthropology class, on all of the desks lays a ten-page syllabi. Internally, she debates if she even likes anthropology. On the third page, she sees a semester-long assignment to be done on her own and her heart starts to pound. She has never done well on assignments similar to this in the past. The professor walks in, introduces herself, and lets the class of 73 know that it is a lecture-based course and exhaustive notes will be required to pass any one of the five essay exams. Shawna’s palms start to sweat because her note taking skills have always been lacking. Her leg nervously shakes as she considers that she learns better when she can engage in open dialogue with her peers and professors. A knot builds in her stomach. She contemplates how much grief she would suffer from her father over withdrawing from yet another anthropology course.

student density on most college and university campuses not always reciprocated with either physical expansion, additional personnel, or growth in funding. Nevertheless, the desirability of this approach has long been questioned (Hattie and Yates 2013).

In recent decades, innovative and engaging teaching styles (e.g. flipped classrooms), developments in online learning, and changing faculty and dynamics have transformed many courses across the country (O’Flaherty and Phillips 2015; DeLozier and Rhodes 2016). Such revisions have been helpful in reaching a broad spectrum of students and bring instruction more in keeping with ethical principles of justice and affiliation. While not a panacea, implementation of more modern and diversified pedagogies is key to neuroethical instruction in higher education. Not surprisingly, the degree to which such new instructional approaches are successful in delivering education that meets the standards of autonomy and affiliation depends on the level of skill of the instructor, including their ability to inspire student trust and buy-in to the novel learning process (McLaughlin et al. 2016).

Furthermore, opinions and preferences regarding how to go about making more systemic or even global changes to higher education pedagogy vary (Beetham and Sharpe 2013; Kukulska-Hulme 2012). This is not a new circumstance. Many a college, program, discipline, and course have been founded on the principle of changing delivery of education in colleges and universities. The inspiration for these changes comes from beliefs about both effectiveness and ethics of all stakeholders involved, even as they are also constrained by honored and stories traditions present

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Down the hall, Travis sits in a sociology course. Where Travis grew up, the population was heavily influenced by Native American culture. There were more than a dozen tribes, and seven reservations in his state; here, there are two tribes and he feels like the expert on the culture in his college courses. He is exasperated that the US history class he took last semester overlooked the colonial impact on the Native Americans during westward expansion. He feels his peers are just as ignorant as the professors, especially when they ask if he is “from here.” Travis absorbs information best in group settings, and most of the courses he has taken so far require him to work alone. He rolls his eyes as he looks over the syllabus for this course; it is the same as the others. He recognizes at this point in his academic career that he retains information from observations and demonstrations, like his required science labs. This class is lecture-based, has three papers, tons of reading, and is laden with quizzes—Travis knows this is going to be a long semester.—*Jubilee Belle Lawhead*



in most corners of the academy (Ryan and Ryan 2015). As R.S. Peters wrote in 1966:

Few professional philosophers would now think that it is their function to provide such high-level directives for education or for life; indeed one of their main preoccupations has been to lay bare such aristocratic pronouncements under the analytic guillotine. They cast themselves in the more mundane Lockian role of underlabourers in the garden of knowledge. The disciplined demarcation of concepts, the patient explication of the grounds of knowledge and of the presuppositions of different forms of discourse, has become their stock-in-trade. There is, as a matter of fact, not much new is an increased awareness of nature of the enterprise (1966, 15).

Over the course of the twentieth century and into the current century, however, ethics of higher education policy and pedagogy transitioned alongside the philosophy of higher education. This transition included an ever-increasing focus on the student, and their learning experience, coincident with an expanding and diversifying understanding of quality in pedagogy in order to help students flourish as autonomous individuals and help professors practice beneficence (Lotz-Sisitka et al. 2015; Saltmarsh et al. 2015; Ryan and Ryan 2015).

Fundamental change continues to inspire some stakeholders toward revolution in instruction at the institutional level. For example, on February 1, 2016, *The Chronicle of Higher Education* reported that Christine Ortiz, a professor of materials science and engineering and dean of graduate education at the Massachusetts Institute of Technology (MIT), took leave of absence from her post to develop a novel university. One of the more remarkable features of the plans for her not-for-profit ventures is the absence of elements of more traditional instruction: majors, lectures, and classrooms. While such notable ventures are both inspiring and, often, excellent laboratories in which to test innovative approaches to instruction, this chapter focuses on changes to pedagogy less directly connected to the structure of the institution. It also focuses on courses more or less synchronously delivered. In other words, this discussion assumes a collection of students into a course at about the same time with a defined topic connected to a recognized academic discipline that most students take in order to fulfill degree requirements.

Discussions about pedagogy can become easily fraught. Teaching depends on relationships between human beings and has existed in all

human societies (Hewlett and Roulette 2016). In higher education, teaching typically also involves more than simple transfer of well-established and reasonably uncontested knowledge from one person to others. While gaining a solid understanding of a specific area of human knowledge contributes to success in higher education, so is moving away from the pursuit of the answer toward an ability to critically think about open and contentious questions. Success in this endeavor depends on the professor's ability to dynamically interact with the students' current capacities, skills, and preexisting knowledge. This dynamic exists even when prepared lectures are the primary or exclusive mode of course content delivery. As a result, the classroom is often considered the private domain of the individual professor and students enrolled in the course.

Intrusion into classroom processes and dynamics can be met with objection and defensiveness on the part of the faculty member, regardless of how effectively the professor teaches. After all, the end of the twentieth century and beginning of the twenty-first century involved sustained and seemingly ever-growing intrusion into the classroom practices of primary and secondary school educators, especially under the auspices of the *No Child Left Behind Act of 2001* (Public Law 107–110—JAN. 8, 2002 115 Stat. 1425). Especially given increased documentation requirements in the assessment and accreditation processes of higher education, many faculty members came to believe that similar observation and direction of delivery of higher education could not be far behind (Ward 2015). Scholars of public administration have long debated between direction and discretion, most notably since the first decades of the twentieth century when the scientific management theories exemplified by Frederick Taylor came into essential conflict with the concerns around observation and the giving of orders raised scholars such as Mary Parker Follett. The weight of the empirical evidence drawn from actual workplaces across a variety of fields strongly suggests that, on balance, higher quality and efficiency result from allowing competent, trained professionals to work as freely as possible (Gallie 2013). Even so, the siren call of excellence through work style standardization remains strong and compelling, especially to the general public (Faciene 2015).

This book steps around certain aspects of this debate, including the degree to which faculty members should be respected as the professional experts in their fields and be allowed to practice with some degree of freedom and privacy in the absence of known problems. Faculty should, generally speaking, be considered interested in doing their jobs well, even

in the face of any initial defensiveness. Furthermore, a faculty member would have to be isolated indeed in order to be unaware of pressures to reconsider traditional pedagogy. Our discussion of transitions in pedagogy assumes potential for positive, proactive, and a collaborative introduction of evidence-based practices in the delivery of higher education courses exists in the vast majority of institutions, departments, and individual faculty members.

In discussing the instruction and pedagogy in higher education, it is important to discuss two often neglected factors affecting how professors deliver their courses. The first is time constraint realities affecting how faculty members design their courses. Some (necessary!) discussion of the plight of many part-time, adjunct professors and the shameful degree to which delivery of higher education in the United States of America depends on contingent staffing has entered into popular media and public discourse. Reliance on part-time faculty to deliver mission critical aspects of higher education is a risky proposition at best and represents a tremendous threat to the creation of healthy and stable educational environments for all students.

However, another less well-known challenge surrounds restrictions on time that affect all full-time faculty members as well. In the popular imagination, the life of the full-time professor is still perceived by many as not being professionally taxing. Even a passing acquaintance with the Academy contradicts this impression. While professors enjoy relative flexibility in the scheduling of their work, multiple studies have shown that “nationally, professors work more than 50 hours per week, significantly more than other professionals or managers, with work hours increasing significantly since 1992” (Misra et al. 2012, 300). Furthermore, because, as Misra, Linqvist, and Templer go on to describe, because colleges and universities are “greedy institutions,” faculty are under sustained and continuous pressure to work longer and harder (2012). This pressure exists in all components of faculty members’ work—teaching, research, service, and, in some cases, administration.

As with any occupation, different people invest varying amounts of effort into the same job. Regardless of this variation, understanding that the teaching of each course is generally understood as 10 percent effort on a nine-month contract (or, in a semester system, 20 percent of their time each semester) is fundamental to thinking about the neuroethics of neurodiversity in higher education. Another way of thinking about this is to consider each course to which a professor is assigned as taking up only one day of work each week. This means that a course is meant to

take approximately 150 hours of effort, with approximately 45 of those hours in the classroom itself. All planning, preparation, grading, and consultation are expected to be fit into the remaining 105 hours. Our society depends much on the image of the self-sacrificing educator and, in fact, the vast majority of professors invest more time into their classrooms than for which they are compensated. However, as the literature on public sector burn out strongly suggests, it is both important to avoid burn out and to encourage good employees to practice work-life balance to maintain long-term excellence in performance.

The second factor to consider in contemplating how to nudge higher education toward better support of neurodiversity is that actualized neurodiversity in higher education implies not only a neurodiverse student body but that the faculty and staff will also include individuals with a variety of neurological differences. Just as particular forms of instruction may better serve some students than others, particular forms of instruction may come more naturally to some professors than with others. The *Americans with Disabilities Act* requires that job expectations not be constructed with exclusionary features unrelated to the essential functions of a job. The ADA, as with most modern, rights-based disability policy, rests partly on the assumption of a one individual with a disability rather than interactions between disabilities. Discerning where one individual's rights end and another's begin in the context of multiple neurodivergences and in the absence of fully actualized universal design involves careful work and may involve multiple instances of less than perfect resolution for many years to come. This chapter is written from the understanding that there is no singular teaching model or learning style that is ideal. Learning takes place on a spectrum that should be explored and varied based on the talents and abilities of all parties involved.

## GUIDING PHILOSOPHIES

The Statement of Professional Ethics of the American Association of University Professors describes the responsibilities teaching in higher education as follows:

As teachers, professors encourage the free pursuit of learning in their students. They hold before them the best scholarly and ethical standards of their discipline. Professors demonstrate respect for their students as individuals and adhere to their proper roles as intellectual guides and counselors. Professors make every reasonable effort to foster honest academic

conduct and to ensure that their evaluations of students reflect each student's true merit. They respect the confidential nature of the relationship between professor and student. They avoid any exploitation, harassment, or discriminatory treatment of students. They acknowledge significant academic or scholarly assistance from them. They protect their academic freedom (AAUP 2015).

Though the specifics of class delivery are left primarily to the professor, many colleges and universities publicly articulate teaching philosophies. Such philosophies are articulated in statements such as the mission or vision statement or in distinct official statements specific to teaching. A random sample of 100 colleges and universities' websites was drawn by Shannon Reid in January and February 2016. Whereas 15 of the teaching statements referenced diversity, only one specifically discussed disability. Mission statements were even less overt in their discussion. Only six were found to name specifically "diversity," and none included the word "disability" or "disabilities." More statements included more general language that could be considered to be addressing diversity or disability. For example, Duke University's mission statement includes the commitment "to promote a deep appreciation for the range of human difference and potential, a sense of obligations and rewards of citizenship, and a commitment to learning, freedom and truth" (<http://trustees.duke.edu/governing/mission.php>), an assertion that suggests a commitment to diversity (if not by name) and, potentially, a focus on enhancing neurodiversity.

Nevertheless, it is worth noting that this evidence suggests that only rarely do teaching philosophies explicitly consider disability, and neurodiversity specifically is almost entirely absent from the discussion. When included, disability appears on of a list of elements of diversity alongside other characteristics historically associated with oppression or exclusion. For example, the teaching statement for Florida Agricultural and Mechanical University states:

A coeducational, 1890 land-grant, comprehensive/doctoral University, its major programs are accredited by appropriate state, regional and national accrediting agencies. FAMU encourages and supports innovative teaching, research and public service, enhanced by informational and instructional technology and distance learning. It also provides service programs through cooperative extension, technology transfer, international affairs and a variety of public service programs to ever-broadening, diversified constituencies. While the University will continue its mission of meeting the needs of African Americans and other minorities, it will also work assiduously

to provide educational opportunities for all racial, religious and national groups without regards to age, gender or disability who have the potential to benefit from a sound education (located online at: <http://www.famu.edu/index.cfm?Academics>).

Institutional teaching philosophy and mission statement do not, as mentioned above, fully define or restrict the pedagogical decisions made by professors in course design or class room content delivery. The absence of evidence of direct consideration of neurodiversity is not evidence of absence of such consideration. Even so, such gaps raise the specter of potential failures with regard to justice, beneficence, and nonmaleficence in the delivery of course content.

## HISTORY OF HIGHER EDUCATION PEDAGOGY

The history of higher education pedagogy goes back centuries. In essence, the concept refers to how those who seek to teach go about that task and the reasons for which particular strategies are chosen. There have been forms of pedagogy since the earliest human communities to provide the sustainment of hunting and gathering skills through generations, and they have evolved to each purpose and culture (Hewlett and Roulette 2016). Beyond the basic transfer of survival skills, pedagogy evolved with the rise of agriculture and the concentrations of civilizations to larger scales. This concentration required a move toward collective delivery of education in organized courses and, ultimately, some level of agreement on practices between ever more formal institutions.

The lecture method remains a tremendously common form of content delivery and a cornerstone of higher education pedagogy. Lecturing is so ubiquitous that faculty positions not on the tenure track are sometimes called “lecturer.” As articulated by Case Western Reserve University in their teaching statement, “the most common teaching models are lecture and discussion...Faculty should discern which method is best to achieve learning goals in each class” (located online at: <http://www.case.edu/ucite/teaching-learning/teaching-methods/>). The lecture method is, simultaneously, subject to frequent criticism, if not outright scorn. As Newman and Scurry describe, “a recent student conducted by the Higher Education Research Institute at the University of California at Los Angeles for the Policy Center on the First Year of College, based at Brevard College in North Carolina, found that, while lecturing was the

most common methodology, only 21.4 percent of students favored that approach” (2015, 14).

It is worth noting that whether or not students favored the approach may or may not be connected to whether or not this method is the most efficient and effective way for students to learn the materials presenting. Nevertheless, especially in the context of ethical enhancement of neurodiversity, a complete consideration of the strengths, weaknesses, benefits, and costs factor into the merit of the professor’s decision to employ primarily the lecture method. For instance, universal design and accommodation require that the lecture is accessible to those who do not hear, those who process information at different speeds than the professor’s rate of speech (both slower and more quickly result in potential barriers), and those who do not see information presented on any visual aids. Cost-effective strategies to managing these accommodations available at present often require that the *exact, word for word* content of the lecture be provided much in advance of the actual delivery of the lecture so that it can be made accessible synchronously. Challenges associated with this reality include: that more experienced and talented lectures tend to read their audience as they go, modifying some of the content and delivery to best address the students’ real-time needs; that it limits the ability to respond to current events as would be helpful if not necessary for the content of some courses; and that it places restrictions on the ability of the professor to respond to student questions during and between classes. Since the ability to make the changes to lectures listed above is fundamental to both excellence in teaching and working with the neurodiversity present in an individual classroom, such rigidity introduced through university design efforts, while involving benefits such as improving opportunities to review the exact content of lectures, can also reduce inclusion. In weighing these two effects, it is vital to keep in mind whether or not class time is best employed using a strategy that is, if rigid, virtually identical to assigning readings from a textbook.

The Socratic Method shares structural similarities to the lecture method while involving more active participation on the part of both students and the instructor. Socrates (470–399 BC) was an iconic Greek philosopher whose teachings have survived based on the work of his pupils, Xenophon and Plato (Mansfield 2014). Socrates engaged in a continued and probing questioning of his students in an unending search for truth. The Socratic Method centers trials of intellectual endurance through sustained questioning of the essential elements of a proposition. The Method embraces

continued exploration of concepts to reveal foundational contradictions and fallacies in perspectives. In the modern era, the Socratic Method has been used especially by law professors. The Socratic Method is a tool capable of engagement with a large group of students in discussion, development of critical thinking skills, and even ensuring student participation in the course. While this description highlights the benefits of the Socratic Method, it is not without its criticisms, many of which are especially poignant in the context of neurodiversity in higher education.

Among the shortcomings of the Socratic Method surrounds uneven stressors and benefits across a neurodiverse student body. While such unevenness holds true for most content delivery methods, augmented publicness of this learning process creates potential for maleficence when a professor either does not respect or has insufficient training to address neurodiversity hoped present in the contemporary college or university classroom. For example, concerns surrounding abuse or misuse manifest in stress caused by the potential to be called upon at any point in a conversation. After all, stress can limit the potential for higher-order cognitive function such as critical thinking (Jonsdottir et al. 2013).

On the other hand, responsible and informed use of the Socratic Method could also alleviate concerns associated with disproportionate participation on the part of students with privilege when participation is exclusively voluntary on the part of the students in the class. Use of the Socratic Method by a skilled instructor could bring Shawna or Travis into the conversation much more meaningfully than might be the case when other content delivery methods are employed. Dynamic interaction with the professor could lead to a connection between professors and, especially, students with neurodiverse conditions and neurodiverse students that might otherwise be missed.

The case method is most commonly employed in disciplines that are self-consciously practical and applied such as medicine, business, law, and public administration. In the case method, students are provided with information (usually in a short write up) about a specific circumstance intended to demonstrate select disciplinary lessons. Cases can be based on real-life events, inspired by real stories, or fictional. Use of real-life stories is often considered especially useful because of the richness of detail and, usually, the absence of a simplistic solution to the problem as presented.

In the use of the case method, students collaboratively discuss the situation described and attempt to reach consensus about the problem, solution, or both. This collaboration and noted absence of single or simplistic



solutions can be especially useful to the practice of neurodiversity in higher education. The method is especially authentic. It also holds the potential for dynamic consideration of content, affording the faculty member the opportunity to adjust focus and time spent on particular aspects of the case around the needs of the particular class. Drawbacks to the case method include that it is not universally applicable, at least as a primary pedagogy. Course topics rich in complex and detailed course content or with highly theoretical or technical skill components cannot be delivered exclusively in the case method. Also, the effectiveness of the case method is highly dependent on the knowledge, experience, and skill levels of the instructor. Finally, the case method requires careful attention to the selection of the case itself as well as the negotiation of topics that relate more forcefully to the personal lives of some students than others. In Travis's sociology course, for example, use of the case method could be highly promising and present Travis with the opportunity to enrich his own and other student's educational experiences. It could also leave Travis with a sense of having his perspectives excluded or stereotyped.

The lab method involves pedagogical assumptions and purposes similar to the case method, though generally speaking applied in courses on different kinds of topics. While most immediately connected in the minds of many to either science, language learning, or fine arts, labs are employed in courses across the disciplines including also such fields as political science and communications. Labs can involve either the replication of experiments and activities with well-established or standardized outcomes or involvement of students in the creation of new knowledge through their guided involvement in faculty research. Students may also become involved in supervised research projects of which they are the primary intellectual author, though this is rarer at the undergraduate level than it is for graduate students. Labs can either be a separate course, or they can be a component of a course that also includes other pedagogies (typically described as lecture credits). The University of Denver explains use of the labs as:

Our students work closely with faculty, peers and members of the community on projects, research and fieldwork. They cross disciplines to discover new perspectives and approaches to problem solving. In and out of the classroom, our students learn by doing, whether they're collecting data in the field or putting theory into practice in a clinical setting (located online at: <http://www.du.edu/explore/about/index.html>).

Argument in support of lab methods sometimes involves dependence on the idea that different individuals have different learning styles. Recent innovations in neuroscience have brought the concept of core learning styles under question, especially as irreversible and consistent characteristics of each individual (Howard-Jones 2014). However, even though the idea that individual is a particular kind of learner is a myth, individuals do tend to articulate having learned better using methods that engage multiple senses. Given their inherent multidimensionality labs can be quite conducive to neurodiversity. On the other hand, labs involve equipment which may or may not have universal design. Furthermore, labs often require peer interactions, raising some of the challenges and dilemmas discussed in Chap. 5.

In some fields, experiential learning cannot be easily transitioned to a lab. These fields frequently turn to service learning as a positive exchange. Service learning constitutes a more recent and still relatively nebulous approach to higher education pedagogy (Billig and Waterman 2014). Though all service learning tends to include interaction with stakeholders outside the classroom designed to provide benefit to a person other than the student or professor, beyond that basic description components of service learning vary. Similarly to case and lab methods, service learning assumes that students learn more when they are exposed to information in tandem with (or almost exclusively within) real-world conditions. Service learning involves a focus on completing activities of tangible good on behalf of others and is believed, as a result, to positively contribute to the part of formal education that involves learning how to participate in a democracy. Owing to its focus on work with those in need of assistance, this strategy can generally be expected to improve awareness of and insight into social justice issues (Hughes et al. 2012; Yorio and Ye 2012).

One articulated benefit of service learning is the potential to connect the activity to multiple and diverse learning goals (Yorio and Ye 2012). While it is not always clear that the simple fact of a service learning assignment automatically serves learning goals so broadly, integrating service learning into college and university courses involves several factors motivating even more advanced and careful planning of courses than is generally involved in the design of courses. First, arrangements must be made with the outside organization. For modern universities, these arrangements involve affiliation agreements prepared (or at least overseen) by attorneys so as to manage any potential risk incurred as a result of having students out in the community. These risks include both harm that might come to the student in their involvement and harm that the student might cause (deliberately or not) to

another person in their (assigned) attempt to be helpful. Creation of affiliation agreements takes time, especially the first time students from a particular college or university work with a given organization. Furthermore, the designated organization must agree to host students for a stated time period, sometimes for a period of time as short as a few hours on one select day, other times for periods extending throughout a term. Faculty members typically work to ensure that such organizations are ready and available well in advance of the start of the term giving them additional time to reflect actively on the intentions of the course.

Course preparation in service learning courses is also impacted in that creation of such an element renders course activities somewhat more public than would normally otherwise be the case. It is worth noting that many aspects of course delivery are already relatively public, at least in the context of public colleges and universities. Course syllabi must be made available to the college and, often, posted online. An important consideration in service learning is that experiences may vary wildly from one field placement to another or even within the same organization. This variety requires flexibility built into assignments and careful monitoring by faculty to ensure that students are being presented with adequate opportunity to be exposed to valuable educational experiences. There is also increased ownership on the student to discuss with the faculty their needs and challenges, a significant departure from primary and secondary education power dynamics. In the context of enhancing neurodiversity in higher education, service learning can be a bit of a double-edged sword. In a less than fully neurodiverse society, less than perfectly executed service learning pedagogies could augment challenges associated with social interactions typical of some neurological differences. Also, placing learning in physical and organizational environments outside the direct control of the college or university reduces the control university personnel have over the students' experiences. While this could, in some situations, result in exposure to circumstances more supportive of neurodiversity than is present on college or university campuses, it also creates the potential for the opposite scenario. From a neuroethical perspective, more effort and engagement must be invested by faculty to ensure attention to neurodiversity in internship off campus locations and assignments.

Peer-led group learning is mindful learning where groups of peers work together on problem related to course content (Drane et al. 2014). Peer-led group learning assumes engaged and capable class peers collaborating effectively on process-oriented learning. The peer-led group

approach does not eliminate the need for the professor. The faculty member is responsible for designing the journey peer groups will undertake, for guiding groups through any mistakes or mishaps, for providing requested academic assistance, for debriefing experiences, and for evaluating academic products. Many potential benefits to neurodiversity exist in peer-led group learning. Small groups provide opportunities for intimate communications between students and faculty, opportunities to ask questions, or to engage actively with the lecture content, and it allows for increased tuning of content delivery pacing responsive to the needs of the individual students and the class as a whole. Established groups have the added benefit of potentially reducing the anxiety of being called out in front of the entire class and instead allowing for exploration in a trusted group led by a (possibly) less intimidating peer (Kauffman et al. 1991). These groups are typically more collaborative, and less competitive environments than their large lecture hall counterparts which isolate students and their individual learning while discouraging or disallowing interactions between students (McLean et al. 2006). Supportive small-group learning environments are also linked to better student outcomes (Saleh et al. 2005), with emphasis on minority students likely because they allow for more meaningful and embedded interactions.

Peer-led group learning also significantly benefits from being a problem-oriented model. This is beneficial as the emphasis on solving problems, instead of exclusively memorizing information, requires peer collaboration and students are forced to consider and evaluate alternate perspectives to gain knowledge and skills in problem-solving. All of these activities promote deep, conceptual learning as students have the opportunity to explain their ideas to others, reconsider and reorganize their ideas, and identify conceptual shortcomings. They also allow for students to contribute more in areas of strength (Lewis and Lewis 2005). Furthermore, peer-led group learning incurs risk of exclusionary peer interactions discussed in Chap. 7 of this book. Finally, if peer-led learning is used exclusively and inattentively, the strategy may leave some group members academically adrift. With regard to neurodiversity, peer-led group learning can become especially vulnerable to patronizing (though well intentioned) overaccommodation of neurological difference. This creates a threat to the veracity of the educational credential involved in the assignment of a given course grade.

Opportunities exist for collaborative learning beyond the classroom in the digital age. Students take advantage of digital and networked technologies to seek and share information. Learning in the context of social

media has become a self-directed, informal, and integral part of the college experience (Tess 2013). Personal Learning Environments (PLE) such as the learning management systems adopted by many colleges and universities provide platforms for both integrating formal and informal learning and fostering self-regulated learning in higher education contexts (Kitsantas and Dabbagh 2011). Social media integration is a method already proven conducive to many neurological processes that can be employed to help learners (Tess 2013). These efforts by faculty and students are creating new ways of teaching and learning leading to the emergence of new constructs emphasizing openness, individualization, and socialization (Cigognini et al. 2010; Tess 2013).

Each of these emphases brings both strengths and threats to neurodiversity in higher education. Use of social media in higher education can empower students with a sense of personal agency in the learning process, important in the mitigation of systems of oppression centered on ableism. Web-based technologies afford integration opportunities through social media for neurotypical and neurodivergent individuals. However, actualization of these benefits requires the development and application individual learning skills similar to the problem-oriented approach of universal design (Tess 2013). Tools such as blogs can also be used to reinforce learning begun with other strategies (Harrison 2011).

In essence, whether or not these pedagogical strategies support neurodiversity will depend on the upfront consideration of neurological differences and the commitment to providing for trained education professionals to assist when challenges (or barriers) in these novel infrastructures start to arise. After all, as with any teaching strategy, learners need support, guidance, and pedagogical interventions to make the best possible use of technology to support their learning goals (Cigognini et al. 2010). While most learning experiences are a blend of both formal and informal learning, social media enables informal learning experiences in higher education while stimulating socialization in a semi-controlled environment. This incurs risk of maleficence, especially when students are still maturing. As the last decade has shown the great potential for harm of social media in addition to the benefits, the potential for harm has been especially relevant to neurodiverse populations and requires focused intervention.

Additional teaching strategies exist in college and university courses across the nation. Even though the notion of different learning style is a neuromyth (Howard-Jones 2014), student engagement and attention gains result from incorporation of a variety of teaching approaches into

courses. For example, a professor integrating multiple learning media, such as traditional lecture, group discussions, and pop culture videos to fully engage students, reduces the impact of specific neurological differences and stimulates the learning experience for all in the class.

Perfecting neurodiversity for each of these teaching strategies remains a long-term goal intimately tied to the relationships in play in courses. For example, in recent decades, reconsideration of classroom power dynamics emerged. Such consideration complicates ethical understanding of higher education, especially when considered from a deontological framework since the questioning of roles and duties becomes especially challenging when they become amorphous. One key to transcending such challenges involves addressing issues of insecurity and ego. As Robert Greenleaf wrote in his classic text on servant leadership:

Ego can't sleep...it micromanages...it disempowers...it reduces our capability...it excels in control...conscience deeply reveres people and sees their potential for self-control...conscience empowers...It reflects the worth and value of all people and affirms their power and freedom to choose... then natural self-control emerges, imposed neither from above nor outside (Greenleaf 1977, 7).

Concern about students, roles, and relationships is in keeping with the ethic of beneficence. This approach to leadership does not imply that the faculty no longer serves as faculty or allows students to take control of the classroom. The flexibility of infrastructure does not imply its absence. It does mean that a focus on higher principles and self-improvement rather than on the ego of either party assists with power dynamics more complicated than they were once understood to be. The proper exercise of this principle helps facilitate meaningful neurodiversity of all stakeholders.

The exercise of this principle requires the fullest possible consideration of universal design. Universal design originated in urban planning and architectural design. In essence, the concept refers to deliberate efforts to improve access for people with disabilities and the disabled while also benefitting the general public. Curb cuts represent one example. These ramped sections transitioning from the street level to the sidewalk level were designed to assist individuals with disabilities in the navigation of urban areas and limit unnecessary risk. These modifications, while initially resisted, have proven vital for many other groups including cyclists and parents (Steinfeld and Maisel 2012).

New tools and strategies allowed for the distribution of information necessary for an inclusive learning environment if universal design fully considered as such infrastructures are purchased or conceived (Armstrong 2012). Universal design for learning encourages implementation of strategies deliberately designed to present information, allow students to express their understanding, and stimulate interest in learning to tap into neurological networks. While the idea of delivering education perfectly to all individuals in a group setting is naïve, sustained, ongoing effort on the part of colleges and universities must be mustered to provide better opportunities for all students to engage and receive an education.

In consideration of university design and neurodiversity, preventing the perfect from becoming the enemy of the good constitutes the most ethical approach to higher education. Perfection remains as elusive and costly in the pursuit of neurodiversity in higher education as it is in most human endeavors. As mentioned above, one mechanism helpful in focusing on the good involves employing a diversity of teaching strategies in service of the expectation that the potentially inclusionary and exclusionary elements of each pedagogical strategy. Use of multiple strategies also provides some protection against the reality of unpredictability of the job and civic skills that will become most key as students' careers and lives progress.

Flexible universal design requires long-term and deep thinking about the costs, benefits, and goals of higher education. Too often, at contemporary colleges and universities, otherwise willing faculty succumb to counter pressures originating in educational inertia, legacy beliefs about learning, incentive structures, faculty evaluation protocols, and assessment processes. In the context of neurodiversity and disability more generally, these pressures can be augmented as a result of seeming or genuine resistance on the part of disability service personnel to provide accommodations beyond interpretation of lectures, note takers, and exam administration. Of course, such inflexibility ties frequently to the resource and staffing pressures experienced by personnel in these units. However, some hesitancy to place teaching fully in the hands of faculty becomes communicated. As Cathy Davidson discussed in *Now You See It: How Technology and Brain Science Will Transform Schools and Businesses for the 21st Century*, faculty embracing flexible universal design require not only talent and professional competence but systems that trust that they know how to do their jobs. Trust in the faculty translates into strengths and quality-oriented flexibility in both day-to-day classroom operations and the assignments used to measure student performance in the course.

## CONCLUSION

The course of higher education history includes multiple revisions to the format of educational delivery. Well entrenched pedagogical practices exist in contemporary higher education. Group lectures remain the central focus of academia with a proportional restriction to learning types and neurological processes. While there is a great deal of value in the traditional approaches at universities and colleges, advancement cannot be disregarded solely on the value of tradition, especially given the various advantages demonstrated in the previous pages. Colleges and universities seek to provide the best education possible to their student body. Neurodiversity oriented approaches to this goal leveraging the advantages of innovation in the design of educational delivery and flexible universal design to responsive to the students in each course. As is discussed in Chap. 5, alongside improvement to educational delivery comes the opportunity to more accurately evaluate the learning of college and university students in a manner at least inclusive of neurological difference and, ideally, in essential celebration of the strength neurodiversity affords the human superorganism.

## DISCUSSION QUESTIONS

1. How can faculty best address neurodiversity in higher education in each of the following conditions: (a) participation of a student in the course whose disability-related behaviors are distracting to other students; (b) participation of two students enrolled in a course with polar opposite needs regarding instruction delivery; and (c) enrollment of a student in a course with a neurological difference who genuinely cannot comprehend course materials regardless of the form of instruction delivery?
2. Where are the limits of flexibility in instruction delivery? Why?
3. Will enhancing the neuroethics of neurodiversity require revisiting the 150-hour standard when it comes to faculty compensation? Why or why not?
4. What are the key differences between enhancing neurodiversity in higher education and failing to deliver similar content across multiple sections of the same course?
5. How can faculty course delivery be effectively evaluated in a high-trust ethos of higher education delivery?



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## Learning Evaluation

Evaluating learning represents a much more complicated task than it appears upon initial consideration. First, and arguably foremost, course constructs force premature evaluation of learning. Fundamentally, the purpose of higher education is to affect the individuals perspectives and thought processes for the rest of their lives. However, formal learning evaluation mostly

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John, Travis, Isabel, and Shawna sit among 196 other students on the first day of class. Their professor begins the course much like any other first day of class, with a lively reading of the syllabus. Due to the class size, the only assessments for the course are four multiple choice exams throughout the semester, each counting as 25 percent of student's grades. Upon learning this, John, Travis, Isabel, and Shawna all begin to worry. John wants to show his children he can be successful in higher education and believes his grades are a prime way to demonstrate how hard work can be rewarded. Unfortunately, writing is John's greatest strength, and he is concerned he will not be able to demonstrate his understanding of course materials adequately on exams. Isabel is equally concerned about being able to show she is smart and capable enough to apply for graduate program applications and believes weekly assignments applying the course material would best prepare her for the intensity of engagement in a graduate program. Meanwhile, Travis is feeling relieved because writing is not his strong suit, but he wonders if he will be prepared for a career that involves extensive writing without practice and constructive feedback. While the university may consider him successful, will an employer? Finally, Shawna plays on the university's soccer team and needs to keep her GPA above a 3.0 to play games. Unfortunately, her ADHD makes taking timed exams more challenging and anxiety inducing.

takes place in the weeks or months during which a course is being delivered. Second, the degree to which the measured learning is attributable to a specific course is debatable. A student could have arrived at a course with prior knowledge of the subject to be presented. Similarly, a student could be exposed to simultaneous education in the given topic area at the same time the course is being delivered which actually caused the learning of the material to take place. Examples of other sources of learning include: in a similar course, in outside reading, or even in life experience. While taking an early childhood development course, for instance, John might learn of stages of development through outside reading or observation of his own and other children. Third, a lack of consensus exists as to which skills best demonstrate mastery of given academic areas. This kind of intellectual diversity is highly desirable when it comes to the overall building of human knowledge but, of course, complicates interpretation of measures of evaluation of learning.

All in all, these issues are not fundamental problems to higher education *per se*. The challenges are shared by all formal learning efforts, from story time for infants in local libraries to drivers' education for teenagers to courses in new technologies provided by senior centers. Participants in all formal education programs tend to be, to some degree or another, interested in an evaluation of their performance, especially in circumstances involving the sustained and committed effort attendant to college and university courses. Furthermore, especially as higher education is considered both a gateway and a scarce resource provided at least in part by the public, learning evaluation is both a private and public concern. Stakeholders beyond the individual student have an interest in student performance necessitating both efforts to measure learning and efficient systems by which to communicate student achievement on both individual and aggregate levels. Enhancing neurodiversity does not imply avoiding evaluation of learning or expecting that students will learn to create new artifacts or perform new tasks in higher education. A neuroethical

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Each student is experiencing the same challenging course structure within the context of their own lives. While changing or adding new assessment types may sound easy, the professor does not have the time to grade 200 papers for each of the classes she teaches, and there is not enough room in the department budget to pay for a teaching assistant. Furthermore, a change in the evaluation structure does not change the way different stakeholders view success or career preparedness, which highlights the systematic ways in which higher education forces students to prove their intelligence in restricted ways.—*Shain Wright*

approach to neurodiversity involves designing learning evaluation with the intentional avoidance of **ableism**. This means undertaking evaluation of learning with due attention to the distinction between typical capacities to perform on learning evaluation tools and demonstrations of mastery of content or skills.

## EVALUATION STRATEGIES

In North America, the dominant form of learning evaluation in higher education culminates in assignment of letter grades, ranging from “A” as indicative of excellence to “F” as indicative of failure, with the standard omission of the letter “E.” Though the precise origins are a matter of some debate, use of this letter grade system in the vast majority of colleges and universities dates back to the late nineteenth century. In addition to providing easy to interpret feedback on courses overall, professors grade several assignments or assessments due or administered over the course of the semester. This feedback is usually provided in the form of letter grades or through the assignment of points or percentages that can be converted into letter grades employing a standard scale provided by the professor or the school. As compared to assignments given in primary and secondary education, assignments in college and university courses tend to run for longer terms and with less oversight, in part as a result of somewhat less time spent with individual instructors in class (Wolters and Hoops 2015). Furthermore, colleges and universities require professors to delineate with specificity in course documents such as a syllabus how results from different evaluations will be combined to assign final grades for a course. In other words, a professor articulates at the start of a course that course grades will be assigned on, for example, by finding the weighted average score based on 10 percent class participation, 60 percent for each of three exams, and 30 percent for class papers.

The most well-known of learning evaluation methods in higher education include submission of written materials (papers or responses to problems posed), class presentations, and, especially, quizzes or exams (Brown et al. 2013). These broad categories include substantial variation. In large and introductory courses, greater reliance on multiple choice exams exists (Siegfried and Kennedy 1995; Martin 2012). Common features of these learning evaluation methods include that they are impersonal (if not anonymous) and standardized. These features are vital to efforts to control well-documented tendency to bias evaluations of performance of women and

individuals embodying traditionally oppressed characteristics (Bourdieu 1977). The tendency to evaluate the work of, for example, women, as being less valuable and meritorious once they are known to be women is well documented (Terrell et al. 2016). As a result, employing such impersonal designs for some assignments factored into course grades not only creates efficiency in grading and a more realistic work load for professors of courses with high enrollments, it also creates at least one assignment independent of the student's identity. Of course, higher education also requires evaluation of other skills and capacities, including those for which standardization is less practical and, arguably, less desirable.

Faculty and others involved in the evaluation of work, especially more creative work, have developed mechanisms by which more complicated artifacts can be evaluated independently of the identity of the person who created the piece. These strategies are designed to address bias associated with knowing the identity of a student and the conscious or unconscious grading decisions that may be tied to factors ranging from how physically attractive the professor finds the student to how well they did in previous courses (Malouff 2008). A famous example of such dis-identification efforts drawn from outside the academy involves the use of symphony audition strategies in which musicians play from behind screens and are even asked to remove their shoes so that the judges cannot determine the probable gender of the applicant on the basis of the sounds of their footsteps (Rinne 2014). Faculty wishing to take similar strides to dis-identify work can do so rather simply through campus learning management systems. Ironically, in some cases, students still chose to identify work even given the context of an anonymous submission design.

As technology becomes increasingly integrated into the delivery of higher education, it can become easier to assume casually that technology controls for at least some forms of bias. While it helps in some circumstances, technology does not necessarily mediate biases in and of itself. Similar to the biases identified in the SAT development in Chap. 3, the design itself still holds the potential for bias. At some level, humans make decisions about algorithms and elements going into the creation of evaluation methods. To the extent that those decisions occur without active consideration of implications for neurodiversity, learning evaluation tools will both lack full veracity and incur additional threats to neuroethical determination of the relative mastery of course content across a given population of students.

## FAIR PROCESS

As described by Tripp et al., both actual and perceptions of process fairness affect how students respond to a course and whether or not they will submit complaints regarding grading (2014). Clearly articulated learning evaluation tools including described and comprehensible grading processes stand a better chance of being perceived as just than those lacking these characteristics. Even so, perceptions of fairness in the evaluation will remain somewhat variable by student and, likely, interact dynamically with neurodiversity in education. Students with disabilities and the disabled have, often, less experience with fair process in education and a greater chance over having experienced discrimination in educational settings than their peers without disabilities (Eckes and Ochoa 2005; Shifrer 2013). As a result, working toward a more neuroethical approach to neurodiversity in higher education involves deliberate attention to both the reality and perception of fair process in grading with particular regard to neurodiversity as students with disabilities can be expected to be interpreted by those primed to expect unfair process. Enhancing neurodiversity in higher education requires some overcorrection in transparency of fair process, at least in the short term.

Professionals engaged in higher education have long understood that the ethical evaluation of student work involves concerted effort. As is demonstrated by the AAUP statement on teaching given in Chap. 4, in the context of neurodiversity in higher education, the most immediate concerns surrounding evaluation of learning involve the declaration that evaluations reflect each student's individual merit most especially. Evaluation of **merit**—and even a degree of meritocracy—belongs in higher education. However, contemplation of merit becomes much more easily confounded with contemplation of the typical than is easy to admit readily. From preschool to peer review of scholarly journal submissions, evaluation of merit all too frequently involves measurement against expected indicators of command over a particular area of human knowledge. Evaluation of merit becomes, in such instances, a measure of population and a basis for performance standards of all stakeholders. While it is, of course, important not to automatically discount the effort and ability inherent in meeting performance standards. However, as the AAUP's statement articulates, it is vital to avoid the goal displacement of confusing articulated standards of merit and achievement as uniquely defining true merit.



One form of goal displacement involves the soft discrimination of lowered expectations. This occurs when a professor reduces expectations of content mastery rather in response to disability (Powell 2015). Such discrimination comes about in a variety of ways. First, as might be most commonly anticipated given some public perceptions about professors, it can come about because of a desire to reduce the work involved in teaching a course. Accommodations, efforts to create universal design, and the creative thinking involved in designing a variety of methods of measuring subject mastery all involve an investment of effort above and beyond delivering a lecture and administering a relatively generic exam or assignment. The sacrifice, tendency toward achievement, and personal commitment to discipline render this applicable to a small minority of cases, however. Professors more often overwork than slack off (Gous and Roberts 2015). Work avoidance is best met through direct intervention through the regular human resource embedded procedures which would be applied in any circumstance suggestive of dereliction of duties, importantly including serious consideration of whether or not too much effort is being asked of the faculty member given the amount of time for which he or she is being compensated.

Another more likely cause of the lowering of academic expectations in response to disability involves genuine confusion about the legal standards of accommodation connected to traditional, paternalistic understandings of disability. Especially when much about disability accommodations is kept confidential in all but the cases in which legal actions have been brought against faculty and institutions failing to provide reasonable accommodations, faculty can develop skewed understandings of both the general success and overall purposes policies and program designed to better include disability in higher education. As a result of this distorted view, some faculty arrive at the belief they are required to expect less of students with disabilities. As mentioned above, this peculiar response must be interpreted in light of the reality that many faculty members in today's academic workforce work on insecure contracts with relatively low pay. Risk of job loss for faculty members at colleges and universities looms much larger than is typically understood by the general public. Under such circumstances, faculty can become more concerned about possible grading and instruction complaints as well as perceptions that they are not completing all tasks required of them by the institution. Given these factors, some faculty respond counterproductively to the requirements inserted into their pedagogy and practice through disability accommodations.

In the context of neurodiversity specifically, the risk of overaccommodation can also originate in and extend out from disability services offices created with more of a focus on physical disability than neurological difference. Changes in infrastructures addressing neurological difference can seem less generalizable and concrete than the changes to physical environment (including formatting of information for visual or hearing impairments) usually associated with physical disabilities. Because accommodations focus primarily on delivery of course content and administration of assessments and typically remain more silent on the evaluation of learning, increased space for effects of both explicit and implicit bias develops.

Current faculty, like all members of the general population, on average hold either implicit or explicit bias against disability even as they welcome students with neurological differences and neurodiverse students into their classrooms (Caplan 2015; Fekete 2013). Faculty, who at present have been educated outside of a fully neurodiverse settings, must make specific and ongoing effort to address these biases (Minow 1990; Baker 2011). Many such faculty members might consider themselves as working *toward* neuroethics in neurodiversity by expecting a less sophisticated degree of performance from students with neurological differences. Of course, this response to inclusion (regardless of the element of diversity in question) fails to meet the standard of evaluation according to true merit. Evaluation of merit requires consistency of definition of merit regardless of the personal characteristics embodied by an individual student or represented in a given class.

Discerning between changing the form of evaluation and demonstration of content or skill mastery and making reasonable accommodations necessitated by an exclusionary infrastructure can be tricky. This task will always include some aspects of subjective professional discernment. Furthermore, in some circumstances, the difference between the two may appear razor thin. For example, an ability to glean meaning from and interpret texts or artifacts (literacy) and understand and manipulate mathematical expressions (numeracy) underscore learning as it is commonly agreed upon in contemporary society. In the context of higher education, students are expected to not only take in and correctly interpret information but also to demonstrate critical thinking about material with the goal of creating original insights and advancing the human knowledge base. Changing how this is done in the context of neurodiversity without compromising the evaluation challenges even the most inclusion-oriented educators. Finally, areas of human knowledge involve received knowledge organized

into theories, frameworks, and, ultimately, paradigms. Communicating effectively within an academic discipline or set of disciplines depends on an ability to learn, comprehend, and employ the technical language of the particular field of study. Balancing places where rigid interpretation of quality and mastery with an appreciation for different ways of being and organizing information can become complicated, especially as academic disciplines root out their biases against disability.

### FAIR OUTCOMES

Formal evaluation of learning rests on the presumed utility of boiling down external evidence of a student's command of material into (supposedly) standardized, quantifiable, and simply communicated grades expected to hold meaning across space and time. However, concerns exist about external pressures with the potential to displace focus in grading from exclusive focus on the student's objective academic performance in the purest sense—in particular, the specter of grade inflation through the assignment of artificially high grades in order to improve the reputation of the teacher, program, or college or university (Kohn 2002). Criticism in this vein has been mainly directed at Ivy League Schools (Lawler 2010). This specter is joined in discourse by its mirror, a reactionary position on the part of stakeholders that grade inflation is entirely mythical.

Richard Kamber defines grade inflation as “reduction in the capacity of grades to provide reliable and useful information about students' performance as a result of upward shifts in grading” (Hunt 2008, 47). Grade inflation results in “an upward shift in student grades without a similar rise in achievement” (Kohn 2002, 1). A primary piece of evidence employed in the case for the existence of such grade inflation involved a coincident overall decline in standardized test scores. It is important to remember, as discussed in Chap. 3, that such correlations are at least questionable in their implications because standardized test scores do not necessarily constitute objective measures of intelligence, potential, or academic achievement (Berschback 2011). Even so, observation of an overall upward trend in grade point averages contemporaneous to an overall trend of decline in standardized test scores inspires questions about the transcendent meaning of grades.

Though legitimate questions can be raised as to whether or not grade inflation is inherently problematic, existence of a general upward trend in grades raises questions about both faculty accountability and student

expectations. For example, some have argued that particularly in the case of faculty appointments at research institutions, teaching is considered a secondary priority for which faculty can face criticism for failing to actively minimize time spent on teaching (Johnes and Johnes 2004; Kohn 2002). Accurate discernment in grading depends on sustained attention and the consideration of a considerable set of assignments, both of which take time that could otherwise be spent conducting research. Similarly, the high volume of teaching undertaken by faculty at institutions with missions more expressly connected to teaching can have the effect of reducing the amount of time a faculty member can spend grading work submitted by each student. While individuals do sometimes complain when they receive a favorable outcome in the absence of fair process, they are less likely to do so than when they believe themselves to have received an unfavorable outcome in an unfair process (Tripp et al. 2014). Under these circumstances, faculty may err on the side of assigning higher grades in close cases. Over time, successive applications of this kind of practice drive a drift toward universally higher grades.

Questions can (and should) be raised about the purpose of grades. Looking over time, higher overall grades across the population of higher education students have been positively correlated with increased graduation rates. One dimension of this challenge involves requirements that students maintain grade point averages in order to continue to receive financial aid, qualify for desired majors, and, ultimately graduate. The most typically required grade point average is 2.0; however, some programs and majors require higher GPAs for certification in the major (Erik 2007, 7). A GPA of 2.0 may not strike many as particularly impressive despite its standard definition as average performance. However, it does mean that students cannot afford to have many grades below C, especially in a given semester and, that to be on the safe side, they must perform at a level officially designated as “above average” in most courses most semesters. If the majority of faculty at colleges and universities graded using the classic bell curve grade distribution, achieving high retention rates would be very difficult. Students, particularly those who are for whatever reason already at risk of leaving school, are likely to be adversely affected by changes in grading policies rendering completion of degree programs even more difficult.

While enforcing minimum academic standards is the ethical practice of higher education, defining those standards as only “above average” performance may not be, especially if the average in play is the average

performance of students in a course or academic program. Such practices, especially when closely monitored through advising technologies, also create the risk of discouraging exploration in learning since students are encouraged (or required) only to take classes in which they have demonstrated potential to earn high grades. Such practices run contrary to the broadening knowledge goal of higher education and threaten neurodiversity in higher education unless algorithms or decision rules are carefully considered with attention to enhancing neurodiversity. Of course, some would raise the question as to whether this is, in fact, a problem. After all, completion of a college course with a passing grade is anticipated to be a certification of a degree of mastery of the subject explored in the course. A shifting understanding of the meaning of grades below the level of “B” is required to begin to resolve this tension. Furthermore, keeping in mind that not everyone participating in higher education shares the same goals or motivations is key to avoiding harmful and discriminatory exclusion in this instance.

Some higher education stakeholders have begun to question why grades are assigned, especially given a lack of consensus as to the meaning of grades and the accuracy of their reflection of student learning and mastery. These questions are coming not only from the fringes of the academy but are also raised by those actively engaged in teaching college and university students. For example, the March 11, 2016, issue of *The Chronicle of Higher Education* included an article entitled “If Grades Don’t Measure Learning Well, Why Do Colleges Use Them?” (Ruff, A13). One answer to this question discussed in the article came from the head of the Department of Statistics at Texas A & M University at College Station, Valen E. Johnson, who was quoted as saying “I think most faculty regard grades as a nuisance...but if professors didn’t give them students probably wouldn’t do homework and wouldn’t study for exams” (Ruff 2016, A13). Later in the article, a suggested resolution is provided drawn from the text *Punished By Rewards* by Alfie Kohn that professors complete grades by first asking students what grade they believe they have earned “and then using that as a starting point about what the final grade should be” (Ruff 2016, A16).

Precedents for this approach have existed for decades and variations of this kind of feedback exist in particular at institutions such as Evergreen State College that avoid traditional grading as a matter of educational philosophy. As nontraditional grading policies are considered, it is important to keep in mind potential institutional and labor restrictions involved.

In this case, it is common practice for colleges and universities a week or less between the end of the semester or quarter and the submission of final grades. In part, this is because student financial aid for upcoming semesters can depend on the grades that they have earned. This does not leave sufficient time to discuss performance individually with each student, especially at a time when they tend to be emotionally and intellectually drained. Furthermore, as discussed earlier, faculty are compensated for approximately 150 hours total for each course that they teach. Individual discussions and negotiations with each student could easily expend a substantial chunk of this time without necessarily providing any better information than the faculty member's professional judgment provided in the first place.

The above mentioned proposals do not necessarily move toward justice and diversity in the context of neurodiversity, especially to the extent that they would create additional time pressures on faculty in the inclusive delivery of course content. Determining whether or not a shift in grading practices would improve grading process require more controlled experimentation. Furthermore, asking students to propose grades becomes even more complicated when intersections such as gender are taken into account. Women, for example, are known to self-assign lower grades in math and sciences courses than men who attain the same objective level of achievement, and men are more likely than women to expect that they will do well in such courses even prior to completing assignments, at least when students did fairly well (Karatjas and Webb 2015). In the context of neurodiversity in higher education, it is reasonable to expect that students with disabilities would be similarly likely to reflect legacies of oppression in their estimation of their performance. Finally, reliance self-assigned grades may exacerbate rather than improve the effects of differential quality of primary and secondary education. Intersectional characteristics can also be expected to affect the likelihood that a student will feel empowered enough to negotiate (or even discuss) grades with faculty. Providing more opportunity for input can improve the perception of fair process but does not necessarily automatically improve process fairness.

### REVISITING THE “WHY” OF EVALUATING LEARNING

The question of why learning evaluation is complex. In addition to the motivational factors associated with the documentation of achievement, grades and other formal forms of feedback on academic performance are

believed to provide useful information about the knowledge and work habits of students when taken as a whole. In many places of employment, effort and commitment to the work are at least as important as an ability to take in information quickly. Similarly, participation in a democracy depends on integrity, moral judgment, and persistence as much as it does innate intelligence. Grades, at least large differences in overall grade point averages, can provide information about the work habits of the student in question when a spectrum of learning evaluation tools included in course grades. Importantly, the information provided about the factors affecting work habits remains limited—the reasons why a student is unable to put in the expected number of hours of effort into a course to do well may vary from student to student. Whereas one student may fail to put in sufficient time because they prioritize leisure over work, another may have time intensive obligations that interfere with school such as work or caregiving. Additional complications originating in a society's inaccessible infrastructures create an additional tax on the time of those representing neurodiverse conditions. As a result, grades and grade point averages tell only part of the story of work ethic and achievement involved in the completion of a higher education degree program.

Grades are also useful during course delivery. Learning evaluation can also assist in course correction for both students and faculty members. In the absence of information about performance on course assignments, neither faculty nor students have enough information to change their performance in the course. For example, if the class average on a first test is exceptionally lower (or higher) than what the professor has seen in previous iterations of the course, the professor will likely become inspired to adapt course delivery or look into other causal explanations for the discrepancy. Also, students use assignment evaluation information to adjust their performance. Particularly in early courses, students have an incomplete or inaccurate understanding of good performance in higher education. Provision of grades during the semester creates a better opportunity for a mutual understanding of the level of academic achievement between the students and the professor of a given course.

## ASSESSMENT AND ACCREDITATION

In contemporary higher education, grades are not the only formal source of information about student performance in courses. Student learning is also routinely examined through assessment and **accreditation** procedures. Whereas accreditation processes were once much more focused on input

and output measures such as the number of volumes contained in a campus library, in recent years, focus on outcome measures has grown dramatically. Furthermore, accreditation protocols have been described as a way to best maintain ethics in higher education, especially as the potential for personal and material gain expands through the introduction of new forms of higher education arguably more prone to such corruption such as private sector delivery (Heyneman 2015).

Universities, programs, and courses have become required to provide learning goals and outcomes for degrees, programs, and courses. These statements are overarching and refer to knowledge, skills, and habits of mind expected to coincide with successful participation in quality higher education. For example, at Washington State University, seven learning goals are articulated for all Bachelor's degree students, regardless of their program of study. The university's rationale for these goal is described as "the university's accrediting body, the Northwest Commission on Colleges and Universities, requires that academic programs clearly identify their student learning outcomes and communicate them in written form to enrolled students, and that faculty take responsibility for fostering and assessing student achievement of the identified learning outcomes" (located online at: <http://admin.vancouver.wsu.edu/academic-affairs/toolkit/syllabus-information>, accessed March 23, 2016). The seven learning goals are as follows:

1. *Critical and Creative Thinking*: Graduates will use reason, evidence, and context to increase knowledge, to reason ethically, and to innovate in imaginative ways
2. *Quantitative Reasoning*: Graduates will solve quantitative problems from a wide variety of authentic contexts and everyday life situations
3. *Scientific Literacy*: Graduates will have a basic understanding of major scientific concepts and processes required for personal decision-making, participation in civic affairs, economic productivity, and global stewardship
4. *Information Literacy*: Graduates will effectively identify, locate, evaluate, use responsibly, and share information for the problem at hand
5. *Communication*: Graduates will write, speak, and listen to achieve intended meaning and understanding among all participants
6. *Diversity*: Graduates will understand, respect, and interact constructively with others of similar and diverse cultures, values, and perspectives (<http://admin.vancouver.wsu.edu/academic-affairs/toolkit/syllabus-information>)



Regardless of major, students are expected to make progress in these goals during their time as an undergraduate student at Washington State University. Faculty teaching at Washington State University is required to articulate how each course will enhance a student's knowledge, skills, or abilities in connection to at least one of these learning goals with articulated learning outcomes. Learning outcomes are also required to be connected to defined and articulated goals associated with the particular academic discipline housing a given academic major. Faculty members are further required to explain on the syllabus which assignments or activities most closely tie to each of the learning outcomes and, by extension, each learning goal. In addition to these expressions of intent, each academic program is required to design and implement a program-wide assessment plan that collects, analyzes, and acts upon information reflecting student achievement of the learning objectives and, by extension, the learning goals. While not every university and college employs identical assessment processes, similar processes intended to evaluate student learning outside of course grading exist in the majority of courses and academic programs delivered by accredited campuses and universities (Dill et al. 1996; Palomba and Banta 2001). As suggested by the absence of attention to disability as diversity in the mission, vision, and teaching statements of universities, these learning objectives and learning evaluation protocols can be typically expected to have been developed without specific attention to neurodiversity. This incurs a threat to both the nonmalfeasance and beneficence of the practice of higher education.

Students do not tend to be particularly aware of academic assessment processes. Assessment results are usually not reported directly to students or factored into course grades. In fact, they are kept deliberately separate from grades since their goal is to evaluate programs rather than student performance. Because assessment processes are explicitly and deliberately removed from course grades, the individual academic lives of students are not often directly affected by assessment, at least in ways that are immediately apparent. Furthermore, the intention of assessment protocols is not to interfere with the disciplinary expertise of the faculty member. Nevertheless, assessment processes have historically consumed instructional time (Graham and Harris 1992). Even if instructors do not decide given the use of class time, to make as much of a direct connection to the course materials as possible between the

assessment and instructional materials, that the activities take place during a class session or, at least, contemporaneously to a specified course, connects them to the course. Finally, a stated purpose of many assessment protocols is to standardize the content (if not processes) of different sections of the same course. While benefits for this exist to the extent that it allows for interpretation of the presumed meaning of multiple students' academic transcripts. Also, since courses are sometimes deliberately sequenced with the content of one course fundamental to success in the next, such standardization is understood as a way to simplify teaching at the given institution.

Neurodiversity might be expected to be less well attended to in at least some assessment activities. The processes of neurodiversity assessment are not covered under disability policies and the protocols may be both designed and conducted by personnel not familiar with the capacities of the students in a particular course. In the context of neurodiversity in higher education, the most immediate concerns surrounding teaching involve the statement that evaluations reflect each student's individual merit most especially. Evaluation of merit—and even a degree of meritocracy—has a place in higher education. However, contemplation of merit becomes much more easily confounded with contemplation of the typical than is easy to readily admit. From preschool to peer review of scholarly journal submissions, evaluation of merit all too frequently involves measurement against expected indicators of command over a particular area of human knowledge. While it is, of course, important not to automatically discount the effort and ability inherent in meeting performance standards. However, as the AAUP's statement articulates, it is vital to avoid the goal displacement of confusing articulated standards of merit and achievement as uniquely defining true merit. Understanding assessment protocols as in service of program improvement constitutes an ongoing responsibility for educators. The fundamental intent of assessment connects to a responsibility to ensure that colleges and universities effectively deliver the programs and courses they claim to provide to students. Enhancing neurodiversity in higher education comes about only as a result of maintaining focus on excellence through faculty-driven and designed pedagogy and evaluation instrument design that is responsive to, rather than driven by, assessment protocols designed to ensure that institutions of higher education meet at least the minimum educational standards required for accreditation of universities, colleges, or specific disciplinary programs.

## CONCLUSION

Evaluation of learning invokes numerous threats to the effective practice of neurodiversity in higher education. Creating unbiased instruments challenges even the most diversity-oriented intentions. Even so, neurodiversity in higher education should never be assumed mutually exclusive with the evaluation of performance in college and university courses. Including a variety of assignments in individual courses and, at least, across the catalog of courses required for a given degree helps to minimize barriers and maximize opportunities for a range of ways of being to demonstrate course content mastery. Standards of inclusivity of evaluation can be expected to continue to evolve as understandings of neurodiversity and the diverse expression of merit evolve. Sustained attention to the neuroethics of neurodiversity on the part of both individual faculty members and personnel responsible for assessment protocols will be necessary to reverse historical biases and reveal the merit of neurodiverse expressions of academic achievement.

## DISCUSSION QUESTIONS

1. Why might each of the characters mentioned in this chapter's opening story feel vulnerable to lapses in fair processes in grading? How might a college professor less open to enhancing neurodiversity in higher education be convinced to adapt grading practices in response to these concerns?
2. How can respect for the professional integrity of individual professors be best balanced with learning evaluation process transparency?
3. What is the best way to address the argument that integrating insights drawn from neuroethics and neurodiversity should not be allowed to influence how quality of work is evaluated?
4. Where is the line between evidence of lacking competency in a subject area and effects of learning evaluation design that unfairly discriminate on the basis of disability?
5. Why is formal evaluation of learning still necessary in the context of neurodiversity?
6. Does learning evaluation necessarily require the assignment of grades? Why or why not?

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## Peer Interactions

Pursuit of higher education involves more than classes. From *Animal House* (1978) to *Revenge of the Nerds* (1984) to *Old School* (2003) to *Pitch Perfect* (2012) and beyond, popular culture is replete with illustrations of both the intensity with which college and university students are expected to engage peers. These films also illustrate the frequency with which this engagement involves bonding through **othering**. Both in popular culture and in real life, individuals with disabilities and the disabled become frequent targets of discrimination as a source of so-called playful bonding (Swearer and Hymel 2015; Minow 1990). On the other hand, instances of grace and more habitual orientation toward inclusion have been intentionally expanded in recent decades. Millennials and those

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John arrives on campus and finds an awkward mix of familiarity and novelty. The closely clustered government style buildings and walking paths ring of his last duty station, but the population is vastly different. John gets to his first class 10 minutes early and finds he is the only one there. Isabel walks in with Travis and they see John pacing at the front of the room. They both feel uncomfortable at the sight of him pacing with his close haircut and tense appearance and steer themselves to the back of the class room. They glance at each other; something does not feel right. John startles at their entrance and sees them turn away, he decides that they are just kids and thinks they are sitting in the back because they are lazy like some of the soldiers from his unit. Not a word has been exchanged, but all three parties now believe that the other does not belong in the classroom.—*Brandon Leonard*

of the generation following them grew up with more intensive focus on and reconsideration of diversity than did students of earlier generation (Ball and Legagneur 2014). Furthermore, as is discussed earlier in this text, in the current era young people are more likely to either have a disability or have a friend who does for reasons ranging from increased survivability of premature birth and accidents to more routine diagnosis of neurological difference to better inclusion of children with disabilities in primary and secondary education (Baker 2011). While this does not mean that disability-based discrimination holds no relevance to the consideration of peer interactions on college and university campuses, it does mean that these peer interactions are more likely to include positive and negative aspects than in the past.

Peer interactions occur both inside and outside of higher education classrooms and learning management systems. Included relationships range from the briefest of conversations to romantic relationships anticipated to be lifelong. These relationships sustain students throughout difficult moments and, when healthy, promote academic success as a result of the academic and emotional support gleaned. Furthermore, interactions with peers explicitly tie to the lifetime benefits of higher education that graduates of colleges and universities expect to enjoy. After all, colleges and universities work hard to promote interactions among alumni and between alumni and current students. Graduates of a given institution expect to count those with whom they attended college as part of their lifelong professional networks. Finding oneself outside of the network of peers is, therefore, to have not fully benefitted from higher education, both while enrolled and over the course of a lifetime.

Peer interactions have become increasing orchestrated by college or university personnel (Arum and Roksa 2010; Bentley 2012). Gathered under the umbrella learning beyond the classroom, these often unexpectedly well-funded endeavors seek to coordinate the interaction of students toward productive learning and relationship building. Though potentially off-putting to those who attended higher education in less curated times, one explicit goal of these efforts tends to be to enhance diversity in higher education communities. Of course, the degree to which such efforts are either routinely or sustainably successful is debatable. In the context of neurodiversity, the familiarity of front line personnel with inclusion of neurological differences and barriers tending to selectively reduce neurodiversity constitutes a key factor in the outcomes of such efforts. Discretionary decision making on the part of these street level bureaucrats

can be particularly difficult to monitor and evaluate in these necessarily dynamic interactions between students.

The concept of learning beyond the classroom has deep roots. In popular culture, the most famous types of student organizations from which college and university students draw (life) lessons include athletics, sororities, fraternities, and, to a lesser extent, groups focused on arts or academics. Discussion about learning that occurs outside of the classroom at all stages of formal education entered scholarly discourse decades ago (Sharp 1948). Consideration of uneven and often discriminatory implications of the **hidden curriculum** of higher education emerged both because of concerns concerning distraction from academic pursuits and independent academic development on the part of students (Snyder 1973). In recent decades, however, focus on learning beyond the classroom has expanded considerably, at times at the deliberate expense of education taking place in courses themselves through shifts in university funding, personnel assignments or, even, which personnel can award course credit (Arum and Roksa 2010). Concerns about the hidden curriculum have also grown because of the tendency of these curriculums to reproduce identity-based social hierarchies and conservative ideology (Margolis 2001).

Finally, in the twenty-first century peer interactions involve proportionally fewer face-to-face interactions than in the past. For contemporary college and university students, social media interactions represent the status quo rather than a novel form of communication. Both formal and informal groups associated with university programs and stakeholders exist across the spectrum of social media venues. This transition can enhance neurodiversity for two primary reasons. First, in circumstances where neurological difference is visually apparent or made obvious as a result of behavior or mannerisms, web based interactions provide a measure of initial masking of personal characteristics allowing for interaction to precede identity based judgments compromising peer interactions. Second, individuals representing neurological differences, especially autism, have articulated a preference for online social interaction. For autistics, as well as other individuals across the spectrum of neurological differences, online social interaction sometimes constitutes a more natural venue for peer interaction. In addition to these positive components of web-based socializing, there exist more negative peer interactions, including cyberbullying. When interactions take place on universities owned venues, including but not limited to learning management systems, colleges and universities incur risk associated with negative outcomes. More importantly, however,



as more of the informal and formal peer interactions take place online, ethical responsibilities for enhancing neurodiversity in higher education extends into web-based environments.

## FEAR AND PEERS

One common anti-neurodiversity trope asserts that limits to inclusion must be enforced in order to protect the student body as a whole. Violence on college campuses presents real danger and has for some time. Public concern about both random, terror oriented attacks and sexual violence has increased in recent years. Particularly after events of mass violence involving fire arms, a stereotypical debate emerges between those who attribute such incidence primarily to easy access to firearms and those who attribute them to the prevalence of untreated mental illness (Corrigan et al. 2004; Allen and Lengfellner 2016). For example, in October 2015 after Umpqua Community College was the site of a shooting in which a 26 year old student killed a professor and eight students, President Barack Obama drew criticism after a speech in which he stated that thoughts and prayers did nothing to help ongoing, chronic violence committed using guns in the USA. His call for changes to gun policy was met by strong assertions from political opponents that the appropriate strategy to address the internationally exceptional rates of deaths by firearms was more investment in mental health programs. Also, some focused on the assertion that the man who committed this particular horrible crime was on the autism spectrum. Ironically, such calls came predominantly from those with impressive records of opposing efforts to increase public funding of healthcare.

In response to the framing of this particular shooting on a college campus, the Autistic Self Advocacy Network released a statement as follows:

We join the nation in mourning the tragic loss of nine lives in the recent shooting at Umpqua Community College on October 1st, 2015. Recent media reports indicate that the shooter may have been on the autism spectrum. It is important that we take this time to recall that Autistic Americans are no more likely to be engaged in violent crime than the general population. This has been well documented. In addition, people with disabilities, including autistic people and persons with psychiatric disability, are far more likely to be the victims of violent crime than the perpetrators. As we mourn, we urge the media and policymakers to recall this and avoid promoting irresponsible and inaccurate links between autism, mental health and violence

(located online at: <http://autisticadvocacy.org/2015/10/asan-statement-on-umpqua-community-college-shooting/>, accessed on February 23, 2016).

The statement went on to summarize actual research into autism by articulating:

As with any minority group consisting of millions of people, criminals do exist. They do not reflect the broader Autistic community and the heinous and unacceptable actions of the Umpqua Community College shooter should not be ascribed to an autism diagnosis. Such an assertion would be contrary to the broad array of research and evidence debunking any link between autism and violent crime. This violence was and is the sole responsibility of the shooter. (Located online at: <http://autisticadvocacy.org/2015/10/asan-statement-on-umpqua-community-college-shooting/>, accessed on February 23, 2016)

In enhancing neurodiversity in higher education, understanding the distinction between the individual and any statistical population is vital.

The human instinct to generalize from the horrific acts of one individual with an immutable characteristic to all individuals sharing that characteristic reliably creates rather than mediates violence and harm. After all, research has repeatedly demonstrated that after tragic events occur, those who share immutable characteristics with the accused perpetrator incur risk. As Selene dePackh wrote:

Only hours after the horror at Sandy Hook Elementary, the shooter was fingered as autistic; the hate machine hit high gear. The bigotry was fanned by media outlets driven to find simple answers for a shatteringly complex event. My circle of online activists began tracking down and reporting the worst of the pages that appear every time attention is focused on us. Many hide under innocuous-sounding names like “A Cure for Autism.” The first toadstool rising from the rain of hysteria following the Newtown tragedy hid under a “solution to protect our families” identity. The single post announced: *Once we hit 50 likes, we are going to go out and find an autistic kid and set it on fire* (2013, np).

College and university campuses have, of course, a core responsibility to do all that is reasonable to protect students pursuing higher education on their campuses. However, the vast majority of those with neurological differences and the neurodivergent are no more violent than their

neurotypical peers (Lewiecki-Wilson et al. 2008). Furthermore, those who are identified as falling outside that which is considered as neurotypical are far more likely to experience harm in the pursuit of education than those who are not identified as having a neurological difference (Hebron and Humphrey 2013). Reduction of campus violence and increasing neurodiversity are positively, not negatively, correlated.

That potential for harm that exists in interactions between students is always a point of ethical concern for colleges and universities. Even if all students avoid physical injury, as is discussed further in Chap. 7, trauma and anxiety both interfere with learning and retention. The danger is further escalated by current momentum in favor of the presence of firearms on university campuses. Complexities of the political environment surrounding firearms on campus rest beyond the scope of this text. However, the potential that a neurodiverse expression may be interpreted as a potential threat to another individual places an added burden on, increasingly armed, university and campus security. Enhancing neurodiversity requires that these personnel are properly trained and experienced in de-escalation procedures specific to interactions with diverse populations. Failure to recognize and address gaps in this area increases risk of harm to students and leaves higher education institutions in a place of responsibility and potential liability. The obligation for the higher education community to create an environment as free as possible from harassment is clearly stated in the American Association of University Professors Statement on Professional Ethics (AAUP) and has stimulated investment in university interested socialization. This process occurs primarily through informal and formal group dynamics. Both environmental factors and socialization driven by mass media tend to inspire fear of neurological difference. Expressions of neurodiversity subsequently associated with danger thereby stimulating a neurochemical fear response (Lewiecki-Wilson et al. 2008). Neurological responses to perceived danger promoted the survival of our species, especially for those with exaggerated responses to stimuli associated with potential danger. Current responses require deliberate and ever more sophisticated intervention to override socialization to fear diversity, including neurological difference.

## FEAR AND INFORMAL GROUPS

Informal groups exist in student bodies from preschool to graduate education. Beginning at the earliest stages of education, students separate themselves into semi-fluid social groups that create simultaneous

opportunities for inclusion and exclusion (Lareau and Horvat 1999; Milner 2013). These opportunities have often favored students without neurological differences given that they depend on young people's ability to quickly assimilate social norms and exclude others (Lareau and Horvat 1999; Arum and Roksa 2010). Even when a student with a neurological difference or neurodivergent student quickly assimilates social information, variations from typical forms of nonverbal expression and affect can have significant impact on opportunities for socialization and subsequent inclusion in formal education including college and university campuses (Donvan and Zucker 2016). These barriers create scenarios where individuals expressing neurodiversity are isolated and made to feel less welcome in a significant portion of the higher education experience.

Consequences of exclusion from the benefits of participation in informal groups pervade higher education. Peers shape development of any kind, especially in processes intended to be transformative (Hay and Ashman 2003). Key habits including study time, sleeping habits, alcohol and drug consumption, engagement in campus activities, and persistence in activities related to the search for employment all correlate with the intensity of similar habits found across the individual's peer group (Hay and Ashman 2003). Under many circumstances, peers also provide important emotional support (and release) for students during times during which an academic term becomes stressful.

Requiring formal identification of disability and frequent obviousness of accommodation sets disability apart from other forms of difference. Many differences people embody and experience have few implications. For example, in most contemporary settings, asking people to identify their natural hair color or even dominant hand is of little consequence with limited ethical implications. However, psychological research into othering has demonstrated how quickly human beings identify in sameness and similarity (Gazzaniga 2010). Systemic and formal identification of students as different without social context should be handled with caution. Most colleges and universities articulate a level of confidentiality relating to disability identification and accommodation. However, administration of accommodation procedures are difficult to carry out in confidence from the moment the student enters the physical office of disability services to sometimes extremely obvious differential treatment in the classroom. Furthermore, some administrative or classroom policies designed to improve the learning of the student body as a whole can turn an uncomfortable spotlight on accommodations. For example, professors

who ban the use of laptops in their classes because they fear web-based distraction to all but students with accommodations are creating a very observable distinction between students. While in a healthy campus climate of neurodiversity, the difference can be assumed less relevant since disability accommodations are fully disconnected from shame or othering, in less evolved circumstances, implications of such singling out in the classroom can carry forward to a broad basis of peer interactions. All individuals on college and university campuses require ongoing indoctrination in the management of privacy and disability and the dynamics of personal characteristics and identity formation upon entry into higher education so that inclusionary informal group practices become the expected norm.

Promotion of neurodiversity on university and college campuses is an initial step toward reducing the stigma associated with neurodivergent responses and integration within society overall. Higher education is designed to be an opportunity to socialize and establish lasting connections to the lasting benefit of all participants. That opportunity is lost if neurodiverse are not allowed to participate in these informal social groups. However, the active integration of these populations is not a simple proposition because of the design of higher education itself. The overall number of paths through higher education is prohibitive itself, but there are opportunities in general education requirements to promote awareness and initiate situations for overcoming socialized perceptions to experience genuine interactions with individuals who are neurodiverse. Furthermore, promoting a culture of resistance to disability based inclusion in the student body pays dividends over time through increased tendency to consider neurodiversity more typical than exclusion of disability.

### FORMAL GROUPS

As mentioned above, formal student groups exist on almost all college and university campuses. These organizations include entities such as student government, the Greek system, and groups organized around common identities or interests. Formation of these groups can both positively and negatively influence neurodiversity of a college or university campus. Many students find and develop supportive relationships enabling them to successfully navigate higher education because of these formalized relationships. Among the potential for benefit is coordinating knowledge and skills among individuals of diverse talents and experience to provide maximum benefit for students. However, guaranteeing equal access to and

in groups is far from automatic. National media has been replete with instances of discrimination and othering in formal social groups on university campuses in recent years. Whether the discrimination has been based on race in Oklahoma or physical difference in Southern California, othering, bullying, and exclusion tarnish reputations of formal groups working with students. Such exclusions typically contradict the missions of groups and their parent institutions. The neuroethics of neurodiversity requires that policies and practices of higher education extend to all facets of education, not just those that occur in classrooms and on learning management systems.

Some formal student groups have been established on college and university campuses in the USA to support diversity in many facets, sometimes including neurological diversity. These organizations are vital in promoting awareness of diverse populations on campuses and advocating for the interests of their members. These groups also fulfill numerous other roles on campuses including socialization and community support. Beyond this role, these groups provide opportunities for networking with individuals of similar identities and interests that can lead to positive support networks that may be difficult to develop in new environments. However, these groups are not without their challenges. Many times the groups are tied to university funding sources that raise ethical questions as to the potential for bias and limitations to efficacy. Student leadership is crucial to any sense of authenticity, but also results in turnover that can stymie long-term or larger scale projects.

Universities typically require a faculty advisor for student groups affiliated with the university to assist in interactions with administration and to ensure compliance with campus policies and procedures. These are often additional duties for faculty not counted into primary assignments and can also sometimes put faculty in awkward positions with regard social interactions with students. This has led to substantial investment in student services with the mixed successes and implications (Arum and Roksa 2010). One important benefit involves, hypothetically at least, improved risk management and an opportunity for students to improve social and organization skills through guidance from professional mentors. Ironically, extending such investment too far can create institutional dependencies on the part of young people who might otherwise learn from the authentic leadership of groups and organizations. Enhancing the successes of formal groups requires balancing expectations for these groups with investment in student services so as to avoid enabling exclusion or extending dependency.

Efforts to formalize learning beyond the classroom now routinely incorporate diversity and inclusion-oriented programs, clubs, and activities. These efforts have mixed success and have included limited focus on disability, especially neurodiversity. One dynamic requiring management when formalizing efforts to enhance disability diversity involves the inherent diversity of disability. Hidden curriculum concerns include that funded and celebrated student activities support and advance already relatively privileged and popular students at the (literal) cost of the rest of the student body. While individuals with disabilities and the disabled share a history of oppression and ongoing disability-based discrimination, expecting that a student representing one form of difference will automatically and necessarily understand the challenges and experiences of students with different disabilities. There is no reason to expect that the dynamics reproducing hierarchies through the hidden curriculum do not exist in the context of disability oriented diversity efforts. Remembering education delivered through formal curriculum and academic programs should drive a college or university's efforts in creating, supporting, and managing formal student groups.

### UNLEARNING ABLEISM

One area education about peer interactions connected to the enhancement of neurodiversity involves helping students unlearn of ableism. Popular culture is replete with the casual othering and support for oppression on the basis disability (Shakespeare 2013; Lewiecki-Wilson et al. 2008; Hahn 1985). This especially evident in use of ableist language in popular culture. In contemporary times, instances where the use of ableist language is overtly questioned are more remarkable than those that go unmentioned or unnoticed. For example, even though in one episode of the popular television show *Modern Family*, the character Cam tells his daughter that his family does not make the mistake of using "crazy" as a derogatory term, essentially because his family also includes individuals with characteristics historically associated with oppression and exclusion. Despite this statement, episodes airing a few seasons later were entitled "She Crazy" and "Crazy Train." Similarly, lyrics of popular songs released in recent years have included "Let's Get Retarded" (the original lyrics to "Let's Get it Started" by the Black Eyed Peas) and "My Love for You in So Bipolar" from Katy Perry (Clifton 2014). Enhancing neurodiversity in the peer interactions at colleges and universities involves sustained focus on unlearning the habit of casual expression of ableism.

Students coming into higher education have been exposed to a multitude of instances of ableism over the course of their lives. Interacting with disabled peers can provide the opportunity to both question casual ableism and should the disabled person or friend be so inclined to provide the opportunity to learn and practice different language choices. Like most diversity-oriented discourses, when it comes to disability different people embodying the same conditions have difference word preferences. Also, words might be employed or reclaimed by the disabled while still being party to discrimination in more general conversation.

Peer interactions engaging language and the associated tensions enhance neurodiversity by increasing the veracity of the educational experience. For example, during the 2014 and 2015 Disability Awareness Month activities at Washington State University Vancouver, engaged students provided peers with information on ableist language and how to express displeasure without ableism created by Lydia Brown, also known as the autistic hoyo. According to Brown, the list of nonableist insults include the following terms listed in Table 6.1.

**Table 6.1** Nonableist insults

Asine	Furious	Mean	Self-contradictory
Bad	Gross	Nasty	Shameful
Bleak	Half-hearted	Nefarious	Solipsistic
Boring	Horrible	Nonsense	Spurious
Bullish	Ignoramus	Nonsensical	Terrible
Callous	Ignorant	Obtuse	Tyrannical
Careless	Impolite	Outrageous	Unbelievable
Confusing	Inane	Overwrought	Unconscionable
Contemptible	Incomprehensible	Paradoxical	Unheard of
Coward	Inconsiderate	Pathetic	Uninspired
Crappy	Inconsistent	Petulant	Uninspired
Dense	Infuriating	Pissant	Unoriginal
Devoid of _____	Insensible	Putrid	Unthinkable
Disgusting	Inspid	Rage-Inducing	Unthinking
Dull	Irrational	Reckless	Vapid
Enraged	Jerk	Ridiculous	Vile
Evil	Lacking_	Rude	Vomit-Inducing
Extremist	Livid	Scornful	Without any___whatsoever

Source: "Ableism/Language," [autistichoya.com](http://www.autistichoya.com), last modified May 4, 2016, <http://www.autistichoya.com/p/resources.html>



As mentioned above, not all individuals with disabilities or disabled people will find these terms as free of ableism as others. While focusing on insults could seem counterproductive to the nurturing of positive peer interactions, ableism involves both the celebration of capacities and ways of being across differences and the removal of disdain for disability as manifest especially in the practice of using disability descriptors as insults. The college and university experience usually involves intensive and novel peer interactions, especially when the students in question are also young. Healthy interaction involves the ability to express frustration and, even, contempt, for select ideas or situations. Enhancing the neurodiversity of peer interactions depends on requires moving beyond careful, surface level conversation. Ending ableism involves moving the language employed in more passionate conversation away from language that discriminates against disability.

### INTERACTIONS IN NEURODIVERSITY

Diversity coincides with the central educational and civic mission in higher education. Higher education has long been recognized as the opportunity advance social progress through promotion of diversity with the goal of reducing day-to-day inequalities (Bowen 1977). While discussion of neurodiversity has been largely absent from the national conversation about higher education's role in social progress, higher education provides an opportunity for peer interactions between individuals with different neurotypes and ways of being.

Central to a promotion of neurodiversity is the inclusion of neurodiverse voices in social interactions on university and college campuses. Initiation of dialogue, reflection, social critique, and commitment to change in higher education is an opportunity to forge networks between neurodiverse individuals. Campuses are designed to address diversity and promote civic engagement in many fields, but the combination of neurological research and neurodiversity advancement has not gained similar traction. Ideally, expansion of programs and events focused on neurological diversity initiate and foster positive peer interactions in a safe environment.

To enhance neurodiversity, interactions require understanding all participants as complete human beings. Too often, interactions with neurodiverse individuals are portrayed as opportunities for a neurotypical individual to be the savior or interpreter for a person incapable of expressing themselves. These pity-based endeavors show interactions between neurotypical and neurodivergent as a form of charity (Baker 2011; Shapiro 1994).

Criticisms of this model abound. For example, Mad Theory shows that failing to interact as between equals is a part of sane privilege and indicates the preference for western ethnocentric expressions of rationalism over any expressions focused on emotions or from a differing perspective. Opportunity for understanding these expressions as something other than a threat and as simply an alternative way of being creates challenges and tensions but are key to enhancing neurodiversity in higher education and to improving the practice of diversity more generally.

Culture and environment hold significant weight over expressions of neurological variation around the world. For example, the World Health Organization has studied differential rates of schizophrenia and associated disability in different parts of the world (Hopper et al. 2007). Different settings dictate different definitions of wellness. In the west, wellness is equivalent to productivity because that is the focus of our care model. A more fluid recovery model is shown in other parts of the world. These cultural definitions take on greater importance when considering the centralization of diversity that occurs on college and university campuses.

### TRANSCENDENT COMPLICATIONS: SUICIDE AND SEXUAL VIOLENCE

Disability is not disease. However, neurological difference can coincide with illness. Variations in human neurology include those that have been associated with mental health disorders identified in the 5th edition of the *Diagnostic Statistical Manual of Mental Disorders*. Some of these variations are associated with increased risk for attempting and completing suicide. Many of these disorders involving decline typically emerge during college age years. Increased risk of suicide is associated with poor academic performance in higher education (De Luca et al. 2016). Higher Education holds an ethical obligation to dedicate appropriate resources toward facilitating suitable mental health care as well as emergency intervention services to mitigate the risk to the students on college and university campuses.

Suicide prevention programs and protocols should be incorporated into management of formal student organizations. First, a focus on as inclusive and expansive as possible outreach puts a greater proportion of the student body in contact with others, creating some degree of protection against potentially deadly isolation. Second, the variety of settings in which peers interact with each other in student groups provides more observational data points, increasing the potential for detection of symptoms of depression. Of course, carefully constructed notification

protocols and judicious response on the part of expert personnel are also required so as to avoid creating new barriers to neurodiversity through the public or repeated intrusion on the lives of students with ways of being that mimic depression in the opinion of peers or personnel with limited experience in neurodiversity.

Peer interactions on college and university campuses also involve the development of adult interactions, including sexual relationships. In recent years, tensions around the appropriate management of sexual violence on campuses have risen (Maiuro 2015). Under recent interpretations of Title IX of the *Education Amendments of 1972*, Public Law No. 92-318, 86 Stat. 235 (June 23, 1972) greater responsibility for the prevention of and appropriate responses to sexual violence on the part of colleges and universities exists. As of this writing, colleges and universities actively struggle with developing workable and effective programs to address sexual violence. Intersections with neurodiversity and peer interactions represent an under-recognized component of this work. Certain conditions associated with neurodiversity have been historically (and often exceedingly unfairly) connected with hypersexuality. Furthermore, individuals employing non-standard approaches to peer interaction may find their sexual intentions misinterpreted, especially by young people who are either still learning about their sexuality or, often, under the influence of alcohol or other drugs. While higher education has made significant strides in recognizing the need for sexual assault prevention, there has yet to be an equivalent cultural shift to indicate the importance of values and respect needed to honor an individual's expression of sexuality or their expression of consent. At the same time, expansion of administrative policies and diversity-oriented student programs in support of healthy sexual development in the young people attending colleges and universities can be developed and implemented to expand student understanding of sexual health.

Full consideration of both suicide and sexual violence in higher education are beyond the scope of this text. However, enhancing neurodiversity in higher education requires dedicating specific attention to protection of rights around neurodiversity in national, state, and administrative policies designed to address these issues likely to be developed as public concern about these issues rises. Addressing fears of harm cannot be confused with nurturing fears of difference. Harmful peer interactions exist in higher education. Policy will only stand a decent chance of genuinely reducing harm if realities rather than myths surrounding neurological difference guide the formulation of multi-level policy design.

## A SPECIAL CASE: SORORITIES AND FRATERNITIES

Despite popular mythology, sororities, and fraternities—the so-called Greek System—do not exist on all college and university campuses in the United States of America. Even so, their presence on higher education campuses is pervasive enough so as to deserve special consideration in the discussion of peer interaction among college and university students. While a complete review of the role and meaning of the Greek system in higher education is beyond the scope of this text, the influence of Sororities and Fraternities goes beyond augmenting and exaggerating impacts of other peer interactions on the campus climate of neurodiversity. The discussion below focuses on some aspects of this particular role.

Sororities and fraternities originated students' desire to discuss topics outside the nineteenth-century curriculums of colleges and universities. This led to the choice to live collectively and, ultimately, to the founding of houses for to house group members and their activities. Because these groups and houses typically designated themselves with a few Greek Letters, sororities and fraternities became known as the Greek System. Today many of these organizations have a national (or international) presence and approximately 60–70 percent of members live in houses owned by the sororities or fraternities (Jones et al. 2012).

The Greek System promotes its role in positive peer interactions and community involvement. The Greek System provides the opportunity for like-minded or otherwise similar students to engage in intensive peer support on an ongoing basis. On the whole, members of sororities and fraternities have higher graduation rates than students not involved in the Greek System (Blake 2016). Furthermore, students involved in the Greek System are obligated to participate in community service resulting in tens of thousands of hours of effort donated to communities across the nation. Members of the Greek system are expected to assist and support each other and their communities not only during their time on campus, but throughout their lives. Sororities and Fraternities embracing neurodiversity greatly increase the overall climate of inclusion on the campus their members attend.

However, the Greek System also involves drawbacks, especially from the perspective of diversity. First, ensuring inclusion and accommodation of disability in houses owned by sororities and fraternities involves additional challenges owing to the more murky nature of their role in the provision of higher education and privately held properties (McCarthy 2015). Also,

if a particular Sorority or Fraternity determines to engage in disability discrimination and deliberately exclude disabled students and students with disabilities, such behaviors might be difficult to detect in an already selective and mysterious process. Finally, organizations in the Greek System are famous for engaging in harmful hazing and bullying activities. While the extent of these activities has been deliberately reduced over time at the same time as it was exaggerated in the popular imagination, students with neurological differences are at particular risk of experiencing negative effects of such practices. Even if practiced with some inclusive intent, the social process of selection into the Greek System was designed around the social practices and ways of being of the both neurologically and physically typical student. Locating and addressing barriers present in the selection (or rush) process requires sustained and deliberate attention to neurodiversity. Furthermore, when participating in disability related causes as part of community services, members of the Greek Systems at times do so without any real awareness of neurodiversity or disability more generally. Such limited and superficial involvement can perpetuate rather than work against disability discrimination (Hitt 2015). While the risk of such paternalistic involvement exists in all community service, the likelihood of damage is increased when the participants are both powerful campus stakeholders and required participants in community service.

Enhancing neurodiversity in higher education involves recreating many aspects of the Greek system. Fortunately, the basic elements to which the system commits itself in its best moments and intentions correspond quite well to the fundamentals of the neuroethical practice of higher education. Peer support, discussion of complicated ideas above and beyond those presented in the curriculum, and active participation in community building activities constitute promising design element for both administrative and public policy created with the intention of creating a more neurodiverse climate of higher education.

## CONCLUSION

Higher education in the USA promises a social experience requiring peer interactions to promote the experiential learning of students and to prepare them for future social interactions key to their civic and social lives and success in their careers. Peer interactions take place in a variety of locations and formats, each with differing structures and consequences to the student. Implications of these structures and consequences tend to be

exaggerated for students with neurological differences and neurodiverse students. Experiences of situations and preferred ways of being underlying behaviors understood by others are diverging from the normal. How these divergences are incorporated into peer interactions shapes the climate of neurodiversity on colleges and universities.

Campus personnel have an ethical obligation to create a safe and secure environment for social interaction for all people on campus. Peer interaction in higher education builds the foundation of postacademic social networks and skills involving tangible value from which neurodiverse individuals are often excluded. The value of the networks and skills imparted to students understood as neurotypical also diminishes in the absence of neurodiversity. Effective, modern higher education policy and programs shaping peer interactions can only be appropriately designed and implemented with deliberate focus on reducing barriers to and expanding opportunity for neurodiversity in higher education. As will be discussed in the next two chapters, this consideration includes not only natural variation but also acquired and intersectional neurodiversity.

### DISCUSSION QUESTIONS

1. What steps are being taken in your surrounding environment to promote neurodiversity? Are these steps effective? Why or why not?
2. Is neurodiversity provided the same social status in peer interactions as other forms of diversity?
3. What positive examples of neurodiverse peer interaction have you seen or heard recently? Do those representations seem to be balanced with negative reports? Why?
4. Are peer interactions *really* vital to higher education in all circumstances and for all students? Why or why not?
5. What myths about peer interaction in higher education might be especially helpful to enhancing the neuroethics in higher education? Why?

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## Combat Acquired: Veterans and Neurological Difference

Every year, thousands of young people join the military based on the strong recruiting tactic of a promise of a free college education. However, the promise does not always play out as expected. Thousands of veterans have enrolled in universities and colleges around the country with the intent of completing their degrees, only to discover their educational experience is not compatible with their needs (Murphy 2011; Zinger and Cohen 2010). Their experiences, including in many cases lived experience

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On the first day of class, John sits eagerly among a classroom of 30 other undergraduate students. He is waiting for the instructor to read aloud the syllabus and give a brief overview of the class structure as well as the learning objectives for the semester. The instructor informs the class that group work, class participation, and writing assignments will make up the bulk of the grade. John notices in the syllabus that projects and other assignments are written vaguely, which is due to the instructor trying to get students to think outside the box. Upon hearing the breakdown of the class structure and grading, John becomes a little worried about his future success in the course. The lack of prescribed structure in classroom assignments is not sitting well with John due to his highly disciplined military background. However, he believes he can still be successful with group projects by incorporating principles from this background. However, 40 percent of the grade in the course is dependent on in class exams, which is not his strongest suit as a student. He worries about maintaining focus during the class, especially if other students enter late using the door at the back of the classroom.

before joining the services, have left them at a disadvantage in the current educational system. This chapter focuses on challenges in higher education relating to the neurodiversity of student **veterans** and strategies to address them. Giving attention to providing improved opportunities to realize veteran's earned benefit is fundamental not only to the neuroethics of higher education but to the fair practice of democracy.

The Pentagon projects over one million veterans to transition from military service to civilian life by 2020 (London 2014). Since the end of World War II, there has been a consistent pattern following large scale military conflicts—high numbers of people transitioning out of military service, while still quite young, with the expectation of another professional career expected to last decades. The average US military member serves less than six years of Active Duty Service and joins the force between the ages of 18 and 22 (U.S. Department of Defense 2014). In recent years, women have served, on average, slightly longer than men, but still tend to leave before turning thirty (U.S. Department of Defense 2014).

After honorable completion of their initial tour of service, the veteran is typically eligible for **Servicemen's Readjustment Act of 1944** (GI Bill) funding allowing the individual to complete 36 academic months of education at no cost (at the max in-state tuition rate) while receiving a monthly stipend for living expenses. Spouses and children of service members are also eligible for support, though on a more limited and restricted basis. Access to higher education through military service is attractive to many individuals struggling to find a way to pay for ever more expensive higher education. However, this opportunity often comes at a hidden cost to the individual and their family. Many veterans do not use their academic benefits, and of those that do, a significant number are unable to complete their degrees within the time constraints in place under the GI Bill (Young 2013). These added

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John is on a personal mission to obtain a degree in higher education because he grew up in poverty and wants to demonstrate to his children the importance of getting an education. John believes the best way he can show his children the importance of obtaining a degree is through achieving a strong grade point average each semester. The course is required for his degree and is taught by the same instructor each year so the class structure will not change. Also, John has a hard time retaining needs information repeated to him during lectures. He is concerned that in asking for information to be repeated he will seem uninterested or disruptive—*Torey Dunn*

pressures do not serve to benefit “those that have borne the burden of war” (U.S. Department of Veteran Affairs 2016a).

The ramifications of physical injuries sustained in combat have coexisted with the military for centuries. Combat acquired physical limitations catalyst for the advancement of disability policy since the Civil War. However, recent military casualties have incorporated a new understanding of the significance of the neurological impact of war. With the twenty-first century US Military campaigns and supporting roles around the world, veterans have been exposed to significantly higher **operational tempos** (Tuttle 2013). This involved substantial adjustments from and to their civilian lives during shorter periods of time than has historically been the case (Holsti 2012; Morin 2011). Many of these adjustments into military culture, such as rank structure and an emphasis on employing linear thought models serve the military to increase efficiency in hostile environments. These habits of mind are simultaneously maladjusted to most contemporary academic environments. While the academy values free thought and exploration, they are often detrimental to military service and costly in combat. This embedded cultural shift combined with the signature wounds of the current combat environment, such as PTSD and TBI, can create barriers to the effective practice of neurodiversity in higher education inclusive of those who served in the military (Sinski 2012). Such barriers can limit the opportunity for higher education, especially when intersecting with issues surrounding the neuroethics of neurodiversity more generally.

### THE GI BILL: AN EVOLUTION OF PURPOSE

This bill therefore and the former legislation provide the special benefits which are due to the members of our armed forces—for they “have been compelled to make greater economic sacrifice and every other kind of sacrifice than the rest of us, and are entitled to definite action to help take care of their special problems.” President Franklin D. Roosevelt, 1944

The Servicemen’s Readjustment Act of 1944 was designed to help veterans assimilate into civilian life. Signed into law by President Franklin D. Roosevelt on June 22, 1944, the GI Bill also deliberately delayed the waves of returning veterans from overwhelming the US job market (Stanley 2003). Veterans accounted for 49 percent of college admissions in 1947, the peak year of the program (Stanley 2003). Nearly 50 percent

of all World War II veterans participated in the original GI Bill before its completion on July 25, 1956.

In 1984, the GI Bill was renewed by a former congressman and named in his honor creating the Montgomery GI Bill. This version of the Bill was designed to be self-funding. Service members were strongly encouraged (or coerced) in initial training to sign up for the program, which required a \$100 per month investment for the first year of active service. Service members then became eligible for benefits upon separation from service, but these benefits expired in 10 years after separation from service. Only 30–40 percent of qualifying service members made use of these benefits (U.S. Department of Veterans Affairs 2011; O’Keefe n.d.; Young 2013). In 2008, the GI Bill was updated once again in response to a new generation of combat veterans. This law focused on veterans with active duty service on, or after, September 11, 2001. It enhanced educational benefits providing a living allowance, money for books, and the ability to transfer unused educational benefits to spouses or children, with all benefits prorated depending on the length of service (U.S. Department of Veterans Affairs 2016b).

Though the GI bill is the most prominent source of military based educational funding, other programs and policies exist to enhance educational opportunities for current and former service members. Most notably, the military runs several institutions of higher education designed to train commissioned officers, such as West Point. These campuses house many eminent scholars and deliver a unique military educational experience implemented as part of national defense policy. Many college and university campuses also house Reserve Officer Training Corps (ROTC) units. Most aspects of the operations of these institutions are beyond the scope of this book. In addition, other programs providing more specified and targeted funding sources for education both in and out of service and in the reserves are available such as the Vocational Rehabilitation program under Chap. 31 of the GI Bill and the Army’s Funded Legal Education Program (FLEP). These programs include more specific intent on the future employment of the veteran rather education for the sake of education. Beyond that difference, the fundamental intent of these policies is in keeping with the GI Bill.

Most universities have veteran representatives in place to assist both prospective and current student veterans. However, such personnel on many campuses are overburdened, with student to staff ratios exceeding

those of other staff members such as academic advisors (Rumann and Hamrick 2009). Also, some veteran representatives are only trained or experienced in working with a handful of programs and less familiar with the entire catalog of funding sources than desirable (Kimball and Rickers 2016). In 2009, the primary source of veteran educational funding transitioned from the Montgomery GI Bill to the Post 9/11 GI Bill in less than a year and resulted in documented increases of 35–100 percent of GI Bill utilization (Steele et al. 2010, p. xi). With the sudden increase in participation and a steep learning curve for all involved in the implementation of the policy, there have been growing pains resulting in frustration by all involved parties. Such frustrations would typically be aggravated in circumstances involving neurological difference, especially in circumstances of less than well understood acquired neurological difference such as PTSD and TBI (Steele et al. 2010).

### VETERAN STUDENT DEMOGRAPHICS

In contrast to the traditional college student, 85 percent of student veterans are of age 24 or older, and 62 percent are married (Radford 2011, p. 2). Veteran recruitment efforts focus on lower SESs with differences in lived experiences discussed in Chap. 8. These unique and foundational distinctions between student veterans and the typical college student establish a potential for exaggerated perception and display of the implications of neurological difference. For example, John suddenly getting up and leaving the classroom would more likely elicit fear responses from both faculty and peers than might be the case for Shawna even if the actions John took were entirely the same as Shawna's. All things being equal, John's actions would be more likely to be reported to campus security or other authorities on campus (Barnard-Brak et al. 2011).

Furthermore, current campaigns have had a unique impact on higher education because of the change in military component (full time versus reservist) deployments. Historically and anecdotally, most service members that deploy to combat come from the Active components of the Armed Forces, but recent military operations have changed that dynamic and demanded that the Reserve components be an operational entity instead of backfill for the Active Duty (Winkler 2010). In the Iraq and Afghanistan theaters of operation, units have been disproportionately staffed with National Guard and Reserve personnel to supplement

full-time military personnel. As a result of these dynamics and extended operations post 9/11, reserve component soldiers spent more time per soldier in combat operations than, on average, those who deliberately chose the military as a full-time career. This level of Reserve Component integration has not been reached since the Korean War and the current levels of reliance on Reserve troops have not occurred since World War II (Doubler and Listman 2007). For example, nearly 50 % of the US military troop strength in 2010 (peak Army strength related to wars in Iraq and Afghanistan) was located in the Reserve Components (Feickert and Kapp 2014). This fact is especially relevant to higher education given that of the primary motivations for many Reserve Component members joining the armed services was the educational benefits that accompanied their enlistments (Farrell 2005). Enrolled students who were activated and deployed had to interrupt their academic pursuits and also returned to campuses quicker than their Active Component counterparts. This speed of transition is especially relevant with regards to acquired forms of neurodiversity, such as PTSD.

Veterans bring a wide range of knowledge and experiences to higher education campuses and have a long history of positively contribute to classrooms in many ways (Bound and Turner 2002; Clark 1998; Olson 1973; Stanley 1969). The military culture instills discipline and focus on direct action rarely found in the typical individual coming out of high school. Rank structure and hierarchy define the military for their ability to streamline processes in stressful situations and control large groups with limited resources, but the experience is not conducive to creating an open dialogue or allowing for equal educational opportunities. The military also typically provides clear direction to decrease the chances of error in executing a mission (Ackerman and DiRamio 2009). This directive nature allows opportunity for pruning neuron connections necessary to explore alternate possibilities, something that may be helpful in the average philosophy or creative writing course but may be deadly in combat. The US military has been using deliberate pruning of neurological processes since Baron Wilhelm Von Steuben met George Washington in Valley Forge (Tennison and Moreno 2012). Initial military training involves high-stress scenarios combined with repetitive training to embed appropriate military responses in the eventuality of combat. These deliberate neurological differences are common and invaluable in the military, but there are many other neurological differences created through military service with less deliberate intent and more unpredictable results.

## COMBAT AND TRAUMA IMPACT

Over the course of the last century, common descriptions of sustained traumatic effects of combat have been associated with the different military campaigns themselves. Regardless of whether we call it shell shock, combat stress, or PTSD, the end results are the same. Sustaining elevated levels of alertness for years combined with periods of extreme stress has been shown to have a staggering impact on behavioral and physical health (Boscarino 2006; Grossman and Christensen 2007). The neurochemical reactions required during endurance of combat operations are not something that is experienced by the typical college student. In addition to the neurological change that occurs by design during military service, many individuals suffer from traumatic physical injuries to their neurological systems that also have significant long-term impact on their capacities and processes (Boscarino 2006). This difference in cognitive processing affects best practices in educating student veterans.

PTSD has been shown to be the single most significant factor alienating student veterans from their civilian counterparts (Elliott et al. 2011). PTSD can involve severe challenges to participation in higher education. Being present in large groups or attending larger classrooms, taking exams in a crowded room, full-time enrollment, or finding common stimuli present on college campuses can prove to be unique challenges. Also, those with PTSD often have co-occurring health concerns such as depression, insomnia, and sleep apnea which can affect concentration, motivation, and focus (Boscarino 2006; Friedman 2006). Some have argued that veterans with PTSD should be excluded from college campuses under the assumption that they are a threat to the student body (Murphy 2011; Zinger and Cohen 2010). It is also worth note that the threat that is identified in the presence of military veterans on college and university campuses is not reflected in real world data (Elliott et al. 2011). A PTSD diagnosis does not make veterans less capable or deserving of quality educations but instead require adaptations to allow the veteran the opportunity to succeed.

Straightforward disability accommodations can be made to help student veterans achieve academic success using preexisting university infrastructure. Veterans may choose distance education options, request digital copies of class materials, or be presented with class enrollment and location details before registration to limit anxiety triggers. Other recommendations include modifying testing environments, adjusting seating and attendance parameters, and allowing for note takers. There is minimal

impact to the classroom with any of the options, but significant strides to creating a veteran-friendly educational experience. These educational adjustments can be combined with other PTSD treatment interventions to enhance the climate of neurodiversity in higher education.

Therapy services are available on many campuses nationwide. Integrating information about these services into student orientations and other social programs improve accessibility. Expansion of college and university on campus mental health treatment options has been going on for decades. However, there is still unmet need and questions regarding the effectiveness of campuses as locations for ongoing treatment (Elliott et al. 2011). Some universities and colleges also have on-campus medical facilities with a broader base of services (Collins and Mowbray 2005). PTSD treatment typically centers on various forms of individual and group therapy sometimes combined with medical interventions to ease anxiety, depression, and insomnia (Friedman 2006; Morin 2011). Campuses can also consider integrating services with local Veteran Service providers to improve access to necessary medical interventions.

While college and university campuses infrastructures can facilitate mental health treatment given appropriate staffing, access to other medical treatments can be more restricted due to attendant resource requirements. Many consider TBI the signature injury of our current military expeditions (Church 2009; Rumann and Hamrick 2009; Warden 2006). The combination of enhanced medical capabilities alongside advanced protective technology resulted in service members surviving previously unsurvivable or inconceivable attacks. While the positive result of increased survival rate is undeniable, much about the implications of survival following close impact explosions remains unknown. The presence of survivors led to a sustained exploration of the short-term and long-term consequences of intense and repeated blast exposure. Tracking and responding to ongoing developments in the understanding of the relationship between close impact explosions and long-term neurological differences constitutes a pervasive responsibility in the enhancement of neurodiversity in higher education.

Although many recognize the importance of diagnosing and treating TBI, diagnosis is still a difficult process. Combat operations are often located in remote areas of developing nations with limited access to advanced medical equipment such as Magnetic Resonance Imagers (MRI) and Computerized Tomography Scanners (CT or CAT Scan). The limited medical resources



and extended duration between injury and medical attention make it difficult to identify symptoms of TBI in the short term. Without an immediate diagnosis, years can pass before a veteran realizes their injury and seeks treatment. Veterans with a neurological injury attempting to seek higher education can occupy a particularly vulnerable position, even in the context of an intentionally disability inclusive campus. Furthermore, even if the injuries are identified by the veteran, there can be several other barriers to disclosure above and beyond those encountered by others who experience either invisible or acquired disability (Church 2009). Further discussion of neurological injuries and higher education can be found in the following chapter as there is significant overlap between student veterans and students from lower SES.

In recent years, the Department of Defense has gone to great lengths to reduce stigmas associated with need and use of mental health services. In spite of efforts to encourage veterans to seek assistance and access services, there remains a culture of aversion to disclosure, in particular, the variety of consequences to a military career. Veterans often associate disclosing a need for assistance with vulnerability and anticipate negative responses from others who might affect their performance evaluation and promotion potential. This same potential threat exists in the institution of higher education, if in a different organization. This barrier can be a significant hurdle to addressing disability needs and securing accommodations in higher education as well due to similar conditioning and ancient institutional traditions (DiRamio et al. 2008; Eisenberg et al. 2009). These hurdles can frustrate all stakeholders in a veteran's education, even those who understand not to mistake differences associated with disability for unprovoked defiance. Without comprehensive, competent, patient, and informed veteran support systems in place, veterans with disabilities incur greater risk for failure, exclusion, and increased risk of harms including increased emotional and economic hardship.

## ENVIRONMENTAL DESIGN

Construction of veteran-specific spaces and facilities on college and university campuses increased in recent years (Summerlot et al. 2009; O'Herrin 2011). These locations exist to make campuses more attractive to veterans by providing a unique, safe area and foster a sense of community mimicking that of military service (Summerlot et al. 2009). The role of

these spaces in the campus neurodiversity climate is complicated as they are simultaneously exclusive concerning the specific location and promote inclusivity on the campus as a whole. As with many diversity-related challenges, local diversity can have the unintended effect of reducing global diversity (Kolbert 2015).

Veteran-specific spaces exclude a majority of students and, sometimes, personnel, on campus. However, without them, campuses and universities run the risk of excluding veterans who would not find campus-based education feasible. Veteran spaces involve the reestablishment of community. Many veterans use these communities to quickly and safely adjust to new surroundings throughout their military career. They provide an identifiable safety net in an otherwise stressful situation to disarm potentially triggering stimuli inherent in higher education. Reducing the potential impact of stressful stimuli can be a successful intervention in identified PTSD as well as generalized anxiety (Regehr et al. 2013). This community adaptation is an established practice mechanism replicable in the civilian world with positive results and limited consequences.

A space where veterans can feel supported and allow themselves to reset stress and anxiety reactions without abandoning their education holds a value added to the institution and society as a whole. Even so, exclusive spaces likely hold value for a broad spectrum of shared identities. Realistically the number of such spaces will be finite on any campus. Furthermore, too many such spaces could harmfully segregate the student population. As authors including Navy Veteran Michael Abrashoff have articulated, quests for diversity must be balanced with efforts to encourage unity (Abrashoff 2012). Enhancing the neuroethics of neurodiversity requires careful consideration of the intent and goals of the creation of each separate space. Since the United States of America has articulated a vested interest in supporting veterans in their transition from command and control combat operations to a democratic civilian life, veterans have been identified as one of the groups deserving exclusive space (Rumann and Hamrick 2009; Zinger and Cohen 2010). Given that separate spaces appear effective in increasing inclusion of other aspects of diversity use of the similar practices for those that have combat acquired differences, including neurological, can increase a campus's ability to practice neurodiversity (Collins and Mowbray 2005; Langlois et al. 2006; O'Herrin 2011; Steele et al. 2010).

## INSTRUCTION, DELIVERY, AND EVALUATION

Faculty and institutions debate how to instruct individuals within this specific neurodiverse population well. There are some clear examples, but the overall changes or adaptations necessary largely depend on the individual student, the teaching style of the instructor and the course material. By providing information to veterans where possible regarding potential points of concern, colleges, and universities can empower veterans to best manage their concerns and shape their educational experience without compromising the content of their coursework or their progress as students.

On strategy in effectively in educating involves using elements of the pedagogy employed to train the veteran while in service. The Department of Defense invests millions of dollars every year into training service members with a specific focus on finding the most effective and efficient education and training methods (Chantrill 2016). While this education and the attendant teaching strategies are not compatible with either the mission or goals of higher education, there are elements of overlap which enhance the climate of neurodiversity of college and universities campus when at least considered for incorporation into courses. At a minimum, encouraging faculty to better understand pedagogical approaches employed by the armed services will create better bridges between understandings and purposes of education extant between military and civilian education.

As is described in Chap. 3, standardized testing owes much of its origin and improvement over time to its application in the military. The Army Alpha and Army Beta tests were developed as tools for military commanders to measure the abilities of their personnel (Carson 1993). The Alpha test was designed for literate, native English speakers and the Beta was designed for recruits with different backgrounds. Both of these tests have been recognized as prototypes for subsequent group-administered cognitive ability tests such as the SAT and ACT. During World War I, approximately 1.5 million recruits were administered these exams to either qualify them for service, match with fields of need and identify potential leadership candidates. These exams were the standard for several decades until post-World War II when the individual branches developed separate aptitude exams tailored to their specific needs.

Innovation in the military's use of standardized testing continued throughout the twentieth century. In 1950, separate tests for branches of services were abandoned for a less costly universal military test design,

the Armed Forces Qualification Test (AFQT) (Carson 1993). The AFQT, unlike previous designs, was specifically designed to be used as a screening device examining comprehension of military training and potential for success as a service member (Talboy 2011). In 1968, the Department of Defense determined that Services should use the Armed Services Vocational Aptitude Battery (ASVAB) to once again screen enlistees and determine suitability for military assignment. Combining selection and classification testing into a single exam made the testing process more efficient. Finally, in 1979, the Department of Defense initiated a joint-Service project to develop and evaluate the feasibility of implementing a computer-adaptive version of the ASVAB, this computer based examination was implemented nationally within 20 years while most were still taking paper college admittance exams for another decade (Talboy 2011).

For almost a century, the US military blazed a trail for standardized testing affecting students around the globe in determining skills, abilities to absorb specifically formatted education, transition to postadolescence, and potential for successful contribution to society. Use of standardized testing for admission to higher education shows little sign of waning. Furthermore, disciplines connected directly to professions, such as medicine, law, and accounting, employ standardized testing as a gateway to entry into the profession imposed even after all diploma requirements have been completed. While the result of the education clearly delineates between higher education and military training, the methods utilized hold similar qualities. Greater sharing of expertise about standardized testing among and between civilian and military education could not only improve campus climates of neurodiversity but also lead to better engagement of veterans in their postservice education.

Colleges and, particularly, universities could also enhance neurodiversity in higher education concerning veteran students through more overt practice of complete education. Complete education is defined as an approach of combining the education of school skills with real world skills (McCain 2005). Importantly, complete education depends on the full protection of both elements rather than a process by which students are only provided vocational skills for currently known jobs. In this framework, school skills are engagement in “the acculturation of individuals by passing on societal knowledge and wisdom” (McCain 2005, p. ix). These skills, such as critical thinking and philosophical understanding, normally appear in the higher publicized aspects of general education requirements in higher education. Real-world skills are more closely aligned with the technical skills required

for vocational paths and personal lives. These skills are present in higher education, especially concerning written and oral communication, professional comportment, collaboration, and numeracy. However, they tend to be less overtly understood as fundamental to the benefits student receives in, at least, the academic elements of higher education. Both sets of skills are valuable, and the highlighting inclusion of real-world skills in higher education serves to ease the transition from military training to the more traditional role of higher education. As discussed in Chap. 5, the neuroethical delivery of higher education improves when professors employ a diversity of evaluation strategies, if not in a single course at least across the set of courses students are required to take to complete a degree program. Highlighting which real-life skills are developed in the completion of each deliverable stands a better chance of communicating purpose to veterans accustomed to education provided in military settings, especially if they have combat-acquired neurological differences. The ideal of education for education's sake does not have to be lost in the inclusion of real-world professional skills, and the overall result may be an enhancement of neurodiversity on college and university campuses.

Instructional design requires the educator to answer the questions about what the professor wants the students to know and experience during the course so that, ideally, they will gain and retain desired content (Branker 2009). As discussed in previous chapters, flexible universal design encourages professors to design the methods of approaching and evaluating those goals based on their target audience, the members of the specific course. This deliberative effort is associated with a greater opportunity for equity in the classroom and improved educational outcomes (Armstrong 2012). Ironically, universal design efforts can run counter to such adaptive and flexible approaches to course delivery when universal design is misunderstood as distillable to a standard list of attributes. Helping faculty to develop capacities to deliver courses universally designed for the specific audience is essential to enhancing the neuroethics of higher education in the context of neurodiversity.

## SAFETY AND SECURITY

Higher education is designed to be an arena for the safe exchange of ideas with freedom for open discussion, but every freedom has limits when it infringes upon the rights of others (Fiss 2009). Professors must be as aware of the potential harm and alienation that can be caused by biased and

inflammatory speech directed at veterans as there are of language directed at other characteristics. Veterans have identified antimilitary statements as being a significant barrier to higher education (Elliott et al. 2011). These statements are difficult to navigate as the critique of US foreign policy is likely necessary for many higher education courses, but criticism is possible without the use of statements that are detrimental to the veteran and the lesson. It is difficult to see a situation where it is helpful to the educational process to refer to military members as murders or baby killers and use of both phrases has been documented on campuses (Ackerman and DiRamio 2009; Elliott et al. 2011). Faculty with more immediate or personal connections to military campaign traumas may require appropriate assistance and resources so that they can best serve a neurodiverse student body that includes veterans. Trauma-informed training for faculty regarding the military and service members could also benefit many faculty members.

Other potential changes to course delivery include reducing the use of actions and behaviors reminiscent of combat environments. Educators who chose to increase attention in their classes by theatric examples such as jumping up on a table or slamming a book down on a desk may inadvertently trigger students with neurological differences. These enthusiastic styles hold the potential for greatly improving the educational environment, but the cost can be greater to other students. A student veteran in a constant state of hypervigilance has little room for philosophical thought and discussion. The same techniques could be modified into less threatening examples that still seek to capture attention without activating a startle or fear response such as the inclusion of a multiple media or variation in class formats during each class to increase variety and stimulation.

Another barrier to inclusion of veterans with neurological differences comes about through the requirement of disclosure by veterans of their disabilities for course accommodations. Requiring a veteran disclose this personal information in a situation where they may not be aware of it, are emerging from a culture that discourages such disclosure, and requires a significant expenditure of the individual is a questionable ethical decision and potentially catastrophic for those unable or unwilling to disclose.

Similar strict requirements in the field of academic evaluation deserve attention. The military teaches many valuable skills and emphasizes muscle

memory as the ultimate goal. This process narrowly defines neurological processes and limits creativity, as such purely objective point distribution for courses may cause significant disparity for student veterans. There are potential alternative courses of action, including negotiated distribution of assignment weighting as previously identified in Chap. 5. Allowing veterans to weight assignments into their strengths while still requiring participation in all assignments provides the opportunity to reconnect missing or limited neuropassages without threatening the overall education of the veterans. The GI Bill requires that veterans pay back the cost of failed courses, resulting in increased stress and anxiety surrounding performance in all courses.

### ADMINISTRATION, POLICY, AND VETERANS WITH NEURODIVERSITY

Other higher education policies hold significant influence on veterans and their specific neurodiversities. Interaction with student veterans involves all levels of administration and delivery of higher education. Recognition that many other institutions have previously navigated these interactions and may have valuable experience to assist is vital to development of community partnerships to facilitate the best available care, not only for veterans, but for all students. These partnerships can assist in addressing many veteran concerns such housing, health care, and employment to help student veterans stay in college and fulfill their educational goals. Understanding what these needs are can be difficult without service-user input.

Roundtable discussions between administrators and student veterans are effective if complicated to facilitate. A more consolidated approach may involve establishment or better integration of a student veterans association to provide a trusted source of coordination between student veterans and administration. Student veterans are typically accustomed to a central point of contact when addressing troubles and concerns. Strengthening the role and on-campus status of veterans services personnel charged with facilitating veteran's successful transition to and through college helps implement steps hoped to relieve distress caused by navigating a new system by assimilating the processes the neurodiverse individual is adapted.

Similar to adapting service coordination to veterans to replicate familiar organization, the same potential exists in financing of higher education. The post-9/11 GI Bill is a revolution in educational opportunity, but it is

not without its shortcomings. While the Department of Veterans Affairs has been noted for many things, speed of service delivery has not been one of them. Many veterans experience delays in receiving their education benefits. Tuition and fee deferment options may reduce the psychological impact of a large bill looming to start the school term. Furthermore, current benefits deliberately constrain participation in graduate programs including those necessary for some professional careers based on restricted definitions of entry-level employment (Stanley 2003; Steele et al. 2010). Defining the requirements for entry-level employment will be of increased importance as the basic requirements of entry-level positions for education more frequently include advanced degrees. One effect of such restrictions includes ultimately reducing the number of veterans who are on the faculty at colleges and universities owing to restrictions on access to Ph.D. programs. These restrictions serve to limit the potential role models for veterans readjusting to civilian life, reduce the unique perspective of veterans in education, and also eliminate an entire field of employment for veterans that may be ideal based on limitations created by their neurological differences. Modifying simple definitions within existing frameworks may serve to enhance the neurodiversity of higher education without requiring significant policy modification.

The advantage of these adjustments is that they can be established within existing framework and be used to the advantage of all students. Overall, the implementation of policies designed to create an environment friendly to the veterans returning from military campaigns around the world are to the advantage of higher education and its students. These policies seek to maximize the benefit of veterans' experiences while minimizing the potential harm to all stakeholders. Veterans deserve recognition as an integral portion of the student body and representative of neurodiversity's impact on higher education.

### DISCUSSION QUESTIONS

1. What are the most powerful myths about neurodiversity in higher education regarding veterans? Why are these particular myths so powerful?
2. Under what circumstances does separateness coincide with inclusion in the context of enhancing neuroethics in higher education?
3. What strategies could be employed to bridge any gaps between veteran students with neurological differences and other students with disabilities and disabled students?



4. How can claims of special treatment of veterans with disabilities in higher education be best addressed?
5. How can colleges and universities best work with students who are veterans with acquired neurological differences who do not wish to identify as disabled? What are the implications for neurodiversity in higher education of such strategies?
6. What are the key elements of social justice surrounding neurodiversity and disabled veterans in the context of higher education? Under what circumstances might individual justice and social justice be at odds in this context? Under what circumstances do these two work together?

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## Circumstance of Difference: Socioeconomic Status

Entering a college or university classroom for the first time can be difficult for students, especially when their families of origin do not include many who have participated in higher education. Even if a student understands higher education as the most promising opportunity for a solid foundation for their future, class insecurity presents ongoing challenges (Bakk et al. 2013). Such challenges augment segregation and stigma associated with neurological difference when also part of the student's lived experience.

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After being accepted into university, Travis left his reservation to complete his degree. To stay in school, Travis would work late into the night and therefore often oversleep and miss the city bus. Due to being late and the fear of answering questions wrong, Travis would sit in the back and be considered less dedicated and unorganized by some of his professors and fellow students. One Monday morning, his instructor formed two-person groups to work on a project, Travis was paired with Shawna. The two were an odd pair. While Travis sat quietly in the back, Shawna would sit in the front, was very outspoken, and well liked. Shawna had a strong background in formal education and the resources to attend school without loans and the money to stay on campus and thus study longer when necessary. Due to feeling less capable, Travis would resort to doing the project the way Shawna wanted to, even when he thought he had a better idea on how to proceed. On the other hand, Shawna thought Travis was shy and lazy, and therefore took charge during the research and the presentation on their project. Thus, Travis reaffirmed to himself that he is less capable than Shawna—*Timofey Yelchaninov*

Such stressors can prove aggravating for some and debilitating to others. These stressors and challenges are disproportionately present in families of lower SES.

SES has been shown to be weak predictor of first-year academic performance and retention in higher education (Westrick et al. 2015). However, there is a strong correlation between SES and completion of high school, attendance of higher education, and completion of undergraduate degrees. Participation in higher education, regardless of timing, is associated with higher lifetime SES, happiness, health, and longevity. However, mere participation is rarely sufficient to cause an increase in lifetime earnings, and persistence and or graduation is often required (Altbach et al. 2011; Cundiff et al. 2015). Students with disabilities cited stress, stigma, health concerns, housing, problems with medications, and weather conditions as barriers to persistence in higher education (Kranke et al. 2013; Broton and Goldrick-Rab 2013). Delaying entry to higher education also correlates to reduction of higher education completion (Wells and Lynch 2012; Fitchen et al. 2014). While neurodiversity is not always a disability, neurodivergence increases risk of challenges to success in higher education. These challenges are compounded by the SES of the individual in a variety of ways.

According to the American Psychological Association (APA), “socio-economic status is commonly conceptualized as the social standing or class of an individual or group...It is often measured as a combination of education, income and occupation...examinations of socioeconomic status often reveal inequities in access to resources, plus issues related to privilege, power and control” (APA nd). Beginning in early childhood, consequences of SES are reflected on standardized tests and school achievement. While this chapter primarily focuses on the effects of poverty on scholastic achievement with regards to neurodiversity, it is worth noting evidence suggests that school achievement impact exists across the entire socioeconomic spectrum regardless of neurodiversity. The achievement gap between children from families of different means has grown over the past 60 years (Reardon 2013). Circumstances become even more strained when the experiences of the top 1 percent or fewer are taken into account, given recent trends in income distribution in the USA (Alvaredo et al. 2013). Of course, as discussed in Chap. 2, to some degree these differences in performance come about through biased test design, thereby creating disability through social construction. However, especially in modern tests, these differences can also be connected to the experience of poverty at the biological level.

The neurocognitive effects on children experiencing lower SES are distinctive and numerous, disparities in **executive function** and **declarative memory** as well as evidence of anatomical differences in the prefrontal cortex and hippocampus have been noted (Farah et al. 2006; Noble et al. 2005; Hanson et al. 2013; Lawson and Farah 2015; Ursache and Noble 2016). Childhood poverty is also associated with high levels of stress and reduced intellectual stimulation which has been linked to developmental differences (Neville et al. 2015). Alongside those differences is the increased exposure to environmental pollution and traumatic events associated with lower SES (Altbach et al. 2011). Governments and the general public tolerate ongoing presence and higher concentrations of environmental contaminants known to be associated with neurological impairments for longer periods when detected in communities of lower average SES (Bullard 2000; Schlosberg 2007). For example, in 2015 and 2016, Mark Edwards called attention to the effects of lead in the water supply of Flint, Michigan and brought national focus to the hundreds of children who had incurred neurological differences as a result of the city's decision to change the source of their public water supply. SES is similarly associated with numerous other barriers to economic mobility and in these instances, it is also an impediment higher education, the primary means of economic mobility in North America.

### ENTRY INTO HIGHER EDUCATION

As discussed in Chap. 3, admission to higher education usually involves consideration of grade point average, standardized testing scores, and letters of recommendation. The income level of a student's parent(s) impacts the availability of received knowledge about these factors and can become augmented by the presence of a neurological difference in processing between the student and their parents or teacher. Marked differentials in grades, standardized test scores, and academic success strongly correlate to SES throughout formal education (Altschul 2012). For example, The Public Policy Institute of California, conducted a study of the impact of school resources on student achievement, and concluded that “[b]y far, the most important factor related to student achievement [on the school level]...is our measure of SES—the percentage of students receiving free or reduced-price lunches” (Betts et al. 2003, 207; Zwick 2004). This correlation decreases opportunity for admission and success in higher education potentially exaggerated by the presence of neurological difference.

There are obvious exceptions to this correlation in the instance of extraordinarily talented individuals, including athletes, but these exceptions should be recognized as outliers. Furthermore, incidental costs of higher education ranging from application fees to testing fees and association with a sorority or fraternity also create barriers to entry into higher education. The barriers connected to SES are often compounded by disability policy in higher education.

Policy differences administrating disability services between K-12 education and higher education in the USA exist. As discussed in Chap. 2, mandatory provision of services and the encouragement to identify individuals in need of services is a strength of both *IDEA* and *Section 504 of the Rehabilitation Act*, however the plans that are set in place through the completion of high school, end there. This creates an opaque situation. Such policy divides can create a burden for an individual to pave their own way for disability assistance in higher education. Academic institutions and individual students share the responsibility for continuing special education support into higher education without increased cost to the student or family, especially when socioeconomic constraints limit access to outside services. Provision of additional and targeted services for students with learning differences as they transition into higher education tends to increase likelihood of success (Hope 2016). These services can provide a counter balance to the numerous detrimental impacts previously discussed that are associated with neurological difference and SES and promote access to and success in higher education.

## SOCIAL CAPITAL AND NEURODIVERSITY IN HIGHER EDUCATION

Advice and empathy from members of a student's social network can reduce the anxiety of entry into higher education. Some neurodiverse characteristics aggravate stress response or make it more difficult to communicate feelings (Armstrong 2012). One of the advantages of higher education is the social capital gained that can transfer between generations. Social capital rests on the premise that social networks have value (Kingdon 2011). It includes the collective value of all social networks and the inclinations that arise from the individuals in the networks to do things for each other. The ability to guide children through their transition from high school to college is a part of the American Dream, however, for a significant part of the population it is just that, a dream. Students embodying



neurodiversity and also coming from families experiencing economic hardship might find themselves outside social networks promoting and providing for transitions from high school to higher education. For example, a student experiencing poverty and expressing neurodiversity stands less of a chance of having an alumni family member to call and explain a poor test score or mitigating an awkward admission interview. This lack of social capital further exacerbated when considering neurodiverse traits linked to environmental factors associated with lower SES or when poverty or disability extends over multiple generations in a given family (Hackman et al. 2010).

Without social capital afforded by greater economic resources, these traits can make it extraordinarily difficult to succeed in higher education. Social capital creates room for difference and diversity not as easily afforded to others.

## MULTIPLE INTERSECTIONAL IDENTITIES AND SES

Disproportionate representation of people of color and LGBTQIA+ in lower SES is not the primary topic of this text, but ignoring the oppression of these specific communities would do a disservice to them and the topic in general. These differences are influenced and reflected in the way the brain forms and processes information and are similar to our previous statements regarding natural variance in all forms as diversity. For example, queer theory describes two socially constructed categories of people, those that display an approved expression of self and those that are queer and express themselves differently (Turner 2000). Furthermore, the presence of other minority or historically oppressed identities can also reduce the likelihood that an individual will self or publicly identify as having a neurological difference, especially as a positive element of identity (Shattuck et al. 2014). As discussed in Chap. 2, higher education policy typically requires identification in the case of disability programs and services at college and universities.

Studies of neurodiversity are not always identified as feminist. However, feminist theory helps to explain and, potentially, measure effects of systems of oppression as they relate to inequality in higher education success. Oppression physically alters the brain and how it processes information, typically referred to as trauma, potentially preventing the opportunity to access or succeed in higher education (Hackman et al. 2010). For example, research has shown that experiencing trauma, more common

in individuals with characteristics associated with histories of oppression, can detrimentally impact on both executive function and memory (Hackman et al. 2010). It should be noted, however, associated impacts are not exclusively detrimental. Noted increases in resilience and creativity can also create personal strength beneficial to perseverance in higher education (Seligman 2012). Feminist theory provides insight into working with multi-directional effects of oppression. Working with intersectional neurodiversity in higher education responsibly involves creating infrastructures maximizing potential benefits of resilience while working proactively and continuously with effects of trauma.

One complex issue related to intersections of SES and neurological difference in the context of higher education involves athletics. Full discussion of contemporary existence of athletics at colleges and universities is beyond the scope of this book; however, a few key points must be mentioned. First, portrayal of success in youth sports as an especially promising path to university scholarships clouds the meaning of participation in youth sports for young people experiencing socioeconomic disadvantage. More casual participation in youth sports contains, in some circumstances, elements of privilege reserved for children whose parents anticipate funding their higher educations, at least in part. Ironically, athletic activities associated with a higher percentage of high school team members securing college and university scholarships are not those in which young people from families experiencing economic strain are most frequently encouraged to participate (NCAA 2016). For example, 13.7 percent of high school students participating in hockey teams secure scholarships whereas only 3.6 percent of high school students playing in basketball teams do (NCAA 2016). Basketball programs serving children from lower SES families are far more common than those for hockey (NCAA 2016). While it is important to recognize that positive effects of participation in sports extend beyond access to college scholarships, this influence matters.

Even if a student successfully secures an athletic scholarship to a college or university, complications arise. While the debate surrounding payment of student-athletes rages at the time of this writing, student-athletes at colleges and universities are required to participate as nonprofessionals and, despite mythology rooted in historical practices, can receive only very restricted compensation for their participation in athletics. Much of the recorded compensation comes in the form of tuition support. While hardly inconsequential, these benefits should be understood in the context of both time requirements and sacrifice of physical or neurological health

involved in participating in college athletics. College athletes have little free time, restricting their ability to hold paying jobs either as a matter of policy or logistics. Furthermore, while tutoring support is often more available to student-athletes than to the general student population, if a neurological difference inspires accommodations requiring the additional commitment of time to academics, logistical challenges can arise (Banbel and Chen 2014). Accommodations as simple as extended time for testing could manifest as a serious barrier to participation of student-athletes with neurological differences who are also competing in college athletics.

Emerging findings about neurological differences induced by participation in higher-level athletics also matter. Among the known areas of impact from TBI are socialization, cognitive processing, emotional regulation, and reduction of impulse control (Langlois et al. 2006). Still preliminary research and experience strongly suggest significant behavioral and cognitive impact with increased rates of comorbidity with other neurological differences such as depression, anxiety, and sleep disturbances (Stander et al. 2014; Combs et al. 2015). Advancing speed and violence of sports at high levels of competition pose large risks to the neurological health and development of participants (Mez et al. 2016). Modification of training regimens in response to this research in college athletics will hopefully inspire further reflection on the importance of the student in student-athlete and seek to eliminate detrimental overemphasis on athletics.

Of course, not all students from lower socioeconomic circumstances enter higher education through athletics. Assuming otherwise creates potential for discriminatory assumptions about, particularly, students of color. Other programs targeting first generation and other students from disadvantaged backgrounds exist (Lewis 2010). In creating such programs, attention to both inadvertent extension of privilege and neurodiversity are vital to the neuroethics of higher education.

### SOCIOECONOMIC INTERSECTIONALITY AND THE ACADEMIC CAREERS OF NEURODIVERSE STUDENTS

Education of students varies by SES starting at the earliest stages of education (Carter and Welner 2013). This requires special attention to the impact of neurodiversity through the same stages of education and has been explored in texts such as Thomas Armstrong's *Neurodiversity in the Classroom: Strength-based Strategies to Help Students with Special Needs Succeed in School and Life* (2012) and Eric Jensen's *Teaching with Poverty*

*in Mind: What Being Poor Does to Kids' Brains and What Schools Can Do About It* (2010). As a result, students with neurological differences experiencing socioeconomic hardship are less likely than their peers to participate in higher education (Fichten et al. 2014).

Students from families of lower economic status have always been an underrepresented part of American higher education. They are still underrepresented in higher education. Furthermore, students from lower SES are less likely to persist or to attend graduate school (Goldrick-Rab and Han 2011). These factors are compounded by the increased proportion of students with both identified and unidentified disabilities families experiencing economic hardship. For example, although high school graduation rates have risen in the twenty-first century, students with learning disabilities in high school were less likely to either attend college and graduate (Murray et al. 2000; Murnane 2013). Even when students enroll in higher education, after five years, enrollment or graduation rate of disabled students was approximately 80 percent of those without disabilities, a disparity that has long been observed (Berkner and Chavez 1997; Smith and Smith 2014). Higher education dropout rate was found to be highest during the first part of the quarter and the largest number of dropouts occurred in the fall quarter, indicating students are often forced to withdrawal before they are given an opportunity to succeed (Fichten et al. 2014).

Finally, students coming from families with a history of financial difficulties on contemporary campuses may face additional barriers resulting from their relative lack of experience with digital technology. The majority of students entering colleges and universities in contemporary times are assumed to be digital natives. As a result, the assumption that providing online services—including disability accommodations—is embedded into the infrastructures of many colleges and universities. Not only are electronic infrastructures often behind the curve in the creation of flexible universal design, but their evermore present use by colleges and universities augments the effects of existing disparities of experience with and availability of electronic resources. For a student with disabilities, availability of electronic accommodations must be provided carefully and with responsive training option so as to avoid doing more harm than good.

## BASIC NEEDS FOR PARTICIPATING IN HIGHER EDUCATION

Many argue that being a student is supposed to be hard. After all, college and universities are required to graduate students with expanded intellectual skills and capacities. Struggle and sacrifice in college are often seen as

rites of passage. Individuals failing to recognize the inherent values of this challenge are described as entitled, whiney, or spoiled. However, hard is different than hardship. There is a distinct difference between not being able to eat out with friends and not being able to eat during finals week. The neurological impact of hunger is undeniable with a severe reduction in cognitive abilities represented in hours and serious regression with passing time (Spies et al. 2014). Recent estimates rates of food insecurity range between 20 and 60 percent of college students are experiencing **food insecurity** as compared to the national rate of 14 percent (Cady 2016). When students are forced to choose between their education and nutrition, they are no longer participating in the same educational experience.

Access to food is one of only several supporting areas of higher education that is impacted by SES and has detrimental impact on the inclusion of neurodiverse individuals. Among other considerations is the availability of affordable student housing that is accessible and located close enough to campus for students who lack reliable transportation or alternate local support systems. In the context of neurodiversity, transportation holds particular importance given that neurological difference sometimes results in barriers to driving and increased likelihood of poverty (Hashimee and Bentson-Royal 2017). Both factors increase likelihood of reliance on public transportation. On campus student housing has been associated with several academic benefits including increased first-year grade point average, which is subsequently associated with length of time to graduation and postgraduation salary (Broton and Goldrick-Rab 2013). While the mechanism for this advantage has yet to be fully identified, there is support for consideration of differences in inclusion in the campus environment and differences in the stress created by the surrounding factors of off-campus living.

For all of the reasons listed in previous chapters, the implications identified here would be compounded for individuals who are neurologically diverse. Travis is at a distinct disadvantage academically because of his surrounding financial situation and lack of institutional supports and controls. The living environment for students often extends beyond the campus itself to include the surrounding community with its associated benefits and risks. Realistically, not every academic institution can provide student housing on campus. This does not alleviate the shared responsibility of higher education to work to ensure students are provided with an opportunity for access to a living environment that promotes academic success across the spectrum of neurodiversity. Other alternatives to student housing include service coordination with outside agencies such as local property management companies.

## FINANCIAL AID

The Basic Educational Opportunity Grant (**Pell Grant**) has made college education possible for millions. Program flexibility helps low-income students invest in higher education at higher rates than would be available otherwise. Over the 40 years since this federal grant program was introduced for low-income and moderate-income students, it has expanded dramatically in both size and scope, and now serves an increasingly diverse set of individuals in an increasingly diverse mix of programs and institutions (Baum and Scott-Clayton 2013).

Over the last 50 years, reliance on financial aid has become increasingly common among college students, partly in response to stark increases in tuition and fees (Dynarski and Scott-Clayton 2013). Expanded scholarship and funding opportunities introduced in the twentieth and twenty-first centuries provided for a greater diversity of disadvantaged students. Many of these programs, including private philanthropy, have made real differences. Some of these opportunities tend to be underutilized due to harms incurred before the time of college and university enrollment. For example, the state of Texas has programs that pay college and university costs for all former foster children. These programs remain solvent almost entirely because so few foster children are in a position to apply for college or university when the time comes. In the context of neurodiversity and higher education, significant overlap and parallels between these policies and the GI bill exist.

The evolution of financial aid raises questions regarding effectiveness, clarity for service users, and interaction with other programs and policies designed to address economic inequality. A significant portion of financial aid is based on student loans, public and private option in part because their low cost to administrations and governments and return on investment when repaid makes them an attractive option for policy makers (Dynarski and Scott-Clayton 2013). While student loans can provide increase access, potential for exploitation of disenfranchised individuals is an obvious concern with loan based funding of education. Those in more tenuous positions prior to higher education are often saddled with insurmountable amounts of debt that cannot be eliminated through bankruptcy in the United States of America. This system has disproportionate impact for individuals of lower SES and neurodiverse individuals with compounding effect. There is a coercive nature to the process as a means of escaping poverty stricken backgrounds while targeting individuals who

have not yet fully developed the ability to weigh long-term consequence and may be developmentally delayed by environmental harms associated with economic hardship (Hackman et al. 2010).

While there has been improved access to financial aid in many instances, students are also left in a position of mortgaging their futures with limited guidance. Online financial aid training and filing have assisted remote access, but there are questions as to the absorption of the important details and the universal design, or lack thereof for the website itself. A student that is poorly informed or left in a position to execute significant documents with understanding is rarely in the ideal position to navigate a system with lifelong consequences. The current levels of student loan debt surpassing all other forms creates an unsustainable practice (Brown et al. 2015). The overall scenario delivers a premise of hope with little regard to the person's ability to see the risks involved to understand the reality that many will be paying off the costs of their education for decades creating particular concern in the context of neuroethics in higher education.

## CONCLUSION

In recent years, universities and colleges across the United States of America have found themselves in situations that call greater attention to the financial obligations incurred by students and the efforts by higher education to increase diversity. SES represents a distinct characteristic interacting with barriers to neurodiversity. Economic mobility and democracy are inhibited by polarization in economic classes and generational reinforcement of environmental neurological impact associated with cycles of poverty. This violates the ethical foundations of this nation as evidenced by the Declaration of Independence's clause "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights...that among these are Life, Liberty and the pursuit of Happiness."

For many students and their families, the pursuit of happiness includes higher education and there are many policies and practices in higher education intentionally and unintentionally excluding neurodiverse individuals of lower SES. When asked the question "Is it possible to start out poor, work hard, and become rich?" 80 percent of Americans still believe in the meritocracy of the USA and the premise that an individual can escape poverty and achieve wealth, if they are willing to work hard enough (Scott

and Leonhard 2015). This rate is up from only 60 percent in 1983, even as economic inequality has skyrocketed over the same period.

Neurological difference and SES intertwine. A campus's climate of neurodiversity exists only in its attention to implications of socioeconomic hardship among members of its student body. Universities and colleges are making greater efforts to improve access to students from lower SES, however, there has not been significant consideration given to the specific diversity that these students are bringing to campuses with regards to their academics and surrounding supports. Enhancing the climate of neurodiversity depends not only on increasing funding availability but on comprehensive attention to the implications of the intersection of SES and neurological differences through programs including application assistance, tutoring, and guidance counseling.

### DISCUSSION QUESTIONS

1. The intersectionality of various forms of diversity has been tied to lower SES and supplemented with specific financial aid in higher education, would that be a possible point of support in the case of neurodiversity? Why or why not?
2. Are studies showing the correlation between disabilities and lower SES sufficient to make the assumption of a similar correlation with neurodiversity?
3. What level of obligation, if any, do public universities incur to ensure that financial obligations do not significantly impact the educational experience? Should those obligations be a limiting factor when promoting diversity in higher education?
4. Are enhancing the climate of neurodiversity and the socioeconomic justice of higher education similar enough to be managed by the same policies and personnel at colleges and universities? Why or why not?
5. During the first decades of the implementation of the *Individuals with Disabilities Education Act*, students of lower SES became disproportionately represented in special education classrooms, often to the detriment of the quality of the education received. In creating policies, programs, and services designed to address intersections between SES and neurological difference, what steps should colleges and universities take to avoid similar outcomes?



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## Conclusion

Neurodiversity is a shared responsibility. In the absence of a neuroethical approach to neurological difference, every human system becomes crueler and more impoverished. In spite of this basic fact of biology and all else that combines to create the human experience, celebration of diversity remains a novel challenge for human beings. While diversity exists everywhere and its celebration has expanded of the course of the past several decades, a strong human tendency to other that which is different transcends. Even though the history remains less known than other forms of discrimination, our capacity for ableism has been as well thoroughly practiced over time as have the many other forms of harmful bias that have plagued humanity. As such, the transition toward truly neurodiverse systems of higher education requires time, talent, resources, commitment, and a remarkable measure of patience. The discussion presented in this book seeks to convince, encourage, and inspire others to engage the work of a neuroethical approach to neurodiversity in higher education. Furthermore, we hope with all sincerity that the insights and recommendations presented in these pages are soon surpassed.

A neuroethical approach to higher education implies opportunity rather than obligation. Not everyone must pursue higher education. Many occupations do not require higher education in order to serve our society and participate in the economy. Welders and plumbers are needed in the twenty-first century at least as much as physicists and philosophers (and vice versa!). This does not mean that those who enter these vocational professions should

be deliberately prevented from seeking higher education either prior to or at any point in their careers. Instead, it means that neuroethical higher education insists only that the systems in place do not create barriers to entry or interfere with the successful completion of higher education simply as a response to different ways of thinking and being.

Higher education is too frequently confused with occupational training. In fact, as discussed in Chap. 8, higher education should be minimally focused on the specific skills necessary for a particular job but, universities and colleges can and should take on the task of ensuring that graduates are both fluent in the basic skills of their profession and aware of how to successfully connect with or create professional opportunities. Alongside primary and secondary education, higher education is also well positioned to ensure that students have the opportunity to develop the skills and mindsets globally fundamental to professional success (and any collective action) such as written and oral communication, teamwork, compassion, leadership, problem solving, critical and creative thinking, innovation, and improvement through trial and error. When the occupational training and personal development necessary for a (self!) selected career and life path does not involve higher education, this is commendable. Similarly, when a well-supported and encouraged individual decides without pressure or self-sabotage to skip or delay participation in higher education, the decision should not be reflexively derided. While contemporary thinking around this issue tends to be confused and cloudy, a truly neuroethical approach to neurodiversity in higher education would render articulation of this reality redundant.

Diversity diverges. Ethics evolve. Working with wicked problems engages the mind, body, and spirit. As discussed in previous chapters, key aspects of the work of improving neurodiversity in higher education include: intersectionality, flexibility, challenge, authenticity, and accountability.

## INTERSECTIONALITY

The characters serving as touchstones in this work are fictional. Their descriptions were reviewed and polished by many who embody a variety of immutable characteristics both to improve their relatability and to ensure that the profiles could not be too easily mistaken for a real, living individual. As is said in the entertainment world, any similarity between the characters employed to portray concepts in this text and real people is purely coincidental.

Nevertheless, the profiles are designed to be recognizable as potential members of contemporary student bodies at colleges and universities in North America. As discussed in the previous pages, in creating a campus climate effectively engaging neurodiversity (or any kind of diversity for that matter), attention to intersectionality is fundamental. First described by Kimberle' Crenshaw (1989), intersectionality confronts the notion that human beings have single dimension identities. As a result, addressing discrimination motivated by a particular characteristic can only take place in a conscious context of intersectionality. This reality diversifies diversity. Strategies depending entirely on blunt force policy instruments such as representative bureaucracy cannot respond effectively to such complexity, if for no other reason because the necessary staffing levels far exceed that for which we have proved willing to provide funding in higher education. Of course, the principle should not be taken as permission to abandon the principles of representation entirely. Rather it is intended to communicate that representation can only be part of the effort to increase neurodiversity beyond which much work remains.

Second, intersectionality reminds us of essential individuality of identity. Under conditions of extreme systemic discrimination, human beings are not given choice about which of the multitude of their personal characteristics they choose as core or lead elements of their public identity. In other words, a disabled multiracial woman who recently immigrated to this country could choose any, all, or none of these characteristics as core elements of her identity. The majority of current policies aiming to improve participation of people with disabilities in higher education employ an individual rights basis or social welfare framework. Both involve individual identification and specification of disability, at least to the personnel who serve as gatekeepers to access to accommodations. Those who embrace disability as a core element of their identity and those whose disabilities are readily visible can be (though certainly are not always) well served under policies that require identification. However, intersectionality asserts that the population of individuals with disabilities will include the full continuum ranging from those who consider disability the central element of their identity to those who experience their disability as a misfortunate threat to the person they understand themselves to be. Work toward an increasingly neuroethical approach to higher education that maximizes neurodiversity involves an emphasis on universal design in order to better accommodate the range of positions disability occupies in an individual's identity.

Intersectionality also highlights the fact that in contemporary society, implications of disability tend to vary alongside other personal characteristics including gender, SES, racial and ethnic heritage, and the intensity of preexistent family experience with disabilities. The co-variation is deeply rooted in our social and political cultures. Similarly, intersectionality highlights the complicated history between disability and other characteristics historically associated with disadvantage. It is still common to counter discrimination rooted in racial or ethnic identity, gender, or sexual orientation with the statement that the characteristic is “not a disability.” Social justice interests are not best served by asserting superiority over other groups experiencing oppression. Real liberation does not come by way of the oppression of others. However, disability based discrimination is a long term human habit still widely considered understandable, if not defensible (Shakespeare 2013).

Fear of disability has been employed as a mechanism of oppression against women, racial minorities and homosexuals. In other words, saying or implying the similarities between disability and other immutable characteristics has been used a way to excuse discrimination and successfully refuting the characterization has been used as a way to reduce discrimination. That homosexuality was once listed in the *Diagnostic and Statistical Manual* inspires vitriol in many members of the homosexual community and their allies. The assertion that “it is not a disability” has been repeatedly used to empower other historically oppressed groups. Resolving this tension involves long and careful work, in particular because of the necessity of allowing those who represent given characteristics freedom of choice with regard to the enthusiasm and tenor with which characteristics are incorporated into each individual’s identity.

### FLEXIBILITY

Misunderstanding flexibility as embracing low expectations surrounds much of the conversation around flexibility in higher education. Professors expect a high level of control of their classrooms. Furthermore, in many higher education settings, professors are either the top or only expert in the material covered in the particular course. Tenured professors are in many circumstances the person on campus who has taught a given course the highest number of times of anyone on their campus. This intensity of knowledge and experience suggests the practical benefits of deferring to the professor in the fair and neuroethical design of courses.



Students find perceived or real lack of procedural justice unfair. This does not mean that they cannot tolerate planned flexibility of fair process. One of the authors of this book has introduced elements of clear, process oriented flexibility into dozens of courses without incurring a single complaint. For example, though grades in her courses are figured on a 1000 point scale using percentages typical for assigning letter grades in the United States of America. On the syllabus, assignments are described with a standard contract of number points for each assignment. However, as the syllabus also explains, students are welcome to reassign how the percentage each assignment will contribute to their own final grade by submitting a written proposal before the second class session (so long as each assignment is worth at least five percent of the final grade). No complaints regarding this process have ever been registered. Students recognize and appreciate flexibility in the context of fair process.

Process fairness intersects with the neuroethics of neurodiversity in every way imaginable. First, fair process is well considered process. Communication involves not only the transmission of information, but also that the information is both heard and understood. Given that professors are, generally speaking, the primary or sole designers of their course materials, risk of insufficiently clear articulation of course materials runs high. Similarly, university personnel directing and managing student activities risk creating materials targeting only the most familiar of students from the time of recruitment to the running of commencement. Process fairness is attached to street level bureaucratic discretion. In enhancing neuroethics at colleges and universities, considering procedural fairness in and of all aspects of the student experience involves direct consideration of neurodiversity.

## CHALLENGE

Laziness is a largely mythical human behavior. Barring ailment, human beings appreciate and thrive in engagement and activity. Assuming that students enrolled in higher education seek and appreciate the least challenging way to complete their coursework and attain their degrees is, in the vast majority of cases, a grave mistake. Rather students wish—even when they do not express—challenge worthy of the time and, at least in the United States of America, money, they are investing in higher education at the expense of other opportunities. Instead of resulting from an aversion to hard work, avoidance of work more frequently exists as a reac-

tion to work that lacks the core characteristics of autonomy, engagement, feedback, and meaning (Seligman 2012).

Higher education should be challenging. It should never be crushing. Without academic challenge engagement eludes many students. Furthermore, real learning cannot take place unless thought processes are forced out of habit mode. Human brains are built on comparison. One benefit of this comparison design is that most tasks become habitual rather than requiring active thought. Habitual thought requires less energy than active thought. This tendency to form habits of thoughts provides an evolutionary advantage in that it reduces the overall energy burden of having a large brain since brains burn through a relative lot of energy as compared to other components of a human being. Given this, teaching students involves a responsibility to ensure that their brains are attuned to novelty so that no opportunity for employing exclusively habits rooted in a comparison to similar content or experience exists. Learning requires novelty which requires challenge.

However, as is highlighted in this text, incorporating challenge into higher education courses does not mean that they should require impossible levels of effort. First, and foremost, respecting the general principle of 45 or so hours of effort for each academic credit for most students should guide design of college courses. Assignments should be designed to serve more than one purpose. In other words, assignments should include both the opportunity to develop skills and enhance content mastery. Professors should keep in mind that generally speaking, they and all of their colleagues were among the most successful of students in educational systems not necessarily committed to neurodiversity in either principle or practice. Given that professors are at risk of underestimating the privileges associated with their particular neurology extant in the construction of assignments. The set of assignments included in a single course should not all be of the same type, so that students have the opportunity to be both challenged and to find an assignment relatively easy due to the particular capacity advantages attendant with differences in human neurology.

### AUTHENTICITY

Education thrives in authenticity. First, educators must be understood as holding genuine and well-established belief in the information communicated. Outside the context of faith-based education, such authenticity is exclusively rooted in long study of a particular topic, generally through

the practice of a particular scientific or creative activity. Knowledge communicated in higher education cannot be acquired easily and will evolve. Authentic effort to attain and remain experts in a select field is required of personnel teaching in higher education. Similarly, students taking college courses, while not generally expecting (or even hoping) to attain expertise in the subject area of every college course attempted, do expect exposure to authentic knowledge reflecting the state of the field of the specific course.

When initially confronted with issues relating to neurodiversity and neuroethics in higher education, some people leap to the assumption that increased inclusion will necessarily mean a reduced quality of education. Most typically an individual might express this concern by articulating that they do not wish to lower their standards in the name of diversity. Disability is by no means the first set of characteristics traditionally associated with oppression for which this type of challenge has been articulated. When the question of more routine inclusion of women or ethnic minorities was first raised, some educators voiced the concern that their inclusion would necessarily threaten the authenticity of the education owing to the belief that there were certain topics they were not sufficiently well prepared to undertake, capable of learning, or able to contribute to productively in their future lives and careers. In other words, some educators employed a circular argument that the absence of women or minorities in certain academic fields, professions, and other positions in societies, due at least in part to their exclusion from education and training required to undertake these endeavors, was evidence that they could not successfully participate in the relevant academic programs (Friedan 2010). Similar arguments are made with regard to students with neurological differences and neurodiverse students today.

Neurodivergent students present no exception to this rule, but the lack of representation of neurodiversity in higher education is a point worthy of note. Similar to the inspiration for success produced by the presence of faculty of other immutable qualities, neurodiversity is advanced by the presence of individuals that express neurodiversity and incorporate these expressions into their courses. Popular mythology suggests certain forms of neurodiversity are already quite present among college and university faculties. The stereotypical image of a faculty member reflects neurodivergence. Furthermore, greater than population prevalence of certain neurodivergent characteristics associated with illness, such as depression, has been shown among professors. This does not mean, however, that institutions of higher education are especially welcoming of neurodiversity or

that hiring and retention processes consider inclusivity of neurological difference when making personnel decisions. Faculty members might reasonably hesitate to report their neurological differences to their employers. Such hesitation speaks to both the surrounding cultural context of discrimination and characteristics of the professional environment in which faculty work, which depends heavily on public demonstration of intelligence as comprehended by select peers. To the degree that representation among the faculty enhances inclusion among the student body, improved recruitment and openness of neurodivergent faculty members is vital.

### ACCOUNTABILITY

Accountability refers to ownership over one's own actions, particularly as they relate to defined goals. Much discussion of holding others accountable for their actions exists. However, as Brian P. Moran and Michael Lennington discuss in the context of productivity in general, holding others accountable is impossible (2013). Furthermore, as they go on to explain, freedom results from accountability because it connects the individual directly with his or her actions. In the context of neurodiversity, understanding accountability can be extraordinarily challenging given the lack of experience of much of humanity with eliminating ableism.

Accommodations can blur the lines of accountability. Accommodations involve special effort on the part of institutional personnel designed to bridge the gap between the flexibility of infrastructures with regard with human capacity differences and the ability (or perceived ability) of the individual to independently bridge the gap. As discussed in previous chapters, disability as diversity fundamentally requires moving beyond accommodations. The right to accommodations should be maintained as redundancy designed to protect against active disability based discrimination. However, a focus on flexible universal design lays the foundation for truly accountable practice of neurodiversity in higher education.

The neuroethics of neurodiversity will prove complicated and elusive for the foreseeable future. Social justice is a journey as much as a destination. Much to the frustration of those less committed to ongoing improvement of human condition once one diversity oriented goal is attained, a new goal almost always reveals itself as necessary. Rather than understanding this circumstance as troubling evidence of the degree to which oppression of subsets of humanity has been historically practiced, individuals

frustrated with diversity efforts remain continually displeased by renewed calls for progress. Enhancing the neuroethics of neurodiversity will require working with those who habitually find themselves on the wrong side of history. Inclusion cannot take place without the participation of those already participating in higher education. Furthermore managing diversity involves not only encountering and addressing privilege but also coming to terms with instances in which social justice and individual justice contradict or at least do not fully coincide. Core ethical principles of higher education practice depend on active, expansive, and genuine engagement of neurodiversity on the part of all stakeholders. Moving beyond the concept of neurodiversity as disorder means eliminating handicap and disabling infrastructures through the ever improved and routine inclusion of human capacity differences. Similar to the progression of other immutable characteristics from identification as disordered, neurodiversity can be recognized, celebrated, and protected until all stakeholders can conclusively proclaim “It is so ordered” (Savage 2016).

### DISCUSSION QUESTIONS

1. What do you intend to do first to augment your own practice of neurodiversity in higher education? Why?
2. Do authenticity and challenge always work synchronously in the practice of neurodiversity in higher education? Why?
3. Which aspects of neuroethics of neurodiversity involve the fewest implementation challenges? Which aspects involve the most?
4. How will we know when higher education has become sufficiently neurodiverse to be considered completely ethical in its practice? Why?
5. What lessons about the neuroethics of neurodiversity do you consider most important? Why?

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## GLOSSARY

**Ableism** Discrimination or prejudice against individuals with disabilities (Webster 2016).

**Accreditation** Accreditation in higher education is defined as a collegial process based on self- and peer assessment for public accountability and improvement of academic quality. (The Nature of Accreditation).

**Active Component (AC)** Active Duty (full-time) units of the US Military (Kapp 2011).

**Agricultural College Act 1890** Also known as the Morrill Act of 1890, the Agricultural College Act of 1890 aimed to make college accessible to more individuals and families, particularly former slaves (Safransky).

**Americans with Disabilities Act 1990 (ADA)** It ensures equal protection and opportunity for people with disabilities, while also prohibiting discrimination in various areas including: employment, transportation, public services, commercial facilities, and public accommodations (United States Department of Labor 2016).

**Autonomy** The freedom of an individual to behave differently than others (Webster 2016).

**Branch of Service** One of the distinct organizations formed under the Department of Defense including the Air Force, Army, Coast Guard, Marine Corps, or Navy (Types of Military Service).

**Constructivist** An understanding of disability that locates the source of the disability entirely in the social and political infrastructures surrounding the individual who has the functional difference (Baker 2011).



**Conundrum** A challenging or confusing problem (Webster 2016).

**Declarative Memory** Memory that can be “consciously recalled” (Zimmermann 2014).

**Department of Veterans Affairs (VA)** Federal agency under the President by Executive Order 5398 on July 21, 1930, was elevated to Cabinet level on March 15, 1989 (Public Law No. 100-527). The VA is responsible for serving veterans and their families, including benefits and assistance (Webster 2016).

**Executive Function** Cognitive function that is associated with the frontal lobe (WebMD 2016).

**Family Educational Rights and Privacy Act (FERPA)** A federal law which protects student privacy and records, and applies to institutes which receive federal funding (Family Educational Rights and Privacy Act).

**Fiscal** Financial matters, especially regarding what is spent, earned, or owed by the government or businesses (Webster 2016).

**Food Insecurity** Inability to access nutritious food (Oxford 2016).

**Hegemony** Influence over a group of individuals (Webster 2016).

**Hidden Curriculum** Social experience of education that is not learned through formal curriculum, for example, speech and behavior (Oxford 2016).

**Inclusion** To be part of a group (Webster 2016).

**Individualized Education Plan (IEP)** A plan created with and for students with a disability which details goals and accommodations for the individual to be successful (U.S. Department of Education).

**Individuals with Disabilities Act (IDEA)** An act which strives to ensure children with disabilities receive an education (Building the Legacy of IDEA).

**Intersectionality** The concept that describes the complex interconnectedness and associations across multiple dimensions (institutions, modalities, subjects, and social relations) that cannot be scrutinized separately (McCall 2005). Intersectionalities as discussed in this text describe relationships and intersections between multiple dimensions of one individual’s identity.

**Invisible disability** Any chronic medical or social conditions that significantly disrupt everyday life that are not visible or obvious to others, including but not limited to diabetes, hearing impairments, attention deficit disorders, sleep disorders, chronic pain, traumatic brain injuries, post-traumatic stress disorder, and arthritis (Clair et al. 2005).

- Issue Stakeholder** An invested individual who is involved or is affected by the issue (Webster 2016).
- Land Grant Institute** An institution established out of a grant by the government for land or financial resources (Webster 2016).
- LGBTQIA** An intentional abbreviation for Lesbian, Gay, Bisexual, Transgender, Queer, Intersex and Asexual. An umbrella term that is used to refer to the community as a whole. These groups are grouped intentionally to include and visibilize the communities. (UCSD 2015).
- Marketization** Entering into a free market economy (Webster 2016).
- Merit** Outcome that occurs based on an individual's actions (Webster 2016)
- Morrill Act of 1862** The first of two acts which provided funding for land grant higher education institutes to be established (Safransky).
- Neurodiversity** Differences that are found in brain functions as well as behavior traits in the human population (Oxford 2016).
- Neuroethics** Ethical reflection, study, and practices surrounding techniques produced by neuroscientists, taking into consideration the ways in which brains function across a spectrum of functionality (Levy 2008).
- Neurotypical** A person who does not have or identify with a neurological difference. Cognitive functioning that aligns with "typical" social standards (Levy 2008; Pollak 2009).
- Neuroscience** Scientific study of the structure or functioning of the nervous system or brain (Oxford 2016). In this text, neuroscience generally refers to scientific study of human brains and nervous systems.
- Non-maleficence** Actions by public officials or corporations which are not illegal or dishonest (Webster 2016).
- Operation Enduring Freedom (OEF)** Ongoing US military operations, principally in Afghanistan, which began in October 2001 (Doubler and Listman 2007).
- Operation Iraqi Freedom (OIF)** US military operations in Iraq, beginning in March 2003 and ending in June 2010 (History 2015).
- Operation New Dawn (OND)** US military operations in and around Iraq post June 2010 (US Army 2010).
- Operation Noble Eagle (ONE)** The general name given to military support operations since the terrorist attacks of September 11, 2001 (Leventhal 2011).
- Operational Tempo (OPTEMPO)** The rate or frequency of military missions executed, including training, combat, and support (Garamone 1999).

- Otherring** The identification of those thought to be different from mainstream population (Johnson et al. 2004).
- Pell Grant** Grant based off needs for low-income students (US Dept of Education 2015).
- Permutations** The possible arrangements or forms something can take (Webster 2016).
- Person First Language** A language form that avoids describing disability at the individual level by referring to the disability as a characteristic that the person has, generally this is done by placing the disability after the person, for example, a person with autism as opposed to “an autistic person” (NCDJ 2016).
- Polis** A Greek city-state, generally used to describe a state, society, or community (Webster 2016).
- Post-traumatic stress disorder (PTSD)** A series of physical and physiological reactions that is triggered by a traumatic event: either experiencing it or witnessing it (Yehuda 2002). Symptoms may include flashbacks, nightmares and severe anxiety, as well as uncontrollable thoughts about the event (Yehuda 2002).
- Prerequisite Course Requirements** A requirement that must be completed before taking a class (Webster 2016).
- Rehabilitation Act of 1973** The act prohibits discrimination due to disabilities in government programs and agencies, those which receive government funding, and those to whom the government contracts out to (Rehabilitation Act of 1973).
- Reserve Components (RC)** The seven departments within the Armed Forces which are not active duty: Army National Guard, Army Reserve, Navy Reserve, Marine Corps Reserve, Air National Guard of the United States, Air Force Reserve, and the Coast Guard Reserve (Kapp 2011).
- Servicemember** Generic term referring to an individual in military service, commissioned or enlisted, to any of the branches of the US Military (I am an Active Duty Servicemember 2014).
- Servicemen’s Readjustment Act of 1944** Also known as the GI Bill; earned benefits by active duty members and their families including financial support for higher education or training (An Overview of the GI Bill).
- Social Construction** Emphasis on the aspects of component of collective experience that emphasizes its dependence on the contingent aspects of selves and environments (Boghossian 2001).

- Social Media** Twenty-first century term used to broadly define a variety of networked tools or technologies that emphasize the social aspects of the Internet as a channel for communication, collaboration, and creative expression, and is often interchangeable with the terms Web 2.0 and social software (Dabbagh and Reo 2011a). Examples of social media include experience- and resource-sharing tools such as Delicious, WordPress, and Twitter that enable online/social bookmarking, blogging, and microblogging; wiki software such as PBworks that enables the creation of collaborative workspaces; media-sharing tools such as Flickr and YouTube that enable social tagging; social networking sites (SNS) such as Facebook and LinkedIn that enable social networking; and Web-based (cloud-computing) office tools such as Google Apps that enable document and calendar sharing and editing among other things (Dabbagh and Reo 2011b; Kitsantas and Dabbagh 2011).
- Socioeconomic Status** A way to broadly categorize individuals or groups using a combined measure of economic and social standing based on means, education, and occupation (Socioeconomic Status 2016).
- Standardized Testing** Uniformed, empirically designed exams (IES 2016).
- Stakeholder** An individual that has invested (Webster 2016).
- Stratify** To divide or compile into categories (Webster 2016).
- Student Veterans** An individual that served in the US military or fought in a war who is currently enrolled in school (Webster 2016).
- Taxonomy** The structures which describe relationships between living organisms; categories and groups which define relationships between organisms (Webster 2016).
- Transition** Any event, or non-event, that results in changed relationships, routines, assumptions, and roles which can be either anticipated, unanticipated, or a non-event (Goodman et al. 2006).
- Traumatic Brain Injury (TBI)** Form of acquired brain injury, occurs when a sudden trauma causes damage to the brain. TBI can result when the head suddenly and violently hits an object, or when an object pierces the skull and enters brain tissue (Webster 2016).
- United States Equal Employment Opportunity Commission (EEOC)** A US government office that oversees laws which offer protection from discrimination due to a person's race, color, religion, or sex, within the retention and hiring process of an employee (EEOC 2016).

**Universal Design for Learning (UDL)** An approach to curriculum design that minimizes barriers and maximizes learning for all students, including students with disabilities (CAST 2010).

**Veteran** An individual that served in the US Military or fought in a war (Webster 2016).

**Veterans Affairs Certifying Official (VACO)** The student affairs staff member responsible for certifying student veterans enrollments at their institutions so the student veteran is eligible to receive GI Bill funding for college (Jurkowski 2014).

**Wicked Problems** Complex issues that do not have actual solutions because of underlying values or societal tensions; issues that cannot be dissected by discipline and solved in manageable segments (Carcasson 2013).

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