Predictors of Higher Education Participation for Students with a Specific Learning Disability: A Secondary Data Analysis of High School Students in Washington State

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Abstract

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Three school-level variables, including the proportion of minorities of the school's student population, the proportion of free and reduced price meal program participation of the school's student population, and student-teacher ratio, and five student-level variables, including race, gender, primary language, least restrictive environment type or code, and exit status, were modeled to examine their effect on the probability of participating in higher education by students with a specific learning disability (SLD). The results of the HGLM multilevel logistic regression indicate that probabilities of higher education participation significantly increase for those students who attend schools with a smaller student-teacher ratio, and who are non-white, female, identify English as their primary language, spend 40% or more of their time in the regular classroom, and have graduated or attained a GED degree.

TABLE OF CONTENTS

LIST OF TABLES

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Chapter 1. Introduction

As defined by Simi Linton (1998), ableism is "the idea that a person's abilities or characteristics are determined by disability or that people with disabilities as a group are inferior to nondisabled people" (p. 9). This odious idea, like other "–ism"s, has been used to deny persons housing, education, the right to vote, the right to own property, and the right to marry. The stigma of disability has been used to justify discrimination in all of these ways, ranging from blacks being labeled intellectually deficient to women being labeled physically deficient (Baynton, 2014). This cultural construction and "insult" of disability still persists today to perpetuate social hierarchies. Social movements often rise in response to such inequities, and the disability movement is no exception, particularly in regard to special education advocacy.

The American Community Survey estimates that as of 2014, approximately 40 million people, or 12.6% of non-institutionalized people across all ages, races, and education levels in the United States reported a disability (Erickson, Lee, & von Schrader, 2016). In the 2013-2014 school year, approximately 6.5 million children ages three to twenty-one were served under the Individuals with Disabilities Education Act (IDEA); of those children, 35% identified as having a specific learning disability, making it the largest group of students with disabilities served (U.S. Department of Education, 2015). Specific learning disabilities (SLD) include such conditions as dysgraphia, dyslexia, and dyscalculia, but for purposes of IDEA, do not include conditions such as autism or attention-deficit/hyperactivity disorder (ADHD) (Lewis, Shapiro, & Church, 2013).

Children with disabilities, including SLD, typically go on to have lower post-secondary education and employment outcomes compared to non-disabled peers (Gregg, 2013). According to Newman, Wagner, Cameto, and Knokey (2009), 47.3% of all students with SLD are attending post-secondary education institutions, including two-year, four-year, and vocational institutions.

According to the U.S. Department of Education, approximately 11% of undergraduates in the 2011–2012 school year reported having a disability (U.S. Department of Education, 2016). However, the rate of higher education attendance continues to increase for students with disabilities (Gregg, 2013).

Students with disabilities also face obstacles obtaining competitive employment or "real work for real pay." According to Erickson, Lee, and von Schrader (2016), only an estimated 34.6% of non-institutionalized people with disabilities across all races and education levels between the ages of 21 and 64 were employed in 2014. Although opportunities like volunteering, internships, and sheltered workshops ("enclaves") exist, paid opportunities such as customized employment (self-employment, job carving, etc.) and supported employment with ongoing support are lacking (Dosa, White, & Schuyler, 2013). Unpaid opportunities, although not entirely without merit, raise the obvious inequity of free labor and further diminish opportunities for viable career paths (Wehman, 2010).

In order to improve these outcomes, research must be done to better understand the nature of the inequity and identify factors that contribute to positive outcomes. To this end, this dissertation focuses on transition services and higher education outcomes for students with an SLD. Chapter 2 describes transition services, approaching such services from both practical and theoretical perspectives. The chapter also addresses the shift of transition outcomes from educational access to quality and accountability. Chapter 3 provides an overview of transition-related legal protections for students with disabilities, higher education legislation and pipeline programs, and identifies IDEA transition-related reporting requirements. Chapter 4 reviews the research on outcomes for students with an SLD, focusing mainly on post-secondary educational outcomes. A study on post-secondary educational outcomes for students with an SLD in

Washington is described in Chapter 5. To close, Chapter 6 provides a conclusion and future directions.

Chapter 2. Students with Disabilities and Transition

Students with disabilities enjoy certain rights and responsibilities with regard to educational opportunities. A wide variety of structures, disciplines, and values govern the services that these students receive, from a complicated network of federal and state statutes and regulations to etiologies of the very nature of the disabilities themselves. One such federal statute is the Individuals with Disabilities Education Act (IDEA), which provides that students who qualify for special education services have a right to transition services. Individuals with Disabilities Education Act, 20 U.S.C. §§ 1400-1450 (2016). Once children with disabilities leave the K-12 setting, it is typical that issues of financial stability, independence, and self-determination arise. In most instances, those issues are central to family and school discussions. Transition services aim to address these issues by successfully equipping students with the knowledge, skills, and attitudes needed to be independent to the fullest extent possible. For some students, this will mean transitioning to post-secondary education settings. For others it will mean transitioning directly to employment. Either way, employment outcomes are almost always envisioned for the long term for most children. Other outcomes include community engagement, continuing and adult education, and adult services.

Transition services describe a set of interventions and opportunities that are designed to provide guidance on educational, medical, financial, and social issues relevant to a child's post-secondary goals. By law, transition services are provided to students approximately two years before a student either graduates or ages-out of special education services and are integrated into the student's individualized education program (IEP). The IEP stands as a representation of all appropriate interventions and goals deemed necessary for the student's educational progress. Transition services are based on the individual child's needs, taking into account the individual's

strengths, preferences, and interests. IEPs are developed by instructors with the input of parents, children, and an interdisciplinary team of specialists.

Although the term "transition services" describes a range of services available to students, some services may be inappropriate for the needs of some students. The broadest categories of services include the following: (1) occupational/vocational education; (2) post-secondary/continuing education; (3) legal/advocacy; (4) transportation; (5) financial/income; (6) personal independence/residential; (7) medical/health; (8) employment; (9) recreation/leisure; and (10) other support needs, such as support groups, adult services, and assistive technology (Pierangelo & Giuliani, 2004). Another model, established by the National Secondary Transition Technical Assistance Center (NSTTAC, 2010), articulates a five-domain taxonomy of transition planning: student-focused planning activities, student development activities, family involvement, program structure, and interagency collaboration.

All transition services must be documented in a transition individualized education program (TIEP); some states have formalized plans, such as individualized transition programs (ITPs) that are separate from the formal IEP (Olson, Platt, & Dieker, 2008). Washington incorporates transition plans into the formal IEP. Aside from meeting procedural requirements, the required transition components of an IEP include the student's present level of performance, required accommodations and assistive technology, necessary related services, an identification of the least restrictive environment, determination of whether the student will participate in state testing, service time and location, goals, progress, and the extent to which the student will participate in the general education curriculum (Mahanay-Castro, 2010). In Washington, there are four steps in developing a traditional IEP (Center for Change in Transition Services, 2006). First, the IEP team, which consists of the student and his or her family, as well as school and agency

representatives, identifies the student's post-school desired goals and vision. Second, the IEP must describe the student's present levels of educational performance. Third, a statement of transition services needed must be designed. Last, the team must determine annual IEP goals or benchmarks.

It is critical that students play an active role in developing their own IEP when possible (Trainor, 2002; Field, Sarver, & Shaw, 2003). In the world of disability, this ability is known as "self-determination." Wehmeyer (1992) has defined self-determination as "acting as the primary causal agent in one's life free to make choices and decisions about one's quality of life, free from undue influence or interference" (p. 302). This definition has later been expanded to include four essential characteristics: (1) autonomy; (2) self-regulation; (3) psychological empowerment; and (4) self-realization (Wehmeyer & Schwartz, 1997). The purpose is to foster a student's ability to make autonomous decisions, self-advocate, and set goals. Students should be given opportunities to navigate situations with support, but ultimately move forward at their own discretion and agency, developing personal responsibility, and taking control of their lives in transformational ways. Models for fostering self-determination also work to dismantle dichotomous instructional models that operate in reference to "normal" and "accommodated" students.

2.1 Transition Services Content

Even though federal law identifies baseline requirements for compliance with IDEA and other civil rights statutes, the extent to which states adopt best practices vary. This creates a potpourri of approaches across jurisdictions reflecting the predilections of localities. However, a review of the literature identifies six effective practices in transition services: (1) develop students' self-determination skills; (2) focus on student-centered planning and student preference assessments; (3) promote student participation in general education; (4) link classroom curriculum to adulthood; (5) plan for the future and career awareness; and (6) develop "soft" skills.

Develop self-determination skills. Self-determination is known as a best practice in the field of education and has been a key component of education for those with disabilities (Trainor, 2002; Field, Sarver, & Shaw, 2003). It is broadly used with young adults transitioning from K-12 special education services and with adults across the life span. According to Wehmeyer and Field (2007), self-determination is a term that was initially coined in the 1980s and is defined as behavior which consists of "volitional actions that enable one to act as the primary causal agent in one's life and to maintain or improve one's quality of life" (p. 3).

There are four essential elements of self-determined behavior: (1) acting autonomously; (2) acting through self-regulation; (3) initiating responses to events in an empowered manner; and (4) acting in a self-realizing manner (Wehmeyer & Field, 2007). Acting autonomously means developing a personal identity and acting in congruence with that identity. Acting through self-regulation is when one makes decisions, implements plans, and also evaluates one's own actions. An empowered manner is the psychological disposition of believing that one has the power to take action to effectuate a desired change or outcome. Finally, self-realization requires comprehension of one's own strengths and limitations.

Several studies have suggested that the development of skills related to self-determination create better post-school outcomes (Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997; Wehmeyer & Schwartz, 1998). In a well-known study conducted by Wehmeyer and Schwartz (1997), it was shown that students who displayed higher levels of self-determination behaviors were more likely to be employed and have goals for living independently. Possessing the quality of self-determination seems to be essential for post-secondary educational success as well as for advancing healthy work and social relationships. Because of this, parents and others who will not abdicate the role of advocate to the college student can hinder in the name of helping. College

students need to learn to advocate for themselves. While students with disabilities in higher education may need and desire help clarifying options, they will also need to retain final choice. Although self-determination has been lauded as, and may well be, an essential element of teaching students with learning disabilities, Trainor (2002) warns educators to bear in mind the cultural diversity of their learning disabled students. Trainor noted that some hallmarks of self-determination can also come into conflict with cultural values.

Field and Hoffman (2002) recommended a few strategies to improve levels of self-determination: (1) infusing self-determination skills in the curriculum, family support programs, and staff development programs; (2) modeling self-determination behavior; and (3) supporting student involvement in planning and decision making. Parents can assist in developing these skills by encouraging their child to act independently where reasonable, fostering good decision making habits, and establishing predictable consequences for actions. Other strategies include engaging with the community to get a feel for jobs, skills, and life expectations after high school; working with students to learn life skills and giving responsibility over some aspects of their lives (establishing a bank account, job shadowing, scheduling, etc.); actively teaching problem solving skills and empowering students to make decisions; creating friendship groups within schools and communities; and teaching time management and personal responsibilities.

Focus on student-centered planning and preference assessment. Transition planning and assessment that focus on the needs and preferences of students are not only required by law, but also result in enhanced educational outcomes (Frank & Sitlington, 2000). Moreover, families and students also indicate better levels of satisfaction with programs that incorporate family and student preferences (Collet-Klingenberg, 1998). Strategies for teachers and parents include creating training seminars for inclusive transition planning; providing pre-planning documents and

strategies to get families and students to start thinking about post-secondary options; assigning certain portions of the transition process to the family and student; making resources and information about post-secondary options readily available; creating opportunities for families to meet with agencies and other important contacts in the community; and incorporating such principles into IEPs.

Promote participation in general education. The literature has repeatedly underscored the fact that there are social and educational benefits when students with disabilities are educated with their peers without disabilities (Hunt & Goetz, 1997). However, practical strategies for implementation continue to be a challenge for practitioners and prove to be the main obstacle for inclusion (Ford, Davern, & Schnorr, 2001). Strategies for teachers include the following: (1) implementing principles of Universal Design for Learning (UDL); (2) differentiating instruction; (3) providing peer tutoring; (4) teaching strategies; (5) co-teaching; (6) adapting instruction; and (7) embedding instruction in project learning. Other strategies could include mentoring as a means of preparation; contacting programs to collaborate with teachers and educators; making websites and resources available for students, such as blogs (community) for students with similar scenarios; and offering career counseling that considers specific disabilities.

Link the curriculum to adulthood. Studies have also shown the benefits of embedding the demands and requirements of adulthood into educational curriculum and objectives (Patton, Cronin, & Jarriels, 1997). Education should be reflective of the practical realities that students will face after they leave the confines and supports of secondary education. Teachers should be explicit in how the acquisition of specific knowledge and skills is relevant and necessary to achieving post-secondary goals. Teachers can integrate life skills instruction into all subject areas and also provide direct instruction in actual employment and life settings.

Plan for the future and career awareness. Studies show that vocational education courses, work experience, and community-based work taking place in the last two years of school enhance post-school employment outcomes (Flannery, Yovanoff, Benz, & McGrath Kato, 2008; Kraemer, McIntyre, & Blacher, 2003). Such efforts should be directed at building the skills necessary to successfully compete in the workforce, but also realistically address the students' own needs, strengths, and interests. Strategies for teachers and parents include the following: (1) assist students in exploring career options; (2) encourage students to achieve competency in an area in which the student shows interest and potential; and (3) provide opportunities for students to gain meaningful, relevant, and positive work experiences. Other strategies include incorporating vocational education throughout all four years of high school, rather than just the last two, integrating skills into programs and then applying them in the real world; providing exposure to careers available in the community; and offering more opportunities for parents to discuss their roles and ideas.

Develop "soft" skills. Finally, post-school quality of life depends greatly on a students' ability to form and sustain networks of social support including friends, family, and acquaintances (National Organization on Disability/Harris and Associates, 2000). These "soft" skills are important to maintain employment and independent living (Phelps & Hanley-Maxwell, 1997; Walker, 1999). Teachers and parents should explicitly teach social skills within employment and educational contexts and allow for regular socializing with peers without disabilities.

2.2 Transition Theories and Concepts

Four main theoretical frameworks consistently inform the discussion around post-secondary education and employment outcomes for students with disabilities. These frameworks include inclusion theory, systems theory, adolescent development theory, and career development theory.

In this context, inclusion theory describes a set of theories and concepts that approach and promote transition services and research through the perspectives of self-determination, normalization, and empowerment. Self-determination has already been discussed. Normalization is "the use of culturally normative means to offer people life conditions at least as good as those of average citizens, and as much as possible, to enhance or support their behavior, appearances, experiences, status, and reputation" (Wolfensberger, 1972, p. 8). Normalization theory formed the basis of the modern civil rights movement in the United States by positioning those with differences as marginalized. It also situated them in a way that theoretically requires integration or reintegration from those margins. This theory has much broader implications than just in the field of disability, as it has been used to desegregate schools in the South and promote pay equity between men and women. Normalization is essentially integrating marginalized populations into the mainstream and validating those differences at the same time. An example of normalization in the context of transition is the inclusion of students with disabilities in the general education curriculum and classroom. As stated above, participation in the general curriculum is a unique predictor of positive post-school outcomes. There are also social benefits when students with disabilities are educated with their peers without disabilities (Hunt & Goetz, 1997).

A third concept related to inclusion is empowerment. As stated by Inglis (1997), empowerment is when individuals develop the ability to exist within existing structures of power. Empowerment in this context can exist at various levels, ranging from broader social justice movements to the ways in which we critique existing structures and power dynamics. One example of a social justice movement is affirmative action. As a result of a series of highly contentious Supreme Court cases, public institutions may only use racial preferences as a remedy of last resort, and the policies must be justified and narrowly drawn to satisfy constitutional requirements (Dale,

2005). Disabilities rights advocates also fought drawn-out legal battles and lobbied to have federal and state legislation enacted to protect the rights of children and adults with disabilities. Enacting, enforcing, and protecting established policies at all levels of government requires the collaboration and buy-in from critical stakeholders who are committed to the full and equal participation of all groups. Equally important to empowerment is the way in which the status quo is contested and tradition and hegemony are contested to reveal inequities. Critical theory assists in understanding transition services and research by requiring that researchers and practitioners surface hidden assumptions to reveal systemic oppression. In the same way that critical race theory upsets white privilege, critical disability studies serves to disrupt ableism and identify how systems serve to only embolden existing hierarchies.

The concept of empowerment also extends to identity. In the context of higher education, educators have to confront their need to help learners who are "seeking empowerment strategies for practical as well as emotional needs" (Denhart, 2008). Identity issues for those with disabilities are not simple and indeed, as Clark (2006) notes, "the collective experience of disabled people is not one of solidarity" because of the varying degrees with which people identify themselves as disabled and as a member of a social group based on disability. In some ways, the isolation many with disabilities face is complicated by ambiguity surrounding the borders of who is "in" and who is not. As stated by Brown and Broido (2015), students belong to different communities based on different identities; forming a cohesive collective under the "disability" label can be especially tenuous because there are many forms of "disability." Thus, educators must not only be aware of students with disabilities when creating a curriculum and designing instructional activities, but also make an effort to connect to these students and to listen closely. Instructors and program coordinators must recognize the affective needs of students with learning disabilities as well as the

cognitive ones. This is reinforced by Strayhorn's (2012) theory of belongingness, which articulated that students' sense of belonging in higher education environments was critical to better academic, personal, and social outcomes. He posited that belongingness and a sense of identity were basic needs for all humans, but that these concepts were especially significant for students who come from historically underrepresented communities.

A second framework that informs transition-related post-secondary education and employment outcomes is systems theory. A foundational figure in general systems theory, Ludwig von Bertalanffy emphasized the relationship between the parts of a system and the whole, articulating that each independent part cannot be divorced from their sum (Bertalanffy, 1969). Under this approach, one could not simply seek to understand a part of a system without gaining the broader context of the environment and situation in which that part operates. To this end, systems analysis requires interdisciplinary perspectives, planning, and implementation of services for efficacious problem solving. This theory was espoused to apply to any discipline. Given the complex relationships that are included in transition services, it is no surprise that systems theory is a comfortable fit. Transition services also serve as a system in which many parts contribute to the whole.

Under IDEA, "transition services" are defined as a coordinated set of activities for a child with a disability that (a) is designed to be within a results-oriented process that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities, including post-secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation; (b) is based on the individual child's needs, taking into account the child's strengths, preferences, and interests; and

(c) includes instruction, related services, community experiences, the development of employment and other post-school adult living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation. 20 U.S.C. § 1401(35) (2016). Given the involvement of the student, family, teacher, administrators, school systems, communities, and state and federal decision-makers, the system is as complex as it is large. Systems theory can assist in better understanding how discrete parts and different disciplines are interconnected and dependent on another to improve student outcomes.

The third and fourth theories that inform transition services research are adolescent development theory and career development theory. As stated by Greene and Kochhar-Bryant (2003), transition service models are often times grounded within career development theories, which were developed and refined by researchers in the fields of adolescent and organizational theories.

Situating transition services in this way helps to explain why transition services are effective and congruent with what we already know about youth and young adults. Adolescent development theories generally posit that adolescence represents a critical transitional period in which a youth adapts from childhood to adulthood. This transition is a natural stage in which one makes sense of the self and others in order to negotiate safety and security. A variety of theories have been developed to explain this process, including lifespan theory, identity formation, social learning theory, and theories related to temperament, psychoanalytics, maturation, and cognitive development (Green & Kochhar-Bryant, 2003). Adolescent identity formation is one theory that has broad implications at both K-12 and higher education levels. For example, Adams, Gullotta, and Montemayer (1992) state that between the ages of 13 and 18, a child can either develop self-

doubt or uncertainty or self-assurance and a sense of mastery; this theoretical perspective also comports with what we have come to learn and believe about self-determination skills.

As stated above, "transition services" are statutorily defined as a coordinated set of activities designed to facilitate the movement from school to post-school activities, including integrated employment that is based on a child's needs, interests, and strengths. Career development theories can serve to inform transition-related activities and research. However, some controversy exists about the positionality of career development in the pipeline from school to work. As stated by Greene and Kochhar-Bryant (2003), some researchers and practitioners feel as if career development should occur throughout the K-12 curriculum, while others believe it belongs primarily in transition services. Still, others believe that the focus of K-12 must be on academic achievement. This tension is playing out in the real world as activities related to career exploration and apprenticeship are being removed from K-12 systems and saddled onto community college and vocational programs. The research is clear, however, that the benefits of connecting the demands and requirements of adulthood should play a role in educational curriculum and objectives (Patton, Cronin, & Jarriels, 1997). The question that remains is which educational system should be responsible for reflecting the practical realities that students will face after they leave the confines and supports of secondary education.

A few specific career development theories that help researchers to think through transition issues include trait-factor theories, personality theories, sociological models of career choices, developmental theories, and behavioral approaches (Greene & Kochhar-Bryant, 2003). Trait-factor and personality theories focus on matching certain abilities and dispositions with career choices, whereas sociological models posit that socialization and cultural forces essentially

predetermine or control career choices, irrespective of choice. Development theories generally hold that concepts of self-realization and personal fulfillment help to explain career choices.

On the whole, career development theories, and to a lesser extent, adolescent development theories, provide the strongest theoretical foundation for research in the field. As stated above, transition service models are grounded within career development theories, which are embedded within broader adolescent development theories. Career development theories do have their limitations, however, especially with regard to students and individuals with disabilities. Career development theories typically do not take into account external obstacles to employment, such as an employer's failure to provide reasonable accommodations, workplace discrimination, unfair hiring practices, and general attitudes and beliefs about disability. There are also internal challenges, such as issues related to stigma, self-esteem, self-determination, self-advocacy, and independent living skills. These issues, along with other challenges like a lack of mentors and career development supports are critical to post-school success and are also absent from much of the literature surrounding career development (Cummings, Maddux, & Casey, 2000).

In particular, broad career development theories could assist in how concepts such as self-determination, self-realization, and personal fulfillment impact outcomes. Career development theories could also assist in better framing and understanding how vocational education courses, paid or unpaid work experiences, and community-based work enhance post-school outcomes, and more importantly, how to design research in a way that moves the field forward and addresses unanswered questions. Unlike theories of inclusion and systems theory, which provide general rationales for research, career and adolescent development theories assist in operationalizing transition services for research design. Although general systems theory and inclusion theory

clearly help to justify the need for transition research, career and adolescent development theories helps to identify specific variables and support research design decision-making processes.

2.3 Transition Outcomes: From Access to Quality

In many ways, the theoretical frameworks discussed above are reflected in the historical development of transition services. The focus on positive post-school outcomes for students with disabilities has its development rooted in special education history, career education and development history, and the social, political, and economic histories that undergird related legislation. The development of educational rights for children has always been a social movement powered by parents, families, teachers, administrators, communities, professional advocates, elected representatives, and of course, students (Turnbull, Shogren, & Turnbull, 2011). No group, however, has been as influential as parents. Even though teachers were among the earliest advocates for special education services and resources, parents have consistently advocated on behalf of their children from the beginning (Turnbull et al., 2011).

What we now know as special education has its roots in 20th century institutions of public education (Gerber, 2011). This history, however, is also one of dramatic transformations that took hold between the 19th and 20th centuries through the influence of industrialization, urbanization, and mass immigration (Osgood, 2008). At the beginning of the 19th century, there were huge waves of immigration from rural to urban areas, and by the end of the century more individuals were living in the North, working in cities, and contributing to a national economy (Osgood, 2008). This shift from an agrarian economy also meant that many forms of work and types of work development were beginning to disappear, such as apprenticeships (Gerber, 2011).

The beginnings of special education began in 1903 with Elizabeth Farrell and Lillian Wald in New York City, as they recruited teachers to develop ungraded classes and differentiated

instruction (Gerber, 2011). These developments, however, occurred at the same time social Darwinists and eugenicists were sounding ideological alarms for forcible sterilization and drawing down funding for the expanding movement (Gerber, 2011). By 1912, however, special education was spreading and advocacy was well developed, leading to Farrell's creation of the Council for Exceptional Children in 1922 (Gerber, 2011). By the 1930s, a large contingent of middle-class families had coalesced to advocate for children's rights (Osgood, 2008). In 1950, parents came together to found the National Association of Parents and Friends of Mentally Retarded Children, now known as the Arc (Turnbull et al., 2011).

By the end of World War II, with stark realities facing the United States' space program in light of Soviet Union technological advances, public education was being positioned as the instrument by which the U.S. could reassert its political and economic dominance (Gerber, 2011). *Brown v. Board of Education*, 347 U.S. 483 (1954), and the Civil Rights Act of 1964, Pub. L. 88-352, 78 Stat. 241, also highlight the context of evolving legal and social perspectives on due process and equality under the law. These developments led to the passage of a funded educational mandate, the Elementary and Secondary Education Act of 1965, Pub. L. 89-10, 79 Stat. 27, and two other acts, namely the Rehabilitation Act of 1973, Pub. L. 93-112, 87 Stat. 355, and the Education of All Handicapped Children's Act of 1975, Pub. L. 94-142, 89 Stat. 773, (Gerber, 2011).

The Elementary and Secondary Education Act of 1965 (ESEA) was a federal mandate that required states to provide more opportunities for students with disabilities and was one of President Lyndon Johnson's cornerstones in his fight against poverty. Although it was broadly supportive of all disadvantaged children, it did specifically address the plight of individuals with disabilities (Yell, 2012). Around this time, two other equal opportunities cases, *Pennsylvania Association for*

Retarded Citizens (PARC) v. Commonwealth of Pennsylvania, 343 F. Supp. 279 (E.D. Pa. 1972), and *Mills v. Board of Education of the District of Columbia*, 348 F. Supp. 866 (D.D.C. 1972), led to the equal opportunity principle established in *Brown v. Board* to extend to individuals with disabilities. In *PARC*, the court found that equal opportunity required children with disabilities to be entitled to a free public education like all other children in the state. In *Mills*, the court found that like race, disability served as an unconstitutional basis for exclusion. A year later, the Rehabilitation Act of 1973 was passed as a non-discrimination act to normalize the experience of students with disabilities to provide access and equivalence in services made available by federal funds (Zigmond & Kloo, 2011).

Prior to 1975, disability was still largely viewed as deficit-based and thus it was generally believed that remediation was not social but individual and localized to the family (Turnbull et al., 2011). This, combined with states' failure to implement special education programs or otherwise effectively support the needs of students with disabilities under existing legislation, spurred Congress to pass the Education of All Handicapped Children's Act (EHA) of 1975, which was subsequently reauthorized as the Individuals with Disabilities Education Act (IDEA) in 1990, Pub. L. 101-476, 104 Stat. 1142. EHA is known as the first legislation addressing special education; previous laws impacting students with disabilities were drafted as non-discrimination legislation (Zigmond & Kloo, 2011). The purpose of the statute was to provide educational opportunities that guaranteed a free appropriate public education, which went beyond mere equivalence. The hearings leading up to the enactment of the statute were dominated by the voices of parents and advocacy organizations (Turnbull et al., 2011).

By the 1980s, however, the coalition of families that had formed to pass EHA had become disengaged due to not having any children in the school systems, and public backlash against

increased property taxes was intense (Turnbull et al., 2011). Although President Reagan sought to defederalize the monitoring and funding of special education services, parent groups and Congress provided sufficient support to end the effort (Turnbull et al., 2011).

Through the 1980s, legislation largely expanded access and opportunities for students with disabilities, but did not focus on outcomes or the quality of those opportunities. For example, the Carl D. Perkins Vocational Education Act, Pub. L. 98-524, 98 Stat. 2435 (1984), was passed to develop the academic and career and technical skills of secondary education students and post-secondary education students who elect to enroll in career and technical education programs, but did not specifically address outcomes or results.

In 1984, as poor post-school outcomes were more pronounced and visible in light of rising inequities, the U.S. Office of Special Education and Rehabilitative Services (OSERS) advocated for major changes to transition requirements in IEPs (Scanlon, 2011). OSERS Assistant Secretary Madeleine Will criticized post-school education and employment outcomes of students with disabilities, and with the 1990 amendments to the IDEA, Congress began to require states to provide transition services as a part of the individualized education program (Zigmond & Kloo, 2011). At that time, Congress defined "transition services" as a coordinated set of activities for a child with a disability that is designed within an "*outcome-oriented process*, which promotes movement from school to post-school activities, including post-secondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation" (emphasis added) Individuals with Disabilities Act Amendments of 1997. Pub. L. 105-17, 111 Stat. 37.

In establishing the statute, Congress found that as graduation rates for children with disabilities continued to climb, providing effective transition services to promote successful post-

school employment or education was an important measure of accountability for children with disabilities. 20 U.S.C. § 1400(c)(14) (2010). To this end, the statute created substantive requirements, such as providing for a free appropriate public education (FAPE) in a least restrictive environment, accompanied by appropriate evaluation and an IEP. 20 U.S.C. § 1400 et seq. To increase accountability, Congress passed the 1997 reauthorization of IDEA, Pub. L. 105-17, 111 Stat. 37, which required states to better document compliance with the statute. In 2001, Congress passed the No Child Left Behind Act (NCLB), Pub. L. 107-110, 30 Stat. 750 (2001). By explicitly requiring the assessment of students with disabilities under NCLB, the statute intended to further raise awareness of the importance of outcomes for students with disabilities and hold states accountable (Yell, 2012). Although NCLB was replaced in 2015 by the Every Student Succeeds Act, Pub. L. 114-95, 114 Stat. 1177 (2015), the reporting requirements were largely maintained.

This focus on transition processes and outcomes was situated in the broader conversation of workforce development and supporting the normalization of individuals with disabilities in public life. For example, Congress passed the Americans with Disabilities Act (ADA), Americans with Disabilities Act of 1990, Pub. L. 101-336, 104 Stat. 328, to support participation in employment. The ADA is a civil rights law that reinforces Section 504 of the Rehabilitation Act of 1973 by similarly prohibiting discrimination against individuals with disabilities; Title II requires reasonable modifications and prohibits discrimination by public entities including public schools. Under Title III, private schools "shall make reasonable modifications in policies, practices, or procedures when the modifications are necessary to avoid discrimination on the basis of disability." 28 C.F.R. § 35.130(b)(7) (2016). Another federal law that sought to better situate children with disabilities for employment was the School-to-Work Opportunities Act, Pub. L. 103-239, 108 Stat. 568 (1994), which provided funds for transition-related activities that created

meaningful opportunities for school and work-based learning. Although the statute produced increased outcomes for state-based employment programs, academic achievement, and youth development, it was not reauthorized under President George W. Bush in 2001 (McDonnell & Hardman, 2010).

Originally passed in 1992, the reauthorized Assistive Technology for Individuals with Disabilities Act of 2004, Pub. L. 108–364, 118 Stat. 1707, was passed to provide federal funds to support state efforts to improve the provision of assistive technology to individuals with disabilities through comprehensive statewide programs of technology-related assistance and support programs.

In 1998, President Clinton signed into law the Workforce Investment Act of 1998 (WIA), Pub. L. 105-220, 112 Stat. 936, which provided federal grants to improve youth and career-to-work programs, and also required states to fully accommodate students with disabilities, streamlined job training services by federal agencies, and provided universal access to essential services (McDonnell & Hardman, 2010). WIA reauthorized critical transition supports for individuals with disabilities, including requiring vocational rehabilitation agencies to coordinate with transition services educators and to assist with eligibility determinations. The Ticket to Work and Work Incentives Improvement Act of 1999, Pub. L. 106-170, 113 Stat. 1862, established the Ticket to Work and Self-Sufficiency Program, which provided individuals with disabilities certain protections for Medicare or Medicaid coverage. Under certain conditions, individuals maintained coverage while still having the opportunity to obtain employment. The purpose of the program was to eliminate barriers to work because prior to the enactment of the statute, individuals risked losing insurance by becoming employed. 42 U.S.C. § 1320b-19, et seq.

Superseding WIA, the Workforce Innovation and Opportunity Act of 2014, Pub. L. 113-128, 128 Stat. 1425, was later enacted to increase employment and education opportunities, including training and support services, for individuals with barriers to employment; the statute supports the alignment of workforce investment, education, and economic development systems in support of a comprehensive, accessible, and high-quality workforce development system. 29 U.S.C. § 3101, et seq. The bipartisan act supports programs for dislocated workers, adult education, literacy programs, and programs that assist individuals with disabilities.

By 2004, there were marked decreases in the number of students with disabilities who were dropping out of high school and commensurate increases in graduation rates (Scanlon, 2011). The 2004 amendments to IDEA would further reinforce the focus on transition services by emphasizing that transition services be "a *results-oriented process* that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities." (emphasis added) 20 U.S.C. § 1401 (2016). Prior to these amendments, the statute included the phrase "outcome-oriented process." The shift from "outcome" to "results" meant that educational agencies would not only be held to defining and measuring outcomes, but also the production of positive results. The amendments also clarified that outcomes should be related to both academic achievement and functional achievement, codifying the importance of the independent living movement. The amendments also created data-reporting requirements that are fully described in the next section. These reporting requirements enhance accountability and require educational agencies to report results, set new outcome targets, and propose changes to achieve those outcomes (Madaus, Banerjee, & Merchant, 2011).

Given the parallel developments in special education and workforce development, the focus on transition outcomes and results can be seen from both ends of a conversation: it can be

positioned as a broader conversation in special education about the purpose of programming and student achievement, and it can also be situated as a narrower conversation within workforce development and career preparation. In total, civil rights developments, education reform, and economic necessities have pushed the movement for access and opportunity to a new period of quality results and accountability.

Chapter 3. Transition-Related Law and Resources

Individuals with disabilities face many of the challenges that typically developing or able-bodied students face. Aside from the typical workplace, academic, and social challenges that impact people, individuals with disabilities transitioning to adulthood also face critical issues surrounding access, accommodations, and support (Brown & Broido, 2015). Individuals with disabilities are asked to make a dramatic transition from the K-12 setting that often redefines how they navigate the world around them. In the K-12 system, schools are responsible for identifying students with disabilities and developing appropriate programs that confer a meaningful benefit on the student. Workplaces and institutions of higher education, however, require that employees and students identify and advocate for their own needs. This shift underlies the various challenges, strategies, and opportunities for the field. This section provides an overview of the law and resources that support students with disabilities.

3.1 A Legal Overview

As has been previously mentioned, several important sources of law govern transition-related services and outcomes. The foremost federal statute is the Individuals with Disabilities Education Act (IDEA). IDEA funds states that assist in educating students with disabilities. Under IDEA, students can only qualify for such special education services based on their disability status. To qualify for coverage under IDEA, a child must meet one of the 13 categories of disability outlined in the statute. Under this categorical approach, the disability must adversely impact educational performance. IDEA lists 13 categories of disability: [A] child with a disability means a child evaluated…as having mental retardation, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), a serious emotional disturbance (referred to in this part as "emotional disturbance"), an orthopedic impairment, autism,

traumatic brain injury, another health impairment, a specific learning disability, deaf-blindness, or multiple disabilities, and who, by reason thereof, needs special education and related services. 20 U.S.C. § 1401(a) (2016).

The purpose of the Act is to ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living. 20 U.S.C. § 1400(d)(1)(A) (2016). In establishing the statute, Congress found that as graduation rates for children with disabilities continue to climb, providing effective transition services to promote successful post-school employment or education is an important measure of accountability for children with disabilities. 20 U.S.C. § 1400(c)(14) (2016). To this end, the statute creates substantive requirements, such as providing for a free appropriate public education (FAPE) in a least restrictive environment, accompanied by appropriate evaluation and an individualized education program (IEP); if a service is required for FAPE, it must be memorialized in an IEP, which is developed in a collaborative process between parents and school officials. 20 U.S.C. § 1400 et seq.

Under IDEA, "transition services" are defined as a set of activities for a child with a disability that is designed to be within a results-oriented process. 20 U.S.C. § 1401(35) (2016). The development of the IEP must consider the strengths of the child, the concerns of the parents for enhancing the education of their child, the results of the initial evaluation or most recent evaluation of the child, and the academic, developmental, and functional needs of the child. 20 U.S.C. § 1414(d)(3)(A) (2016). Beginning no later than the first IEP to be in effect when the child is 16, and updated annually thereafter, IEPs must include appropriate measurable post-secondary goals based upon age appropriate transition assessments related to training, education,

employment, and, where appropriate, independent living skills. 20 U.S.C. § 1414(d)(1)(A)(i)(VIII) (2016).

The critical feature of any IEP is its individualization based on the student's own needs. In *Dracut School Committee v. Bureau of Special Educ. Appeals of the Massachusetts Dept. of Elementary and Secondary Educ.*, 737 F. Supp.2d 35 (Dist. Mass. 2010), it was ruled that the school denied the student a free appropriate public education by failing to provide appropriate transition goals with particular regard to pragmatic language deficits, which were key to the student's post-secondary academic, social, and vocational success. Furthermore, if a participating agency, other than the local educational agency, fails to provide the transition services described in the IEP, the local educational agency must reconvene the IEP Team to identify alternative strategies to meet the transition objectives for the child set out in the IEP. 20 U.S.C. § 1414(d)(6) (2016).

IDEA also creates procedural obligations related to notification and participation. With regard to student participation, public agencies must invite students to attend their own IEP meeting if a purpose of the meeting will be the consideration of the post-secondary goals for the child and the transition services needed to assist the child in reaching those goals; if the child does not attend the IEP Team meeting, the public agency must take other steps to ensure that the child's preferences and interests are considered. 34 C.F.R. § 300.321(b)(1)-(2) (2016). Public agencies are also responsible for ensuring that one or both of the parents of a child with a disability are present at each IEP meeting or are afforded the opportunity to participate. Doing so includes notifying parents of the meeting early enough to ensure that they will have an opportunity to attend and scheduling the meeting at a mutually agreed on time and place. With regard to transition IEP meetings, the parents must also be given notice that a purpose of the meeting will be the

consideration of the post-secondary goals and transition services for the child. 34 C.F.R. § 300.322(a)-(b) (2016). Finally, to the extent appropriate, with the consent of the parents or a child who has reached the age of majority, the public agency must also invite a representative of any participating agency that is likely to be responsible for providing or paying for transition services. 34 C.F.R. § 300.321(b)(3) (2016).

Transitions services are also supported by two major acts: Section 504 of the Rehabilitation Act of 1973 and the ADA. Both acts serve to prohibit disability-based discrimination in educational and employment settings. Section 504 is an unfunded non-discrimination law that protects persons with disabilities from discrimination in programs or services that receive federal financial assistance. Section 504 states that no otherwise qualified individual with a disability shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination by any program receiving federal financial assistance. 29 U.S.C. § 794(a) (2016). The ADA is a civil rights law that reinforces Section 504 by similarly prohibiting discrimination against individuals with disabilities.

The ADA imports the definition of disability from Section 504: a "disability" is defined as "a physical or mental impairment that substantially limits one or more of the major life activities" of an individual. 42 U.S.C. § 12102(2)(A) (2016). Therefore, in order to gain protection under the ADA, one must not only have a disability, but have a record of such impairment or be regarded or perceived as having such impairment. An impairment is "substantially limiting" if it prevents the individual from performing major life activities that an average person can perform, or if it significantly restricts the individual's performance of an activity compared to the general public. Unlike IDEA, the ADA and Section 504 therefore have a functional approach; that is, inclusion is

based on the student's ability to function in major life activities. Disability determinations are made on a case-by-case basis.

Unlike the K-12 system, which is based on the state-obligated child-find system, in order to invoke the protections of the laws that govern employment and post-secondary education settings, individuals must self-identify. After this triggering event, employers and institutions typically require individuals to provide documentation - assessment and diagnosis - of their disability. There are no bright line rules in terms of sufficiency of documentation, but Section 504 and the ADA state that institutional documentation requirements cannot be burdensome. Documentation requirements thus vary from institution to institution, although most institutions require documentation to be current within the last three to five years.

Denhart (2008) noted that testing to prove learning disabilities is often an invasive, lengthy, and harsh experience, examining the learner's "medical, developmental, social, and family history as well as probing into their psychological state and current social life." Such testing serves as a reminder of how the issue of disabilities has been historically viewed through a primarily medical lens, leading to dehumanization (Rocco & Fornes, 2010). Further, these tests are expensive, and while a diagnosis is assessed free of charge in K-12 settings, such subsidies at the post-secondary level vary greatly (Denhart, 2008). Requesting these accommodations and maintaining a relationship with faculty members in higher education settings are the obligation of the student, which is a task that students may or may not be prepared for.

Washington State law also codifies certain rights and responsibilities for students with disabilities. The substantive and procedural protections guaranteed in IDEA are codified in Revised Code of Washington (RCW) Chapter 28A.155 (2016), Special Education, and

promulgated through regulations in Washington Administrative Code (WAC) Chapter 392-172A (2016), entitled "Rules for the Provision of Special Education."

Washington's partner to the ADA is codified in the Washington Law Against Discrimination (WLAD). RCW 49.60. In 1973, WLAD was amended to include people with physical, mental, and sensory disabilities. The statute prohibits discrimination on the basis of disability in public education. It guarantees students the full enjoyment of the benefits and services from schools, including extracurricular activities, and requires schools to make reasonable accommodations to the known limitations of the person if such failing to do so would prevent the individual from enjoying the benefits of education. There are some important distinctions between the ADA and WLAD. First, disability is defined differently. Second, Washington State allows for broader remedies, including pain and suffering. Third, the ADA and Section 504 are enforced by the U.S. Department of Education's Office of Civil Rights, whereas Washington State's Law Against Discrimination is enforced by the State Human Rights Commission. Finally, Chapter 388-891 of the WAC provides vocational rehabilitation services available to assist individuals with disabilities to prepare for, get, and keep jobs that are consistent with their strengths, resources, priorities, concerns, abilities, capabilities, interests, and informed choice, which is consistent with the Rehabilitation Act of 1973 and subsequent amendments.

In addition, the state legislature passed the 1993 Education Reform Act (HB 1209), which laid the foundation for the state's school-to-work system for students with disabilities. It established standards of learning based on four broad student-learning goals to help prepare students for life and work. The fourth goal is to provide opportunities for all students to develop the knowledge and skills essential to understand the importance of work and how performance, effort, and decisions directly affect future career and educational opportunities.

3.2 Higher Education Legislation and Pipeline Resources

Legal structures and programs exist unevenly at both the federal and state levels to support access to higher education for marginalized populations. These supports are intended to not only assist students in accessing higher education, but affording it as well. The Higher Education Act (HEA) of 1965, Pub. L. 89-329, 79 Stat. 1219, was enacted to strengthen the educational resources of our colleges and universities and to provide financial assistance for students. Read carefully, the enabling language of the HEA is largely restricted to funding and consumer protection mechanisms. The HEA provides Pell Grants, supplemental educational opportunity grants, and substantial payments to states to assist with financial aid. HEA also enacted special programs to support students with disabilities or those with financial or "cultural" needs.

In 2012, the Washington legislature created the Washington Student Achievement Council (WSAC). RCW 28B.77. The Council was created to provide strategic planning, oversight, advocacy, and program support to increase student success and educational attainment in Washington, and closely partners with organizations such as the Council of Presidents, Independent Colleges of Washington, and the State Board for Community and Technical Colleges. With specific regard to higher education, the Council advocates for higher education by educating the public on the economic, social, and civic benefits of postsecondary education. It also seeks to connect and align the work of educational programs, schools, and institutions to support student transitions from secondary and postsecondary education to the workforce and improve student success by setting minimum college admission standards and by supporting students' transitions through all phases of education. WSAC also prepares underrepresented middle and high school students for postsecondary education through early outreach and success programs such as College

Bound. Students also receive support from the Washington State Division of Vocational Rehabilitation and Job Corps.

"P20 Pipeline" describes an integrated system that incorporates educational systems from preschool through higher education. The goal of the P20 Pipeline system is to build intentionality around discrete efforts to move students through educational systems to higher education opportunities. As Vargas (2013) recommends, higher education outcomes can be maximized through college readiness resources. However, the outcomes of these efforts are debated. Domina (2009) concluded that although college outreach programs like Upward Bound can have positive effects on students' educational outcomes, those effects are usually modest and in most cases, statistically insignificant.

3.3 IDEA Transition-Related Reporting Requirements

As stated in the previous section, transition services legislation has evolved to focus on results. Section 1416 of IDEA governs the federal and state monitoring, technical assistance, and enforcement of the statute. The primary focus of monitoring activities is to improve educational results and functional outcomes for all children with disabilities. 20 U.S.C. § 1416 (a)(2)(A) (2016). The statute provides that the Secretary of Education is responsible for monitoring state performance plans (SPP). 20 U.S.C. § 1416 (a)(1)(A)(ii) (2016). These plans must be submitted annually for the approval of the Secretary who evaluates state efforts to implement the requirements and purposes of IDEA and improve such implementation. 20 U.S.C. § 1416 (b)(1)(A)-(B) (2016).

The statute also requires that states, through local educational agencies, monitor implementation. 20 U.S.C. § 1416 (a)(1)(C)(i) (2016). States must establish measurable and rigorous targets, and then use quantifiable and qualitative indicators to adequately measure and

analyze performance. 20 U.S.C. § 1416 (a)(3)(B), (b)(2)(A), (b)(2)(C)(i) (2016). Qualitative indicators include those indicators that assist in better understanding processes and in some instances, provide definitions for terms that are necessary for quantitative analyses. Analyses must be reported annually to the public, typically on the state educational agency's website. 20 U.S.C. § 1416 (b)(2)(C)(ii)(I) (2016). The performance plans, which include the analyses, are subject to the Secretary's review, approval, and sanctions. 20 U.S.C. § 1416 (c)(1) (2016).

To support indicator consistency across the states, the U.S. Department of Education's Office of Special Education Programs (OSEP) determined three priorities for monitoring and established 20 indicators related to each priority, as required by law. The three priority areas are the following: (1) the provision of a free appropriate public education in the least restrictive environment; (2) disproportionality; and (3) effective general supervision. Priority one, the provision of a free appropriate public education in the least restrictive environment, includes data related to the following: graduation rates (Indicator 1); dropout rates (Indicator 2); participation and performance on statewide assessments (Indicator 3); suspensions and expulsions (Indicator 4); participation/time in general education settings (LRE) (Indicator 5); preschool children in general education settings (preschool LRE) (Indicator 6); preschool children with improved outcomes (Indicator 7); and parental involvement (Indicator 8).

Priority two, disproportionality, includes data related to disproportionate representation in special education that is the result of inappropriate identification (Indicator 9), and disproportionate representation in specific disability categories that is the result of inappropriate identification (Indicator 10). Priority three, effective general supervision, includes district-level indicators related to child find and effective transitions, and state-level indicators related to general supervision. Child find and effective transitions indicators include data on timeframe between

evaluation and identification (child find) (Indicator 11), transition between Part C and Part B (Indicator 12), transition in the IEP (Indicator 13), and post-school outcomes (Indicator 14). The final five indicators related to state-level general supervision include noncompliance issues in general supervision system (Indicator 15), resolution of written complaints (Indicator 16), due process/dispute resolution (Indicator 17), dispute resolution (Indicator 18), mediations resulting in mediation agreements (Indicator 19), and timeliness and accuracy of state reported data (Indicator 20).

Of these 20 indicators, the four indicators relating to transition are indicator 1, 2, 13, and 14. Indicator 1, graduation rates, requires states to report "the percent of youth with IEPs graduating from high school with a regular diploma." In Washington, graduates are defined as "a student…[who] received a high school diploma or an adult diploma from a community college program during the reporting period (including a summer program). On-time graduates are those who receive a diploma in the expected year" (OSPI, 2014).

Indicator 2, dropout rates, requires "the percent of youth with IEPs dropping out of high school." Washington defines a dropout as the following:

> A student who leaves school for any reason, except death, before completing school with a regular diploma and does not transfer to another school. A student is considered a dropout regardless of when dropping out occurs (i.e., during or between regular school terms). A student who leaves during the year but returns during the reporting period (including summer program) is not a dropout. Students who receive a GED certificate are also categorized as dropouts. If a student leaves the district without indicating he or she is dropping out, and the district is not contacted by another district requesting student records

(an unconfirmed transfer), the student has an "unknown" enrollment status and is considered a dropout" (OSPI, 2014).

Indicator 13, transition in the IEP, requires the following:

The percent of youth with IEPs aged 16 and above with an IEP that includes appropriate measurable postsecondary goals that are annually updated and based upon an age appropriate transition assessment, transition services, including courses of study, that will reasonably enable the student to meet those postsecondary goals, and annual IEP goals related to the student's transition service needs. There also must be evidence that the student was invited to the IEP Team meeting where transition services are to be discussed and evidence that, if appropriate, a representative of any participating agency was invited to the IEP Team meeting with the prior consent of the parent or student who has reached the age of majority" (OSPI, 2014).

Washington's required elements for transition IEPs align with NSTTAC's Indicator 13 checklist, specifically requiring measurable post-secondary goal(s) that are updated annually and address education/training, employment and career exploration, and if appropriate, independent living skills, and more importantly, transition services that focus on improving both academic and functional achievement (OSPI, 2014). In regard to Indicator 13, transition in the IEP, OSPI reported that a 2009 review of 601 total IEPs that represented 67 districts demonstrated that 83.7% of students aged 16 and above met all of the transition requirements for the IEP.

Finally, Indicator 14, post-school outcomes, requires "the percent of youth who are no longer in secondary school, had IEPs in effect at the time they left school, and were enrolled in higher education or some other postsecondary education or training program, or competitively employed or in some other employment within one year of leaving high school." In Washington,

"enrolled in higher education" means youth who have been "enrolled on a full- or part-time basis in a community college (two-year program), or college/university (four- or more year program) for at least one complete term, at any time in the year since leaving high school"; "other postsecondary education or training" means "youth enrolled on a full- or part-time basis for at least one complete term at any time in the year since leaving high school in an education or training program (e.g., Job Corps, adult education, workforce development program, or vocational technical school which is less than a 2-year program)"; "competitive employment" means "youth have worked for pay at or above the minimum wage in a setting with others who are nondisabled for a period of 20 hours a week for at least 90 days at any time in the year since leaving high school," including military employment; and "some other employment" means "youth have worked for pay or been self-employed for a period of at least 90 days at any time in the year since leaving high school, including working in a family business (e.g., farm, store, fishing, ranching, catering services, etc.)" (OSPI, 2014). Indicator 14, post-school outcomes, demonstrated that in 2012, 25.5% of leavers in Washington State were enrolled in higher education, 46.3% were enrolled in higher education or competitively employed, and 66.2% were enrolled in higher education or in some other postsecondary education or training program, or competitively employed or in some other employment (OSPI, 2014).

Reporting requirements have the potential to increase accountability and encourage districts to engage in continuous improvement processes. At the heart of continuous improvement is executing data-informed strategies. In this context, those strategies should be aimed at improving student outcomes while recognizing the interdependency of key processes and stakeholders in educational systems. If the data are used properly, and processes are valued as an integral way to improve systems, then a cyclical process that is strategic, participatory, and adaptive to changing

needs and contexts should provide a robust basis for resource allocations and plans for improvement to improve student outcomes.

Chapter 4. Outcomes for Students with Specific Learning Disabilities

What constitutes a specific learning disability has been the subject of a protracted and heated conversation between practitioners and researchers. Currently, the DSM-V lists "specific learning disorder" as a single diagnosis that includes specifiers for impairments in reading, mathematics, and written expression, while expanding criteria to include shortcomings in general academic skills: "A neurodevelopmental disorder of biological origin manifested in learning difficulties and problems in acquiring academic skills markedly below age level and manifested in the early school years, lasting for at least 6 months; not attributed to intellectual disabilities, developmental disorders, or neurological or motor disorders" (American Psychiatric Association, 2013).

According to the American Psychiatric Association (APA), symptoms for SLD must be persistent and can include a wide variety of presentations: slow reading that requires inordinate effort, poor and unclear written expression, memory difficulties with number facts, or mathematical reasoning weaknesses (American Psychiatric Association, 2013). Practically speaking, specific learning disabilities include dyslexia, dysgraphia, and dyscalculia (American Psychiatric Association, 2013). It also includes auditory processing disorders, nonverbal learning disabilities, organizational learning disorders, sensory integration disorders, and visual processing disorders (American Psychiatric Association, 2013). Associated impairments of SLD include those related to memory, executive functioning, ADHD, social cognition, and emotional disorders, such as anxiety and depression; it's also important to note that sensory and motor impairments can also simulate SLD symptoms (Lewis et al., 2013).

Specific reading disability (dyslexia), which is neurobiological in origin, involves any deficit in the processing or interpretation of written words, including phonological impairment,

disrupted orthographic processing, or a combination of both impairments (Lewis et al., 2013). People with dyslexia typically underutilize the left temporo-parietal cortex throughout their lives (Gabrieli, 2009). These impairments can lead to difficulties in reading comprehension, fluency, and learning. Dysgraphia impacts written expression, including processing and reporting information in written form (Lewis et al., 2013). Specific mathematics disability (dyscalculia), which is also neurobiological in origin, requires deficits in counting, basic calculations, problem solving, measurement, time, and equivalence, but because symptoms are so closely related to other skills and neurological processes, it must be adequately distinguished from other conditions (Lewis et al., 2013).

Oral and written language learning disability is a language disorder as categorized in the DSM-V. Language disorders are defined as "persistent deficits in comprehension or production of language (e.g. spoken, written, sign language) substantially below age level, beginning in the early developmental period, and not due to other disorders or conditions" (American Psychiatric Association, 2013). This differs from specific language impairment, which impacts oral language.

Difficulties related to specific written disabilities and oral and written language learning disabilities can present themselves as motor or cognitive challenges (Lewis et al., 2013). For example, a student could have difficulty with holding a pen, spelling, pronunciation, and drafting a simple sentence to a reflection on his or her own thoughts. Known interventions include specialized instruction in both listening and reading comprehension and both oral and written expression, and explicit writing strategies such as the self-regulated strategy development (SRSD) model (Arfe, Dockrell, & Berninger, 2015).

In contrast to the APA's definition of SLD, IDEA defines "specific learning disability" as the following:

> Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia…Specific learning disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage. 34 C.F.R. § 300.8(c)(10) (2007).

According to Lewis, Shapiro and Church (2013), the IDEA definition is problematic because it fails to define "basic psychological processes," and also promotes the outdated discrepancy model to determine classification, which has been proven to be singularly invalid. IDEA requires diagnostic assessments to be a comprehensive and individualized examination, involve a team of knowledgeable persons, and lead to an intervention; the team must also collect meaningful data to monitor student progress (Yell, 2012). In light of this, even though the IDEA does in some ways promote the discrepancy model, it also does not require the direct application of the model, either. Recognizing that discrepancy alone is not sufficient, IDEA also supports Response to Intervention (RTI):

> Notwithstanding section 1406(b) of this title, when determining whether a child has a specific learning disability as defined in section 1401 of this title, a local educational agency shall not be required to take into consideration whether a child has a severe discrepancy between achievement and intellectual ability in oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculation, or mathematical reasoning. In determining whether a child has a

> specific learning disability, a local educational agency may use a process that determines if the child responds to scientific, research-based intervention as a part of the evaluation procedures described in paragraphs (2) and (3). 20 U.S.C. § 1414(b)(6) (2016).

Although there are many educators who support RTI, it also has its detractors. RTI requires resources that many schools argue they cannot support. For example, it requires well-trained educators who can implement instructional and assessment methods with fidelity in the classroom. There are also greater issues of defining instruction and the extent to which those methods are valid as assisting in operationalizing disability.

Another problematic issue related to the IDEA definition is the requirement that SLDs not include "learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage." 34 C.F.R. § 300.8(c)(10) (2016). This raises a host of issues because matters related to emotional and behavioral disturbances, as well as culture and poverty, can be confounded with disability; disentangling one "disadvantage" from another cannot be so easily achieved in every case. Aside from the troubling positioning of "culture" as a "disadvantage," there are considerable issues for educators and education specialists when considering culture or poverty as exclusionary criteria. For example, Swanson, Saez, Gerber, and Leafstedt (2004) found that there are often inaccuracies in diagnosing students with reading disabilities in English language learning populations because difficulties related to second-language acquisition and reading acquisition are often conflated.

Although genetics can explain the prevalence of the condition, early intervention can be critical in addressing the development of such behavioral issues (Lewis et al., 2013). Furthermore, a combination of both instructional and cognitive interventions that address the student's abilities

and disabilities are recommended (Alexander & Slinger-Constant, 2004). Research at the intersection of transition and SLD has also yielded important findings for in-school and post-school outcomes.

Some of the most revealing research has come from the National Longitudinal Transition Study-2 (NLTS2). The study collected data on approximately 11,000 children with disabilities. Sources included children, their parents, and the schools that provided those children with special education services. Data related to student demographics, both in-school and post-school experiences, as well as other factors that could potentially influence post-school outcomes, such as parental expectations, community involvement, and interagency collaboration.

Much of the research has focused on environmental analyses of transition services and student dispositions impacting the K-12 environment. For example, in 2012, Shogren and Plotner (2012) found that children with autism or intellectual disabilities were less likely to have individualized education programs that explicitly included transition goals related to post-secondary employment or education outcomes. In seeking to better understand the impact of culture on self-determination, Shogren, Garner-Villarreal, Dowsett and Little (2014) used NLTS2 data to find that ethnicity significantly and uniquely predicts levels of self-determination, but that the impact on self-determination varied by ethnic group and disability category. The researchers described self-determination in terms of autonomy, self-realization, and empowerment.

Research has also focused on predictors of post-secondary outcomes. In reviewing the literature, there are approximately 17 predictors of post-secondary education and employment outcomes as identified by the National Secondary Transition Technical Assistance Center (NSTTAC) (2013). The predictors that have been identified to significantly predict both education and employment outcomes include student support, inclusion in the general education classroom,

parent expectations, self-care/independent living capacity, self-advocacy/self-determination, social skills, interagency collaboration, transition program, career awareness, vocational education, occupational courses, and paid employment/work experience.

In 2014, Wagner, Newman, and Javitz found that socio-economic status had a significant effect on post-secondary education and employment outcomes. They also found that being a male was significantly correlated with participation in higher education; interestingly, being African American was significantly correlated with participation, but being Hispanic was not (Wagner et al., 2014). They also found that participation in the general education classroom and earning a high school diploma was significantly predictive of higher education enrollment (Wagner et al., 2014). Data on English language learners with disabilities is sparse, but in one NLTS2 study, Trainor, Murray, and Kim (2016) found that English learners with disabilities enrolled in higher education at the same rate as other students with disabilities. Using data that captured parental expectations for children's post-school outcomes, Doren, Gau, and Lindstrom (2012) found that higher levels of parental expectations were in fact a predictor for positive post-secondary education and employment outcomes.

Recent NLTS2 studies that have explored post-secondary education outcomes primarily focus on disability-related factors and inclusion in the general curriculum. In 2012, Fleming and Fairweather studied the correlation between disability-related and traditional demographic factors as predictors of post-secondary education. The study found that traditional factors, such as socioeconomic status and ethnicity, were significant predictors for attendance at four-year institutions, whereas disability-related factors, such as IDEA disability category and level of special education services received, were significant predictors for attendance at vocational training institutions. In 2013, Lombardi, Gau, Doren, and Lindstrom found that participation in

general education instruction in language arts and math was uniquely predictive of attendance at a two-year institution.

Research with specific regard to students with an SLD has been relatively consonant with the foregoing findings. In 2015, Joshi and Bouck used a logistic regression to find that a student's level of participation in the general education classroom significantly predicted engagement in higher education. Specifically, the results demonstrated that students with learning disabilities attended 2-year institutions of higher education at greater rates than other education options (Joshi & Bouck, 2015). Another 2015 study by Rojewski, Lee, and Greg applied a propensity score analysis to the NLTS2 data to reach a similar conclusion that participation in general education improved post-secondary education outcomes for adolescents with SLD or emotional-behavior disorders. In particular, those students with 80% or more of their academic credits in general education settings were two times as likely to enroll and persist in postsecondary education (Rojewski, Lee, & Greg, 2015).

More research must be conducted to better understand how educators at both the secondary and post-secondary levels can critically support students as they transition from high school to higher education. In 2009, Milsom and Dietz conducted a Delphi study to analyze the college readiness of students with learning disabilities. The top 10 factors for college readiness included the following, ranked by agreement of the 29 panelists: (1) confidence; (2) self-advocacy knowledge; (3) willingness to self-advocate; (4) persistence; (5) study skills, (6) time management skills; (7) self-determination skills; (8) self-regulation; (9) knowledge of personal strengths and weaknesses; and (10) knowledge of whether the available college accommodations fit their individual needs. As the researchers noted, only this last factor is unique to students with disabilities. However, educators must continue to challenge themselves to think of ways in which

they can surface assumptions about how students with disabilities learn best, how educational systems support or create obstacles to achievement, and how to create effective change to meet the needs of a diverse student population.

Chapter 5. A Study Exploring Higher Education Outcomes for Students with SLD

In support of quality transition services and outcomes for students with disabilities, the Center for Change in Transition Services (CCTS) provides educational support and resources for students and families and professional development for educators. CCTS' primary goal is to improve post-school outcomes for students with disabilities. Founded in 1990 as a State Needs Project, CCTS was funded by a Transition Systems Change grant from the Office of Special Education and Rehabilitative Services. CCTS was originally provided space at the University of Washington, but in 2004 moved to Seattle University's College of Education. CCTS is currently staffed by Professor and Principal Investigator Cinda Johnson, Ed.D. Funding is administered by the state's Office of the Superintendent of Public Instruction (OSPI), but funding is now federally sourced through the funding mandate of IDEA (Center for Change in Transition Services, 2016).

To improve post-school outcomes, CCTS provides secondary transition training and technical support to Educational Service Districts (ESDs), Local Educational Agencies (LEAs), and public schools that serve high school-age students who have an IEP. CCTS provides resources for parents and students regarding important definitions and the nature of transition services in Washington State. This extends to rights under IDEA and state-based graduation requirements. It also provides resources for students in the following areas: (1) assessments related to career, independent living, interest inventories, preference surveys, and self-determination and advocacy; (2) assistive technology; (3) dropout prevention; (4) health issues; and (5) post-secondary options. For instructors, CCTS provides resources for age-appropriate transition assessments, delineation of measurable post-secondary goals, transition services, courses for study, annual IEP goals, and agency collaboration.

CCTS also assists school districts and regions in complying with reporting requirements under IDEA. CCTS staff work with OSPI and district personnel to collect, analyze, and report data on the effectiveness of transition services. As stated above, IDEA Indicator 14 requires the collection of the following data through the Post-School Survey:

> Indicator 14: Percent of youth who are no longer in secondary school, had IEPs in effect at the time they left school, and were:
>
> A. Enrolled in higher education within one year of leaving high school.
>
> B. Enrolled in higher education or competitively employed within one year of leaving high school.
>
> C. Enrolled in higher education or in some other post-secondary education or training program; or competitively employed or in some other employment within one year of leaving high school. (Center for Change in Transition Services, 2016)

The survey asks respondents to select only one disability with which they identify. Once those data are analyzed, results are shared with school districts and then posted to the OSPI website and the CCTS website. From there, each of the stakeholders are responsible for monitoring relevant improvements to programs.

5.1 Research Aim

This study focuses on higher education outcomes for students with specific learning disabilities in Washington State, using student-level data from CCTS' post-school survey and student-level and school-level data collected by Washington State's Office of Superintendent of Public Instruction's (OSPI). OSPI's Comprehensive Education Data and Research System (CEDARS) database includes student demographics, enrollment information, grades, and program participation. Although CCTS currently collects and reports student-level data on Indicator 14,

those data have not been used to explore how factors at both the student and school levels predict higher education outcomes.

5.2 Design and Method

This study uses multilevel modeling, which is appropriate when data for participants are organized at more than one level. In this case, the data are organized at the student- and school-levels. For example, race is categorized at the student-level, whereas participation rates in free and reduced price meal programs are designated at the school-level. Because the outcome for higher education participation is dichotomous, hierarchical generalized linear modeling (HGLM), a multilevel logistic regression, which allows one to determine the probability of a binary outcome, was selected. HGLM also addresses the assumption of independence of errors because ignoring the levels of data would inflate Type I error rate due to the assumption of more degrees of freedom than appropriate. The sampling distribution is Bernoulli.

5.3 Research Question

To what extent do five student-level variables, including race, gender, primary language, least restrictive environment type or code, and exit status, and three school-level variables, including the proportion of minorities of the school's student population, the proportion of free and reduced price meal program (FRM) participation of the school's student population, and student-teacher ratio, impact the probability of a Washington State high school student with a specific learning disability participating in higher education?

5.4 Data Sources and Instrumentation

As stated above, student-level data were collected from the CCTS survey and OSPI's CEDARS database. Data were obtained through a partnership agreement between CCTS and OSPI. School-level data were collected from OSPI's Washington State Report Card, which is a

publicly accessible database. Exploring data from all three sources will deepen the research and assist in creating better models to help explain this outcome. The higher education outcome is collected via Question 14 in the annual CCTS survey, which is administered one year after students with disabilities, who have received special education services, have left high school.

5.5 Participants and Variables

The sample of participants was drawn from a dataset of 2,808 survey respondents who identified as having an SLD and were students who left public secondary schools during the 2013-2014 school year. The respondents for this initial sample were enrolled across 419 Washington schools. Because the research question included characteristics of schools, schools with less than five respondents were excluded from the study. This eliminated 394 respondents (14.03% of the 2,808 cases) across 199 schools (47.49% of the 419 schools). Additionally, all seven respondents from one school were excluded because the school code did not match any school codes in the OSPI data manual.

From the remaining 2,407 respondents, 182 student cases were removed listwise from the sample due to inadequate or missing data. Listwise deletion of incomplete data was selected over multiple imputation due to the relatively low number of cases with missing data, the low number of variables with missing data, and the appearance that these categorical data were missing completely at random. At the school-level, one school was missing student-teacher ratio data, so those 5 associated student cases were also excluded. With the remaining cases, missing student-level data were observed for only two variables across 141 cases, which represents approximately 5.86% of the 2,407 cases. Those variables included primary language and LRE type. All 24 cases (1% of the 2,407 cases) with missing primary language data were also missing LRE type data (5.86% of the 2,407 cases). Excluding those 141 cases led to the exclusion of an additional 36

cases, as those additional cases were school-associated and thus fell under the five-case threshold for inclusion in the study. In total, only 182 (7.56%) of the 2,407 respondents of the reduced sample were excluded. Sampling weights were not used.

As illustrated in Table 5.1, *Student-School Distribution*, the final sample included 2,225 complete respondent cases across 208 schools. The mode distribution was five students per school, with 29 schools reporting 5 student-level records each. The five student-level binary variables collected through OSPI's CEDARS database were race, gender, primary language, high school completion status, and least restrictive environment (LRE) code. Least restrictive environment codes, LRE, indicate the extent to which a respondent received special education and related services outside the regular classroom. All five of these predictor variables were dummy coded, as described in Table 5.2, *Participant Descriptives*.

Student demographics of the 2,225 respondents are included in Table 5.2, *Participant Descriptives*. 54.4% identified as white and 45.6% identified as another race. 39.1% of the participants were female and 60.9% were male. 78.8% self-reported English as their primary language and 21.2% reported a language other than English. 86.9% had graduated from high school or completed a GED and 13.1% dropped out or aged out of special education services. 3.1% of the participants spent 0% - 39% of the school day in regular class, which may have included self-contained special education classrooms with part-time instruction in a regular class or with full-time special education instruction on a regular school campus. 96.9% of participants spent 40% or greater of the school day in regular class, which may have included regular class with special education/related services provided within regular classes or outside regular classes, or regular class with special education/related services provided outside regular classes.

Three school-level continuous variables were collected from OSPI's Washington State

Table 5.1. Student-School Distribution

Number of students per school	Number of schools with specified number of students	Cumulative frequency of schools	Cumulative frequency of students
5	29	29	145
6	15	44	235
7	26	70	417
8	19	89	569
9	16	105	713
10	18	123	893
11	11	134	1014
12	10	144	1134
13	8	152	1238
14	17	169	1476
15	9	178	1611
16	2	180	1643
17	6	186	1745
18	4	190	1817
19	4	194	1893
20	2	196	1933
21	2	198	1975
22	2	200	2019
23	3	203	2088
24	1	204	2112
26	1	205	2138
28	2	207	2194
31	1	208	2225

Report Card: (1) the percentage of minority students enrolled; (2) the percentage of students participating in the free and reduced price meal program; and (3) student-teacher ratio. The average percentage of minority students across all 208 schools was 41.85%, *SD* = 22.64. The range of minority proportion was considerable: 4.76% to 97.08%. Across schools, the average free and reduced price meal program participation was 44.65%, *SD* = 20.57. The range of program participation was again, quite large: 3.37% to 95%. The average student-teacher ratio was 18.95

Table 5.2. Participant Descriptives

Category	n	%
Higher Education Participation		
Did Not Participate	1808	81.3
Participated	417	18.7
Race		
White	1211	54.4
Non-white	1014	45.6
Gender		
Male	1354	60.9
Female	871	39.1
Primary Language		
Not English	471	21.2
English	1754	78.8
Least Restrictive Environment Code		
39% or less of day in general education	68	3.1
40% or greater of day in general education	2157	96.9
Graduation Status		
Dropped / Aged Out	292	13.1
Graduated / GED	1933	86.9

Note . N=2225. Race coded 0=white, 1=non-white; gender coded 0=male, 1=female; PrimL, primary language, coded 0=non-English, 1=English; LRE, least restrictive environment, coded 0=39% or less of day in general classroom, 1=40% or greater of day in general classroom; and Exit, exit status, coded 0=dropped out or aged out, 1=graduated/general education development (GED) program.

students per teacher, SD = 5.48. The range was 10 to 85. There was a significant relationship between the percentage of minorities and the percentage of FRM, ($r(208) = .72$, $p < .001$), as well as between the percentage of FRM and student-teacher ratio, ($r(208) = -.08$, $p < .001$); however, there was no significant relationship between percentage of minorities and student-teacher ratio, ($r(208) = .02$, $p = .411$).

The binary outcome variable, higher education participation, was controlled by the following definition: a student is considered to be participating in higher education if the youth is

no longer is secondary school, had an individualized education program (IEP) in effect at the time they left school, and were enrolled on a full-or part-time basis at a community college (two-year program), or a college or university (four- or more years program) for at least one complete term, at any time in the first year since leaving high school. These data, collected through CCTS' survey, were self-reported by respondents or their family members and coded dichotomously.

As shown in Table 5.2, of the 2,225 respondents, the overall probability of participating in higher education is 18.7%. The sample's probability of participating in higher education is 20% for students of color and 18% for students who identify as white; the odds of participating in higher education for students of color is .25, for white students it is .21. Non-white students were 1.17 times more likely to participate in higher education. The sample's probability of participating in higher education is 25% for females and 15% for males; the odds of participating in higher education for females is .33, for males it is .17. Females in the sample were 1.89 times more likely to participate in higher education than men.

The sample's probability of participating in higher education is 19% for students whose primary language is English and 16% for those who identified another language; the odds of participating in higher education is .24 for those identifying English as their primary language and .19 for others. Thus, students in the sample who identified English as their primary language were 1.28 times more likely to participate in higher education than those do not. The sample's probability of participating in higher education is 19% for students who spent 40% or more of their day in general education classes and 4% for those who spent 39% or less; the odds of participating in higher education for students who spent 40% or more of their day in general education classes is .24, for others it is .05. Students in the sample who spent 40% or more of their day in general

education classes were therefore 5.15 times more likely to participate in higher education than those who do not.

The sample's probability of participating in higher education is 21% for students who graduated or obtained a GED and only 3% for those who dropped or aged out of special education services; the odds of participating in higher education for graduates and GED completers is .27, for others it is .03. Those who graduated or completed a GED were 9.53 times more likely to participate in higher education than those who do not.

5.6 Data Analysis and Results

As a preliminary step, chi-square tests of independence were conducted in SPSS v. 19.0.0.2 to examine the relationships between predictor variables and the higher education outcome variable. Three predictors were found to have statistically significant relationships with higher education participation. There was a significant relationship between gender and higher education participation: 24.8% of women participated in higher education compared to just 14.8% of men, $\chi^2(1, N = 2225) = 34.49$, $p < .001$. A relationship between least restrictive environment type and higher education participation was also significant, $\chi^2(1, N = 2225) = 9.46$, $p = .002$. Only 4.4% of students who spent 0% - 39% of the school day in regular class received services outside the regular classroom participated in higher education, whereas 19.2% of students who spent 40% or greater of the school day in regular class participated in higher education. Unsurprisingly, a significant relationship was found between school exit status and higher education participation, $\chi^2(1, N = 2225) = 56.51$, $p < .001$. 21.2% of students who graduated or obtained a GED went on to participate in higher education, while only 2.7% of those students who dropped or aged out went on to do the same. No statistically significant relationships were found between the outcome and race, $\chi^2(1, N = 2225) = 2.00$, $p = .157$, or primary language, $\chi^2(1, N = 2225) = 3.12$, $p = .078$.

A total of seven hierarchical models for binary data were estimated in HLM v. 7.01's default penalized quasi-likelihood strategies and through Laplace transformation; however, only three models are formally reported for comparison in Table 5.3, *Model Comparison*. Model 1 is a null or unconditional model, which was conducted to obtain the average log-odds of students participating in higher education across all schools.

The following equations define each level of the null model:

Level 1: $\eta_{ij} = \beta_{0j}$

Level 2: $\beta_{0j} = \gamma_{00} + u_{0j}$

β_{0j} represents the log-odds of success for children in the *j*th school, γ_{00} represents the average log-odds of success across all schools, and u_{0j} represents the random error effect.

The mixed model is as follows:

$\eta_{ij} = \gamma_{00} + u_{0j}$

Results of Model 1, the unit-specific null model, are provided in Table 5.3, *Model Comparison*. The predicted logit or log-odds for an average school in this sample is γ_{00} = -1.50 (*SE* = 0.07). This average logit is significantly different from zero, $t(207) = -22.27$, $p < .001$. The variance component is also significant, $\tau_{00} = 0.27$, $\chi^2 (207) = 286.39$, $p < .001$. The estimated odds of participating in higher education for students within a typical school is exp (-1.50) = 0.22. Thus, the estimated probability of engaging in higher education is .18, or 18%. Approximately 95% of the schools have logits between -2.52 and -0.48, with estimated probabilities between .07 and .38, or 7% and 38%, respectively. What follows are several more models that assist in better understanding the nature of higher education participation among students with SLD in Washington.

Table 5.3. Model Comparison on Higher Education Outcome

	Model 1			Model 2			Model 3		
	Coefficient	SE	Odds Ratio	Coefficient	SE	Odds Ratio	Coefficient	SE	Odds Ratio
Fixed Effects									
Intercept, γ_{00}	-1.50 ***	0.07	0.22	-5.76 ***	0.73	0.003	-5.76 ***	0.73	0.003
StudentRatio, γ_{01}							-0.18 *	0.08	0.84
Race, γ_{10}				0.33 **	0.12	1.39	0.34 **	0.12	1.40
Gender, γ_{20}				0.59 ***	0.11	1.80	0.59 ***	0.11	1.81
PrimaryLang, γ_{30}				0.41 **	0.16	1.51	0.41 **	0.16	1.51
LREType, γ_{40}				1.51 *	0.63	4.54	1.51 *	0.63	4.54
ExitStat, γ_{50}				2.18 ***	0.37	8.86	2.18 ***	0.37	8.87
Random Effects									
Variance component in higher education participation (τ_{00})	0.27***			0.26***			0.25***		
Deviance under Laplace estimation (parameters estimated)	6212.11, $df = 2$			6089.04, $df = 7$			6084.15, $df = 8$		

Note . All metrical variables grand mean centered. All binary variables dummy coded. Higher education participation coded with 1=participated; gender coded with 1=female; race coded with 1=non-white; primary language coded with 1=English; least restrictive environment coded with 1=40% or more of the day spent in regular classrooms; and graduation status coded with 1=graduated/general education development (GED) program.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Model 2 is a random intercept model containing only student-level predictors. It was conducted to obtain the log-odds of participation in higher education by examining the fixed effects of those explanatory predictors. As stated above, student-level predictors included all five independent student-level variables: race, gender, primary language, LRE code, and exit status. The following equations define each level of the model:

Level 1: $\eta_{ij} = \beta_{0j} + \beta_{1j}*(RACECODE_{ij}) + \beta_{2j}*(GENDER_{ij}) + \beta_{3j}*(PRIMARYL_{ij}) + \beta_{4j}*(LRETYPEC_{ij}) + \beta_{5j}*(EXITSTAT_{ij})$

Level 2: $\beta_{0j} = \gamma_{00} + u_{0j}$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

β_{0j} represents the estimated log-odds of success for children in the jth school, γ_{00} represents the average log-odds of success across all schools, holding all predictors constant, and u_{0j} represents the random error effect. γ_{10} is the main effect of race; γ_{20} is the main effect of gender; γ_{30} is the main effect of primary language; γ_{40} is the main effect of LRE type; and γ_{50} is the main effect of exit status.

The mixed model is as follows:

$$\eta_{ij} = \gamma_{00} + \gamma_{10}*RACECODE_{ij} + \gamma_{20}*GENDER_{ij} + \gamma_{30}*PRIMARYL_{ij} + \gamma_{40}*LRETYPEC_{ij} + \gamma_{50}*EXITSTAT_{ij} + u_{0j}$$

The intercept for the second model is γ_{00} = -5.76 (SE = 0.73). This average logit is significantly different from zero, $t(207) = -7.84$, $p < .001$. The intercept represents the estimated

log-odds of success for children who are white, male, do not identify English as their primary language, spend 39% or less of their day in regular classrooms, and have either aged out or dropped out of high school. The estimated odds of this child are 0.003, which equates to a predicted probability of participating in higher education of 0.003, or 0.3%. Interestingly, the referent odds disfavor higher education participation for white males, but perhaps unsurprisingly, those white males who do not identify English as their primary language, spend 39% or less of their day in regular classrooms, and have either aged out or dropped out of high school.

All main effects under this model were significant, as demonstrated in Table 5.3, *Model Comparison*. The variance component is also significant, $\tau_{00} = 0.26$, $\chi^2 (207) = 281.97$, $p < .001$. The predicted probability of participating in higher education increases for those who identify as non-white, identify as female, identify English as their primary language, spend 40% or more of their time in the regular classroom, and have graduated or attained a GED degree.

The main effect of race, $\gamma_{10} = 0.33$ ($SE = 0.12$), on the log-odds is positive and statistically different from zero, $t(2012) = 2.65$, $p = .008$. When controlling for gender, primary language, LRE type, and exit status, the estimated odds of participating in higher education is 1.39. Interestingly, and somewhat contrary to the literature, non-white students face increased odds of 39%, with an estimated probability of 0.44% of engaging in higher education, which is an increase of 0.13% from the average.

Gender's main effect, $\gamma_{20} = 0.59$ ($SE = 0.11$), on the log-odds is positive and statistically different from zero, $t(2012) = 5.41$, $p < .001$. When controlling for race, primary language, LRE type, and exit status, the estimated odds of participating in higher education is 1.80, which indicates that the odds of higher education participation is increased by 80% for female students. Overall, female students have an estimated probability of 0.57% of engaging in higher education, which is

an increase of 0.25% from the average.

The main effect of primary language on the log-odds is positive, $\gamma_{30} = 0.41$ ($SE = 0.16$), and statistically different from zero, $t(2012) = 2.60$, $p = .009$. When controlling for race, gender, LRE type, and exit status, the estimated odds of participating in higher education is 1.51, which indicates that the odds of higher education participation is increased by 51% for students who count English as their primary language. Overall, these students have an estimated probability of 0.47% of engaging in higher education, which is an increase of 0.16% from the average. Students who do not count English as their primary language are less likely to participate in higher education.

The effect of LRE type, $\gamma_{40} = 1.51$ ($SE = 0.63$) on the log-odds is positive and statistically different from zero, $t(2012) = 2.40$, $p = .017$. When controlling for race, gender, primary language, and exit status, the estimated odds of participating in higher education is 4.54, which indicates that the odds of higher education participation is 4.54 times greater for students who spend 40% or more of their day in the regular classroom. Overall, these students have an estimated probability of 1.41% of engaging in higher education, which is an increase of 1.09% from the average.

Exit status' effect on the log-odds, $\gamma_{50} = 2.18$ ($SE = 0.37$), is positive and statistically different from zero, $t(2012) = 5.88$, $p < .001$. When controlling for race, gender, primary language, and LRE type, the estimated odds of participating in higher education is 8.86, which indicates that the odds of higher education participation is 8.86 times greater for students who graduated or obtained a GED degree. Overall, these students have an estimated probability of 2.71% of engaging in higher education, which is an increase of 2.40% from the average, clearly indicating that students who do drop out or age out of high school face a greater likelihood of not participating in higher education.

Two other models were conducted with only student-level variables. The first model sought to identify an interaction effect between gender and race. When added to Model 2, the effect of the interaction, $\gamma_{60} = -0.29$ ($SE = 0.22$), on the log-odds is negative and not statistically different from zero, $t(2011) = -1.32$, $p = .189$. Due to non-significance, the interaction was dropped from subsequent models. The next model, a random slopes model, sought to determine between-school variability with regard to race, consistent with the theoretical concept that the construct of race, as it relates to socio-economic status, could impact between-school variability. When the slope for race was included as a random effect and the convergence criterion was specified at 0.000001, the model failed to converge within 3000 iterations. The resulting variance component of the slope for race was not statistically significant from zero, $\tau_{01} = 0.02$, $\chi^2(193) = 169.93$, $p > .500$. There were no subsequent changes to any statistic when the convergence criterion was alternatively specified at 0.00001. This indicates that there is no more variation between schools than would be expected to be there by chance, so race was not treated as random in subsequent models.

Model 3 is another random intercept model, but also contains both student- and school-level predictors as fixed effects. The first analysis of the model included all school-level explanatory variables: the percentage of minority students enrolled, the percentage of participation in the free and reduced meal program, and student-teacher ratio. The intercept under this first iteration was $\gamma_{00} = -5.77$ ($SE = 0.73$), which is a difference of .01 from the Model 2 intercept. Similarly, the Model 3 average logit was significantly different from zero, $t(204) = -7.90$, $p < .001$, and the predicted probability of participating in higher education was 0.3%. The variance component was also significant, $\tau_{00} = 0.25$, $\chi^2(204) = 276.42$, $p < .001$.

The main effect of student-teacher ratio was significant, $t(204) = -1.99$, $p = .048$, and negative on the outcome, $\gamma_{03} = -0.17$ ($SE = 0.09$). When controlling for all other school- and

student-level variables, the estimated odds of participating in higher education is .84, which indicates that there is a 16% decrease in the odds of participation as the students-teacher ratio increases one standard deviation unit from the mean student-teacher ratio, which was approximately 19 students (M = 18.95). One standard deviation for student-teacher ratio is approximately five students (SD = 5.48). In other words, students in schools with an average of at least 24 students per teacher had an estimated probability of 0.26% of participating higher education. Students at schools with the mean ratio, had an estimated probability of 0.31% of participation, and students with 14 students or less had a 0.38% probability of participation. In other words, smaller ratios meant higher probabilities of participation.

All student-level main effects under this model were significant and substantially similar to those results in Model 2 as reported in Table 5.3, *Model Comparison*. However, two school-level explanatory variables, proportion of minority students, $t(204) = -0.11$, $p = .910$, and percentage on FML, $t(204) = -0.22$, $p = .825$, were not statistically different from zero. Therefore, the model was adjusted.

The final iteration of Model 3 was conducted to examine the fixed effects of all student-level predictors and the student-teacher ratio predictor:

Level 1: $$\eta_{ij} = \beta_{0j} + \beta_{1j}*(RACECODE_{ij}) + \beta_{2j}*(GENDER_{ij}) + \beta_{3j}*(PRIMARYL_{ij}) + \beta_{4j}*(LRETYPEC_{ij}) + \beta_{5j}*(EXITSTAT_{ij})$$

Level 2: $$\beta_{0j} = \gamma_{00} + \gamma_{01}*(ZSTRATIO_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50}$$

β_{0j} represents the estimated log-odds of success for children in the *j*th school after adjusting for all other predictors, γ_{00} represents the average log-odds of success across all schools, and u_{0j} represents the random error effect. γ_{10} is the main effect of race; γ_{20} is the main effect of gender; γ_{30} is the main effect of primary language; γ_{40} is the main effect of LRE type; and γ_{50} is the main effect of exit status. γ_{01} is the main effect of student-teacher ratio.

The mixed model is as follows:

$$\eta_{ij} = \gamma_{00} + \gamma_{01}*ZSTRATIO_j + \gamma_{10}*RACECODE_{ij} + \gamma_{20}*GENDER_{ij} +$$

$$\gamma_{30}*PRIMARYL_{ij} + \gamma_{40}*LRETYPEC_{ij} + \gamma_{50}*EXITSTAT_{ij} + u_{0j}$$

Not surprisingly, the intercept was similar to that of Model 2, both negative and significantly different from zero, $\gamma_{00} = -5.76$ ($SE = 0.73$), $t(206) = -7.87$, $p < .001$, and the variance component remained significant, $\tau_{00} = 0.25$, $\chi^2 (206) = 276.65$, $p < .001$. The predicted probability held at 0.31%. All main effects were similarly significant. The main effect of student-teacher ratio, $\gamma_{01} = -0.18$ ($SE = 0.08$) was negative and significant, $t(206) = -2.12$, $p = .035$. When controlling for all other variables, the estimated odds is unchanged at .84.

The main effects, odds ratios, and estimated probabilities of primary language and LRE type remain unchanged. Although the main effects or estimated odds of race, gender, and exit status slightly increased, there was no notable change to the estimated probabilities. Under this model, the main effect of race increases by 0.01, $\gamma_{10} = 0.34$ ($SE = 0.12$) and remains statistically different from zero, $t(2012) = 2.72$, $p = .007$. Non-white students face increased odds of 40%, but the estimated probability remains at 0.44%.

Gender's main effect remains the same, γ_{20} = 0.59 (*SE* = 0.11), and is positive and statistically different from zero, $t(2012) = 5.44$, $p < .001$. The estimated odds of participating in higher education slightly increases to 1.81, indicating increased odds of 81%, but the estimated probability remains at 0.57%. Exit status' effect on the log-odds, γ_{50} = 2.18 (*SE* = 0.37), also remains the same and is positive and statistically different from zero, $t(2012) = 5.91$, $p < .001$. The estimated odds of participating in higher education slightly increase to 8.87, suggesting 8.87 times greater odds for students who graduated or obtained a GED degree. As with gender, the estimated probability remains the same at 2.71%.

Model predictions based on Model 3 are included in Table 5.4, *Probability Predictions*. The predictions provide estimated probabilities based on the explanatory variables. As stated above, probabilities of higher education participation increase for those students who are non-white, female, identify English as their primary language, spend 40% or more of their time in the regular classroom, and have graduated or attained a GED degree.

One final model, a random slopes-as-outcomes logistic model, was conducted to determine how the relationship between race and the log-odds of participating in higher education vary across schools, based on the school-level predictors. In this model, all three school-level predictors were included as cross-level interactions of the main effect of race on higher education participation. When the slope for race was entered as a random effect and the convergence criterion was specified at 0.000001, the model failed to converge within 3000 iterations. The resulting variance component of the slope for race was not statistically significant from zero,

Table 5.4. Probability Predictions

Category	Odds Ratio	Estimated Probability	Difference from Average
Average success for children holding the other variables constant	0.003	0.31%	N/A
Race			
Non-white	1.40	0.44%	+0.13%
Gender			
Female	1.81	0.57%	+0.25%
Primary Language			
English	1.51	0.47%	+0.16%
Least Restrictive Environment Code			
40% or greater of day in general education	4.54	1.41%	+1.09%
Graduation Status			
Graduated / GED	8.87	2.71%	+2.40%
Student-Teacher Ratio*			
14 Students or Less Per Teacher	1.19	0.38%	+0.06%
19 Students Per Teacher	1.01	0.31%	N/A
At Least 24 Students Per Teacher	0.84	0.26%	-0.05%

Note . The table includes the odds ratio of the average success for children as well as for each variable, while holding the other variables constant. The estimated probability is the predicted probability of participating in higher education, holding the other variables constant. The percent difference from average is the difference between the average success for children and the increase or decrease in probability attributed to the variable, holding other variables constant.

*The odds ratio and probability estimates for student-teacher ratio reflects the odds ratio for the mean, and one standard deviation (approximately 5 students per teacher) below and above the mean.

$\tau_{01} = 0.02$, $\chi^2\,(190) = 169.43$, $p > .500$. When the convergence criterion was alternatively specified at 0.00001, there was no resulting change in any statistic. As in the prior random slopes model, this indicates that given the school-level factors, the relationship between race and the log-odds of higher education participation does not vary more between schools than would be expected to be

there by chance. Also, in both cases, because none of the school-level variables significantly moderated race, they do not help to explain the effect or race on higher education participation.

In total, tests for model fit favor the third model. The Laplace transformation deviance statistic of each model assists in better understanding the extent to which each model best explains the phenomena. A small deviance indicates a better fit and when differences in deviance are small or negligible, model parsimony is preferred. Although the variance is significant across all three models, the Laplace deviance statistic, included in Table 5.3, *Model Comparison*, across models suggests that Model 3 best describes the phenomena. Model 1's deviance statistic is 6212.11, estimating 2 parameters. Model 2's deviance statistic is less, 6089.04, estimating 7 parameters. Model 2 provides a better fit than the null model, $\chi^2_1 = (6212.11 - 6089.04) = 123.07$, $p < .001$. Model 3's deviance statistic is even smaller taking into account an additional school-level parameter, 6084.15, estimating 8 parameters. More importantly, Model 3 provides a better fit than Model 2, $\chi^2_2 = (6089.04 - 6084.15) = 4.89$, $p = .025$, which is statistically significant.

5.7 Discussion, Limitations, and Implications

Three school-level variables, including the proportion of minorities of the school's student population, the proportion of FRM participation of the school's student population, and student-teacher ratio, and five student-level variables, including race, gender, primary language, least restrictive environment type or code, and exit status were modeled to examine their effect on the probability of participating in higher education. The results indicate that probabilities of higher education participation significantly increase for those students who attend schools with a smaller student-teacher ratio, and who are non-white, female, identify English as their primary language, spend 40% or more of their time in the regular classroom, and have graduated or attained a GED degree. Perhaps the least surprising finding was the statistical significance of exit status because

high school diploma or GED completion already serves as a gatekeeper for higher education participation.

At the school-level, only one explanatory factor was found to be significant: student-teacher ratio. As the number of students per teacher decreased, the estimated probability of participating in higher education significantly increased. This is intriguing given the perennial interest around classroom sizes. In the context of students who received special education services, this may also be particularly relevant considering the fact that the severity of a student's disability may require more individualized time outside of the regular classroom. However, this school-level variable limits the extent to which we can infer whether individual students were placed in classrooms with fewer students, more instructors, or were provided with more resources.

Although LRE type was validated as a positive and a statistically significant predictor of higher education participation in this study, the finding also does not necessarily provide us with student-level information regarding number of students and teachers within each classroom. What the increased probability does do, however, is reinforce the literature that espouses stronger outcomes for students who spend more time in general education and are included in regular classrooms. It also suggests that initiatives that place students in regular classrooms and efforts to normalize students with disabilities can improve higher education outcomes.

It was likewise intriguing that the other two structural factors were not significantly predictive. Given the attention to socio-economic status and race with regard to higher education access, the fact that a school's proportion of minority students and FRM participation did not significantly predict higher education for students with disabilities was at once unexpected and and yet consistent with the literature reviewed. As stated above, there is evidence from a previous study that race is uniquely predictive of college outcomes for African American students with

disabilities, but not so for similarly situated Hispanic students. This study presented a similar finding. However, the variables used in the present study were strictly limited to binary predictors, so the race category was not further parsed by category, such as African American, Hispanic, Asian, etc. Given that African American students typically face worse outcomes with regard to higher education and employment, the role of race should be researched further. It could be that this design limitation substantially clouds an important difference, especially where there are differences in higher education outcomes between racialized groups.

The results on gender and primary language perhaps stand in most contrast to the previous study cited. The literature reviewed above indicates that being male significantly and uniquely predicts college outcomes for students with disabilities. This study, however, found that although gender was a significant predictor, it was females who had a 64% estimated probability advantage. It seems unlikely that the difference in findings can be attributed to design, which also included an interaction effect, but that interaction was also found to be non-significant. Also, while the literature above indicates similar enrollment rates for English language learners, this study found that English was in fact a significant and positive predictor of higher education participation, giving those students an estimated probability advantage of 60%.

The failure of the level-one random slopes model and the level-two random slopes-as-outcomes model to converge likely resulted from each of the student-level explanatory predictors being uniquely significant, the complexity of the model, or possible multicollinearity hindering convergence. As reported above, race was significantly correlated with primary language, exit status, and student-teacher ratio, so it could be a confounding variable. However, the variance components for each model were not statistically significant when the convergence criterion was set at either 0.000001 or 0.00001. There were also no differences between the convergence

criterion modifications. Therefore, it seems clear that neither model helps to explain the effect of race among schools on higher education participation.

Five additional limitations could affect the interpretation of the results. First, the interpretation of analyses conducted on secondary data must be interpreted with caution, given the lack of experimental design. Second, social desirability bias may have influenced the extent to which survey respondents (parents or students) indicated favorable higher education outcomes. Third, exit status, especially when dependent on subjective criteria such as diploma requirements, limits the extent to which state-specific exit status results can be generalized to other contexts. Although exit status correlated with LRE type, that is, the extent to which a student spent 40% or more of his or her time in the regular classroom, it is difficult to identify specifically why students with less severe disabilities tended to graduate at higher rates. Fourth, because the construct "higher education participation" only includes those who were engaged in full- or part-time enrollment for just one term, there are legitimate questions as to whether such a level of participation was in fact meaningful. Future research should examine the extent and depth of participation. Finally, as stated in a prior chapter, the categorization of children into restrictive IDEA categories fundamentally misunderstands the complexity of disability, so the sample likely does not adequately capture students who have SLD but selected other IDEA categories of disability, or who otherwise have co-occurring conditions.

This study substantially contributes to the literature of higher education outcomes for students with disabilities. This was the first multilevel logistic regression that studied both student- and school-level explanatory variables to predict higher education outcomes for Washington State youth with SLD. This study questions the extent to which predictors of higher education apply to students with SLD. The results indicate that schools with more teachers or fewer students better

support higher education participation. The results also indicate that although race has historically been perceived as a predictor that privileges white students, this is not necessarily so in the case of students with SLD in Washington State. Although high school graduation or GED completion will no doubt continue to remain a goal for many, this research should underscore the importance of inclusion and encourage better collaboration between special education professionals and their colleagues.

Chapter 6. Conclusion and Future Directions

The previous chapters focused on transitions services and theory, best practices, outcomes for students with SLD, legal structures and protections, reporting requirements for outcomes, and a study exploring student- and school-level predictors for higher education participation for Washington State students with SLD. However, the challenge ahead, arguably, is not primarily a gap of this type of knowledge or a dearth of research on predictors for higher education success. More formidable is engaging in processes to enact meaningful change in the educational systems and institutions that are deeply situated in cultural and historical forces. This concluding chapter will first provide an overview of shifting advocacy contexts for people with disabilities and conclude with a brief overview of two frameworks that serve to better situate future directions for promoting learning within our educational systems and outcomes for students with disabilities.

"Advocacy" has been and will continue to be defined differently based on tradition and context. The Merriam-Webster dictionary (2016) defines "advocacy" as "the act or process of supporting a cause or proposal; the act or process of advocating something." Black's law dictionary (2014) similarly defines "advocacy" as "the act of pleading for or actively supporting a cause or proposal." In the context of child welfare, advocacy has been defined by Herbert and Mould (1992) as "an intervention when needed services are not accessible; are not available; are not appropriate; are not effectively provided; or when the voice of a child is not being heard" (p. 118). Bonney and Moore (1992) have articulated that advocacy for a child with a disability is defined as "information, advice and representation provided to individuals and their families to assist them to acquire appropriate services for a person with a disability" (p. 7). As these definitions illustrate, advocacy takes on a different complexion across educational contexts.

As stated earlier, educational advocacy for children has always been predominantly situated as a parental activity. Although the very earliest developments in special education were largely spearheaded by teachers and educational administrators, parents have always played a predominant role in advocating for the rights of students with disabilities, especially where it comes to legislation and regulatory impact (Yell, 2012). However, even though family involvement and expectations (Papay & Bambara, 2014) can increase post-school outcomes for students with disabilities, there are also substantial issues and challenges with regard to educational advocacy in that context. First, advocacy is resilient and robust when the direct subject of oppression is advocating on his or her own behalf. In this situation, because most children, especially at younger ages, cannot effectively advocate for themselves, they must rely on the advocacy skills and interests of their parents. This becomes an issue when parents are disengaged or when parents simply lack the ability or capacity to act. Second, educational advocacy in the K-12 setting raises the issue of collaboration, interagency cooperation, and family participation. With competing interests, the IEP process can become protracted and frustrating. Third, this system relies on external resources that some parents simply can't afford, whether they be time, energy, or funds to support additional assessments, attorneys, or even childcare to attend IEP meetings and stay engaged.

In the context of K-12 education, it is clear that educational advocacy comes from a variety of sources. There are parents, who take much of the lead under IDEA and other federal statutes, especially when advocating for changes to rules and regulations. There are children, who participate in IEP meetings to the extent possible. There are also professional educational advocates, including lawyers or lay persons who attend meetings on the child's behalf. There are also school personnel, who remain engaged and are perhaps closest to the practical realities that

children with disabilities face on a daily basis in educational systems. There are advocacy organizations like the Council for Exceptional Children and the Arc that have missions to support students, but also develop professionals to ensure best practices are incorporated in the field. Finally, there are regulatory bodies that can act through grants or through political processes to effect necessary changes.

The ways in which the complexion of educational advocacy transforms from K-12 to higher education and graduate settings cannot be understated, especially for undergraduates. If students with disabilities transition from K-12 to institutions of higher education, their rights shift. Gone is the IEP. Gone are the wrap-around services. Also gone is the duty of schools to provide a range of support services based on child find. Losing this last right is perhaps the most devastating to students, and students with disabilities must now self-identify in order to receive services under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act.

The major issues that confront students at this juncture are mainly related to receiving accommodations, whether they be for standardized exams or instructional adjustments. As stated above, students must self-identify as having a disability in order to receive services. This relies on a student's capacity to self-advocate and the extent to which the student can employ self-determination skills to direct the achievement of his or her own goals. As stated by James I. Charlton (1998) in Nothing About Us Without Us, "self-help and self-determination…require people with disabilities to control all aspects of their collective lives" (p. 128). Second, as stated by Brown and Broido (2015), stigma can reduce a student's willingness to self-identify. Failing to step up and self-advocate is critical at this point, when parents are "getting tired" and handing the reigns to the young adult (Shapiro, 1994). This also has implications for standardized testing and

entrance into graduate programs, where accommodations are likewise granted only based on self-identification and in most cases, extensive documentation.

In short, advocacy in higher education and graduate settings must necessarily reflect the will of the subjects of discrimination – the students themselves. Even though students do face different realities leaving high school, they do have a variety of organizations and laws that support their continuing achievement. They also, however, face similar challenges in terms of resource availability, self-advocacy skills, and the extent to which stigma would serve as a factor in disengagement.

Persons with disabilities who transition to work must also confront many of the same issues that exist in institutions of higher education, but with less supports than they received before. For example, although there are professional organizations that support individuals with disabilities, there are fewer organizations within places of employment in which persons with disabilities can find community and respite. Similar to institutions of higher education, the main issue is again accommodations, along with the ever-present issue of stigma. In the case of workplace self-identification, however, there are a wider range of legal doctrines that apply, including employment law. Entering professions that require advanced degrees or certification or licensure also requires accommodations in testing and meeting professional standards and competencies. In most cases, the requirements for documentation of disabilities for licensure exams, such as medical boards or bar exams, are often higher in order to protect the integrity of professional standards.

Although there are likely too many contextual similarities and differences between K-12, higher education, and workplace settings to individually list here, there are several of each that are worth addressing. The main differences include positionality of advocates and legal rights. Students in K-12 systems are encouraged to participate in IEP meetings, but their rights are largely

advocated for by parents, educational specialists, and advocacy organizations. Also, the legal rights of students change dramatically once they leave high school.

The similarities between the systems, however, are far greater and have to do with the role of the advocate, costs, and stigma. In all three settings, it is still incumbent on either the person with the disability or the family of the person with the disability to advocate for equity. In K-12 settings, this typically falls on the family or parents, who are required to participate in the IEP process, and higher education and professional settings require the student or employee to proactively advocate for their own rights. In all instances, someone must be stepping up to the plate to advocate.

There are also costs inherent in all of the systems. Even though many services are on the backs of schools, institutions of higher education and workplaces to provide accommodations, there are still costs that will be borne by families and individuals with disabilities out of preference, ignorance, or convenience.

Stigma is another issue that is and will remain a common thread through all contexts of educational advocacy. Whether it is a child who is bullied or feeling different, a family that refuses to believe their child has a disability, a graduate student whose coping mechanisms are failing, or a professional who doesn't want to identify as a "cripple," stigma can have debilitating effects on persons with disabilities across the lifespan.

Across these systems, cultural-historical activity theory (CHAT) assists in helping to better understand culture in the context of change processes (Peck & McDonald, 2014). As articulated by Peck and McDonald (2014), Engestrom built on the work of Vygotsky (1978) and Leontiev (1978) to develop CHAT, which itself is a framework for decomposing and analyzing the discreet cultural elements of human activity. Engestrom's (1987) second generation of CHAT theory posits

that there are six "parameters of practice" that constitute the culture of any given human activity: the subject, the object, a tool or tools, rules, community, and division of labor.

Using a retrospective case study approach, Peck and McDonald (2014) examined how CHAT could help to describe the creation of a "culture of evidence" in two teacher education programs. In particular, they were interested in how culture explains how programs can learn by using data to support decision making. Peck and McDonald (2014) identified the subject as teacher preparation program faculty and staff, the object of activity as the preparation of effective teachers, the tools as syllabi and conceptual frameworks (and other objects like them), the rules as policy and procedures, the community as values and norms inherent of teacher education, and the division of labor as the various roles and responsibilities of such programs, which range from cooperating teachers to program faculty. In the study, the researchers observed that faculty and staff were responsive to change once concrete descriptions of candidate practice were made visible (Peck & McDonald, 2014).

In the context of K-12 systems, CHAT can help to support interdisciplinary frameworks that support better assessment, planning, and outcomes for students with disabilities. At the heart of this is how our schools and families plan for a student's future. Today's assessment and planning for students is hamstrung by IDEA's prescriptive IEP team membership requirements. Pursuant to IDEA, an individualized education program team is a group of individuals composed of parents, a general education teacher, a special education teacher, a representative of the local education agency, an individual who can interpret the instructional implications of assessments, other individuals who have knowledge or expertise regarding the child (at the discretion of the parent or the agency), and the child, whenever appropriate. 20 U.S.C. § 1414(d)(1)(B) (2016).

In *Interdisciplinary Frameworks for Schools: Best Professional Practices for Serving the Needs of All Students*, Berninger (2015) outlined a collaborative framework for best supporting student success while still preserving the disciplinary expertise and autonomy of education professionals. Berninger's four guidelines for best professional practices in interdisciplinary teamwork support CHAT in the sense that multiple dimensions are used to better understand issues and advocate for change. First, all "subjects", or professional disciplines, that are related to a student's "object," or learning issues must be identified and invited to the table. This could include professionals from various fields that have been valued and included as part of the "community": psychology, the communication sciences, occupational and physical therapy, neurology, neuropsychology, etc. Second, these professionals should not only assess the students, but also collaborate with one another in order to triangulate their findings, or "tools." These "rules", including policies and processes, should also involve the teacher who can bring the student's daily work to bear on the analysis. Third, parents should be included so they can contribute the student's history to the conversation and students should also be included when appropriate. Finally, one team member, as a part of the member's "division of labor," should summarize all of the discipline-specific assessments in order to present an interdisciplinary report (Berninger, 2015). This framework also has direct implications and applications for the types of employment and post-secondary education supports needed for students with disabilities after they leave the K-12 setting.

At the heart of CHAT and Berninger's interdisciplinary framework are several critical themes and ones that impact the work of change makers. First, as stated by Berninger (2015), professionals across fields must work collaboratively and also be recognized for their expertise. Second, because of their expertise, professionals must also be provided with the necessary

autonomy to be held accountable for student outcomes. Third, and finally, the work of experts must always be situated within the broader network that is designed to support student outcomes: students, families, school, and communities.

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VITA

EDUCATION

University of Washington College of Education — Seattle, WA
Ph.D. in Education, Prospective Candidate (Anticipated Graduate: Dec. 2016)
- Specialization: Learning Sciences and Human Development
- Advisor: Virginia Berninger (Chair)

Seattle University College of Education — Seattle, WA
Master of Arts in Education
- Concentration: Adult Education & Training: Human Resources Development

Seattle University School of Law — Seattle, WA
Juris Doctor, Cum Laude
- Faculty Scholar Award Recipient
- Center for Global Justice, Fellow: Assisted in the research and analysis of issues at the intersection of intellectual property law and development.
- University of Oxford, International IP Program Fellow: Completed research in International Copyright Law, Arts & Cultural Law, and International Technology Law.
- Externship: Federal Trade Commission
- Lecture on Patentable Subject Matter: Presented on the core issue of subject matter to Professor Elizabeth Townsend-Gard's first year Property class.
- Intellectual Property Focus: Intellectual Property, International IP, Advertising Law, Trademark Law, Copyright Law, Film & the Law, IP Licensing Law, IP Licensing Lab, and Antitrust.
- Other Relevant Courses: Administrative Law, Business Entities, Conflict of Laws, Constitutional Law, Contracts, Evidence, Property and Tort.

The University of Pennsylvania — Philadelphia, PA
Bachelor of Arts in History
- Major: Intellectual History
- Minor: Asian & Middle Eastern Studies (Japanese Focus)
- Undergraduate Honors - Mortar Board, Member (2001): National Senior Honor Society recognizing students for academics, service, and leadership.

TEACHING, INSTRUCTIONAL DESIGN & ASSESSMENT EXPERIENCE

Sept. 2014 – Present College of Education, Seattle University — Seattle, WA
Assistant Dean, Clinical Instructor
- Plans, directs, and oversees assessment and continuous improvement functions in alignment with strategic planning, accreditation, and other assessment activities;
- Reviews, interprets, implements, and ensures compliance with statutory, regulatory, accreditation-related, and university policies at the College level;

- Serves as Certification Officer and verifies and signs all recommendations to the Professional Educator Standards Board for provisional teaching certificates and professional certificates;
- Develops, reviews, and enforces student affairs and academic regulations and policies at the College level;
- Prepares and delivers lectures to graduate students on the topic of Universal Design for Learning and the use of educational technology in the context of instructional design, facilitates classroom discussion, prepares and delivers lectures and course materials, evaluates student work, and plans, evaluates, and revises curricula, course content, and methods of instruction;
- Directs strategic enrollment management efforts, including those related to recruitment, admissions, retention, and completion activities;
- Organizes and administers the records, registration, scheduling, and graduation functions; and
- Oversees and directs the operations of career services in order to maintain and increase employment opportunities for students and alumni.

Feb. 2011 – Present Independent Consultant Seattle, WA

Education, Programming & Assessment Consultant

- Plans study of work problems and procedures, such as organizational change, communications, information flow, integrated production methods, inventory control, or cost analysis;
- Gathers and organizes information on problems or procedures;
- Conducts internet-based and library research;
- Edits and submits protocols and other required research documentation;
- Confers with personnel to ensure successful functioning of newly implemented systems or procedures;
- Interviews personnel and conducts on-site observation to ascertain unit functions, work performed, and methods, equipment, and personnel used;
- Obtains informed consent of research subjects and/or their guardians;
- Analyzes data gathered and develop solutions or alternative methods of proceeding; and
- Develops and implements records management program for filing, protection, and retrieval of records, and assure compliance with program.

Sept. 2008 – Sept. 2014 Academic Resource Center, SU School of Law Seattle, WA

Associate Director

- Defined and executed programmatic learning outcomes, goals, and objectives;
- Designed learning products, including web-based aids or electronic performance support systems;
- Provided analytical support for the design and development of training curricula, learning strategies, educational policies, or courseware standards;
- Collaborated with faculty and other subject matter experts and conducted other research to develop instructional content;
- Designed instructional aids for stand-alone or instructor-led classroom or online use;

- Conducted needs assessments and strategic learning assessments to develop the basis for curriculum development or to update curricula;
- Initiated, facilitated, and moderated classroom discussions;
- Prepared and delivered lectures to graduate students on topics such as legal analysis;
- Assessed effectiveness and efficiency of instruction according to ease of instructional technology use and student learning, knowledge transfer, and satisfaction;
- Evaluated student work and assignments;
- Advised students on academic and career issues;
- Supported students with visible and hidden disabilities through accommodation assistance, counseling, and instructional support; and
- Supervised, trained, and hired 30 – 40 student employees in the delivery of services to students.

Jan. 2013 – Present College of Education, Seattle University Seattle, WA
Adjunct Professor

- Initiated, facilitated, and moderated classroom discussions;
- Supervised student research work;
- Kept abreast of developments in the field by reading current literature, talking with colleagues, and participating in professional conferences;
- Prepared and delivered lectures to graduate students on the topic of Universal Design for Learning and the use of educational technology in the context of instructional design;
- Evaluated and graded student work, assignments, and papers;
- Prepared course materials such as syllabi, homework assignments, and handouts;
- Advised students on academic and vocational curricula and career issues; and
- Planed, evaluated, and revised curricula, course content, course materials, and methods of instruction.

Dec. 2010 – May 2012 Legal Writing Department, SU School of Law Seattle, WA
Visiting Assistant Professor of Lawyering Skills

- Prepared and delivered instruction to graduate law students on the topic of Legal Writing I, a required course for all entering law students;
- Developed course materials such as syllabi, assignments, lecture materials and presentations;
- Evaluated and graded students' class work, assignments, papers, and oral presentations; and
- Planed and evaluated curricula, course content, course materials, and methods of instruction.

PROFESSIONAL AFFILIATIONS

Licensure

- Washington State Bar Association (2008 – Present): Licensed to practice law.