

TEACHING THE TEACHERS TO EDUCATE STUDENTS WITH SEVERE DISABILITIES
IN INCLUSIVE CLASSROOMS: HOW ARE TEACHER TRAINING PROGRAMS
PREPARING PRESERVICE TEACHERS?

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Abstract

The inclusion of students with severe disabilities (SWSD) in general education classes is becoming increasingly prevalent. Consequently, general education teachers need to have adequate training to meet the unique learning needs of this population. While general education teachers have professed a willingness to include these students, many of them feel underprepared and undertrained to meet the needs of SWSD in inclusive settings. This study investigated the current ways in which teacher training programs are preparing preservice general education teachers to educate SWSD in inclusive classrooms. The directors of teacher education programs in New York State completed surveys about the knowledge, skills, and professional dispositions of teacher candidates related to SWSD. The results of the study indicate that most programs in the study require courses on special education, inclusive education, universal design, and exceptionalities. Additionally, most programs in the study required inclusive practicum experiences and provided some practice using evidence-based inclusive techniques. That said, the data also indicate a lack of course work and practicum experiences specific to preparing for work with SWSD, as well as a lack of prioritization of certain inclusive professional dispositions. As such, teacher training programs in NYS should consider taking steps to alter their coursework and field experience to incorporate more information about SWSD, greater opportunities to practice inclusive techniques, and more extensive opportunities to interact with SWSD during practicum experiences.

Chapter One: Introduction

Background

Broadly, persons with severe disabilities have been defined as those individuals who “require extensive ongoing support in more than one major life activity in order to participate in integrated community settings and to enjoy a quality of life that is available to citizens with fewer or no disabilities” (The Association for Persons with Severe Handicaps [TASH], 1991, p. 19). Likewise, the Javits-Wagner-O’Day Act (1994, p. 111) stated that a severe disability is a “physical or mental impairment which seriously limits one or more functional capacities.” Children with severe disabilities have traditionally been identified as those having severe to profound intellectual disability, including individuals with multiple disabilities (National Dissemination Center for Children with Disabilities [NDCCD], 2004). For the purposes of this paper, the term *students with severe disabilities* (SWSD) will refer to school-aged children and adolescents who have one or more physical or mental impairments that extremely limits one or more functional domains (e.g., mobility, communication, self-care, academics, interpersonal skills) to such a degree that widespread and continuous support is required for equal participation in the school community with students without disabilities.

Historically, SWSD have been afforded minimal or no academic or social interactions with same-age peers, as they have been predominantly educated in self-contained, often segregated, environments (McLeskey, Landers, Williamson, & Hoppey, 2012; National Center for Education Restructuring and Inclusion, 1995; Sailor, 2014; Sailor & McCart, 2014). Although a significant proportion of SWSD are still educated entirely in highly-restrictive settings (Kleinert et al., 2015; Kurth, Morningstar, & Kozleski, 2014), recent educational trends indicate that part-time and full-time general education placements for these individuals are

becoming more widespread (Kleinert et al., 2015). Although there is some debate as to what specifically constitutes proper inclusive education (Danforth, 2014; Downing & Peckham-Hardin, 2007; Florian, 2014), inclusion generally refers to the practice of educating students with disabilities in the same setting as students without disabilities. The movement towards inclusive education for SWSD has been partially propelled by federal legislative actions, including the Individuals with Disabilities Education Improvement Act (2004) and No Child Left Behind (2002), which have made appropriately meeting the unique educational needs of diverse learners in the general education classroom a priority at the local district level (Browder & Cooper-Duffy, 2003; Itkonen, 2007; Sands, Kozleski, & French, 2000).

In conjunction with legal impetus, an expanding body of research supports the notion that SWSD can benefit academically (de Graaf, van Hove, & Haveman, 2013; Dessemontet, Bless, & Morin, 2012; Kurth & Mastergeorge, 2012; Teigland, 2009) and socially (Boutot & Bryant, 2005; Fisher & Meyer, 2002; Fryxell & Kennedy, 1995; Kennedy, Shukla, & Fryxell, 1997) from placement in inclusive classrooms, in addition to being able to learn adaptive (Dessemontet, Bless, Morin, 2012), communication (Downing, 2005; Foreman, Arthur-Kelly, Pascoe, & King, 2004), and self-determination (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2013) skills in these settings. Moreover, comparative studies of inclusive versus specialized settings have demonstrated more favorable outcomes for those students educated in inclusive environments (de Graaf et al., 2013; Fisher & Meyer, 2002; Logan & Keefe, 1997). Additionally, general education placements for SWSD have been associated with positive effects on students without disabilities (Kurth & Mastergeorge, 2010; Peck, Staub, Gallucci, & Schwartz, 2004; Saint-Laurent et al., 1998). Unfortunately, SWSD may be deprived of the potential advantages of inclusive placements if school personnel have not been trained to support

their educational needs.

For decades, parents, school personnel, and educational policy makers have repeatedly expressed concerns that there is a deficiency of special education teachers (Boe & Cook, 2006). Specifically, in an analysis of school staffing data from 1987 through 2002, the shortage between the number of special education teachers that were needed and those that were actually working increased from 7.4% to 12.2%. In the same time period, the number of special education teachers that were needed to serve the special education population effectively doubled. In 2016, 49 states reported a shortage of special education teachers for the 2016 to 2017 school year (Clark, 2016). Moreover, the number of needed special education teachers is projected to increase by eight percent by 2026 (Bureau of Labor Statistics, US Department of Labor, 2016). Thus, given the relevant legislation, the mounting body of evidence suggesting that SWSD benefit from inclusive placements, and special education teacher shortages, general education teachers need to be prepared to meet the needs of SWSD.

The Role of Teachers

Abundant evidence suggests that effective teachers are the most significant in-school contributors to student learning (e.g., Fong-Yee & Normore, 2013; Glazerman et al., 2010; Harris, 2012; Hightower et al., 2011; Weisberg, Sexton, Mulhern, & Keeling, 2009) with other research supporting the notion that general education teachers who are knowledgeable of inclusive practices are critical components of an effective inclusive education program for SWSD (Alquraini & Gut, 2012; Downing & Peckham-Hardin, 2007; Ginagerco, Edelman, Broer, & Doyle, 2001; Ryndak et al., 2000). As such, teachers' perceptions of inclusion have important implications for the educational outcomes of students with disabilities, as teacher attitudes towards inclusion impact their instructional behavior (Vaughn, Kligner, & Hughes,

2000). For instance, it has been found that teachers with positive attitudes toward inclusion are linked with higher academic achievement for students with disabilities, and that these teachers are more likely to employ evidence-based inclusion strategies (Klehm, 2013). Furthermore, teachers' acceptance and supportive attitudes of inclusion are vital to successful inclusive programs (Alquraini & Gut, 2012; Cook, 2002; Vanderfaeillie, Fever, & Lombaerts, 2003; Villa, Thousand, Meyers, & Nevin, 1996).

A study conducted by Santoli, Sachs, Romney, and McClurg (2008) found that while an overwhelming majority (98.2%) of teachers were willing to make the necessary accommodations for SWSD, the majority of these teachers (76.8%) believe that SWSD should not be educated in the general education classroom. Furthermore, preservice teachers have expressed significantly more negative attitudes towards the inclusion of SWSD when compared to attitudes toward students with more mild disabilities (Avramidis, Bayliss, & Burden, 2000; Cook, 2002). One of the primary barriers associated with general education teachers' oppositional views towards the inclusion of SWSD has been identified as a perceived lack of training and experience working with this population (Avramidis & Norwich, 2002; Lindsay, Proulx, Thompson, & Scott, 2013; Shady, Luther, & Richman, 2013; Sharma, Forlin, & Loreman, 2007; Fuchs, 2010). Teachers have expressed that they would be more open to instituting inclusive practices if afforded the proper training and experience (Santoli et al., 2008; Shady et al., 2013). Notably, teachers with high levels of self-efficacy regarding their ability to execute inclusive practices are more likely to have positive attitudes toward inclusion (Monsen, Ewing, & Kwoka, 2014; Soodak, Podell, & Lehman, 1998; Vaz et al., 2015). Similarly, general education teachers who report having training in teaching students with disabilities are also more likely to view inclusion in a positive manner (Burke & Sutherland, 2004; Van Reusen, Shoho, & Baker, 2000; Vaz et al., 2015), as are

those with experience teaching SWSD (Atilas, Jones, & Kim, 2012; Cramer, Coleman, Park, & Bell, 2015). Therefore, fostering teachers' knowledge, competence, and self-efficacy in serving SWSD through relevant education and field experience is likely to be associated with more positive attitudes towards inclusion and, thus, higher learning outcomes for SWSD.

The Impact of Professional Development for Inclusion

Research has established that professional development programs and preservice training can be effective in altering teachers' attitudes toward inclusion (Avramidis & Kalyya, 2007; Ernst & Rogers, 2009; Male, 2011; Sari, 2007; Van Reusen, Shoho, & Barker, 2000), including their self-efficacy to teach students with disabilities (Forlin & Chambers, 2011; Miller, Wienke, & Savage, 2000; Wright, 2015). By way of example, Male (2011) found that a ten-week introductory course on inclusive education for preservice teachers was associated with an attitudinal change regarding inclusion, as teacher candidates expressed significantly more positive opinions at the end of the course when compared to the beginning. Similarly, Sari (2007) examined the effects of an in-service teacher training programs on teachers' attitudes toward students with disabilities and their inclusion in general education, the results of which indicated that those in the experimental group reported significantly more positive attitudes than those in the control group. Direct instruction in inclusive education has been associated with increases in preservice teachers' attitudes toward and knowledge of inclusion (Brown, Welsh, Hill, & Cipko, 2008; Campbell, Gilmore, & Cuskelly, 2003; Carroll, Forlin, & Jobling, 2003; Kim, 2011; Shippen, Crites, Houchins, Ramsey, & Simon, 2005; Swain, Nordness, & Leader-Janssen, 2012). In fact, coursework specifically designed to prepare preservice teachers for educating SWSD in inclusive classrooms has been shown to be effective in improving their knowledge, attitudes, and self-efficacy in this area (Rainforth, 2000). Therefore, it seems logical

that teacher training programs should provide sufficient instruction in inclusive practices, so that teachers feel adequately prepared to serve students with disabilities upon entering the field.

Professional development for in-service teachers has also been demonstrated as effective in fostering teachers' knowledge of inclusive practices (Edwards, Carr, & Siegel, 2006; Hundert, 2007; Lloyd, 2002; Sari, 2007; Stephenson & Carter, 2015; Vaughn & Henderson, 2016).

Hundert (2007), for example, found that offering teachers direct instruction in inclusive education concepts, such as intervention design for students with disabilities and curriculum adaptation, was associated with significant increases in their knowledge of inclusive programming. Vaughn and Henderson (2016) found similar results for teachers who underwent professional development for the inclusion of SWSD. In their study, general education teachers exhibited a greater understanding of Down 's syndrome, as well as gains in their knowledge of curriculum modification and behavioral strategies, following an in-service training program.

Training Teachers to be Inclusive Educators

The accrediting body for teacher training programs, the Council for the Accreditation of Education Preparation (CAEP, 2015), delineates in its professional standards that training programs must provide preservice teachers with the pedagogical knowledge, skills, and professional dispositions (i.e., attitudes) required to successfully help *all* students learn. Consequently, accredited teacher training programs and those seeking accreditation must strive to bequeath their candidates with the specific knowledge, skills, and professional dispositions necessary to effectively teach SWSD. In order to prepare candidates for a diverse student population, CAEP emphasizes offering coursework and field experience that offer opportunities to learn about and practice with students with a wide range of abilities. With regard to training preservice teachers for inclusive classrooms, it has been postulated that preservice teachers need

to be given the knowledge, skills, and attitudes specifically related to teaching students with disabilities (Darling-Hammond & Bransford, 2005; Forlin & West, 2015). Consequently, it has been recommended that teachers take coursework related to law, policy, professional collaboration, behavior management, instructional strategies, differentiated assessment, assistive technology, and attitudes and perceptions towards students with disabilities in order to more fully prepare them to be teachers of SWSD (Forlin & West, 2015). Moreover, preservice teachers should be afforded opportunities to practice their skills in classrooms that include SWSD, as well as students with less severe disabilities (Forlin & West, 2015).

Early investigations into the training of preservice general educators for inclusive settings found that training programs provided inadequate coursework and minimal practical experience in inclusive classrooms (Kearney & Durand, 1992; Reed & Monda-Amaya, 1995). In response, teacher preparation programs have made various curriculum alterations in order to meet the challenges of preparing their teacher candidates to meet the needs of students with disabilities. Currently, general education teacher training programs are placing greater emphasis on providing courses on inclusion and special education, as well as opportunities to work with diverse learners (Harvey, Yssel, Bauserman, & Merbler, 2010; Winn & Blanton 2005). For example, in a review of general education teacher training programs regarding their approach to teaching inclusive practices, Harvey and colleagues (2010) found that the majority of training programs were offering introductory special education courses. That said, the same study also found a pervasive lack in the amount of training preservice general education teachers receive on collaboration with special education teachers, even though such training is considered a critical aspect of effective teacher-education programs (Brownell, Ross, Colon, & McCallun, 2005; Voltz & Elliot, 1997). Moreover, it could be argued that an introductory special education course, on its

own, is insufficient preparation for work with SWSD. Thus, while there has certainly been growth in the exposure that preservice general education teachers receive on inclusive education practices, there may still gaps in their education, such as in collaborating with special education teachers.

The early evaluations of teacher training programs regarding inclusion (Kearney & Durand, 1992; Reed & Monda-Amaya, 1995) are limited by methodological problems with a heavy reliance on “yes/no” and “how many...?” questions, which decrease the amount of nuance in the data. Moreover, these earlier studies did not seek to gather information about the specific inclusive educational techniques being taught or the desired outcome dispositions the participating training programs wished to develop in their teacher candidates. A more recent study conducted by Harvey and colleagues (2010), is similarly limited in methodology that the deployed survey did not ask questions about specific education techniques or outcome attitudes either. Additionally, the use of predominantly Likert questions contributed to a high rate of neutral responses, which limited the subsequent data analysis. Given these methodological limitations, the lack of data about specific educational techniques being taught and the target attitudes, as well as the findings from Harvey and colleagues’ (2010) investigation, it is unclear as to what methods general education teacher training programs are using to prepare their candidates to be educators of SWSD.

The Present Study

Historically, SWSD have been primarily educated in self-contained classrooms; however, contemporary educational legislation and a growing body of research supporting the benefits of inclusion for SWSD have made the inclusive placements for these students more common. Consequently, general education teachers must be sufficiently competent in meeting the

educational needs of SWSD, as they are not only the most significant in-school contributors to learning but crucial components to successful inclusion for SWSD. Since the 1990s, research into teachers' attitudes toward inclusion has consistently found that the majority of teachers hold negative opinions toward inclusion in general, and that most teachers are more strongly opposed to the inclusion of SWSD. One of the primary barriers to inclusion of SWSD in general education classrooms has been identified as being a perceived lack of preparedness to understand SWSD and to effectively instruct SWSD. Fortunately, the literature on teachers' attitudes toward inclusion reveals that attitudes can be improved through the use of inclusive or special education coursework and field experience. Thus, general education teacher training programs can play a prominent role in helping teachers feel more secure in their role as inclusive educators of SWSD.

Given that CAEP standards delineate that teacher training programs must develop in their candidates the knowledge, skills, and professional dispositions necessary to be effective educators of *all* students, it seems prudent to investigate general education teacher training programs to determine what methods they are using to prepare preservice teachers to teach SWSD, in an effort to better understand why teachers report feeling underprepared. The literature on investigations into teacher training programs with regard to how they are preparing candidates for inclusive classrooms indicates that, since the 1990s, training programs have placed increasing emphasis on preparing teachers for diverse learners. That said, no studies in this realm of literature collected data on specific inclusive educational techniques that were being taught or on the target professional dispositions programs are seeking to develop. Furthermore, no studies have made specific inquiries about training programs' methods for preparing preservice teachers for working with SWSD. Due to these gaps in the data collected by previous

studies, the methods that training programs are using to prepare their candidates for work with SWSD remains unclear. More detailed information about teacher training for inclusion is needed, as research has demonstrated that teachers still feel underprepared to work with SWSD (e.g., Shady et al., 2013).

The hope for the present study was to help remediate this gap in the literature concerning what general education preservice teachers are being taught about SWSD in professional training programs. What is needed is a description of what methods general education teacher training programs are using to prepare teachers for work with SWSD in inclusive classrooms. Such a description lends itself to the formulation of strategies that will improve the preparation of preservice teachers with regard to becoming teachers of SWSD, which, in turn, could lead to better inclusive experiences for these students. As such, the present study was descriptive in nature and examined the current state of teacher education training programs concerning their preparation of general education preservice teachers to educate SWSD in inclusive classrooms. Specific inquiries were made about the methods programs are using to develop the requisite knowledge, skills, and professional dispositions teachers need to be efficacious teachers of SWSD, as these are areas of teacher preparation that are emphasized by CAEP. Although the present study sought to collect descriptive data, it did not rely entirely on either dichotomous questions or Likert scales, as previous investigations of this nature have done. The present study instead sought a balance between using these two approaches, in an effort to ascertain a more thorough description of the instructional practices of general education teacher training programs.

Chapter Two: Literature Review

The following chapter will serve as a comprehensive examination of the relevant literature concerning SWSD, their education, and the training of preservice general education teachers, as the focus of the present study is to explore the preparation of preservice teachers with regard to educating SWSD in inclusive classrooms. As such, the chapter will begin with a description of what is meant by *students with severe disabilities* and information about the trends in their educational placements, which will serve to provide the reader with a mental representation of the population in question as they proceed through the bulk of the literature review. Following this description is a discussion on what is meant by *inclusive education*, as well as an account of the historical and legislative context of inclusive education and how SWSD fit into that context. Next, the literature regarding effective inclusive education for SWSD is reviewed. This section is twofold in that it includes both specific evidence-based practices and general strategies and that facilitate efficacious inclusive education. Next, teachers' attitudes toward the inclusive education of SWSD is investigated as a means of highlighting the need to explore the professional training of general education preservice teachers related to SWSD. Penultimately, this review examines what constitutes effective teacher training by dissecting the National Council for Accreditation of Teacher Education (CAEP) standards for teacher education and the literature concerning how to prepare teachers to work with diverse learners. Finally, the literature review concludes with an analysis of previous studies of teacher training programs regarding inclusive education, and an appraisal of current practices in preparing teachers to work with SWSD.

Students with Severe Disabilities

Although the term *severe disabilities* is used widely in educational literature, the term

itself is not necessarily well-defined. Thus, while one might have a mental schema of what a student with a severe disability looks like and how they function in society, each person's schema may be vastly different. Additionally, the term *students with severe disabilities* includes a myriad of disabilities and learning needs, many of which may not be represented by personal notions about who is included in this category. As such, the following section serves to clarify what is meant when this paper references students with severe disabilities (SWSD).

Defining students with severe disabilities. Given that *severe disability* is not included as one of the 13 educational disability categories (i.e., Autism, Deaf-Blindness, Deafness, Emotional Disturbance, Hearing Impairment, Intellectual Disability, Multiple Disabilities, Orthopedic Impairment, Other Health Impairment, Specific Learning Disability, Speech or Language Impairment, Traumatic Brain Injury, and Visual Impairment, including blindness) prescribed by the Individual with Disabilities Education Act (IDEA, 2004), there is no clear legal definition that school personnel can reference as a means of understanding what students are included under this term. Nevertheless, the term *significant cognitive disabilities* was included in the 1997 Amendments to IDEA (2004) to refer to the disabilities of students requiring alternate assessment to participate in state-wide assessments. Cognitive impairment is frequently regarded as a common characteristic of those with severe disabilities; however, students classified under the IDEA categories of multiple disabilities are also often considered to have severe disabilities (NDCCD, 2004; Westling & Fox, 2000). IDEA (2004, p. 308) defines multiple disabilities as "concomitant impairments (such as intellectual disability-blindness, intellectual disability-orthopedic impairment, etc.), the combination of which causes such severe educational problems that they cannot be accommodated in special education programs solely for one of the impairments," a definition that implies an association between multiple disabilities

and intellectual disability. In the same vein, in 1996 Orelove and Sobsey (as cited in Westling & Fox, 2000, p. 9) defined students with multiple disabilities as “individuals with mental retardation who require extensive or pervasive supports and who also possess one or more significant motor or sensory impairments and/or special health care needs.” Although intellectual impairment is a commonly referenced hallmark of SWSD, many SWSD do not present with an intellectual disability. By way of example, a student with cerebral palsy may be aptly classified as having multiple disabilities, given difficulties in communication and mobility, but may not necessarily have cognitive impairments. Therefore, while many students with cognitive impairments meet the criteria for severe disabilities, not all with severe disabilities have an intellectual disability.

The term *severe developmental disability* was suggested by Handleman (1986) as an umbrella term to denote disabilities of students with severe Autism Spectrum Disorders, severe or profound intellectual disabilities, and multiple disabilities. Intellectual disabilities are characterized by significant impairments in both cognitive functioning and the conceptual, social, and practical domains of adaptive functioning (APA, 2013). Autism on the other hand, is identified as significant deficits in social communication and social interaction, as well as restrictive or repetitive behaviors and interests (APA, 2013). Aligning Handleman’s (1986) definition with the IDEA disability categories, one can see that SWSD fit into the categories of Autism, Intellectual Disabilities, and Multiple Disabilities.

Handleman (1986) further defined severe developmental disability as one that (a) manifests before the age of 22 years, (b) is chronic, (c) is attributable to cognitive or physical impairment or both, (d) substantially limits functioning in major life activities, and (e) requires prolonged and ongoing supportive services that are individually designed (Handleman, 1986).

Such a term better encapsulates what is meant when referring to SWSD than merely describing them as students with intellectual disabilities or multiple disabilities; however, various genetic disorders and birth defects such as Tay-Sachs disease, phenylketonuria, tuberous sclerosis, Lesch-Nyan syndrome, and fetal alcohol spectrum disorder have also been considered severe disabilities when they are accompanied by significant cognitive impairment (TASH, 1991). Thus, it is readily apparent that the term *students with severe disabilities* encompass a broad spectrum of individuals with a widespread combination of impairments and educational needs.

For the purposes of this paper, *students with severe disabilities* will be defined using the definition outlined in the opening paragraph of the introduction, which, to reiterate, was school-aged children and adolescents who have one or more physical or mental impairments that extremely limits one or more functional domains (e.g., mobility, communication, self-care, academics, interpersonal skills) to such a degree that widespread and continuous support is required for equal participation in the school community as those students without disabilities.

Common educational needs. Despite the variety and individuality of SWSD, Westling and Fox (2000) delineated several educational needs that are common to many of the individuals included in this population. Specifically, because many SWSD have diminished cognitive functioning, they often present with impairments in their abstract thinking, sustained attention, working memory, and long-term retrieval, as well as in their overall capacity to learn. Consequently, SWSD may require significantly more repetitions of the to-be-learned material than other children their age. As such, the development of automaticity with instructional material may take substantially longer for SWSD than for their typically-developing peers. In the same vein, many SWSD have difficulty in the transfer and generalization of learned skills and knowledge, meaning that teaching the application of these skills to real-world situations or

applied classroom activities may be especially challenging for SWSD.

Similarly, Browder, Wood, Thompson, and Ribuffo (2014) conducted a literature review of evidence-based practices for supporting SWSD, from which they identified five general skill areas in which SWSD generally require direct instruction. These included academic skills, daily-living skills, job and community skills, self-determination skills, and social and communication skills. While the authors note that not all SWSD will require instruction in each of these skill areas, it is paramount that their needs in each of them be determined as part of the process of constructing their individualized education plans (IEPs). Therefore, while there is not necessarily an explicit referential template by which to base an IEP for a SWSD, common deficits in specific functional domains can serve to guide instructional planning.

Inclusive Education in Context

Inclusive education is an education practice that extends to *all* students with disabilities, from the most mild to the most severe. Furthermore, while the term *inclusion* is still relatively new in the history of education, the idea of including students with disabilities in general education is older. As such, the idea of inclusive education has been referred to by several different terms such as *integration* and *mainstreaming*. Thus, it is important to understand the history of inclusive education for all student with disabilities and what is meant by inclusive education for SWSD.

Defining inclusion. At its most basic level, inclusion is generally understood as the educational practice of educating children with disabilities in classrooms with children without disabilities; however, as Yell (2006) observed, there are a number of similarities between inclusion and a similar concept known as *mainstreaming*, as both share common implementation elements and the goal of placements for students with disabilities in general education

classrooms alongside their typically developing peers. It has been argued that there is a philosophical difference between inclusion and mainstreaming (Osgood, 2005), in that mainstreaming is a policy that is mandated by legislation, whereas inclusion seeks to permit all students with disabilities to fully participate in general education curriculum to the maximum extent possible. Klierer (1998, p. 16) differentiates inclusion from mainstreaming though defining inclusion as “being a part of what everyone else is, being welcomed and embraced as a member who belongs.”

Additional definitions in the literature help illuminate what is meant by inclusive education. For example, Villa and Thousand (2003, p. 20) delineate inclusion as “the principles and practice of considering general education as the placement of first choice for all learners.” In the same vein, both Mitchell (2004) and Taylor (2006) conclude that inclusion involves educating students with a broad spectrum of abilities and disabilities in the same classrooms with the appropriate supplemental aids and support services. In aggregation, these definitions of inclusion support the notion that SWSD should be educated with their same-age peers in general education environments. It is perhaps unsurprising, then, that inclusion has been prescribed as:

Providing all students, including those with significant disabilities, equitable opportunities to receive effective educational services with needed supplementary aids and support systems in age-appropriate classrooms in their school, in order to prepare these students to lead productive lives in society. (Royster, Reglin, & Loisiike-Sedimo, 2014, p. 1)

Aside from reinforcing the belief that SWSD should be afforded some time being educated in general education, these definitions demonstrate that there are multiple elements of inclusive education.

The multiple elements of inclusive education were outlined by Ryndak, Jackson, and Billingsley (2000), who surveyed education experts (i.e., authors of relevant articles in peer-reviewed journals or scholarly books) as a means of garnering their definitions of inclusion. Collectively, these experts identified seven components to the definition of inclusion, five of which were germane to educating students with severe disabilities:

1. *Placement in natural typical settings* – Placement of all students with disabilities should be (a) in age-appropriate general education classes, (b) in normative proportions, and (c) in schools they would attend if they did not have a disability. Furthermore, inclusive placements should occur on an ongoing daily basis for both instructional and non-instructional activities.
2. *All students together for instruction and learning* – All students receive instruction during the same academic and nonacademic activities at the same time. Moreover, positive interactions between students with and without disabilities are maximized throughout the school day.
3. *Supports and modifications within general education to meet appropriate learner outcomes* – Supports, services, modifications, and accommodations that are relevant to instruction and curriculum should occur within general education classes to (a) support students' needs and contributions to the learning community, (b) facilitate learning for all students, and (c) optimize student potential.
4. *Belongingness, equal membership, acceptance, and being valued* – All students have a sense of belonging and an equal membership in the classroom. Additionally, students with disabilities are accepted and valued as members of the general education classroom by both students and adults alike.

5. *Collaborative integrated services by education teams* – Education teams collaboratively design, implement and assess instruction that is integrated into all general education activities.

Additionally, the authors found that experts purported that inclusion should occur regularly for the majority of the school day and that students with disabilities should be included in both academic and non-academic settings, such as the cafeteria or playground.

Inclusion of students with severe disabilities and educational law. Historically, SWSD received educational services primarily in public or private institutions such as hospitals or residential facilities (Richardson, 1994), as these students were frequently denied admittance to traditional educational agencies. Given the unwarranted degree of isolation, neglect, and abuse that was associated with institutional living (Holburn, 1997; McCartney & Campbell, 1998), a deinstitutionalization movement began in the 1960's and early 1970's that called for the development of educational services for SWSD (Osgood, 2005). By 1973, 27 lawsuits concerning the right to education for students with disabilities had been decided or were pending decisions (Melnick, 1995). Of these lawsuits, two in particular are considered to be the most instrumental in the eventual passage of the first special education law in 1975 (Itkonen, 2007): *Pennsylvania Association for Retarded Citizens (PARC) v. Commonwealth of Pennsylvania* (1971) and *Mills v. Board of Education of the District of Columbia* (1972). In each of these cases, the court decisions affirmed that it was the responsibility of states and local educational agencies (LEAs) to educate children with disabilities, regardless of disability, and that children with disabilities are guaranteed the right to an education by the equal protection clause of the 14th Amendment of the U.S. Constitution. Following these landmark cases, the U.S. Congress passed the Education for All Handicapped Children Act (EAHCA) in 1975, which would later be

renamed the Individuals with Disabilities Education Act (2004).

When it passed in 1975, four purposes were articulated by EAHCA, also known as P.L. 94-142, as part of its mission to improve access to education for children with disabilities:

1. to assure that all children with disabilities have available to them...a free and appropriate public education;
2. to assure that the rights of children with disabilities and their parents...are protected;
3. to assist states and localities to provide for the education of all children with disabilities and
4. to assess and assure the effectiveness of efforts to educate all children with disabilities.

(EAHCA, 1975)

From these purposes emerged one of the major tenets of the statute: the right to a free and appropriate public education (FAPE). Due to the FAPE guarantee, local agencies of education wishing to receive federal funding under EAHCA opened their doors to all students with disabilities, including those with severe disabilities. In addition to guaranteeing FAPE, EAHCA (1975) prescribed that children with disabilities should receive special education services in the least restrictive environment (LRE) that is commensurate with their needs. Following this proclamation, the term *mainstreaming* emerged to describe the practice of educating students with disabilities in the LRE alongside students without disabilities (Osgood, 2005). Initially, mainstreaming was emphasized for students with mild disabilities and was built upon the philosophy that students with disabilities should receive their education in general education classes, but frequently failed to consider SWSD and students with moderate disabilities (Osgood, 2005). Thus, while mainstreaming and the LRE proclamation supported the rights of students with mild disabilities to be educated in general education classes, it was not a guarantee for all

students with disabilities.

In 1993, the rulings in *Oberti v. Board of Education of Clementon School District* shaped and clarified the notion of the LRE. The case centered around a five-year-old boy with Down Syndrome whose parents argued that his school district had violated IDEA because they had not made adequate attempts to educate their son in the LRE using appropriate supplementary aids and services before placing him in a self-contained classroom. The Court of Appeals concurred with the Oberti family, delineating that school districts must consider the entire range of supplemental aids and services before segregating a student with a disability and that they must, additionally, make attempts to modify the regular education program in order to make the curriculum accessible. Thus, these rulings stated that the LRE constituted the environment in which a child could be educated successfully with appropriate supplementary aids and services and that school districts must make satisfactory attempts to educate SWSD in general education classrooms before more restrictive placements could be considered. It was during this time that the term *inclusion* began to supplant *mainstreaming* in both the educational lexicon and in practice (Osgood, 2005).

In 2004, IDEA was reauthorized and renamed again to the Individuals with Disabilities Improvement Act (IDEIA). As a part of this reauthorization, IDEIA emphasized that students with disabilities should be educated in general education classes to the greatest extent possible and that they should only be removed from this setting when the nature and severity of their disabilities is such that they cannot be appropriately educated in general education classrooms even with adequate supplementary aids and services (Heward, 2003). Consequently, IDEIA guarantees the rights of SWSD to receive educational services in the LRE which, if possible, should be general education classrooms.

In addition to IDEA proclamations and the *Oberti* rulings, the No Child Left Behind Act (NCLB, 2002) further supports the legal impetus for including SWSD in general education settings. Although, NCLB contains numerous provisions with implications for special education, the two that are most apropos to the inclusion of SWSD are (1) the requirement that all students will be assessed in reading, math, and science and (2) the expectation that yearly progress will be exhibited with regard to these assessments. While NCLB permits alternate assessments for students who cannot participate in high-stakes assessments, school districts are still required under the law to demonstrate yearly progress for all students, including those omitted from state and district assessments, meaning that the law prescribes that all students must be educated to a rigorous standard. The legislation of NCLB and the IDEA (2004) proclamation that all students are to receive an equal education in the LRE have combined to require that inclusion become more established and apparent in the everyday school environment, including SWSD (Itkonen, 2007).

The nature of inclusive programming for SWSD has been shaped by changing legal and ideological forces. From Ryndak and colleagues (2000) and other inclusive education theorists, it can be understood that the idea of inclusion embodies more than the simple notion of students with and without disabilities occupying the same space. More so, *inclusion* means providing SWSD *belongingness* in the general education environment and providing them the requisite supports to make succeeding there a possibility. This framework is useful to keep in mind when discussing educational techniques that foster inclusion, as well as feelings of belongingness..

Trends in educational placements of students with severe disabilities. Recent educational trends indicate that full-time general education placements for SWSD are becoming more widespread (Kleinert et al., 2015). By way of illustration, regular education placements for

students with intellectual disabilities rose from seven percent in 1992-1993 school year to 11% in 2002-2003 and then to 17% in the 2009-2010 school year (Data Accountability Center, 2012). For the 2015-2016 school years, the last year the data was available, 26.3% of students with intellectual disabilities spent at least 40% of their day in general education classrooms (United States Department of Education [USDOE], 2017). Similarly, in 1992-1993, 7.6% of students with multiple disabilities were placed in general education classrooms (USDOE, 1994) —a percentage that rose to 13.2% in 2005-2006 (USED0, 2007) and then to 16.4% for the 2015-2016 school year (USDOE, 2017). Finally, students with ASD were reportedly placed in general education at a rate of nine percent in 1992-1993 (USDOE, 1994), which increased dramatically to 31.3% in 2005-2006 (USDOE, 2007) and then to 39.9% in 2015-2016 (USDOE, 2017). These statistics evidence the changing educational environment in American schools.

The trends in educational placements for SWSD indicate that they will continue to be a larger and larger presence in general education, necessitating the need for general education teachers to become more adept at teaching SWSD. Specifically, all educators, but especially general education teachers, will need to adjust to the growing reality of inclusive programming for SWSD. In order to adapt, therefore, it is necessary to understand what is meant by the term *inclusive education*, especially in the context of including SWSD. Furthermore, it is important to understand the history of the inclusion movement as it relates to SWSD and the current educational legislature, as these can guide the development of inclusive programming.

Effective Inclusive Education Programs for Students with Severe Disabilities

If SWSD are to succeed in general education settings and if teachers are going to play a foundational part in teaching them, then it is vital to understand (1) the critical components of successful inclusive programming for SWSD and (2) the instructional practices that are most

conducive to learning for these students. In doing so, the field of education needs to know what general education teachers are being taught about inclusive practices and how to effectively teach SWSD in inclusive settings.

Key aspects of inclusive education for students with severe disabilities. Although, there is no quintessential strategy for successfully educating SWSD within general education classrooms, given the uniqueness of these individuals' needs, some researchers have pinpointed a number of components that are generally associated with beneficial inclusive efforts. Downing and Peckham-Hardin (2007) interviewed 58 teachers, parents, and paraprofessionals working with SWSD in inclusive classrooms across three different schools in order to ascertain their opinions as to what constitutes a successful inclusive program for SWSD. For this study, SWSD included students with multiple disabilities, Down Syndrome and Autism, with all 18 students in the study having an intellectual disability. From these interviews emerged seven predominating themes that were deemed necessary for efficacious inclusive programming which included (1) *being with typical peers*; (2) *exposure to everything and high expectations*; (3) *individualized curricular and instructional supports*; (4) *skilled and knowledgeable staff*; (5) *collaboration and teaming*; (6) *a positive and caring environment*; and (7) *providing a balanced educational program*.

The themes deduced from this study (Downing & Peckham-Hardin, 2007) should not be taken as an exclusive or comprehensive list of components for successfully including SWSD in general education, as they were derived from interviews using qualitative analysis. Although the researchers took steps to establish consistency amongst those who analyzed the interview transcripts, their assertions as to what interview responses corresponded to what themes are subjective. Moreover, the opinions of the participants being interviewed are, of course,

subjective, as well. The subjective nature of their responses is further compounded by the fact that all of the participants were employed by the same school district, meaning that it is likely that their views on inclusion were previously influenced by each other and the culture of the school district. Thus, while these components provide a framework for inclusive programming for SWSD, they were not empirically tested in group comparison studies in an effort to determine their effectiveness. Such is a consistent theme in much of the literature concerning the inclusion of SWSD—many of the researchers merely make recommendations based on literature that has been conducted on students with disabilities in general, or with SWSD in special education classroom. While a certain amount of generalization is safe and even advisable, the inclusion of SWSD is difficult and delicate and should, therefore, be more reliant on scientific evidence than theoretical suppositions.

Being with typical peers. The interviewees delineated a number of rationales for placing SWSD with peers without disabilities including the notion that peers can serve as role models of appropriate in-school and academic behavior (Downing and Packham-Hardin, 2007). Kennedy, Cushing, & Itkonen (1997) noted that the interaction of SWSD and their peers without disabilities can be instrumental in SWSD's management of the general education curriculum, as well as help them develop social skills they might not have in a more restrictive setting. Additionally, the interviewees reported that typically-developing peers can serve as social contacts, as well as motivators for success (Downing & Peckham-Hardin, 2007).

Exposure to everything and high expectations. Across participants, it was noted several times that all children, including those with severe disabilities, should be afforded access to a wide array of experiences (Downing & Peckham-Hardin, 2007). As such, exposure included not only access to the core general education curriculum, but participation in nonacademic activities,

such as clubs and community events. With regard to accessing the core curriculum, the participants frequently used the phrase *same, but different* to describe the notion that all students participated in the same curriculum but, for some students, the work was modified. Additionally, many participants spoke to the avoidance of *babying* SWSD and the importance of having high expectations for their achievement. Downing and MacFarland (2010) expound that effective inclusive educators avoid what they term *the fallacy of perceived incompetence* (i.e., the idea that SWSD are incapable of learning traditional academic knowledge and skills), while instead instituting class-wide high expectations, as these may foster self-determination skills such as choice-making, goal-setting, and self-monitoring. That being said, Downing and MacFarland (2010) do not support their recommendation with empirical data that this approach will work for SWSD in inclusive classrooms. Instead they rely upon the idea that the high-expectations approach has generally been shown as an effective teaching tool with most students.

Individualized curricular and instructional support. Curricular adaptations and modifications, as well as assistive technology were the two types of instructional supports most frequently reported by the participants (Downing & Peckham-Hardin, 2007). While specific assistive technologies for SWSD will be discussed later in this chapter, it should be noted that other researchers have identified curriculum modification to be vital to the successful inclusion of SWSD. For example, Hedeon and Ayres (2002) prescribe that in order to properly provide curriculum access, materials and instruction must be adapted to meet the unique needs of all students. By way of illustration, one of Downing and Peckham-Hardin's (2007) participants described how a seventh-grade chapter book was reduced to four to five pages that included simplified sentences and illustrations of major themes. Other examples of curricular modifications might include reduced workload, rephrased questions (e.g., yes/no or specific

options versus open-ended questions), and simplified content.

Alquraini and Gut (2012) found in their literature review of successful inclusive strategies for SWSD that two concepts—*adaptations* and *accommodations*—are often included under the umbrella of curricular modifications. Adaptations have been described as changes to the curriculum intended to alter what the student is expected to learn and how they are expected to perform (Janney & Snell, 2006). On the other hand, *accommodations* are changes made to the manner in which curriculum materials are presented and how students learn the material. Therefore, condensed or simplified assignments would be considered an adaptation, whereas assignments presented in an audio format instead of print would be categorized as accommodations. Other accommodations include extended time on exams, graphic organizers, assistive technology, and repeated directions on assignments. Cole and colleagues (2000) describe three broad categories of adaptations and accommodations that include written assignment strategies, reading assignment strategies, and environmental strategies. The former includes shortening or simplifying assignments and allowing students to offer oral or pictorial answers in lieu of lengthy written responses. Reading assignment strategies include providing written material in advance in order to provide students more time to read it, as well as altering the way in which written material is presented such as in audio or pictographic formats. Lastly, environmental strategies are those that seek to modify the classroom environment to optimize student learning, which may include scheduling regular breaks or rearranging seats for maximized participation.

Skilled and knowledgeable staff. Each participant in Downing and Peckham-Hardin's (2007) survey spoke to the importance of having well-trained, highly skilled, and knowledgeable staff. Interestingly, many participants noticed that effective inclusion teachers possess highly

specialized skills that are not generally required of other teachers, such as creating visual schedules, designing behavior plans, and using different forms of communication. In the same vein, Rainforth (2000) argues that general educators charged with teaching SWSD require specialized instructional knowledge and skills. That being said, Downing and Peckham-Hardin's (2007) participants, especially teachers and paraeducators, additionally expressed the importance of well-trained support staff. Indeed, professionals such as physical therapists, occupational therapists, speech-language pathologists, special education teachers, and school psychologists can contribute to improvement in the quality of general education programs for students with disabilities (Giangero et al., 2001). Consequently, it is critical that professionals garner sufficient skills to appropriately service SWSD in inclusive settings.

Collaboration and teaming. Given the variety of staff members that can contribute to successful inclusion programming, it is unsurprising that teacher, parents, and paraprofessionals highlighted the importance of open communication and teamwork (Downing & Peckham-Hardin, 2007). Specifically, they expounded the benefits of an integrative service delivery model in which support services are employed within general education classrooms and activities. Accordingly, this approach afforded teaching staff the opportunity to implement strategies explicitly designated by the IEP throughout the school day. Furthermore, because specialists worked within classrooms, they were available to support all children, not just those with disabilities. In addition to assisting students, teachers reported that they found paraprofessionals helpful in devising differentiated lesson plans and in designing behavioral plans and classroom management strategies.

Downing and MacFarland (2010) also recommend collaborative teaching as an essential element of educating SWSD. According to these researchers, effective collaboration means that

members of a student's team should aggregate their resources and knowledge to support the student's overall learning objective, as opposed to providing services in an isolated manner. Others have determined that successful collaboration involves the use of effective communication and a collective belief among team members that all students can learn and that school personnel are responsible for their success (Choate, 2004). Alquraini and Gut (2012) elucidate that in order for an inclusive educational team to be effective, they must (a) jointly determine appropriate educational goals and objectives, (b) work collaboratively towards the same goals, and (c) respect the knowledge and skills of every member as experts in their respective fields.

Empirical studies have demonstrated the positive impact of collaborative training on the inclusive education of SWSD. Specifically, Hunt, Soto, Maier, and Doering (2003) investigated the effectiveness of devising and executing inclusive education plans for students with severe intellectual disabilities as a team, with teams consisting of a general education teacher, a special education teacher, and parents. Using behavioral observations and team interviews, the research findings support the notion that planning and implementing education plans in a collaborative fashion was associated with marked improvements in academic skills, classroom engagement, peer interactions, and student-initiated interactions. These results are encouraging despite the fact that Hunt et al. (2003) relied upon a case-study design and, therefore, had no control group with which to establish causality. Moreover, the study required members of the collaborative teams to attend a monthly 90-minute meeting, but did not collect data on the perceived feasibility of such an approach in the business of a real-life school setting despite collecting other ecological validity data.

A positive and caring environment. The participants in Downing and Peckham-Hardin's

(2007) study identified the creation of a learning environment in which all children are accepted and valued as a critical component of an inclusive education for SWSD. Specifically, the majority of respondents, but especially parents, endorsed a strongly held belief that inclusive education was foundational to constructing a positive learning environment. Many other experts in the field of inclusion have identified a positive and accepting environment as being vital (e.g., Danforth, 2014; Kliwer, 1998; Ryndak et al., 2000), as it is the underlying philosophical cornerstone of inclusion. That being said, students with disabilities have noted the importance of a positive school environment in their educational success (Shogren et al., 2016). In an analysis of 11 focus groups that included both students with and without disabilities who attended inclusive schools, students with disabilities attributed their sense of belonging to the philosophy of inclusive education that saturated their school climate. Furthermore, these students consistently identified teachers more than any other group as a key component of what made them feel secure and supported at school. Specifically, students with disabilities noted that aside from balancing high expectations with necessary support, teachers were instrumental in promoting positive interactions among all students. Students without disabilities have also expressed beliefs that teachers should be actively involved in fostering social interactions between themselves and SWSD (Shokoohi-Yekta & Hendrickson, 2010). Specific strategies for teachers that may foster positive interaction and a sense of belonging in inclusive classrooms include discussing disabilities and different learning needs openly, using cooperative group learning, assigning heterogeneous peer buddies, assigning teacher advocates, providing opportunities for students to compete noncompetitively, and providing opportunities for students to provide feedback about their school experience (Kochhar, West, & Taymas, 2000). It is therefore evident that teachers are essential to the development of a positive learning

environment for SWSD in that they possess influential power in their capacity to construct classroom activities and policies that promote positive heterogeneous interactions and an atmosphere of acceptance and belonging for all students.

Providing a balanced educational program. Finally, Downing and Peckham-Hardin's (2007) interviewees delineated that in addition to academics, it is important to provide instruction in social and communication skills to SWSD. While the majority of the participants placed an emphasis on teaching these skills to SWSD, some spoke to the necessity of including these types of skill training more pervasively throughout the curriculum. Other researchers have stressed the importance of teaching SWSD social and communication skills, as well as daily living and job skills, as these will serve them well after they have completed their formal schooling and are seeking further schooling or employment (Browder et al., 2014; Downing & MacFarland, 2010). Therefore, while teaching academic skills is certainly important and all students should have equal access to the academic curriculum, a balanced education that targets all developmental areas of need is important for SWSD and their postsecondary outcomes.

Other important components. Two other components were identified in the literature as being integral to successful inclusive efforts for SWSD— administrative support and family involvement. With regards to administrative support, it has been observed that general and special education teachers, as well as paraprofessionals believe that a high degree of support is a necessary component of successful inclusive delivery models (Carter and Hughes, 2006). Furthermore, Carl and Maryann (1996) recommend that school administrators should actively participate in planning and implementing inclusive programs for SWSD through (a) identifying the number of SWSD who should be educated in general education, (b) determining prospective sources of support for SWSD and their educators, and (c) supplying the requisite training for

school staff to effectively serve SWSD in inclusive settings.

In addition to administrative support, several researchers have noted the importance of family involvement in the inclusion of SWSD. From a practical standpoint, families can provide information and unique perspectives that can be instrumental in devising proper inclusive education planning. By way of example, Downing and MacFarland (2010) remarked that because SWSD frequently have communication deficits, family members can offer insight on the student's skills and interests, concerns, and future goals. Similarly, family members can be effective in promoting an understanding of SWSD and improving how they are perceived, as they can offer descriptions of skills and limitations while refraining from negative portrayals (Alquraini & Gut, 2012). Taking it a step further, other researchers call for extensive and continuous family involvement (Childre, 2004; Orelove, Sobsey, & Gilles, 2017), advising that parents of SWSD should be regular participants in educational planning, Committee on Special Education meetings, the implementation of IEPs, and the evaluation of IEPs. Thus, the families of SWSD should be heavily involved in their children's education at every stage of the process, given their unique expertise and position for advocacy.

Effective instructional strategies for students with severe disabilities in inclusive settings. The debate concerning the education of SWSD no longer seems to focus on whether or not SWSD should be educated alongside students without disabilities, but rather, what are the most efficacious practices for meeting their learning needs (Turnbull, Turnbull, & Wehmeyer, 2006; Vaughn & Linan-Thompson, 2003; Zigmond, 2003). A mounting body of research exists that describes best instructional practices for educating SWSD in inclusive settings (e.g., Alquraini & Gut, 2012; Browder et al, 2009; Browder et al. 2014; Copeland and Cosbey, 2008; Orelove et al., 2017; Westling & Fox, 2009). Shared facets of this collection of knowledge

include universal design for learning, systematic instruction, inquiry learning, embedded instruction, response prompting, self-directed learning, positive behavioral supports, peer interventions, and assistive technology. Below, one will find descriptions of each of these, as well as supportive examples from research studies.

Universal design for learning. Universal design for learning (UDL) is considered a tool used in curriculum development with the goal of providing all students, regardless of disability status, with opportunities to learn and participate in academic curricula (Center for Applied Special Technology (CAST); Edyburn, 2010), and includes three major principles: (1) Provide Multiple Means of Representation, (2) Provide Multiple Means of Action and Expression, and (3) Provide Multiple Means of Engagement (Edyburn, 2010). Given that UDL seeks to promote curriculum participation for all students, it is perhaps unsurprising that it is regularly cited as an educational approach that facilitates inclusion (Coyne et al., 2006; Dicker, 2006; Gargiulo & Metcalf, 2012). While very few studies have systematically investigated the effectiveness of UDL as an instructional system for SWSD, it has been suggested that UDL is an appropriate means of fostering access to the general education curriculum for SWSD (Alquraini & Gut, 2012; Carrol, Blumberg, and Petroff, 2008). That being said, three studies were found that provide an examination of the application of UDL for SWSD. First, Dymond and colleagues (2006) worked with general and special education teachers to reconstruct a high school science course using universal design principles. Students with and without disabilities were included in the study, with two students noted as having intellectual disabilities. At the end of two semesters, all students, including those with severe intellectual disabilities, made gains in scientific knowledge and increased their participation in both academic and social interactions.

Second, Browder, Mims, Spooner, Ahlgrim-Delzell, and Lee (2009) utilized a UDL

approach to teaching reading comprehension to three students with profound intellectual disabilities. To do so, the researchers adapted three picture books so that each book contained the student's name, as well as oral readings that were accompanied by story-relevant sensory materials. The results showed significant pre-to-post gains in independent student responses.

Third, Coyne, Pisha, Dalton, Zeph, and Smith (2012) employed a UDL approach to literacy instruction by combining scaffolded e-books that focused on reading for meaning with letter and word recognition software. Their study included 16 children with intellectual disabilities split into equivalent treatment and control groups and was the only such study found that investigated UDL with SWSD that incorporated an experimental design. The results indicated that those children in the UDL condition made significantly more gains than the controls as measured by the *Woodcock-Johnson Test of Achievement III* Passage Comprehension subtest.

The results of these three studies suggest that UDL holds utility as a framework for planning instruction that promotes general education curriculum access for SWSD. That being said, the methodological concerns that these studies harbor warrants a cautionary approach to these findings. Not only is the literature quite limited, but the studies that do exist are restricted by small sample sizes. Furthermore, only one of the three studies utilized an experimental approach, while the others relied on case-studies. Although the results that were obtained are promising, none of the studies reported effect size, which only further limits the generalizability of the outcomes.

Systematic instruction. Generally, a systematic instructional approach consists of a well-thought-out plan of teaching that consists of identifying and defining target skills, the use of fading prompts, positive reinforcement, and activities to promote generalization (Browder et al.,

2014). The use of systematic instruction for teaching SWSD both academic and nonacademic skills has been strongly recommended (Browder et al, 2014; Downing & MacFarland, 2010; Snell & Brown, 2006; Westling & Fox, 2009), and has been supported by existing literature. For example, Courtade, Browder, Spooner, and DiBiase (2010) instructed teachers to execute steps of a task analyses intended to teach scientific concepts to students with intellectual disabilities and found that the use of this approach coincided with increases in the use of scientific inquiry skills, as well as the use of scientific terminology outside of lessons. Additionally, Jameson, McDonnell, Johnson, Riesen, and Polychronis (2007) employed systematic instruction to teach students with intellectual disabilities to recognize letters and words. Given its utility in developing academic skills for SWSD, a systematic instruction approach can be seen as an appropriate and worthwhile strategy for use in inclusive classrooms, especially considering that its use is not confined to SWSD.

Notably, Courtade et al. (2010) and Jameson et al. (2007) are both limited by small sample sizes, with the former using four teachers and eight students and the latter using four students and eight teachers. Furthermore Courtade et al. (2010) is further limited by a case study design, and while significant pre-to-post academic improvements were observed, there is no evidence to suggest that the systematic instruction method used is more efficacious than any other method. Although Jameson et al. (2007) utilized a quasiexperimental approach, their results indicated that systematic instruction was only better than or equal to improving letter/word recognition in two of the four participating students. Therefore, while systematic instruction certainly seems effective at teaching academics to SWSD, there is no solid evidence that it is better at doing so than other methods.

Inquiry learning. Inquiry learning is an instructional strategy in which students develop

questions (either individually or in groups) about a phenomenon and then engage in an investigative process in order to draw conclusions (Kuhn, Black, Keselman, & Kaplan, 2000). Therefore, inquiry learning is intended to promote active engagement and the development of reasoning and problem-solving skills (Hmelo-Silver, Duncan, & Chinn, 2007). The teacher's role in inquiry learning is to facilitate the inquiry process by supporting student learning based on individual learning needs (Copeland & Cosbey, 2008), meaning that evaluations of progress should be individually-based. Rapp (2005) demonstrated that inquiry learning can be effective for students with intellectual disabilities in a study that examined an inclusive third-grade class who engaged in inquiry learning at a children's museum. Like many studies concerning SWSD, Rapp's (2005) examination relied on a small sample, using a class of 26 students, two of which had severe disabilities. Data collection consisted of observations and interviews with students and teachers. As such, no pre-intervention data was collected or compared to as evidence of improvement. Moreover, the data was collected in a museum, suggesting that the results may not necessarily be generalizable to classroom learning. Therefore, the results of this inquiry should be interpreted with caution. The findings suggested that the target students gained not only content knowledge, but exhibited an increased confidence of their competency, as evidence by an improved capacity to explain their knowledge to their peers. Consequently, their typically-developing peers viewed them more positively which, in turn, encouraged more social interaction. Inquiry learning, therefore, offers an instructional approach that matches well with the educational needs of SWSD, given its emphasis on hands-on learning and scaffold teacher support. Additionally, it can be used as a collaborative learning strategy meaning that it promotes social interaction and modeling, suggesting that it is an ideal strategy for inclusive settings.

Embedded instruction. Embedded instruction refers to the instructional approach in which planned, individualized instruction is inserted into a child's ongoing activities and routines throughout the school day that relates to the context of what the child is doing (Copeland & Cosbey, 2009). Thus, the goal of embedded instruction is to provide individualized instruction that coincides with a child's IEP goals without disrupting their participation in general education activities, meaning that it can allow SWSD to learn alongside their typically-developing peers without stigmatizing them through the use of obviously different instruction or disrupting other students' learning. There are numerous studies demonstrating that that embedded instruction is as effective at teaching academic content knowledge to SWSD as massed trial instruction (McDonnell et al., 2006; Jameson et al., 2007), although these studies occurred in special education classrooms. Other studies have found that embedded instruction is an appropriate method for teaching academic content knowledge in general education (McDonnell, Johnson, Polychronis, & Riesen, 2002; Riesen, McDonnell, Johnson, Polychronis, & Jameson, 2003; Wolery, Anthony, Snyder, Werts, & Katzenmeyer, 1997). For example, McDonnell and colleagues (2002), showed the effectiveness of embedded instruction delivered by paraeducators. In their study, paraeducators provided vocabulary instruction to students with intellectual disabilities in inclusive settings, which resulted in significant improvements in vocabulary that were maintained at follow-up. Similarly, Riesen and colleagues (2003) found that students with severe Autism who learned vocabulary knowledge in core academic content areas through the use of embedded instruction were able to apply that information during general education instructional activities. Thus, embedded instruction holds value as an instructional method for SWSD in inclusive classrooms, as it offers the individualized attention these students need adjusted to general education expectations.

Response prompting. An instructor uses response prompting when he or she uses verbal or nonverbal cues to help a student think of the correct answer to a posed question, but are faded as a student begins to demonstrate progress toward a target skill (Cooper, Heron, & Heyward, 2007). As an instructional strategy, it has been successfully used to teach students with intellectual disabilities both mathematics (Rao & Kane, 2009) and literacy skills (Browder, Gibbs, Ahlgrim-Dezell, Courtade, & Mraz, 2009). Although response prompting has traditionally been used in segregated settings (Copeland & Cosbey, 2008), Cosbey & Johnston (2006), this approach was used to teach students with severe Autism to initiate social interactions with peers during appropriate opportunities in the students' general education classrooms. Moreover, some of the participants generalized these skills to other inclusive settings, such as recess. Response prompting has traditionally been associated with instruction for SWSD (Copeland & Cosbey, 2008), but has nevertheless been shown to be effective at teaching academic skills to heterogeneous groups of students (Schoen & Ogden, 1995), suggesting that this technique can be used with all students, irrespective of disability status, giving it utility as an instructional strategy in inclusive settings. In Schoen & Ogden (1995), it should be noted, the heterogeneous group consisted of three children, only one of which had a severe disability, and as such, should be taken hesitantly as an evidential study.

Self-directed learning. Despite the effectiveness of systematic, teacher-delivered instruction, SWSD need opportunities for self-directed learning, because these types of activities can increase their independence (Browder et al., 2014). As such, self-directed learning strategies are promising for inclusive practices for SWSD, as they can decrease the amount of individualized attention these students require. Browder and colleagues (2014) underscore two strategies that have a research base for fostering self-directed learning for SWSD in inclusive

classrooms: pictorial self-instruction and the Self-Determined Learning Model of Instruction (SDLMI).

Pictorial self-directed learning takes a variety of forms depending on specific student needs, but generally involves the use of picture-based graphic organizers or schedules to guide students through tasks and activities (Mithaug & Mithaug, 2003). For example, Mithaug and Mithaug (2003) taught students with severe Autism to complete various academic assignments using a pictorial assignment planner. Specifically, circled picture categories included (a) Subjects to Work, (b) What I Will Do, and (c) What I Did, as a means of planning, completing, and evaluating their work. The results indicated an increased level of student-directed learning that coincided with decreases in teacher-directed learning. Hume, Plavnick, and Odom (2012) demonstrated the utility of picture activity schedules for SWSD in inclusive settings. In their study, students with severe Autism were taught to use a picture-based schedule to complete independent seatwork in a general education setting, which resulted in improvements in work completion and accuracy, as well as diminishment in needed adult support. Like many studies researching the inclusion of SWSD, Mithaug and Mithaug (2003) and Hume et al. (2012) relied upon small sample sizes, using four and three students, respectively. Furthermore, neither study examined the long-term benefits of pictorial self-directed learning in that no follow-up data was collected. As such, it cannot be assumed based on either set of data that the students partaking in the studies maintained the reported benefits after the interventions were withdrawn.

The SDLMI employs a more standardized approach to teach students to solve problems through the use of four steps: (1) identify the problem, (2) find potential solutions, (3) identify potential obstacles, and (3) identify outcomes of each proposed solution (Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000). Agran, Cavin, Wehmeyer, & Palmer (2006) studied the

influence of SDLMI on the academic performance of middle school students with intellectual disabilities. Their results indicated that all students acquired and maintained the target academic skills at the mastery level, as indicated by a follow-up investigation. In the same vein, Shogren, Palmer, Wehmeyer, Williams-Diehm, and Little (2012) examined the impact of the SDLMI on the attainment of academic goals and access to the general education curriculum for students with intellectual disabilities using a group-randomized quasi-experimental design. While Agran et al. (2006) is limited by a case study design and a small participant sample, Shogren et al. (2012) utilized a sample of 312 students split into an intervention group and a control group. Not all of the participants had severe disabilities, but 90 of them had severe intellectual disabilities. The findings supported the efficacy of the model for promoting both goal attainment and general education curriculum access, as the experimental group exhibited significantly more gains than the controls. Although students with learning disabilities made larger gains than those with intellectual disabilities, the former still exhibited significant results.

Positive behavior supports. A large number of SWSD present with challenging behaviors (e.g., self-injury, disruptive vocalizations, and physical aggression) that can inhibit their capacity to participate in the general education environment. As such, positive behavioral supports are a recommended means of remediating problem behavior (Horner & Carr, 1997) and, thereby, increasing the likelihood of successful inclusion. Positive behavior supports generally involve the use of non-aversive techniques that focus on student strengths and are designed to elicit appropriate alternative behaviors (Browder et al., 2014). One of the most heavily researched and, thus, evidenced-based forms of positive behavior supports is the technique known as differential reinforcement of alternative behavior ([DRA]; Petscher, Rey, & Bailey, 2009). DRA uses positive reinforcement to increase the occurrence of a desired behavior, while

suppressing reinforcement for the target problem behavior (Cooper, Heron, & Heward, 2007). In their review of the empirical evidence for DRA and its use with individuals with severe disabilities, Petscher and colleagues (2009) determined that DRA is an appropriate strategy for reducing problem behaviors on a continuum that includes the very minor to the potentially life threatening. Therefore, DRA is an appropriate tool for managing virtually any school-based problem behavior.

Similarly, functional communication training (FCT) has been established as a means of reducing problem behavior that stems from frustration due to a lack of communication skills (Davis, Fredrick, Alberto, & Gama, 2012; Kurtz, Boelter, Jarmolowicz, Chin, & Hagopian, 2011). Like DRA, FCT intends to teach appropriate communication techniques that can be employed to obtain the same function as the target behavior (Cooper et al., 2007). In their analysis of FCT as a technique for reducing problem behavior in SWD, Kurtz and colleagues (2011) concluded that FCT far exceeded criteria for designation as a well-established, evidenced based strategy.

While individualized positive behavior supports like DRA and FCT are established as efficacious means of reducing problem behavior in SWSD, it has been suggested that school-wide positive behavior supports (SWPBS) may also be effective at decreasing problem behavior, while being more conducive to inclusive efforts for SWSD (Kurth & Enyart, 2016). In the same vein, Freeman and colleagues (2006) delineate that SWPBS can potentially create a framework that supports and maintains inclusion by establishing a school culture that assumes that all students require support to learn prosocial behaviors, but at different degrees and intensities. Moreover, SWPBS may increase the effectiveness of tertiary positive behavior supports, making these more individualized plans more effective than if they are used in isolation (Carr, 2006).

Thus, SWPBS has the potential to serve as supplementary support for inclusive efforts for SWSD, though it may not be adequately supportive on its own. That said, SWPBS have not yet been empirically tested as a means of reducing the problem behaviors that can be obstacles for the inclusion of SWSD. As such, using well-investigated techniques like DRA and FCT should likely be relied on as the primary means of reducing these behavior, while using SWPBS in a supplementary capacity. In their metanalyses of DRA and FCT, respectively, Petscher et al. (2009) and Kurtz et al. (2011) did not examine the extent to which these two techniques was used to facilitate inclusion, meaning that it can only be suggested that these techniques could promote successful inclusion.

Peer interventions. Peer support interventions were developed to provide an effective, yet practical, approach for helping SWSD gain access to the general curriculum and develop meaningful relationships with typically-developing peers (Kennedy & Itkonen, 1994). Carter and Kennedy (2006) prescribe that typically-developing peers can assist SWSD in inclusive classrooms in numerous ways including (a) adapting class activities to promote their participation, (b) contributing to the attainment of IEP goals, (c) supporting behavioral intervention, (d) providing positive feedback, (e) modeling age-appropriate communication skills, and (f) fostering interactions with other peers. Throughout the literature, several different instructional strategies that incorporate the assistance of typically developing peers have been demonstrated to be effective in supporting SWSD in inclusive settings. Of these, cooperative learning was cited most frequently as a practice for promoting successful inclusive environments for SWSD (e.g., Alquraini & Gut, 2012; Browder & Cooper-Duffy, 2003; Carter & Kennedy, 2006; Copeland & Cosbey, 2008; Kurth, Lyon, & Shogren, 2015). Like many instructional strategies, cooperative learning takes on many forms dependent upon environmental factors, but

generally, it involves small groups of students with assorted ability levels working together to complete a learning task (Copeland and Cosbey, 2008). In their investigation of the practices used to support inclusion of SWSD at inclusive schools, Kurth and colleagues (2015) found that the majority of successful inclusive programs often employed cooperative learning activities regularly throughout the school day. Within inclusive classrooms, cooperative learning has been found to aid in the development in social interaction skills for students with intellectual disabilities (Jenkins, Antil, Wayne, & Vadas, 2003), as well as in the acquisition of IEP objectives regarding communication goals (Hunt, Farron-Davis, Beckstead, Curtis, & Goets, 1994). Notably, the finding from Jenkins and colleagues (2003) were based on teacher reports and not data that actually tracked the progress of social skills—a limitation in the applicability of their results. Although few studies have focused on academic outcomes, researchers have found that general education teachers are highly supportive of cooperative learning activities for students with and without disabilities (Jenkins et al., 2003), suggesting that it is a strategy that teachers would be open to using in inclusive classrooms.

Peer support arrangements for SWSD in inclusive classrooms have been more extensively investigated with regards to academic outcomes. These arrangements differ from cooperative learning in that they are individually tailored interventions that emphasize both academic and social engagement and involve a small number of peers, as opposed to an entire class (Carter et al., 2015). More specifically, they involve one or more peers providing academic, social, or other support to a classmate with a severe disability to promote class participation and encourage social connections (Carter et al., 2015). Like cooperative learning strategies, peer support arrangements have been found to positively impact the social world of SWSD (Carter & Hughes, 2005; Shukla, Kennedy, & Cushing, 1998). Specifically, Shukla and

colleagues (1998) discovered that the social interactions of middle-schoolers with severe disabilities were both longer and more frequent when they worked with peer supports than when they were primarily supported by a paraprofessional. Carter and Hughes (2005) found similar results at the high school level. Both Skukla et al. (1998) and Carter and Hughes (2005) utilized a sample of three participants and case design methodology. Moreover, neither study investigated the long-term effects of peer support arrangements on any of the outcome measures. As such, it is impossible to determine if their results were attributable to the peer supports arrangement or to the nature of the specific peers involved in those arrangements. That said, these results are certainly encouraging and point to the potential utility of peer support arrangement to increase social interactions and classroom engagement in SWSD.

Peer support arrangements have been found to provide academic benefits to SWSD in inclusive classrooms, as well (Carter, Cushing, Clark, & Kennedy, 2005; Carter, Sisco, Brown, Brickham, & Al-Khabbaz, 2008; Shukla, Kennedy, & Cushing, 1999). For instance, Shukla and colleagues (1999) examined the effect of peer support arrangements on the academic engagement of middle school students with intellectual disabilities enrolled in core academic, art, or vocational courses. The results indicated that those students who received peer supports exhibited substantially higher levels of active engagement compared to those who received support exclusively from paraeducators. Likewise, Carter and colleagues (2005) showed that middle and high school students with severe disabilities could maintain high levels of engagement to instructional activities in core academic classes when working with one or two peer supports. These findings support the perception that paraeducators are necessary to provide direct, individualized support for SWSD in general education settings. Thus, peer support arrangements offer a means of supporting the autonomy of SWSD in general education without

the use of paraprofessionals, thus reducing the required personnel for successful inclusion.

Carter and colleagues (2013) identified several strategies for developing a lasting peer-support network for SWSD. These strategies included (a) obtaining support from school personnel, (b) selecting SWSD who would benefit from peer supports, (c) identifying a school staff member who is committed to facilitating peer supports, (d) recruiting support from peers who are known to the SWSD, have common interests, and are in the same classes, (e) planning how and when peer support will occur, (f) educating typically-developing peers about disabilities, (g) encouraging peers and SWSD to engage with each other outside of structured peer-support activities, (h) continually evaluating the peer supports, and (i) determining ways to extend the relationships between peers if appropriate.

Using assistive technology. Mistrett, Lane, and Ruffino (2005) prescribe that assistive technology can be used to encourage SWSD to participate more fully in various school-based activities. IDEA (2004) defines assistive technology as devices intended to improve the functional capabilities of students with disabilities. SWSD can benefit immensely from assistive technology in that it can support mobility, hearing, vision, communication, and instruction (Spooner, Browder, & Mims, 2011). Moreover, the law denotes that IEP teams must consider assistive technology that would permit greater access to the general curriculum. As such, assistive technology is regularly an important component of inclusive education programming. In the literature, assistive technology is divided into two primary categories: low tech and high tech (Mistrett et al., 2005). Low tech assistive technology includes slant boards, pencil grips, and picture boards, while high tech assistive technology includes tablets, computers, augmentative communication, and power wheelchairs. In their review of the best practice literature for supporting SWSD in inclusive classrooms, Alquraini and Gut (2012) identified

augmentative and alternative communication (AAC), alternative keyboards, and touch screens as common assistive technology devices that could be useful for SWSD in general education classrooms.

AAC is the use of devices that support or supplement verbal communication (Mustonen, Locke, Reichle, Solbrack, & Lindgren, 1991), and for nonverbal students it may be their only means of communication and interacting with peers and adults (Sigafoos, 2010). AAC includes low tech options such as letter boards and picture boards, as well as high tech options such as text-to-speech or other specialized software. The utility of AAC for SWSD in inclusive classrooms cannot be understated, as it unequivocally improves their capacity to participate in both social and academic activities within general education settings. Moreover, numerous literature reviews have indicated strong evidence for the use of ACC for SWSD (e.g., Calculator & Black, 2009; Johnston, Reichle, & Evans, 2004; Reichle, 2011; Snell, Chen, & Hoover, 2006). In their review of 102 journal articles, Calculator and Black (2009) identified several effective practices for teaching SWSD to use AAC, which included (a) using naturalistic teaching, (b) using a system of least prompts, and (c) training staff and peers to use the devices.

In addition to the above devices which could be considered *student-driven devices*, assistive technology can be used by teachers to promote academic engagement (Browder et al., 2014). Specifically, computer-assisted instruction has been shown to be effective in teaching academic skills to SWSD (Knight, McKissick, & Saunders, 2013; Pennington, 2010). While the majority of studies that have examined computer-assisted instruction have used a single-case design in special education environments (Browder et al., 2014), Coyne, Pisha, Dalton, Zeph, and Smith (2012) employed a group design in which general education teachers were assigned to either universal design for learning (UDL) or a more traditional literacy intervention. The UDL

intervention utilized e-books for SWSD, as well as planning an intervention for engagement and responses that would be inclusive to all. The results indicated statistically significant improvements in passage comprehension with the UDL approach that incorporated computer-assisted instruction.

Best practices in inclusive programing for students with disabilities in general.

What follows is a section that seeks to provide a broad, yet brief, summary of practices that facilitate inclusive education for students with disabilities in general, regardless of the severity of disabilities. Doing so will illuminate some of the overlap in practice that exists between providing inclusive learning opportunities for moderately disabled and severely disabled students. Furthermore, a broad overview reveals discrepancies between the existing literature bases associated with these two student populations.

It is somewhat difficult to provide an exhaustive list of practices that foster inclusive programing for students with disabilities as a general group, especially in a brief manner, because there exists no definitive source of this information. Moreover, different sources offer differing lists of best practices both in terms of content and length. That said, some more comprehensive sources can be referred to and cross-examined for concurrence. First, the European Agency for Development in Special Education (Meijer, 2001) conducted a literature review of inclusive education research from 1990 to 2000 that included studies from 15 European countries and the United States. From their search requirements emerged 135 studies fit for analysis. Using a grounded theory approach to qualitative analysis, the research team deduced that at least five factors contribute to effective inclusive education. The first, co-teaching, refers to the notion that the addition of a second classroom teacher can help facilitate inclusive programming, which was also recommended by Downing and Peckham-Harding

(2010) as a facilitative practice for the inclusion of SWSD. The second, cooperative learning, encompasses strategies that incorporate peers without disabilities, which were discussed at length in the previous sections as strategies that promote the inclusion of SWSD. The third, individual planning, is an obviously critical aspect of effective inclusion, as inclusive education hinges on individually tailored education plans. The fourth, collaborative problem solving, was also referenced in the previous section as an efficacious practice for including SWSD, and refers to the idea that teachers, parents, paraeducators, and students should collaborate on educational decision and programming. The fifth and final identified factor, differentiation, is the general word used by the research team to describe tailoring the curriculum and instructional environment so that students with disabilities can access the general education curriculum and, thus, includes UDL approaches.

In addition to the above literature review, the National Center on Inclusive Education (Jorgensen, McSheehan, Schuh, & Sonnenmeier, 2012) provides an *Essential Best Practices in Inclusive Schools*. Additionally, David Mitchell's (2014) *What Really Works in Inclusive and Special Education: Using Evidence-Based Teaching Strategies* (2nd Edition) also provides an overview of general best practices in inclusive education. Each of these sources makes some reference to the previous five practices described by Meijer (2001); however, cross-referencing them reveals three additional practices that are highlighted by both the National Center on Inclusive Education (2012) and Mitchell's (2014) book. First, both sources underscore the importance of ongoing and equitable partnerships between schools and the families of inclusive children—a sentiment that was echoed in the best practice literature concerning SWSD. Similarly, both sources note that effective inclusive education should incorporate some aspect of self-directed learning, as these strategies can promote independence within the classroom. Once

again, these strategies were underscored in the inclusion literature for SWSD as well. Third, each source notes that using a UDL approach to planning the classroom environment, instruction, and assessment is a practice that fosters successful inclusion in general education classrooms for students with disabilities.

UDL has been more widely studied with students with disabilities in general than it has been with SWSD. By way of illustration, when Crevecoeur, Sorenson, Mayorga, and Gonzalez (2014) examined single-subject and group comparison studies that investigated the effectiveness of UDL that were published between 1984 and 2014, three of the five studies did not include SWSD. Crevecoeur and colleagues (2014) concluded that each of these three studies (i.e., Dolan, Hall, Banerjee, Chun, & Strangman, 2005; Proctor et al., 2011; Rappolt-Schlichtmann, 2013) exhibited results that point to the efficacy of using a UDL approach to improve student learning. In addition to these three studies, three other studies were found that examined the effectiveness of UDL for students with disabilities (i.e., Davies, Schelly, & Spooner, 2012; Hall, Cohen, Vue, & Ganley, 2015; King-Sears et al., 2015), each of which reported similarly positive findings. Thus, UDL has been demonstrated as effective at improving student outcomes for both students with moderate and severe disabilities. That said, the studies investigating UDL with students with moderate disabilities outnumber those including SWSD. Moreover, studies in the former category tend to be methodologically stronger. For instance, of the six studies listed above, all but Davies et al. (2012) utilized a research design that incorporated some form of control group comparison. Furthermore, studies that focused on the effectiveness of UDL with students with disabilities in general tended to rely on much larger sample sizes for their results. By way of example, Proctor et al. (2009) and Rappolt-Schlichtmann (2013) utilized sample sizes of 140 students and 579 students, respectfully.

The literature concerning UDL mirrors the broader literature concerning best practices in inclusive education in general in that the literature is weighted by studies that focused on the inclusion of students with disabilities in general. This is perhaps best illustrated by Meijer's (2001) review of 135 articles on inclusive education, of which only 3 included SWSD—a rate of 2.2% of published articles. It should be noted that Meijer's review included only articles from 1990-2000 and that since then it is possible that the rate of inclusion studies about SWSD may have increased. That being said, it is likely that inclusion literature remains favorable to research on students with moderate disabilities in terms of the sheer volume of published studies.

Concluding thoughts. A review of the literature concerning the inclusion of SWSD reveals that certain environmental components and educational techniques can be employed to promote the success of these initiatives. That said, there are some limitations to this literature that should be kept in mind when considering inclusive placements and crafting inclusive programming for SWSD. For example, many of the aspects that are touted as critical for successful inclusion are derived from opinions drawn from people who have worked in inclusive settings or researchers in the field of inclusive education. While these opinions are certainly very valuable, they do not hold the same weight as empirical studies. Most of the studies that have methodically examined educational techniques for promoting the inclusion of SWSD have relied on case-study designs, which by nature have low levels of external validity. Additionally, some of these studies were not conducted in inclusive classrooms, further lowering their generalizability. Moreover, many studies in the literature did not employ any follow-up measures to determine if the studies techniques were effective at developing long-term skills. Also, most studies only included one disability category (e.g., ASD, Down Syndrome). Given these limitations, studies on the inclusion of SWSD stand in contrast to the broader inclusion

literature that includes all students with disabilities, as these studies are more likely to use larger sample sizes and experimental or quasiexperimental designs.

Despite the limitations in the literature, in aggregation these studies support the use of the educational techniques that have been discussed in this section in efforts to include SWSD in inclusive classrooms. The majority of the studies discussed in this section took place in inclusive settings and a small number of them even utilized experimental designs, which strengthens the literature as a whole. Given the existence of a body of literature that describes techniques for promoting inclusive programming, it is prudent to examine the opinions of the professionals who typically employ these techniques: general education teachers.

The Role of Teachers' Attitudes Toward Including Students with Severe Disabilities

As aforementioned, there is a preponderance of evidence that effective teachers are the most significant in-school contributors to student learning (e.g., Fong-Yee & Normore, 2013; Glazerman et al., 2010; Harris, 2012; Hightower et al., 2011; Weisberg, Sexton, Mulhern, & Keeling, 2009). Moreover, well-trained and knowledgeable general education teachers are considered invaluable components of successful inclusive education for SWSD (Alquraini & Gut, 2012; Downing & Peckham-Hardin, 2007; Ginagerco, Edelman, Broer, & Doyle, 2001; Ryndak et al., 2000). Therefore, because of the value of teachers' contributions to inclusion, it is important to understand their attitudes concerning these practices.

Teachers' general attitudes. In their synthesis of American teachers' attitudes toward inclusive education, which included survey reports conducted over a time span of nearly forty years (1958-1995), Scruggs and Mastopieri (1996) found that while 65% of teachers surveyed were agreeable with the basic concept of inclusion, just 40% believed that including students with disabilities in general education environments was pragmatic. Perhaps the most critical

finding from their undertaking was that the attitudes held by teachers were consistently negative regarding inclusion. Similar findings were uncovered by a more recent meta-analysis conducted by de Boer, Pijl, and Minnaert (2011). In their review of 26 studies on teachers' attitudes toward inclusion, researchers concluded that the majority of teachers hold negative or neutral views toward inclusion, while only a minority hold positive attitudes.

In addition to these meta-analyses, other researchers have noted that special education teachers tend to have more favorable views of inclusion compared to general educators (Cochran, 1998; Familia-Garcia, 2001). Cochran (1998) developed the *Scale of Teachers' Attitudes Toward Inclusion* to measure teachers' perceptions. Employing this 20-item Likert scale, 516 teachers were surveyed from five school districts in the Southeastern United States region from 18 elementary schools, six middle schools, five high schools and two special education schools from urban, suburban and rural communities. Cochran's results indicated more favorable attitudes among special education teachers in comparison to their general education counterparts. Elementary educators also indicated more positive views than secondary education teachers, indicating that inclusion may be more accepted at lower grade levels. Based on these results, Cochran concluded that successful inclusion depended upon teachers' attitudes, given that teachers who exhibit unfavorable attitudes toward inclusion may directly impact the success of the included students (Cochran, 1998).

Similarly, using a small sample in the New York City school system, Familia-Garcia (2001) assessed the attitudes of teachers toward including students with disabilities into general education classrooms. Of the special education teachers surveyed, 100% endorsed positive attitudes concerning working in an inclusion setting, even if they were mandated to do so. Conversely, only 50% of the general education teachers were willing to try the inclusion model

while the other 50% reported that they were against using an inclusion model. Moreover, these educators stated a belief that inclusive efforts would be unsuccessful and 80% of them endorsed they would change schools or retire if mandated to work in an inclusion setting (Familia-Garcia, 2001).

Indeed, it appears as though these trends in opinion have continued into the 21st century and are reflective of current teachers' attitudes toward including SWSD in general education. Specifically, in a survey conducted by Santoli, Sachs, Romney, and McClurg (2008) in a large southeastern school district, it was found that while an overwhelming majority (98.2%) of teachers were willing to make the necessary accommodations for SWSD, the majority of these teachers (76.8%) were under the impression that SWSD should not be educated in the general education environment. Additionally, fewer than half of the respondents (44.6%) endorsed that inclusion was an appropriate educational practice for students without disabilities.

One of the common themes of studies using a self-report measures of teachers' attitudes toward inclusion is that the majority of teachers acquiesce with the general idea of inclusion, but are skeptical of the practicality of inclusion (Cochran, 1998; de Boer et al., 2011; Familia-Garcia, 2001; Santoli et al., 2008; Scruggs & Mastopieri, 1996). As these studies relied on self-reports, it could be that teachers are merely giving socially desirable answers. Teachers might endorse the philosophy of inclusion but may be less willing to make the specific adaptations for pupils with special needs. Given this inherent weakness of self-report measures, future studies may wish to utilize observations or questions designed to minimize the probability of receiving responses motivated by social desirability.

Other studies have used teacher nominations as a means of garnering teachers' attitudes toward inclusion. For instance, one study found that teachers were more willing to nominate a

student with a severe disability as the student they would drop from their class if they were able, and less willing to nominate them as the student they would keep for another year, if permitted (Cook, Tankersley, Cook, & Landrum, 2000). Similarly, Cook (2001) discovered that SWSD were overrepresented in teachers' nominations for the student whom they would be least prepared to talk about if surprised with a parent conference. From these results Cook (2001) postulated that SWSD may be the students that teachers least prefer having in their class and, thus, know the least about. It is perhaps unsurprising that teachers would be more likely to nominate SWSD as the student they would drop from their class, as these students often require the most effort to teach and so dropping them would diminish the amount of work required by educators. As such, studies that use these methods are not necessarily demonstrating that teachers are against inclusion, but that teachers are aware of what students give them the most work to do. That said, it is logical that because SWSD necessitate such effortful teaching, teachers may be less likely to want them as pupils when compared to other groups of students.

Other studies have found that the severity of the disability that teachers are expected to accommodate is inversely correlated with their attitudes toward inclusion (Forlin & Chambers, 2011; Forlin, Douglass, & Hattie, 1996; Hastings & Oakford, 2003), suggesting that the more severe a child's disability is, the less likely teachers will view their inclusion positively. In the same vein, the type of disability also impacts teacher's attitudes toward inclusion. Specifically, numerous studies have found that teachers are more likely to be supportive of including students with physical and sensory disabilities than intellectual and behavioral disabilities (Avramidis & Norwich, 2002; de Boer, Pijl, & Minnaert, 2011; Ross-Hill, 2009; Westwood & Graham, 2003). In consideration of these findings, it is perhaps unsurprising that the inclusion of SWSD is often met with some resistance from general education teachers, given the severity of their

impairments and the common presence of cognitive deficits and challenging behaviors.

It is apparent, then, that while most teachers are open to teaching in an inclusion classroom, they have reservations about having students with severe disabilities in their class. The next step is to explore the barriers that stand between general education teachers and their acceptance of inclusionary practices.

Barriers associated with teachers' attitudes. Upon review, the literature concerning general education teachers' attitudes toward inclusion reveals several barriers that teachers believe keep them from supporting inclusive education for SWSD. Avramidis and Norwich (2002) conducted a review of the literature and found that the chief concerns teachers held on inclusion included (a) a fear that the presence SWSD would disrupt the learning of other students and; (b) a worry that the education of SWSD would suffer. As previously explained in this paper, the research indicates that including SWSD does not hinder the education of students without disabilities, but can in fact be beneficial. Moreover, there exists a body of literature outlining the multiple benefits of inclusion for SWSD. Ergo, while teachers may hold these concerns, they are unfounded by the research in the field, indicating that teachers should be made more aware in professional training program of the literature finding for all students regarding the inclusion of SWSD in general education classrooms.

It has been demonstrated that there is a positive correlation between a teachers' perceived level of external and internal support and one's attitudes toward inclusion (Monsen et al., 2014). In this context, external forms of support would be resources contributed by administrators, while internal support would come from special education staff members. Avramidis and Norwich (2002) noted that teachers perceived a lack of support from external and internal sources as being a major obstacle towards believing that inclusion could be successful. Other,

more recent studies, have demonstrated similar findings. For instance, when Fuchs (2010) surveyed general education teachers they expounded that a lack of support from the district's administration in the form of in-service training, class size, collaboration and planning time, and shared duties with special education staff were some of the most prominent barriers towards successful inclusion. Similarly, when general educators of students with Autism were asked to identify what the major challenges to inclusion had been in their experience, the respondents reported a lack of resources and support from administrators in the form of school policy as significant barriers (Lindsay et al., 2013). With regard to internal support from other educators, Janney, Snell, Beers, and Raynes (1995) found that general education teachers attributed much of their classroom's successful inclusion model to interpersonal and task-related support from special education teachers. Likewise, a study conducted by Minke, Bear, Deemer, and Griffin (1996) elucidated that general educators who co-taught with special educators or resource teachers are more likely than those that did not to have higher attitudes toward inclusion, in addition to higher perception of their self-efficacy, competence, and satisfaction from teaching.

Although a lack of support from others has been identified as a chief barrier towards supporting inclusive efforts, numerous studies have found that teachers' perceived lack of training and experience is also a significant barrier. By way of example, when Smith and Smith (2000) asked elementary school teachers to describe factors that limited their success in inclusive settings, the most common theme in their responses was that they needed more focused training in inclusive practices in order to be a successful educator in an inclusive classroom. Similarly, in their literature of teachers' attitudes toward inclusion, Avramidis and Norwich (2002) concluded that a perceived lack of preparedness to educate students with disabilities was a prominent concern held by teachers regarding inclusive practices.

In the years following Avramidis and Norwich's (2002) literature review, a number of studies have continued to demonstrate teachers' perceived lack of training regarding inclusive practices. These included a literature review by de Boer and colleagues (2011), who in their review of 26 studies found that teachers' lack of training for inclusion and experience in inclusive settings were significant variables associated with teachers' negative attitudes toward inclusion. In the same vein, the teachers surveyed in Fuchs (2009) stated that they felt as though the responsibilities and expectations placed on them in inclusive settings were unreasonable because they had received little formal education or training regarding inclusive education practices. Specifically, all respondents stated that their preparation consisted of one required course on teaching diverse learning, in which they did not learn to differentiate instruction, make accommodations in the classroom, or collaborate with special education staff. Moreover, when asked to provide recommendations for improving future practices, many teachers underscored the need for better preparation while in teacher training programs.

Other studies have shown that teachers' perceived lack of training for inclusion extends to the inclusion of students with severe developmental disabilities (Lindsay et al., 2013; Shady et al., 2013). For example, 13 general education teachers of students with ASD in an inclusive education program noted that a primary challenge towards successfully including these students was a lack of training regarding how to best educate them (Lindsay et al., 2013). Shady and colleagues (2013) found similar results from their survey of general educators on their beliefs about their perceived professional development needs. The primary findings indicate that only 19% of the 34 respondents felt prepared to teach SWSD in inclusive settings, suggesting that the overwhelming majority of general education teachers feel unprepared to meet the educational needs of SWSD. Following this theme, Cramer and colleagues (2015) noted in their results that

of the 77 general education teachers they surveyed just 30% felt as though they had adequate knowledge of the educational needs of SWSD, while only 26% were confident in their ability to supply an educationally enriching experience to these students.

Taken in aggregation, these studies (Cramer et al., 2015; Lindsay et al., 2013; and Shady et al., 2013) indicate an overall lack of perceived preparedness on the part of general education teachers with regard to SWSD, their educational needs, and how to address these needs in an inclusive setting. Although researchers have presented compelling evidence, there are limitations to this body of research. The first is a limited degree of generalizability as both Lindsay et al. (2013) and Shady et al. (2013) relied upon relatively small samples, while Cramer et al. (2015) only surveyed art teachers. Moreover, each of these studies collected data within one school district, meaning that the training experiences of the surveyed teachers may not extend to the wider population. These studies are also limited by their use of self-report data in that the responses given by the participants are subject to distortion. For example, it may be that participants answered that they felt inadequately trained because it is more socially acceptable to say that than to admit that one does not want a SWSD in one's classroom. As such, the exact percentage of those feeling unprepared remains unknown. Third and most importantly, none of the studies inquired as to what was lacking in the participants' training experiences that left them unprepared. Was it a lack of coursework? Minimal practical experiences? Were they not introduced to certain effective teaching strategies? These questions remain unanswered, meaning that more information is needed about teacher training for the inclusion of SWSD in order to inform why teachers feel unprepared.

Impact of attitudes on inclusion. Anyone who has ever held down a job is likely aware that his or her attitude towards the job's tasks influence his or her job performance. Thus, it is

intuitive that teachers' attitudes towards inclusion presumably affect their teaching practices and the academic performance of students with disabilities. Although no empirical studies have been conducted that examine the influence of teachers' attitudes toward inclusion in environments that includes SWSD, several studies have investigated the impact of teachers' attitudes on inclusive settings for students with mild to moderate disabilities (Buell, Hallam, Gamal-McCormick, & Scheer, 1999; Kamens, Loprete, & Slostad, 2000; Klehm, 2013; Monsen et al., 2014). For instance, it has been found that teachers' attitudes toward inclusion affect their self-perceived ability to educate students with special needs in the general education environment (Buell et al., 1999). Specifically, Buell and colleagues (1999) used a sample of 289 teachers to demonstrate a positive correlation between teachers' views on inclusion and their belief that they could successfully educate children with disabilities. That is, the more positive teachers' opinions of inclusive education, the more self-assured they are that they can adequately educate students with disabilities. These results are perhaps unsurprising, as it seems logical that teachers would be more likely to report higher self-efficacy in an area that they view positively. That being said, what cannot be known based on the results of Buell et al. (1999) is a directional relationship between positive attitudes toward inclusion and higher degrees of perceived self-efficacy to implement inclusive teaching practices. In other words, did the teachers who reported positive views of inclusion endorse greater self-efficacy because of their positive views, or did they view inclusion positively because they had high self-efficacy with regard to their inclusive teaching abilities?

Other studies have demonstrated that teachers' attitudes about inclusion can influence their teaching choices and behavior, as well as the success of included students. For example, Monsen and colleagues (2014) found that teachers' attitudes toward including students with

disabilities significantly impacted their classroom management and the overall learning environment of their classroom. In their study that included 95 teachers and 2,514 pupils, the results indicated that teachers who reported more positive views of inclusion were more likely to be reported by their students as having classroom environments with higher levels of satisfaction and cohesiveness, while having lower levels of friction and competitiveness when compared to teachers with less positive views of inclusion.

Likewise, Klehm (2013) showed that teachers' attitudes toward inclusion influence their teaching strategies, and the academic performance of students with disabilities, as well. In a sample that included 218 teachers, it was found that teachers who believed that inclusion could be a success were more likely to use evidenced-based inclusion practices than those with less positive attitudes. Additionally, the attitude of teachers toward the ability of students with disabilities to learn in general education was found to predict proficiency-level scores for students with disabilities on the *New England Common Assessment Program* achievement test. Together, these results suggest that because teachers with positive attitudes toward inclusion are more likely to employ effective teaching strategies, their students with disabilities learn more effectively and, thus, perform better on standardized achievement tests. The results of studies such as Monsen et al. (2014) and Klehm (2013), suggest finding ways to instill positive attitudes toward inclusion in teachers appears important for inclusive education programming for students with disabilities, as the success of inclusive practices seems predicated on a belief that such practices can work. As such, data needs to be collected as to what methods teacher training programs are using to instill positive attitudes towards the inclusion of SWSD.

The studies conducted by Buell et al. (1999), Monsen et al. (2014), and Klehm (2014) each utilized a large sample, which improved the generalizability of their results. What limits

the results of these studies is the lack of data collection with regards to *where* the participants' attitudes toward inclusion originated. Did their views stem from their training, from in-field experiences, personality variables, or a combination of these and other factors? Future research may seek to inquire about the specific coursework and practicum experiences teachers received in an effort to determine if certain training experiences are associated with positive attitudes toward inclusion.

Concluding thoughts. The literature concerning teachers' attitudes toward inclusive education reveals that the majority of teachers hold negative opinions—a trend that has continued from the 1990s into the present day. While most teachers seem to hold unfavorable views of inclusion in general, teachers are more likely to view the inclusion of SWSD more negatively than inclusion of students with milder disabilities. Indeed, Santoli and colleagues (2008) demonstrated that the majority of teachers extol the philosophical idea of inclusion but are against its use with SWSD in practice. The literature further elucidates that one of the primary reasons that teachers maintain these opinions is that the majority of them perceive a lack of training and experience in working with SWSD in inclusive environments. Teachers' attitudes are important to consider, as they have been shown in the literature to negatively impact teachers' self-perceived ability to educate SWSD and positively impact teachers' use of effective inclusive teaching strategies.

The literature on teachers' attitudes is not without its limitation, however. Most notably, almost all of the research relies on self-reports which can be distorted by memory or a desire to provide socially desirable responses. Additionally, two of the three studies demonstrating a perceived lack of training in working with SWSD (Lindsay et al., 2013; and Shady et al., 2013) relied on relatively small sample sizes and collected data entirely within one school district,

lowering these studies' generalizability. Finally, none of the studies presented in this paper asked teachers about the specific coursework they thought was lacking that would have better prepared them for work with SWSD. As such, the present study seeks to extend the knowledge base by making inquiries about coursework in teacher training programs that is relevant to SWSD.

Given the expressed lack of preparedness that in-service teachers feel with regard to educating SWSD in inclusive classrooms, it seems prudent to discuss the nature of effective teacher training in the context of preparing teachers for these settings. Doing so will not only provide a greater understanding of teacher training in general, but information about the training methods that are thought to best prepare teachers for work with SWSD. Specifically, it could elucidate the type of coursework and field experience that are necessary to adequately groom effective inclusive teachers for SWSD.

Effective Teacher Training

A thorough understanding of the elements that constitute effective teacher training is a prerequisite to knowing what specific investigations to make when assessing teacher training programs. As such, this section will be devoted to pinpointing how these elements fit into the context of training inclusive educators. To do so, the Council for the Accreditation of Education Preparation (CAEP) Professional Standards for the Accreditation of Teacher Preparation Institutions (CAEP, 2015) were reviewed, as well as the theoretical literature concerning the best practices in preparing teachers for work with diverse learners, including those with severe disabilities. Furthermore, the recommendations from the literature concerning how to improve the preparation of preservice teachers for work in inclusive environments that include SWSD are discussed.

The National Council for Accreditation of Teacher Education standards. The National Council for Accreditation of Teacher Education (CAEP) is the accrediting body whose standards NYS teacher training programs, both those maintaining and aspiring to accreditation, must uphold. In the organization's Professional Standards for the Accreditation of Teacher Preparation Programs (CAEP, 2015), six standards are delineated by which teacher training programs are evaluated. They are Standard 1: Candidate Knowledge, Skills, and Professional Dispositions; Standard 2: Assessment System and Unit Evaluation; Standard 3: Field Experiences and Clinical Practice; Standard 4: Diversity; Standard 5: Faculty Qualifications; Performance, and Development; and Standard 6: Unit Governance and Resources. CAEP purports that these standards are derived from the belief that all children can learn (CAEP, 2015). In order to attain this goal, CAEP notes that teacher training programs must "ensure that new teachers attain the necessary content, pedagogical, professional knowledge and skills to teach both independently and collaboratively" (CAEP, 2015, p. 3) so that new teachers are able to "help *all* pre-kindergarten through twelfth grade (P-12) students learn [*italics author's*]" (CAEP, 2015, p. 4). Moreover, CAEP standards state that teachers who graduated from accredited programs should be able to "apply effective methods of teaching students who are at different developmental stages, have different learning styles, and come from diverse backgrounds" (CAEP, 2015, p. 4). Thus, even before a thorough examination of the specific standards, it is apparent that accredited training programs, and thus effective teacher training, must support prospective teachers' preparedness to meet the learning needs of all students, which includes those with severe disabilities.

Of the six CAEP Standards, the first four are most germane to teacher preparation for work with SWSD. That is to say that these standards are most useful in determining what

teacher training programs should be doing to train preservice teachers to teach SWSD in inclusive classrooms. Under each standard, CAEP rates training programs' attainment of that standard as either *Unacceptable*, *Acceptable*, or *Target*, with Target being the optimal manner in which programs should operate. Because optimal teacher training is what all students deserve, CAEP's *Target* performance will be the focus of this review.

Standard 1: Candidate Knowledge, Skills, and Professional Dispositions denotes that teacher candidates should “know and demonstrate the content knowledge, pedagogical content knowledge and skills, pedagogical professional knowledge and skills, and professional dispositions necessary to help all students learn” (CAEP, 2015, p. 16). Once again, the language *all students* is used, emphasizing the notion that preservice teachers need to be afforded the knowledge and skills to work with SWSD. While *content knowledge* refers to specific subject knowledge (e.g., mathematics, science, social studies), *pedagogical content knowledge and skills* refers to the knowledge and skills in using educational strategies to teach content. Under Standard 1b: Pedagogical Content Knowledge and Skills for Teacher Candidates, it is stated that “Teacher candidates [...] are able to provide multiple explanations and instructional strategies so that all students learn” (CAEP, 2015, p. 17). Moreover, teacher candidates should be “able to select and develop instructional strategies and technologies, based on research and experience, which helps all students learn” (CAEP, 2015, p. 17). Thus, Standard 1 suggests that effective teacher training produces teachers who are not only knowledgeable of differentiated instruction for all students, but able to differentiate instruction for SWSD in practice. Moreover, the supporting explanation for Standard 1 provided by CAEP (2015) states that teacher training programs must provide teacher candidates with an understanding of exceptionalities, indicating that effective training includes coursework on disabilities, including severe ones.

Standard 1 also underlines the importance of *professional dispositions*, which CAEP (2015, p. 89) defines as “professional attitudes, values, and beliefs.” Specifically, CAEP is concerned with “*fairness* and the belief that all children can learn [italics original],” (CAEP, 2015, p. 90) suggesting that effective teacher training instills in teachers these values that mirror the principles of inclusive education.

Standard 2: Assessment System and Unit Evaluation outlines the development, use, and evaluation of assessment in teacher training programs; that is to say, how the performance of preservice teachers is evaluated. With this standard, CAEP is expounding that effective teacher training programs regularly and systematically evaluate the knowledge and skills of their candidates and use this data to improve their programming. As such, effective teacher training for work with SWSD should incorporate evaluations of candidates’ knowledge and skill in working with this population.

Standard 3: Field Experiences and Clinical Practice professes that teacher training programs should design and implement field experience so that “teacher candidates [...] develop and demonstrate the knowledge, skills, and professional dispositions necessary to help all students learn” (CAEP, 2015, p. 29), which is accomplished through the application of pedagogical knowledge, practicing effective educational techniques, observations, and interacting with other teachers, families, and administrators. The importance of field experience is further expanded upon in Standard 4: Diversity, which states that “field experiences [...] are designed to encourage candidates to interact with exceptional students and students from a broad range of diverse groups” (CAEP, 2015, p. 36). Moreover, in the supporting explanation for Standard 4, it is noted that during effective field experience “candidates learn about exceptionalities and inclusion” (CAEP, 2015, p. 37). It is evident, then, that CAEP considers

effective teacher training to include experience teaching learners with disabilities in inclusive settings. Ergo, effective teacher training for working with SWSD in inclusive settings should incorporate field experience in inclusive settings that includes SWSD.

Throughout these standards, it is repeatedly mentioned that teacher training programs need to provide candidates with the *pedagogical knowledge, skills, and professional dispositions* necessary to help *all students* learn (CAEP, 2015). While the term *professional dispositions* has already been defined, CAEP (2015, pp. 89, 91) denotes *pedagogical knowledge* as “the general concepts, theories, and research about effective teaching, regardless of content areas,” whereas *skills* are “the ability to use content, professional, and pedagogical knowledge effectively and readily in diverse teaching settings in a manner that ensures that all students are learning.” These three terms (i.e., pedagogical knowledge, skills, and professional disposition) represent a trifecta of what accredited teacher training programs are seeking to transform into their candidates so that they become productive teachers in the future. Effective teacher training must afford teachers adequate coursework and field experiences to afford teacher candidates both the knowledge of effective teaching strategies and the ability to employ them towards meeting the learning needs of all students. Moreover, the emphasis on professional disposition, which included the belief that all children can learn, suggests that effective teacher training promotes and fosters positive attitudes towards students with disabilities, as well as their inclusion in general education settings. Based on the CAEP Standards, then, teacher training for work with SWSD should impart candidates with the requisite pedagogical knowledge, skills, and attitudes necessary to successfully educate this population.

Preparing for diverse learners. In alignment with CAEP standards for teacher education, textbooks on how to prepare teachers for work with students with disabilities also

emphasize the triad of knowledge, skills, and attitudes (Darlington-Hammond & Bransford, 2005; Forlin & West, 2015). In their chapter entitled “Best Practices in Teacher Training and Professional Development for Including Learners with Low-Incidence Disabilities,” Forlin and West (2015) highlight *knowledge, experiences, and attitudes* as categories in which teachers need adequate training in order to adequately include SWSD. With regards to the knowledge general education teachers need for work with SWSD, Forlin and West (2015) designate that teacher training programs should provide special-education related coursework on law, policy, professional collaboration, behavior management, instructional strategies, differentiated assessment, assistive technology, and attitudes and perceptions towards students with disabilities. Additionally, the authors express the belief that special education concepts such as universal design, differentiated instruction, modifications, and accommodations should be infused into general education coursework. This sentiment is echoed in the American Association of Colleges for Teacher Education’s (Blanton, Pugach, & Florian, 2011) referendum on how to better prepare general education teachers to improve learning outcomes for students with disabilities. Specifically, the authors recommend that better outcomes can be achieved through an integration of general education and special education coursework, citing the success of programs at Syracuse University, University of Utah, and Columbia University.

The need for experiences was also underscored as a means of building skills that teachers cannot learn as thoroughly in the relative vacuum of the higher education classroom (Forlin & West, 2015). Indeed, Darlington-Hammond and Bransford (2005) criticize teacher training programs for placing too much emphasis on conceptual classroom learning and not enough on practicing skills in the field. Thus, practical experiences utilizing inclusive education strategies is seen as a critical component of effective teacher training for inclusion (Darlington-

Hammond & Bransford, 2005; Forlin & West, 2015), meaning that teacher training programs should be supportive of field experience that include practice teaching students with and without severe disabilities. Additionally, practical experiences should include opportunities for general education and special education teacher candidates to collaborate on planning and instruction (Forlin & West, 2015).

In addition to practices that are required by CAEP, Darling-Hammond and Bransford (2005) prescribe four methods of improving teaching skills for inclusive classrooms through practical experiences: mentoring, microteaching, performance tasks, and teacher portfolios. The first, mentoring, is basic in concept as it involves an arrangement between the teacher training program and a school district in which the teacher candidate will receive guidance and supervision from an in-service teacher who has experience teaching students with disabilities. Second, microteaching involves teaching for five to ten minutes at a time, with only five to ten students, and focused on just one aspect of a teacher's role. For example, a teacher candidate may attempt to elicit participation or make an assignment. Although microteaching is not a unique concept to training teachers for work with students with disabilities, Darling-Hammond and Bransford (2005) argue that it could be an effective way of providing preservice teachers practice in teaching students with low-incidence disabilities. Specifically, they endorse that microteaching allows for practical skill-building without taking too much time away from practice teaching students with which they are likely to have more contact. Third, performance tasks are structured public exhibitions of knowledge and skills that are evaluated through predetermined criteria. Darling-Hammond and Bransford (2015) state that performance tasks not only hold preservice teachers accountable for developing their own skill-base, but provide teacher training programs with a basis for determining how well their teacher candidates are

acquiring the skills taught in class, which can inform future curricular changes. As such, the authors recommend that teacher training programs should conduct performance tasks specifically related to inclusive education practices if they are truly committed to preparing their candidates for the changing educational landscape. Finally, teacher portfolios are a collection of materials from teachers' work and frequently include statements about the teacher's educational philosophy, personal reflections, lesson plans, assignments, curriculum materials, and samples of student work (Darlington-Hammond & Bransford, 2005). According to Darling-Hammond and Bransford (2005) these portfolios can be tailored to include items about students with disabilities, which can both improve teachers' competencies in working with this population and their attitudes toward them, as well.

As aforementioned, positive attitudes toward all students have been emphasized as one of the chief takeaways teacher candidates should receive from their professional training program (Darlington-Hammond & Bransford, 2005; Forlin & West, 2015; CAEP, 2015). While teacher portfolios are certainly one means of increasing teachers' attitudes toward SWSD, Forlin and West (2005) denote several other methods. First, they express that teacher candidates need a foundational knowledge of all disabilities, as well as information about the stigmatization of students with disabilities. Then, teacher candidates need to reflect on their own beliefs on SWSD and confront their own biases. Finally, teacher candidates need to be afforded opportunities to interact with SWSD in inclusive settings, as the authors believe that increased exposure heightens positive attitudes.

Impact of teaching inclusion to preservice teachers. The literature suggests that, much like their in-service counterparts, preservice teachers tend to have unfavorable attitudes toward inclusion (Cameron & Cook, 2007; Cook, 2002; Shade & Stewart, 2001; Shippen et al. 2005).

Cook (2002) surveyed 181 undergraduate preservice general education teachers on their opinions about the inclusion of students with disabilities. From their responses, two primary findings emerged. The first was that preservice general education teachers generally have negative attitudes toward inclusion. The second was that preservice teachers have stronger negative opinions towards the inclusion of students with multiple disabilities and students with intellectual disabilities than they do towards the inclusion of students with mild to moderate disabilities. If one may recall, similar attitudinal patterns have been found in certified teachers, suggesting that negative attitudes toward the inclusion of SWSD does not develop on the job but, rather, existed prior. In the same vein as opinion research conducted with in-service samples, Cook (2002) declined to examine the specific coursework that his preservice sample received in an effort to draw a connection between coursework and attitudes. As such, what is missing from Cook's (2002) investigation is what coursework or a lack thereof is associated with certain attitudes toward inclusion. What is needed is data as to what courses teacher training programs are using to prepare their preservice teachers for work with SWSD, as well as the methods they are using to develop positive attitudes, given Cook's (2002) findings.

Fortunately, research has consistently demonstrated that the attitudes of preservice teachers can be altered through coursework (Carroll et al., 2003; Kim, 2011; Shade & Stewart, 2001; Shippen et al., 2005; Swain et al., 2012). For instance, Shippen and colleagues (2005) surveyed the attitudes toward inclusion of 326 preservice teachers before and after taking a semester-long course of exceptionality in learning. The course was intended to provide information concerning various types of disabilities and how they impact classroom performance. After taking the class, the researchers noted significant decreases in the preservice teachers' level of anxiety about serving students with disabilities in general education, as well as

significant improvements in their attitudes toward inclusion. That said, the results of this study are somewhat limited by the fact that data was collected at only three universities. Moreover, no follow-up measures were reported, meaning that the effects of taking the class could be transient. Regardless of these limitations, the results of Shippen et al. (2005) further supports the notion that data needs to be collected as to what courses teacher training programs are using to prepare their preservice teachers for work with SWSD, as well as the methods they are using to develop positive attitudes.

Other researchers have found that taking an introductory special education course can also be instrumental in improving preservice attitudes toward inclusion (Carroll et al., 2003; Kim, 2011; Shade & Stewart, 2001; Swain, 2012). Shade and Stewart (2001) recorded significant post-test increases in positive attitudes toward the inclusion of disabilities following the taking of an introductory special education course focused on adapting and differentiating instruction for diverse learners. In the same vein, Carroll and colleagues (2003) also compared pre- and post-course attitudes toward inclusion; however, their special education course introduced inclusion as an educational practice, as well as inclusive classroom strategies. Their findings from a sample of 220 preservice teachers indicated decreases in negative attitudes toward inclusion, in addition to improvements in knowledge of how to accommodate students with disabilities in general education. Like Shippen et al. (2005), both Shade and Stewart (2001) and Carroll et al. (2003) suffer from limitations to external validity, as these studies relied on data collected at one and two universities, respectively. Moreover, in Carroll et al. (2003), the participants were introduced to strategies for overcoming feelings of discomfort with working with students with disabilities, but it was not assessed if these strategies were learned or adopted by the participants.

Kim (2011) took this line of research further by measuring the attitudes of preservice teachers who had had special education teacher curriculum infused into their general education preparation. From a sample of 110 preservice students, it was discovered that those who had taken courses in special education courses were more likely to view inclusion positively than those that did not. Similarly, Swain and colleagues (2012) measured the attitudes of 777 preservice teachers before and after taking an introductory special education course *and* completing a 24-hour practicum in an inclusive setting. In line with previous findings, the researchers observed significantly improved preservice teachers' attitudes toward inclusion for students with disabilities. This study, like others in this section, is limited by using data collected at only one university and gathering no follow-up data. Moreover, due to their experimental design, the results of Swain and colleagues (2012) do not allow for conclusions to be drawn on the relative effectiveness of the special education course, the inclusive practicum, or the combination of these on attitudes. In other words, it is impossible to know based on their data if one was more effective than the other or if both combined yields the best outcomes. Despite these limitations, in aggregation these results indicate that introducing preservice teachers to special education principles such as differentiated instruction and curricular adaptation can markedly increase their attitudes toward inclusion. Moreover, offering practice working with students with disabilities in an inclusive setting also has the effect of improving attitudes. As such, it is evident that attitudes are alterable through coursework and field experience.

Brown and colleagues (2008) empirically examined the efficacy of embedding inclusive education principles into preservice teachers' general education assessment course. The 208 participants were divided into a control group and an experimental group and were required to self-report their knowledge of inclusion, attitudes toward inclusion, and confidence in teaching

students with disabilities. At the end of the semester, those in the experimental group demonstrated significantly more knowledge of assessment adaptation and inclusion terminology than those in the control group. Moreover, those who had received instruction in inclusive education had significantly more positive attitudes towards including students with disabilities, as well as significantly more confidence in their ability to meet their educational needs than those without instruction. These results indicate that introducing inclusive education principles to preservice teachers may not only improve their attitudes, but also their knowledge of inclusion and self-efficacy to teach students with disabilities as well. That being said the generalizability of Brown and colleagues' (2008) results are limited by a sample of participants from one university. Moreover, Brown and colleagues' (2008) measure of preservice teacher attitudes used only Agree/Disagree questions, meaning that participants may have been forced into giving answers that did not truly encapsulate their feelings, and may have been more likely to give socially desirable responses than if they had been afforded a wider range of response options. In spite of these limitations, the finding of Brown et al. (2008) suggest that, because attitudes can be altered through coursework, more information is needed as to what coursework teacher training programs are using to prepare preservice teachers for work with SWSD.

Notably, attitudes toward the inclusion of SWSD can also be altered through preservice training (Atilas et al., 2012; Campbell et al., 2003; Cameron & Cook, 2007). For instance, Cameron and Cook (2007) found that preservice general education teachers who had taken special education courses were significantly more likely to positively view the inclusion of students with intellectual disabilities than those that did not. In the same vein, Campbell and colleagues (2003) examined the effects of a one-semester unit that combined coursework and field experience in working with students with Down Syndrome on the attitudes and knowledge

of 274 preservice teachers. The results indicate that at the end of the semester the participants had acquired markedly more knowledge of the syndrome, as well as substantial improvements in their attitudes toward including students with Down Syndrome in general education.

Practical experience has also demonstrated effectiveness in improving self-efficacy for working with SWSD. Specifically, Atilas and colleagues (2012) studied the influence of field experience on preservice teachers' attitudes toward the inclusion of SWSD and their self-efficacy for working in inclusive settings. A sample of 165 preservice teachers were afforded either field experience in a classroom that included at least one student with a severe disability or a classroom void of such a student. Although limited by a single-university setting, the findings show a significant positive correlation between placement in an inclusive setting that included SWSD and preservice teachers' self-efficacy to work in an inclusive setting with this population. The results of both Atilas et al. (2012) and Campbell et al. (2003) indicate that more information is needed as to what practical experiences teacher training programs are providing preservice teachers with to prepare them for work with SWSD, given that these experiences have been shown to alter attitudes toward inclusion of these students.

Concluding thoughts. The CAEP Professional Standards for the Accreditation of Teacher Preparation Programs clearly elucidate that *all teachers* need to be adequately prepared to teach *all students*, supporting the notion that general education teachers need to be trained in educating SWSD. Specifically, the CAEP standards express that teacher training programs need to be focusing on the *knowledge, skills, and professional dispositions* (attitudes) of preservice teachers in order to develop effective teachers for all students. In addition to coursework, training programs must provide appropriate field experiences, as well. Outside of CAEP, other researchers have noted that in order to be properly trained to work with SWSD, preservice

teachers need to be given the proper knowledge, skills, and attitudes, as well as relevant field experience. For example, Forlin and West (2015) prescribe preservice teachers need knowledge of special education law and policy, professional collaboration, behavior management, instructional strategies, differentiated assessment, and assistive technology, as well as information about attitudes and perceptions towards students with disabilities.

The literature on preservice teachers' attitudes toward inclusion mirrors that of their in-service counterparts as both express primarily negative opinions. Fortunately, it has been demonstrated in the literature that attitudes toward inclusion and knowledge of inclusive education can be improved through special education coursework (Carroll et al., 2003; Kim, 2011; Shade & Stewart, 2001; Swain, 2012), courses on inclusion (Brown et al., 2008), and courses on students with SWSD (Campbell et al., 2003). Nevertheless, there are notable limitations to this literature. Namely, most of the studies collected data at only one university and none of them collected data at more than three. As such, these studies have lower generalizability than if they had garnered data at multiple institutions.

Despite these limitations, the above literature clearly elucidates the potential of teacher training programs to influence the attitudes, knowledge, and self-efficacy of their candidates with regard to inclusive education and working with SWSD. It can be argued that such influence should be exerted by these programs so that preservice teachers are as prepared as possible upon entering service in an educational landscape that is moving increasingly towards inclusion. As such, it is vital to understand what measures teacher training programs are taking to prepare their students.

Practices in Preparing Preservice Teachers for Teaching Students with Severe Disabilities

In light of the literature concerning effective teacher education for work with SWSD, it is

prudent to dissect its current status and usage in practice. As such, the following section will offer an examination of current coursework that has been demonstrated as efficacious in preparing teacher candidates to be successful in inclusive settings with SWSD. Additionally, the findings unearthed by previous investigations of teacher training programs with regard to their preparation of teacher candidates to work in inclusive settings will also be discussed. In doing so, a more accurate description of what is and is not known about preservice teachers' preparation for inclusive education can be determined.

Empirically studied coursework for work with students with severe disabilities.

Many of the researchers cited throughout this paper have, as a result of their studies, made the recommendation that teacher training programs require greater amounts of coursework and field experience regarding inclusive education for SWSD (e.g., Atilas et al., 2012; Campbell et al., 2003; Cook, 2002; Fuchs, 2010; Shady et al., 2013). That said, such recommendations do not offer specific direction as to what such coursework or field experience would look like. In other words, more directive recommendations would likely be more instrumental in helping programs improve their instructional programming for inclusive education.

Project ACCEPT (Achieving Creative and Collaborative Educational Preservice Teams) is an initiative from Northern Illinois University with the goal of improving teacher preparation for working in inclusive classrooms (Van Laarhoven et al., 2006). Specifically, the project delineates coursework and field experience designed to more thoroughly prepare preservice teachers for the realities of inclusion. The course was intended to target six specific competencies relevant to inclusive education including (a) positive attitude toward individuals with disabilities, (b) knowledge and practice of collaborative and teaming skills, (c) knowledge of family issues and strategies for collaboration with families, (d) knowledge and application of

universal design for learning, (e) knowledge and capability with assistive technology, and (f) knowledge and application of positive behavioral supports. In addition to addressing these competencies, those participating in Project ACCEPT must complete at least six practicum hours in an inclusive setting. The initial results from the projects first cohort indicate that participating was associated with increased positive attitudes toward inclusion and students with disabilities, knowledge and capability of applying inclusive practices, and self-efficacy to work in inclusive settings (Van Laarhoven, Munk, Lynch, Bosma, & Rouse, 2007). There are limitations to these results, however, the most notable of which is that the effectiveness of the class was based on data collected from its first year of implementation at a single university. As such, the generalizability of the findings is questionable. Where the study succeeds is in its use of an experimental design that included a control group in which the participants took an inclusive education course that had been designed by the university's department faculty, instead of the experimenters. While this design certainly lends itself to the apparent effectiveness of Project ACCEPT, given the data garnered from outcome measures, it created some inconsistency between the experiences received by control groups. Specifically, the control group was divided into three sections, with each section receiving a different instructor and course structure. Nevertheless, the results obtained by the Project ACCEPT team certainly point towards the utility of coursework specifically designed to prepare teachers for inclusive classrooms.

Notably, Project ACCEPT does not specifically focus on preparing preservice teachers for work with SWSD; however, Rainforth (2000) developed a course entitled *Educating Students with Severe Disabilities in Inclusive Settings* with the notion that the course would introduce teachers to the needs of SWSD and the methods of addressing these needs in the context of inclusive education. Rainforth (2000) described the course as consisting of lectures on the best

practices for educating SWSD in inclusive setting, with an emphasis on participation in large group discussion and small group work. Additionally, presentations from parents of SWSD and videos depicting inclusive education for SWSD were also seen as important aspects of the course. As part of the course, students were expected to compile a semester-long *inclusion portfolio* in conjunction with a weekly practicum in which they worked with a student with a severe disability in an inclusive setting. The portfolio was to consist of the following components: (a) an essay on one's hopes and fears concerning inclusive education, (b) action plan meetings with parents, school personnel, friends, and the student, (c) an assessment of the regular education environment, (d) a plan for systematic instruction and ongoing assessment, (e) a peer/paraprofessional support plan, and (f) a reflective essay.

Rainforth (2000) collected and analyzed qualitative and quantitative data from his students, finding that his course was instrumental in improving his students attitudes toward the inclusion of SWSD, their knowledge of the education needs of SWSD, and their knowledge of how to meet these needs in inclusive settings. Rainforth (2000) did report substantial increases in a scale on the questionnaire that measures concern with regard to managing tasks, which seems to point to the effectiveness of the course in preparing the participants for work with SWSD. The primary limitation of Rainforth's (2000) study is that he did not report any data demonstrating the effectiveness of the class in developing the knowledge of best practices for educating SWSD in inclusive contexts. In other words, Rainforth (2000) presented no data showing that the participants learned the knowledge and skills that were outlined in the course objectives. Nonetheless, the other results presented by the researcher provide support for the existence of a course targeted at preparing general educators for work with SWSD.

Notable general education teacher training programs. As aforementioned, it has been

suggested that the integration of special education coursework into the curricula of general education training programs can benefit preservice teachers' preparation for work with SWSD (Blanton et al., 2011; Brown et al., 2008). Blanton and colleagues (2008) highlighted three programs that employ an integrated model of teacher training that fuses general education with special education coursework: University of Utah, Syracuse University, and Teachers College at Columbia University. Following, these programs will be described in an effort to elucidate the methods that some teacher training programs are utilizing to prepare their candidates for work with SWSD.

The University of Utah redesigned its teacher training program so as to require both special education and general education preservice teachers to engage in the same common core of professional coursework, including field experiences, before specializing (Hardman, 2009). Included in this curriculum are courses dedicated to dispensing knowledge about educational law and exceptionalities in learning, as well as introductory special education coursework. The goal of this core curriculum is for preservice teacher to learn to develop a curriculum that integrates differentiated instruction for students with disabilities for the core academic subjects alongside the arts. Moreover, they are instructed in the principles of UDL as it relates to a multi-tiered-systems of supports model. Teacher candidates are then required to employ coursework in field experiences that include diverse learners. The curriculum and field experience used by the University of Utah was constructed through a collaboration between general education and special education faculty members, with the goal that it would reflect the knowledge and skill needed to fill the diverse roles of teachers in primary and secondary school settings.

While the teacher training program at the University of Utah requires all students to take the same core curriculum before specializing, candidates at Syracuse University's Inclusive

Education program are awarded both an elementary and a special education license for grades 1-6 (Meyer, Mager, Yarger, Sarno, & Hext-Contreras, 1997). As this program is the only option for earning elementary licensure at Syracuse University, all candidates seeking said licensure graduate with sufficient preparation to enter the field as special educators. Thus, all graduates of the Inclusive Education program take all of the special education courses required to provide education to learners with a wide array of learning needs. In order to earn their dual certification, teacher candidates must complete field experiences in general education classrooms, as well as special education classrooms. Moreover, because the predominant commitment of the program is to inclusive education, preservice teachers have continual access to and are encouraged to utilize resources that foster the development of inclusive classrooms.

Representing a balance between the programs at the University of Utah and Syracuse University, Teachers College at Columbia University requires all teacher candidates to take the same core curriculum that integrates special education with general education coursework, but provides candidates the path to dual certification, if desired (Oyler, in press). The path to dual certification involves completing an intensive semester entitled the Critical Special Education semester. During this crucial semester, candidates immerse themselves in special education coursework that focuses on differentiated instruction, differentiated assessment, curricular modification, and UDL principles. Additionally, candidates in search of dual certification engage in a semester-long student teaching experience in special education classrooms.

Investigations into training programs. During the initial boom of popularity regarding inclusion in the 1990's, some researchers sought to examine how well teacher training programs were preparing their students for the shifting educational paradigm (Kearney & Durand, 1992; Reed & Monda-Amaya, 1995). To do so, Reed and Monda-Amaya (1995) surveyed 35

chairpersons of teacher training programs, but their approach focused on determining whether or not general educators were receiving direct instruction on concepts and practices associated with inclusion. Of the programs that were investigated, the majority did not provide direct instruction on inclusive practices. Moreover, when programs did offer such instruction, it was generally introductory in nature and confined to a single unit in a larger course. From these findings, Reed and Monda-Amaya (1995) concluded that preservice teachers were not being taught the skills to be effective teachers in inclusive settings. Kearney and Durand (1992) similarly surveyed the chairpersons of 35 teacher training programs in New York State concerning their program's accreditation, coursework, and field experience relevant to inclusive education practices. The outcomes of these surveys revealed that only about one-fourth of the programs required their students to take courses on special education or on students with disabilities. Moreover, more than half did not offer practicum experience with students with disabilities, while those that did offer such experience generally required less than 15 practicum hours in such settings.

Kearney and Durand (1992) unearthed some valuable descriptive information concerning the state of teacher training programs with regard to preparing preservice teachers for inclusive classrooms at the time of the study. That said, while Kearney and Durand (1992) collected data about whether or not training programs required special education courses, if they had included some questions that utilized a Likert scale, they may have been able to conduct a more nuanced inquiry. Additionally, Kearney and Durand (1992) failed to ask any questions about specific skills and teaching techniques, nor did they ask any questions about the attitudes towards teaching students with disabilities that the programs sought to instill. Thus, despite the useful information provided by their survey, Kearney and Durand (1992) missed out on gathering information about crucial aspects of teacher education, as prescribed by CAEP standards.

Fifteen years later, Harvey and colleagues (2010) surveyed a national sample of 124 faculty members from 41 states to assess preservice teachers' preparation for inclusion. Using a series of Likert scales, four primary findings emerged. First, the majority of respondents strongly agreed that their program required their students to take introductory special education courses. Likewise, the majority of respondents endorsed a strong belief that their program offered coursework in inclusive education. Thirdly, most of the participants stated that their program offered opportunities to work with diverse learners, although 11% stated that their program offered no field experience in inclusive settings. Fourth, Harvey and colleagues (2010) concluded that the majority of teacher training programs are inadequately training their teachers to collaborate with special education teachers. This conclusion is based on response data indicating that most programs do not provide specific training for collaborating with special educators or practicum opportunities to work with them.

The strength of Harvey and colleagues' (2010) study lies in its large and geographically expansive sample; nonetheless, there are several limitations to their study. The first is that, like Kearney and Durand (1992), Harvey and colleagues (2010) did not ask any questions about the attitudes toward working with students with disabilities that the programs wished to develop or questions about the specific inclusive teaching techniques that the programs were introducing. As such, the researchers only collected descriptive data on the types of classes being offered (other than program demographics), even though the study was exploratory in nature. The study relied primarily on five-point Likert questions, outside of demographic questions and the few open-ended questions that were asked. This predominant usage of Likert questions limited the study in that it made their data more likely to regress to the mean, which is precisely what occurred as the researchers noted a high rate of neutral responses. As such, Harvey et al. (2010)

could have benefited from the inclusion of more dichotomous questions in their survey.

In his book, *Survey Research Methods: Fifth Edition*, Fowler (2014) expounds that studies like those conducted by Harvey et al. (2010) and Kearney and Durand (1992) that use surveys for exploratory purposes should incorporate items with multiple modes of response styles. In doing so, Fowler (2014) says, researchers can achieve a more comprehensive exploration because a wider variety of response styles yields a wider variety of data to subsequently analyze. Given Fowler's (2014) recommendations, the investigations done by Harvey et al. (2010) and Kearney and Durand (1992) could have benefited from utilizing surveys that incorporated a broader array of response options. As such, future research that employs survey methods to examine teacher training programs should consider using surveys that incorporate items with varied response styles.

Concluding thoughts. Initiatives such as Project ACCEPT (Van Laarhoven et al., 2006) and the class on including SWSD developed by Rainforth (2000) demonstrate the utility of providing preservice teachers direct instruction in inclusive education for SWSD, as these initiatives have been found to improve attitudes toward inclusion and increase knowledge of inclusive techniques. Moreover, certain teacher training programs, such as the ones at the University of Utah, Syracuse University, and Teachers College, have found success in preparing their candidates for inclusionary work through an integration of special education and general education curricula.

Early investigations into teacher training programs found that the majority of programs were not offering direct instruction in inclusive education (Reed & Monda-Amaya, 1995) or requiring that general education teachers take special education courses (Kearney & Durand, 1992). These early studies were not without their limitations; however. Furthermore, Kearney

and Durand (1992) did not ask any questions about the specific inclusive education skills and techniques that the participating programs were teaching, nor did they ask questions about the attitudes programs sought to develop.

Harvey and colleagues (2010) offered the latest investigation into teacher training programs regarding their efforts for preparing candidates for inclusion. While it was found that most programs require introductory special education classes and inclusive field experiences, the data also suggested that few programs are adequately training their candidates in how to collaborate with special education teachers. Although the majority of the respondents stated that their program required introductory special education programs, the critical word is *introductory*. No information was collected concerning how many special education courses were required, and it is dubious that an introductory course is adequate to prepare someone to educate SWSD in general education. It is unlikely that one special education course could provide enough knowledge of how to work with SWSD, but preservice teachers cannot practice skills related to teaching SWSD within just one course. Furthermore, it is improbable that one special education course will effect change in a preservice teacher's professional dispositions towards to inclusion of SWSD, particularly in the absence of instructional interactions with them. Moreover, although most teacher training programs appear to offer inclusive coursework, it is unclear how much or to what degree this coursework incorporates inclusive practices for SWSD. Additionally, while the majority of programs may offer practical opportunities to work with diverse learners, the term *diverse learners* encompasses a vast array of disabilities from the most moderate to the most severe. As such, it is unclear how many teacher training programs offer practicum experience that includes SWSD. Finally, collaboration with special education teachers is considered a crucial component of effective inclusive programming for SWSD

(Alquraini & Gut, 2012; Downing & Peckham-Hardin, 2007), it is uncertain as to how well preservice teachers are prepared to work in inclusive settings with SWSD.

The study conducted by Harvey and colleagues (2010) is further limited by its reliance on Likert questions. Indeed, their data exhibited a high rate of neutral responses, suggesting that a restriction of variability was in play. As such, the questionnaire the employed may have benefited from the inclusion of dichotomous questions. Similarly, this study's investigation could have been bolstered by the addition of questions designed to elicit information about the specific inclusive techniques being taught and the desired outcome attitudes, much like the study conducted by Kearney and Durand (1992).

Summary of Literature Review

The above literature review began with an examination of the term *students with severe disabilities* in an effort to clarify what is meant by said term. For many, the term conjures images of students with severe cognitive impairments; however, a student does not necessarily need to have an intellectual handicap to be considered severely disabled, such as the case of students with advance-stage muscular degenerative disorders. As such, when references are made to students with severe disabilities they are referring to students who have physical or mental impairments that extremely limit their life functioning in such a way that extensive support is needed for equal participation in the school environment. This paper is focused on SWSD primarily because recent education trends indicate that inclusive placements for these students is on the rise (Kleinert et al., 2015). As such, educational personnel will need to adapt. The increase of SWSD being included in general education was likely prompted by the deinstitutionalization movement of the 1960s and 1970s (Osgood, 2005), the passage of laws such as the Education for All Handicapped Children Act (1975) and No Child Left Behind

(2002), and court cases such as *Oberti v. B.O.E Clementon* (1993).

At its most basic level, inclusion is the combining of students with disabilities in classrooms with their typically developing peers; however, some have argued that true inclusion embodies a philosophical tone of acceptance and belongingness (Dowing & Peckham-Harding, 2007; Kliwer, 1998; Osgood, 2005, Ryndak et al., 2000). Indeed, Downing and Peckham-Harding delineate a positive and caring environment as one of the critical components to successful inclusion alongside being with typical peers, exposure to everything and high expectations, individualized curricular and instructional supports, skilled and knowledgeable staff, collaboration and teaming, and providing a balanced educational program. In addition to these core aspects, successful inclusion can be facilitated through the use of empirically-examined education techniques that have been shown to be effective in educating SWSD in inclusive settings. These include universal design for learning, systematic instruction, inquiry learning, embedded instruction, response prompting, self-directed learning, positive behavioral supports, peer interventions, and assistive technology. Although the literature concerning evidence-based techniques for the inclusion of SWSD is limited by a heavy reliance on case-designs and a lack of follow-up measures, there exists a significant amount of evidence to support the use these techniques in inclusive settings.

The use of the aforementioned inclusive educational techniques could assist general education teachers in adjusting to the shifting educational landscape. When teachers hold negative opinions of inclusion, they are less likely to use evidence-based inclusive strategies Klehm (2013). Unfortunately, multiple studies have demonstrated that the majority of teachers view the inclusion of SWSD negatively (Forlin & Chambers, 2011; Forlin, Douglass, & Hattie, 1996; Hastings & Oakford, 2003; Santoli et al., 2008). The literature on teachers' attitudes

toward inclusion exposes that the majority of teachers maintain a perceived lack of preparedness for working with SWSD (Cramer et al., 2015; Lindsay et al., 2013; and Shady et al., 2013). This body of literature is limited by its complete dependence on self-report measures which are, by nature, subject to distortion by memory and the propensity to provide socially-desirable responses. Moreover, none of the reviewed studies collected data on the specific coursework that the participants thought would have better prepared them. Despite these limitations, the expressed feelings of teachers may be more important than reality, and the literature makes it clear that general education teachers feel underprepared for the challenges of educating SWSD.

The literature on teacher attitudes toward inclusion also reveals that these attitudes can be altered through coursework and field experience in inclusive and special education (Atilas et al., 2012; Brown et al., 2008; Campbell et al., 2003; Cameron & Cook, 2007; Carroll et al., 2003; Kim, 2011; Shade & Stewart, 2001; Shippen et al., 2005; Swain et al., 2012). The majority of these studies have limited generalizability because they were conducted at one university and are further limited by their lack of follow up measures to determine if attitudinal changes were long term. Nevertheless, the results speak to the utility of implementing coursework on inclusive and special education coursework into general education teacher training programs in an effort to better prepare preservice teachers for work with SWSD. This preparation is mandated by CAEP standards which elucidate that all teachers must be adequately prepared to educate all students, including those with severe disabilities. Moreover, these standards delineate that teacher training programs must develop in students the requisite knowledge, skills, and professional dispositions to meet the educational needs of diverse learners. There exists teacher training courses that were designed to provide preservice teachers with the skills, knowledge, and attitudes necessary to be efficacious teachers of diverse learners and were empirically evaluated. For instance, Project

ACCEPT (Van Laarhoven et al., 2006) is an initiative that includes coursework on teaching students with disabilities in inclusive classrooms and has been associated with improved attitudes and self-efficacy towards inclusive teachings. Similarly, Rainforth (2000) created a course that was shown to be effective in teaching general education preservice teachers about educating SWSD. In the same vein, several institutions of higher learning such as the University of Utah, Syracuse University, and Teachers College at Columbia University have found success in integrating inclusive/special education coursework with general education coursework.

Given the apparent need to prepare teachers for work with SWSD in inclusive classrooms and the demonstrated effectiveness of target coursework in this area, it is important to understand what general education teacher training programs have done in the past and what they are doing currently to prepare their students to be educators of diverse learners. The early investigations of teacher training programs in the 1990s revealed that most training programs were not offering coursework in inclusive or special education to their candidates (Kearney & Durand, 1992; Reed & Monda-Amaya, 1995). These early investigations were hampered by their complete reliance on “yes/no” and “how many...?” questions about coursework (i.e., asking how many special education courses candidates are required to take) because these types of questions limit the types of analysis that can be done with the data. For instance, asking questions such as “rate your programs success in preparing teacher candidates to work with students with learning disabilities on a scale from 1 to 5” offers more nuanced data than “does your teacher training program prepare its candidates for work with students with learning disabilities, yes or no?” More importantly, however, these early studies did not ask questions about specific educational techniques that were being taught in training programs or about attitudes towards inclusion and students with disabilities that training programs were hoping to develop. That said, the data that

were derived from these inquiries revealed gaps in teacher preparation at the time.

Harvey and colleagues' (2010) examination of teacher training programs showed that many teacher training programs had made improvements to their methods of preparing teachers for work with diverse students, as the majority of the programs in the study endorsed that they offered introductory inclusive or special education coursework and inclusive field experiences to general education students. That said, the investigators also concluded that most programs are underpreparing candidates to collaborate with special education teachers—an important component of inclusive education. While the data from Harvey et al. (2010) certainly points to progress in teacher education for inclusion, the study did not collect information on how many special education courses were required, and it is unlikely that taking an introductory course is sufficient to prepare preservice teachers for the realities of teaching SWSD in inclusive settings. Furthermore, although the majority teacher training programs endorse offering inclusive coursework, it is uncertain how SWSD are represented in this coursework. Additionally, while most programs may offer inclusive field experience that includes diverse learners, the term *diverse learners* encompasses all disabilities, and so, it is unclear how many programs provide practicum experiences that include SWSD. Harvey and colleagues' (2010) study is further limited by its heavy use of questions using a Likert scale. Specifically, their data displayed a high rate of neutral responses, indicating that their data regressed to the mean. Thus, their inquiry could have been improved by the addition of some dichotomous questions. Additionally, Harvey et al.'s (2010) results could have been strengthened by the inclusion of questions targeted at determining the explicit inclusive education techniques being taught as a part of coursework, as well as the types of attitudes training programs are seeking to develop in their candidates, as this is viewed as a crucial aspect of effective teacher education. Given these limitations, is not

known what methods teacher training programs are using to prepare preservice teachers to work in inclusive settings with SWSD.

The primary goal of the present study was to close the gap in knowledge as to what teacher training programs are doing to prepare general education teacher candidates to educate SWSD in inclusive settings, since previous investigations into training programs have left answers to this question unclear. Specifically, this study sought to determine what methods training programs are using to develop the needed knowledge, skills, and professional dispositions (attitudes) in their candidates to meet the needs of SWSD. Knowledge, skills, and professional dispositions were the focus, as these are the components of teacher education that have been highlighted as important by CAEP. Once more, it is crucial to answer this question because the inclusion of SWSD is becoming more common and teachers have expressed a perceived lack of preparedness with regard to working with this population. As such, the literature needs to be informed about what training programs are doing in order for improvements to be made, if warranted. The other goal of the present study was to address some of the limitations in the literature on investigations into training programs with regard to preparing teachers for inclusion. Where previous studies have relied almost entirely on either Likert scale questions or frequency and “yes/no” questions, each of which comes with its own set of limitations, the present study looked to find a balance between these approaches. The reasoning behind this approach is that it has been recommended that employing a survey with a variety response styles can lead to a more nuanced exploratory investigation (Fowler, 2014). Furthermore, previous studies failed to ask questions about the specific inclusive techniques being taught and the desired professional dispositions to be developed. The present study aimed to make targeted inquiries about this information.

Research Questions

1. What practices are childhood general education training programs in New York State currently using to build preservice teachers' knowledge in working with SWSD in inclusive settings through courses and course content?
2. What practices are childhood general education training programs in New York State currently using to build preservice teachers' skills in working with SWSD in inclusive settings through coursework and field experience?
3. What practices are childhood general education training programs in New York State currently using to build preservice teachers' professional dispositions towards working with SWSD in inclusive settings through coursework, course content and program culture?

Chapter Three: Method

The present study was descriptive in that it examined the current state of teacher education training programs concerning their preparation of general education preservice teachers to educate SWSD in inclusive classrooms. As such, the intended purpose of this study was to garner information about what teacher training programs are currently doing to prepare their candidates to serve this population through coursework and field experience. The goal was that such research could illuminate a greater understanding of how teacher education programs can better prepare their students to work with SWSD.

Participants

The program directors of teacher training programs in New York State (NYS) were recruited in an effort to describe how current teacher training programs are preparing their students to serve SWSD in inclusive classrooms. The sample of program directors was limited to NYS in order to reduce some of the variability that could be found between states with regard to accreditation standards. Similarly, different states have varying special education laws and special education services that are offered by local education agencies. As such, restricting the sample to programs in NYS may have lessened the variability found between how teacher training programs prepare candidates as a result of differing state laws and available special education services. Each program targeted for recruitment was accredited by CAEP, as the present study was interested in investigating programs that meet this standard of quality in teacher education. The participating programs were limited by the type of majors they offered, as only programs that offered majors in early childhood education that culminates with an Initial Teaching Certification in general education from the NYS Department of Education were included. Institutions that only offered a major in adolescent education were excluded from the

study because adolescent education programs tend to focus on specializing in course content (e.g., mathematics, chemistry, English). Additionally, the sample was limited to institutions that have a general education training program on campus, as the training of the candidates in these programs was the focus of this study. According to the NYS Department of Education (NYSDOE, 2016) 101 teacher training programs are registered in NYS. Of the 101 NYS-registered programs, 94 are CAEP accredited. These 94 programs were identified using the list of accredited programs by state provided by the CAEP website (CAEP, 2018). Of the 94 CAEP accredited programs, nine were excluded because they did not offer a general education major and four were excluded because they only offered a major in adolescent education. As such, 81 programs were considered for inclusion in this study. These 81 programs represented 86.17% of all 94 CAEP accredited programs and 80.20% of the 101 teacher training programs that are registered in NYS.

Of the 81 surveys that were dispensed, 41 were returned. As such, 50.62% of the program directors targeted for participation completed the survey. Additionally, the 41 participating program directors represent 43.62% of the 94 CAEP accredited teacher training programs in NYS and 40.59% of all the 101 teacher training programs in NYS. In the present study, data was collected about various program characteristics including type of institution (i.e., public or private), geographic location, and student enrollment. Of the 41 program directors that participated in the study, the majority ($n = 31$; 75.61%) reported that their teacher training program was located at a private institution. The remaining respondents ($n = 10$; 24.39%) stated that their program was at a public institution. The division between public and private institutions in the sample is similar to the total CAEP accredited population, which is about 77% private and 23% public. The respondents were asked to select the location of their institution

from 10 geographic regions of NYS as delineated by NYS DOE. All 10 of these regions were represented by at least two respondents. The mostly highly represented region was New York City with nine participants, followed by Western NY with seven, and the Finger Lakes with five. Notably, the sample was somewhat overrepresentative of programs in Western NY, with 17% of all respondents from this geographic while only 11% of CAEP-accredited institutions are from this region. Conversely, the Hudson Valley and New York City were underrepresented in the sample, as they account for 12% and 31% of all CAEP accredited institutions, respectively, but just 7% and 21% of the sample. The estimated student enrollment of institutions represented by the respondents ranged from 915 to 29,850 students ($M = 7604.70$; $SD = 7837.23$), with a median enrollment of 4200. Please refer to Table 1 for a summary of the institutional characteristics.

The directors of training programs were selected as survey respondents because they were expected to have the most thorough understanding of how their respective programs operate as a whole. Furthermore, it is logical that there be only one representative voice for each program given the variability in faculty numbers from program to program. Larger programs tend to have higher numbers of faculty and so could be overrepresented in the study if multiple faculty members were surveyed from each program. The drawback of this approach is that some program directors could have been more familiar with the inner workings of their program than others; however, the design of the study necessitated that there be only one data point per program.

Measures

The survey created for this study, the *Teacher Training Program and Students with Severe Disabilities Questionnaire* (TTPSSDQ), can be found in Appendix A. The survey was

developed based on common themes in the best practices literature regarding the instruction of SWSD in inclusive classrooms (Alquraini & Gut, 2012; Browder et al, 2014; Browder & Cooper-Duffy, 2003; Downing & Peckham-Hardin, 2007), as well as the literature concerning effective teacher training for careers with both students with and without disabilities (CAEP, 2015; Darlington-Hammond & Bransford, 2005; Forlin & West, 2015). Additionally, the style of questions was inspired by the questions found in surveys that were used in previous investigations into teacher training programs (Harvey et al., 2010; Kearney & Durand, 1992). Namely, the type of wording used, the response options presented, and the type of questions created were derived from studies conducted by Kearney and Durand (1992) and Harvey and colleagues (2010), both of which examined what measures teacher training programs were using to prepare their students for inclusive classrooms. The surveys employed by these studies were not used because they were deemed insufficient to answer the research questions posed by the current study. Furthermore, the surveys used by these previous studies have methodological limitations that make their use in the present study less attractive. Specifically, the survey used by Kearney and Durand (1992) included only questions that could be answered with “yes” or “no,” or by giving a number, such as the question, “How many classes are required to obtain a teaching degree in your program?” Restricting the instrument to only these types of questions may have limited the extent to which data could have been analyzed. In the same vein, Harvey and colleagues’ (2010) instrument, the *Preservice Teacher Preparation for Inclusion Assessment Survey*, was limited to Likert scale questions, aside from three open-ended questions. The researchers themselves commented that their reliance on this method may have directly contributed to the high rate of neutral responses in the data, which limited the extent to which they could answer their research questions. Additionally, neither the survey used by Kearney

and Durand (1992) nor the one distributed by Harvey and colleagues (2010) asked questions about the specific techniques training programs were teaching their candidates to prepare them for inclusion. Moreover, these studies aimed to determine how teacher training programs were preparing preservice teachers for work in inclusive classrooms *in general*, and not with regard to a specific population. Thus, while the surveys used by Kearney and Durand (1992) and Harvey and colleagues (2010) were drawn from stylistically, the survey questions used in the present study were written so as to gather information specifically about preservice teachers' preparation for work with SWSD.

In order to avoid some of the limitations inherent to the surveys used by Kearney and Durand (1992) and Harvey and colleagues (2010), the survey created for the present study represents an amalgamation of the style of surveys employed by these two studies. Specifically, the study includes questions that must be answered by a yes/no response, by providing a number, and by selecting from a list of options, as well as questions that are answered using a Likert scale. The decision to create such an instrument was informed by reviewing the limitations of the aforementioned studies, as well as recommendations found within the book, *Survey Research Methods: Fifth Edition* (Fowler, 2014). The author offers that surveys created for the purpose of exploratory research should include questions with an array of different response styles, as doing so could offer a greater depth of explorations.

The specific questions related to the *knowledge, skills, and professional dispositions* of preservice general education teachers for working with SWSD. These three categories were selected based on CAEP (2015) *Professional Standards for the Accreditation of Teacher Preparation Institutions*, as well as common themes in the literature concerning teacher preparation for work with SWSD. For this study, *knowledge, skills, and professional*

dispositions were defined using CAEP’s definitions of these variables. Specifically, *CAEP* (2015) defines *knowledge* as the “general concepts, theories, and research about effective teaching, regardless of content areas.” An example of a question designed to collect information related to knowledge is Item 2.a. of the TTPSSDQ, which reads, “Does your general education teacher training program require a course on exceptionalities in learning for the completion of a bachelor’s degree?” Item 3 is an example of a question requiring an open-ended numeric response, reading, “How many courses on special education does your general education teacher training program require for the completion of a bachelor’s degree?” Other items were responded to using a four-point Likert scale from Strongly Disagree to Strongly Agree. An example of such an item is Item 6, which reads, “Candidates in your program are provided pedagogical knowledge related to teaching students with severe disabilities.”

Similarly, *skills* were defined as “the ability to use content, professional, and pedagogical knowledge effectively and readily in diverse teaching settings in a manner that ensures that all students are learning.” Item 12 was used to collect information of the setting in which teacher training programs provide practice using nine different inclusive strategies. Item 12 reads, “This question includes 9 parts. Each part includes an evidence-based teaching strategy. Please read each of them carefully and select the settings in which ALL candidates in your program are given opportunities to practice using these strategies. Select all that apply.” Respondents could then choose from “None,” “Assignments,” “In class with peers,” “With students without disabilities,” “In inclusive classrooms,” and “With SWSD in inclusive classrooms.” Item 13 is an example of a question designed to collect data related to skills that utilized both a yes/no response system and an open-ended numerical response option. Specifically, Item 13.a. reads, “Does your program require practicum experiences in inclusive classroom?”, while 13.b. reads,

“If yes, how many hours are required in total?”

Finally, *professional dispositions* are defined as “professional attitudes, values, and beliefs.” The questions designed to garner data related to professional dispositions also used a variety of response styles. For instance, Item 18.a. could be answered with a “Yes” or “No” response as it reads, “In your program are candidates’ professional dispositions towards people with disabilities assessed in any way?” Item 18.b. which reads, “If yes, select all that apply” was answered by selecting from an array of options that included, “Reflective Essays,” “Presentations,” “Research Papers,” and “Questionnaires.” Some items used a four-point Likert scale, such as Item 19 which reads, “Answer the following statement: Candidates in my program are encouraged to reflect on their attitudes towards students with severe disabilities.”

Each of the categories of *knowledge*, *skills*, and *professional dispositions* has a dedicated section within the survey, in addition to a section used for collecting demographic information about the participating training programs. As such, the TTPSSDQ design features include the following: (a) Section 1: Demographics; and (b) Section 2: Curricular Content and Training Experiences, which consists of Part I: Knowledge of Students with Severe Disabilities, Part II: Skills Related to Teaching Students with Severe Disabilities, Part III: Professional Dispositions Toward Students with Severe Disabilities, and Part IV: Supplemental Questions.

Procedure

A list of the 81 institutions considered for inclusion was compiled, as well as a list of the names of program directors and their contact information (phone numbers and email addresses). The names and contact information of the 81 program directors was assembled by referencing program websites and by contacting training programs by telephone as a means of confirming the information found online. Initial contact was made with the directors of the targeted

programs by email (see Appendix B), which was sent by the primary investigator. The email explained the nature of the study, provided a description of its importance, and delineated the time-commitment necessary to complete the survey. In the initial email, program directors were also offered the choice to receive a summary of the research results when the study was completed. Additionally, the e-mail described the opportunity for program directors to receive a packet of resources that promote knowledge and understanding of issues related to SWSD as compensation for participating in the study.

Included in the initial email was an internet link to the survey (TTPSSDQ) that was used for data collection. The link directed participants to a version of the TTPSSDQ using Google Forms, from which they were able to complete and submit their responses. When participants followed the link, the first page they viewed was a consent page that provided information pertaining to the purpose of the study, its procedures, the potential risks and benefits associated with participating, the confidentiality of responses, the voluntary nature of the study, and the contact information of the primary investigator and the chair of the Human Subjects Research Committee at Alfred University. After reading the consent page, the participants were prompted to select either “Yes” or “No” as a means of indicating whether or not they had read the page and consented to participate. Upon selecting “Yes,” participants were directed to the remainder of the survey. If “No” was chosen, participants were prompted to close the survey. All survey responses were kept anonymous so as to protect the identity of the participating programs and to encourage truthful reporting. Survey responses were anonymous in that the participants were not required to provide a name or email to complete the survey, but were able to do so by merely following the aforementioned internet link. As such, the primary investigator was not able to match the participating program directors with their responses. Participants were allowed to

withdraw from the study at any time by closing out of the internet window with the survey, which made it so that their responses were not saved to Google Forms.

During the week after sending the initial email, the primary investigator emailed the program directors that responded to the first email in order to answer any questions they had and to ascertain their commitment to complete the survey. All program directors that responded to the initial email received this follow-up email. One week after sending the initial email, a follow-up email that included the link to the survey was also sent out as a means of ascertaining further responses from program directors that may not have participated following the initial email.

All survey responses were transposed from Google Forms into an Excel spreadsheet by the primary investigator. The raw survey responses were housed on Google Forms on an account that was protected with a username and password. Similarly, the Excel spreadsheet was password-protected and housed on a computer that was also password-protected.

Data collection methods. The study of the preparation of general education preservice teachers to work with SWSD in inclusive classrooms is in its early stages. Just two other studies were found that examined general education training programs preparation of teachers regarding inclusion (Harvey et al., 2010; Kearney & Durand, 1992), and those studies did not limit their scope to inclusion for SWSD. As such, the topic of preservice teacher preparation for work with SWSD in inclusive classrooms requires further exploration. Fowler (2014) recommends that survey methods lend themselves well towards areas of inquiry that are in their preliminary stages, so to speak. Moreover, Fowler (2014) offers that surveys are a viable method for conducting descriptive research. Fowler (2014) further recommends the use of forced-choice questions as a means of garnering descriptive data, as predetermined choices provide statistically

inferable data, which allows for changes in responses over time to be measured. In other words, the data collected using forced-choice items could permit changes in the methods teacher training programs are using to prepare preservice teachers to be measured in subsequent data collections. Given that the present study attempted to provide a description of what teacher training programs are currently doing to prepare their preservice teacher candidates to work with SWSD, the survey instrument needed to use forced-choice questions to gather this information. By the nature of forced-choice questions, the survey collected quantitative data as a means of providing a description of the methods teacher training programs are using to prepare candidates for work with SWSD.

Data Analysis

Using the instrument employed by the present study, the TTPSSDQ, quantitative data about three distinct aspects of teacher training—*knowledge, skills, and professional dispositions*—was collected. Aside from the demographic questions, four different types of questions appear throughout the survey. The data collected from the survey questions was used to generate descriptive statistics. Some questions could be answered by responding “Yes,” “No,” or “Don’t Know.” “No” was coded as 1, “Yes” was coded as 2, and “Don’t Know” was coded as 0. For these questions, frequency counts of responses to each of these options were generated and the total percentage of program directors that endorsed each response was calculated.

Other questions were answered using a four-point Likert scale that also included an option to answer “Don’t Know.” For questions that utilized a Likert scale, frequency counts for each of the possible options (including “Don’t Know”) were calculated, as well the percentage of program directors that endorsed each option. Each of the four options on the four-point Likert scale were pre-coded. For these questions, “Strongly Disagree” was coded as 1, “Disagree” was

coded as 2, “Agree” was coded as 3, and “Strongly Agree” was coded as 4. “Don’t Know” was coded as 0, but did not factor into mean calculations. The Likert scale that was used is summarized in Table 4. A third set of questions was answered by choosing one or more choices from a set of options. Participating program directors’ responses to Likert questions were coded and then used to calculate the average response to each Likert item, in an effort to determine at which end of the Likert scale the average resides.

Finally, two questions were answered by providing a numerical value. The average response to these questions were also calculated.

The frequencies, percentages, and averages that were calculated based on program directors’ responses to survey questions were used to create a description of what methods teacher training programs are using to prepare their candidates to be educators of SWSD. Because the survey questions are derived from the themes in the literature regarding the instruction of SWSD in inclusive classrooms and the literature concerning effective teacher training for work in inclusive classrooms, the collected data provided a description of the methods training programs are currently using that align with what the literature suggests are best practices in preparing preservice teachers for work with SWSD. The data garnered from responses to the questions used in Part I: Knowledge of Students with Severe Disabilities, Part II: Skills Related to Teaching Students with Severe Disabilities, and Part III: Professional Dispositions toward Students with Severe Disabilities provided the basis for determining the methods teacher training programs are using to develop *knowledge*, *skills*, and *professional dispositions* related to teaching SWSD, respectively. By way of example, the data provided information on the percentage of programs that offer a course explicitly on educating students with severe disabilities. Such information is targeted by a question in Part I: Knowledge of

Students with Severe Disabilities. In this example, the data offered an estimation of the proportion of teacher training programs in NYS are using a course explicitly on teaching SWSD as a method of providing their candidates with *knowledge* related to educating SWSD, as well as what proportion are not. A similar analytical procedure was used for each question; although, the manner in which the information is reported differed depending on the type of question.

Items 1-11 of the TTPSSDQ comprise Part I: Knowledge of Students with Severe Disabilities. These questions relate to information about the classes offered by programs and the information covered by these classes. As such, questions in Part I: Knowledge of Students with Severe Disabilities were used to answer the question of what courses and course content teacher training programs are using to develop in their students the necessary *knowledge* to be educators of SWSD. Part II: Skills Related to Teaching Students with Severe Disabilities includes items 12-16 of the TTPSSDQ. The items in the section were designed to gather information about coursework and field experiences that provides preservice teachers with opportunities to practice teaching skills important to the education of SWSD. As such, items 12-16 were used to determine what methods teacher training programs are using to develop the requisite *skills* needed to be teachers of SWSD through appropriate coursework and practica. Finally, items 17-20 comprise Part III: Professional Dispositions towards Students with Severe Disabilities. These items aimed to garner data concerning the coursework, course content, and program culture related to SWSD. Thus, the items used in Part III were used to assess what methods teacher training programs are employing to develop in students the *professional dispositions* required to be efficacious educators of SWSD.

The trends in responses to questions, and the descriptive statistics they produced, are discussed through narrative exploration as a means of describing the methods teacher training

programs are currently using to prepare their candidates for work with SWSD. Doing so also uncovers what methods that are considered best practice teacher training programs are not using, which informed the creation of recommendations for how to improve the training of preservice teachers as educators of SWSD.

In addition to analyzing the results garnered from Section 2, the demographic data obtained through Section 1 were also analyzed. The demographic data yielded frequencies and percentages, as well as means for certain items. These statistics were used to generate a description of the participating sample of program directors regarding their programs and affiliated institutions of higher education. Three major categories of demographic information were collected, including institution characteristics, program characteristics, and program director characteristics.

Several correlations between various items were also conducted. Specifically, Item 10 under Section I: Demographics was correlated with the results of Item 7, Item 15, Item 20, Item 21, and Item 22. A Spearman's rank order correlation was conducted due to the ordinal nature of the data produced by each of these items. Additionally, Pearson correlations were conducted between the size of participating programs and the number of special education courses required, as well as the number of inclusive practicum hours required. In addition to these correlations, independent t-tests were conducted to compare the public institutions and private institutions in the sample on the number of required special education courses, as well as the number of required practicum hours.

Chapter Four: Results

The section that follows will serve as a description of the results of the TTPSSDQ that was distributed to 81 program directors of teacher training programs in NYS. The TTPSSDQ incorporated a two-section structure, namely, Section 1: Demographics and Section 2: Curricular Content and Training Experiences. The second section, Section 2: Curricular Content and Training Experiences, is broken down into four parts: Part I: Knowledge of Students with Severe Disabilities, Part II: Skills Related to Teaching Students with Severe Disabilities, Part III: Professional Dispositions toward Students with Severe Disabilities. Chapter Four will begin with a presentation of the demographic data that was collected and then proceed to the results of Parts I-IV of the administered survey. The items used in Parts I, II, and III of TTPSSDQ were used to answer the three research questions posed by the present study and, so, it is the results of these three questions to which the reader should give the most attention. In addition to reporting on data from individual items on the TTPSSDQ, the results of several auxiliary statistical analysis are provided. For the purpose of simplicity, the term *respondents* will refer to program directors.

Section 1: Demographics

The TTPSSDQ was distributed to 81 program directors of CAEP accredited teacher training programs in NYS. Three major categories of demographic information were collected, including institution characteristics, program characteristics, and program director characteristics. Institution characteristics were previously discussed in Chapter 2 and can be viewed in greater detail in Table 1.

Teacher training program characteristics. The respondents were asked to report on different characteristics of the program they represented. Based on the respondents' responses

90% of programs ($n = 37$) offered degrees at the Bachelor's level, 70% programs ($n = 29$) offered degrees at the Master's level, and 24% of programs ($n = 10$) offered degrees at the doctoral level. All ($n = 41$) of the programs represented by the respondents offered degrees in Regular Childhood Education, as this was a requirement of participation recruitment. More than 90% of programs ($n = 37$) offered degrees in Regular Adolescent Education, while 17% of programs ($n = 7$) offered degrees in Regular Middle Childhood Education. The most common combination of degrees that were offered was those in Regular Childhood Education and Regular Adolescent Education, as 73% of programs ($n = 30$) had programs in both. A minority of programs (17%; $n = 7$) offered degrees in all three foci of study (Childhood, Middle, and Adolescent Education), while 10% of programs ($n = 4$) offered only a degree in Regular Childhood Education. The number of full-time faculty members employed ranged from three to 33, with a median of 9 ($M = 10.83$; $SD = 7.23$). Further, the median enrollment of the programs was 237 students ($M = 267.66$; $SD = 208.62$), with the range being from 52 to 1187. As such, the average ratio of student-to-full-time-faculty was approximately 25:1. Please refer to Table 2 for a summary of the aforementioned training program characteristics.

Program director characteristics. The respondents were also asked to answer three questions about themselves as a means of obtaining further descriptive data about the sample's demographics. The average amount of years that the respondents had spent working in their respective programs, either as director or faculty member, was approximately 14 years ($M = 14.10$; $SD = 6.10$). Eleven (27%) respondents had been with their program for between five and nine years, 10 respondents had been with their program for between 10 and 14 years, 13 respondents had been with their program for between 15 and 19 years, five (12%) respondents had been with their program for between 20 and 24 years, and two (5%) respondents had been

with their program for greater than 25 years. The average number of SWSD with which the respondents had direct instruction experience with about eight students ($M = 7.81$; $SD = 11.00$). Nearly half of the program directors ($n = 20$; 49%) reported no direct instructional contact with SWSD. In addition to sharing the number of SWSD which they had had direct instructional experience, the respondents were also asked to choose the proportion of the school day they believed SWSD should be included in general education. The respondents were given response options of 0%, 1%-25%, 26%-50%, 51%-75%, and 76%-100% of the school day. These criteria were selected to provide the respondents with ranged options. It was thought that leaving the question open ended, would have led to vague answers such as “most of the school day” or “less than half the school day.” No program directors endorsed the belief that SWSD should not be included for any portion of the school day. The most common answer given was 1%-25%, as 61% of respondents ($n = 25$) endorsed this option. That said, 29% of respondents ($n = 12$) stated the belief that SWSD should be included 26%-50% of the school day. A total of 10% of respondents ($n = 4$) shared that SWSD should be included for more than 50% of the school day with 7% of respondents ($n = 3$) endorsing the 51%-75% options and 2% of respondents ($n = 1$) endorsing the 76%-100% option. Please refer to Table 3 for a summary of these program director characteristics.

Section 2: Curricular Content and Training Experiences

Section 2 of the TTPSSDQ is divided into four parts: Part I: Knowledge of Students with Severe Disabilities, Part II: Skills Related to Teaching Students with Severe Disabilities, Part III: Professional Dispositions towards Students with Severe Disabilities, and Part IV: Supplemental Questions. The items employed in the first three sections were used to answer the three research questions presented at the conclusion of Chapter Two. The data garnered by these sections will

be presented in the paragraphs that follow, which will be proceeded by a discussion of how these results answered the research questions in Chapter Five.

Part I: Knowledge of students with severe disabilities. The survey items (1-11) used in Part I were intended to gather information that could answer the first research question: *What practices are childhood general education training programs in New York State currently using to build preservice teachers' knowledge in working with SWSD in inclusive settings through courses and course content?* A complete item-by-item break down of the results from Part I: Knowledge can be referenced in Table 5.

Item 1 asked respondents to choose an option that best described how their teacher training program covers educational law, including laws related to special education. The majority of the respondents ($n = 28$; 68%) stated that their program covers special education law as a single topic within the broader course content. In contrast, about a third of the respondents ($n = 13$; 32%) reported that their program offers instruction on special education law through a dedicated course.

Item 2 asked the respondents about the courses offered by their program, through a two-part question. The first part asked respondents to report if their program required a course on exceptionalities for the completion of a bachelor's degree, while the second part asked respondents to rate the degree to which SWSD are covered in that course in comparison to other disabilities. While all 41 respondents stated that their program required a course on exceptionalities, the degree to which programs cover SWSD varied. Just one respondent (2%) endorsed that their program does not cover SWSD in their exceptionalities course, while a majority of respondents endorsed that their program covers SWSD a little less ($n = 18$; 44%) or much less ($n = 18$; 44%) than other disabilities. Although a small minority stated that their

program does so equally ($n = 4$; 10%), none of the respondents stated that that they covered SWSD more than other disabilities.

Item 3 asked about courses, this time requiring the respondents to report the number of special education courses required by their program. The average number of special education courses required by the participating programs was about two ($M = 1.93$; $SD = 1.25$). That being said, the most common response to this item was that one special education course is required. Indeed, more than half of the respondents ($n = 22$; 54%) stated that this was true for their program. In comparison, less than half of participating programs required two or more courses ($n = 19$; 46%), with the highest reported total being six courses ($n = 1$). Nevertheless, all participating programs required at least one special education course.

Item 4.a. asked respondents to supply similar information about whether or not a course on inclusive education is required by their program. The results indicate that while the majority of participating programs ($n = 29$; 71%) require a course in inclusive education, not all do, as 29% of respondents ($n = 12$) endorsed that their program does not require such a course. The respondents who stated that their program requires a course in inclusive education were asked to respond to the statement “*The topic of student with severe disabilities is explicitly taught*” using a Likert scale. The average response to Item 4.b. was between Disagree and Agree ($M = 2.66$; $SD = 0.94$) when the data was coded. Of the respondents who reported that their program requires an inclusive education class, the majority reported that the topic of SWSD is explicitly taught ($M = 2.66$; $SD = 0.94$). That being said, if one includes the twelve respondents who reported that they do not require an inclusive education course, the majority of respondents ($n = 23$; 56%) reported that they either disagree that they teach about the inclusion of SWSD in an inclusive education course or do not teach about this topic in a required course. Item 5 asked respondents

to answer if their program offered a course explicitly on the inclusion of SWSD, like the one described in Rainforth (2000). Of the 41 respondents, just one (2%) reported that such a course was offered.

Moving to Item 6, respondents were asked to use a Likert scale like the one used for Item 4.b. to respond to the statement “*candidates in your program are provided pedagogical knowledge related to teaching students with severe disabilities.*” The average response was 2.10 ($SD = 0.92$), indicating disagreement among the majority of respondents that preservice teachers in their program are provided the pedagogical knowledge related to teaching SWSD.

Item 7 expanded on Item 6 by asking about specific pedagogies of inclusive education that are introduced in teacher training programs. Item 7 included five parts that each used a four-point Likert scale from Strongly Disagree to Strongly Agree. The results indicate that two of these pedagogies are introduced by the majority of programs. For instance, 23 of 41 respondents (56%) stated that their program introduces the topic of classroom accommodation for SWSD, while less than half stated disagreement ($n = 18$; 44%). Similarly, 56% ($n = 23$) shared that their program teaches about positive behavior supports for SWSD, while 44% did not. The remaining three pedagogies are not introduced by the majority of participating programs. By way of example, most of the respondents noted that their program does not teach about differential instruction for SWSD ($n = 29$; 70%). Similarly, most respondents disagreed ($n = 31$; 78%) with the statement that their program teaches the topic of differential assessment for SWSD, meaning that less than half agreed ($n = 10$; 22%) that their program does so. Finally, most respondents expressed that they disagreed ($n = 27$; 66%) that their program teaches about curricular modifications for SWSD.

Items 8 and 9 required respondents to report on the teaching of assistive technology and

UDL, respectively, in their training program. With regard to Item 8, 31 respondents (76%) endorsed that their training program covers assistive technology within a course not exclusive to that subject, while 10 respondents (24%) stated that their program teaches about assistive technology in a specific course on assistive technology. The majority of respondents ($n = 28$; 68%) responded to Item 9 that their program requires a course on UDL for the completion of a bachelor's degree.

Item 10 included two parts. The first part asked respondents to report, to their awareness, if knowledge related to educating SWSD is assessed by their program in any way, while they shared how this knowledge was assessed in the second part. An equal number of respondents stated that their program does ($n = 15$; 37%) and does not ($n = 15$; 37%) assess knowledge of educating SWSD. Interestingly, 11 respondents (27%) reported that they do not know if knowledge related to educating SWSD is assessed in their program. The respondents who endorsed that their program does assess pedagogical knowledge related to SWSD could select from the options of *“Tests/Quizzes”* and *“Projects/Presentations/Papers.”* Six respondents stated that their program assesses this knowledge exclusively through tests/quizzes, while four shared that they do so only by projects/presentations/papers. Finally, five programs endorsed that their program assesses knowledge related to teaching SWSD though both tests/quizzes and projects/presentations/papers.

The final question in Part I, Item 11, asked respondents to use a Likert scale to respond to the belief that faculty in their program have a comprehensive knowledge of how to support SWSD in inclusive classrooms. The average response of 3.05 ($SD = 0.77$) indicates that the respondents Agree with this sentiment. Therefore, the majority of respondents endorsed a belief that the faculty members employed by their program have a comprehensive knowledge related to

educating SWSD in inclusive classrooms.

Part II: Skills related to teaching students with severe disabilities. The survey items (12-16) used in Part II were intended to answer the second research question: *What practices are childhood general education training programs in New York State currently using to build preservice teachers' skills in working with SWSD in inclusive settings through coursework and field experience?* A complete item-by-item break down of the results from Part I: Skills can be referenced in Table 6.

Item 12 included nine parts, each of which asked about the settings in which candidates in the respondents' programs had the opportunity to practice different evidenced-based teaching strategies for the inclusion of SWSD. Respondents could select any number of six options that included None, Assignments, In class with peers, With students without disabilities, With students with disabilities in inclusive classrooms, and With students with severe disabilities in inclusive classrooms. For four evidenced-based strategies (i.e., UDL, response prompting, positive behavior supports, and cooperative peer strategies), the majority of respondents indicated that their program offers practice in class with peers, with students without disabilities, and in inclusive classrooms. The only majority indicated by the respondents for the strategy of systematic instruction was opportunities to practice in class with peers. The most popular response for self-directed learning was opportunities practice in class with peers; however, no majority was derived for any of the given options. A majority of the respondents expressed that their program does not offer opportunities to practice embedded instruction and AAC. Notably, opportunities to practice with SWSD were not offered by a majority of participants for any of the above evidence-based teaching strategies, including UDL ($n = 0, 0\%$), systematic instruction ($n = 3, 7\%$), inquiry learning ($n = 2, 5\%$), embedded instruction ($n = 1, 2\%$), response prompting (n

= 1, 2%), self-directed learning ($n = 7$, 17%), positive behavior supports ($n = 9$, 22%), cooperative learning ($n = 6$, 15%), and AAC ($n = 7$; 17%). Indeed, for all of nine strategies, with the exception positive behavior supports and cooperative learning strategies, opportunities to practice with SWSD was the least endorsed option.

In answering Items 13 and 14, respondents reported on the practicum opportunities offered by their teacher training programs. According to the results of Item 13, the majority of respondents ($n = 32$; 78%) endorsed that their program *requires* practical experience in an inclusive classroom, while a minority ($n = 8$; 20%) reported that they do not. One respondent (2%) answered that they were unsure. On average, the programs mandating time in an inclusive classroom require their candidates to complete a mean of 83.79 hours ($SD = 38.87$). That said, the amount of time required by the participants ranged from 25 hours to 160 hours; although, the most popular answer was 120 hours ($n = 7$). While Item 13 asked about inclusive practica specifically, Item 14 was intended to collect data on experiences with SWSD offered by programs. The data indicated that few respondents ($n = 8$; 20%) reported that their program does offer opportunities to work with SWSD. Similarly, a minority of respondents ($n = 12$; 29%) stated that their program does not offer these types of experiences. Interestingly, the majority of respondents ($n = 21$; 51%) reported that they did not know whether their program offers practicum experiences with SWSD.

Item 15 included six parts, each of which required respondents to use a four-point Likert scale to respond to statements about inclusive education techniques that candidates in their program are offered opportunities to practice regarding SWSD, either through assignments or practicum opportunities. Of the six inclusive education techniques in questions, only two were referenced by the respondents as offered opportunities to practice. The majority of respondents

indicated agreement ($M = 2.56$; $SD = 1$) that their program offers opportunities to practice creating classroom accommodations for SWSD. Likewise, most participating programs offered opportunities to practice using positive behavior supports with SWSD ($M = 2.73$; $SD = 0.98$). For the other four inclusive education techniques, the majority of respondents answered Disagree or Strongly Disagree. These techniques included differentiating instruction for SWSD ($M = 1.76$; $SD = 0.14$), designing curricular modifications for SWSD ($M = 1.76$; $SD = 1.00$), creating alternate assessments for SWSD ($M = 1.56$; $SD = 0.84$), and collaborating with the parents of SWSD ($M = 1.90$; $SD = 1.00$). As such, the data indicates that the majority of participating programs do not provide opportunities to practice several inclusive techniques with SWSD; nevertheless, most programs do offer these opportunities for creating classroom accommodations or using positive behavior supports.

The final question in Part II, Item 16, asked respondents to report how their program assesses their candidates' skills related to educating students with disabilities. Respondents could select from "*Tests/quizzes*," "*Teaching demonstration*," and "*Teaching portfolios*," with an option to provide an answer that was not among those response options. The data shows that 39 participating programs (95%) utilize tests and quizzes, 33 (80%) use teaching portfolios, and 14 (34%) require teaching demonstrations. The most popular combination of these assessment tools was tests/quizzes with teaching portfolios, as 18 programs (44%) employ both measures. Furthermore, 13 respondents (32%) reported that their program uses all three evaluation measures.

Part III: Professional dispositions towards students with severe disabilities. The survey items (17-20) used in Part III were used to answer the third and final research question: *What practices are childhood general education training programs in New York State currently*

using to build preservice teachers' professional dispositions towards working with SWSD in inclusive settings through coursework, course content and program culture? A complete item-by-item break down of the results form Part I: Professional Dispositions can be referenced in Table 7.

Item 17 asked respondents to report if issues related to individuals with severe disabilities are introduced in the diversity courses taken by candidates in their teacher training program. While 11 respondents (27%) answered Yes and only five (12%) answered No, the majority of respondents ($n = 25$; 61%) reported that they Don't Know whether or not issues related to severe disabilities are broached in their program's diversity courses.

Item 18 required respondents to state if their teacher training program assesses its candidates' professional dispositions towards people with disabilities and, if applicable, how they are assessed. Most of the respondents ($n = 35$; 85%) reported that their program does, indeed, evaluate candidates' professional dispositions towards individuals with disabilities. That being said, two respondents (5%) shared that their program does not, while four others (10%) shared that they don't know if these professional dispositions are evaluated. When given the choice of four different response options for how professional dispositions towards persons with disabilities are assessed by their program, the most popular response was through the use of reflective essays. Indeed, of the 35 programs that did evaluate professional dispositions towards people with disabilities, 32 (91%) reported the use of reflective essays to do so, while more than half ($n = 19$; 54%) also reported that research papers were used for the same purpose. Fourteen participants (40%) used presentations, while six (17%) used questionnaires.

Item 19 sought similar information as Item 18, but asked respondents to report if candidates in their teacher training program are encouraged to reflect on their attitudes toward

SWSD. The majority of respondents ($n = 21$; 51%) selected Don't Know, indicating that most of them were unaware if their candidates are encouraged to reflect on their professional dispositions towards SWSD. Those respondents who did not select Don't Know, responded to the statement *"Candidates in my program are encouraged to reflect on their attitudes towards students with severe disabilities"* with a four-point Likert scale. The mean coded response of 1.95 ($SD = 1.00$) suggests that, on average, most respondents disagreed with the notion that candidates in their program are required to reflect on their professional dispositions towards SWSD.

Item 20 included five parts, each of which required respondents to use a four-point Likert scale to respond to a professional disposition related to educating SWSD that are prioritized by their program. Respondents were also allowed to select "Don't Know" as an option, which four chose to do for each of the five parts. For three of the professional dispositions included in Item 20 the majority of respondents endorsed either Agree or Strongly Agree, indicating that these professional dispositions are prioritized by most participants. Specifically, the data suggests that a majority of participating programs prioritize, based on the ration of Strongly Agree/Agree to Disagree/Strongly Disagree responses. The professional dispositions for which the majority of respondents answered Strongly Agree or Agree were the notion that being with typically-developing peers is important for SWSD, that SWSD need high educational expectations, and that SWSD should be educated with typically-developing peers in non-core academic classes. Conversely, only a minority of respondents endorsed agreement or strong agreement that their program prioritizes the professional dispositions that SWSD should be educated with typically-developing peers in core academic and that SWSD can be successfully educated in general education classrooms.

Part IV: Supplemental questions. The TTPSSDQ also included two other items that

did not fit into the previous sections but were of interest to the researcher. Item 21 asked participants to rate on a scale from 1 to 5, the degree of encouragement faculty in their program are given to integrate information about SWSD into their classes, with 1 indicated no encouragement and 5 indicating a great deal of encouragement. The data reveals a mean response of 1.88 ($SD = 1.08$). Moreover, the majority of respondents ($n = 21$; 51%) rated the degree of encouragement a 1 out of 5. This data suggests that, on average, respondents believe that faculty in their program are not highly encouraged to integrate information about SWSD into their classes. In the same vein, Item 22 asked respondents to rate on a scale from 1 to 5 how important their program feels it is to prepare their teacher candidates to be competent in working with SWSD. Based on a mean response of 1.95 ($SD = 1.07$), the participating program directors, on average, do not believe that their program views preparing their teachers to be competent educators of SWSD to be very important. The aforementioned data from Item 21 and Item 22 can be viewed in Table 8.

Additional Statistical Analyses

In additional to the statistics provided by the individual items presented above, several more statistical analyses were conducted in the hope that they would further inform future research. First, the results from Item 10 under Section I: Demographics were correlated with the results of several other items from Section II: Curricular Content and Training Experiences. Spearman's rank order correlation was used given the ordinal nature of the data. Item 10 under Section I asked respondents to endorse the portion of the school day that they believed SWSD should spend in the general education setting. The respondents could choose from 1%-25%, 26%-50%, 51%-75%, and 75%-100%. First, the results of this item were correlated with those of Items 21 and 21. The results of Item 21 were found to have a positive correlation ($r_s(39) =$

0.79, $p < 0.0001$) with those of Item 10 under Section I. As such, program directors who believed that SWSD should be included for a larger proportion of the school day were more likely to endorse greater encouragement on the part of their program for faculty members to incorporate information on SWSD into their coursework. Similarly, Item 22 was also found to have a positive correlation ($r_s(39) = 0.72, p < 0.0001$) with those of Item 10 under Section I. Thus, program directors who believed that SWSD should be included for a greater amount of the school day tended to rate more highly that their program feels it is important to prepare their teacher candidates to be competent in working with SWSD.

Item 10 under Section I was also correlated with Item 7, Item 15, and Item 20. Item 7 asked respondents to use a four-point Likert scale to respond to five inclusive techniques related to educating SWSD that are taught in their program. The results from all five parts of Item 7 were found to be positively correlated with the respondents' beliefs about the portion of a school day that SWSD should be included. Therefore, program directors who believed that SWSD should be included for a larger proportion of the school day were more likely to endorse that their program teaches about differential instruction ($r_s(39) = 0.69, p < 0.0001$), curricular modifications ($r_s(39) = 0.64, p < 0.0001$), differential assessment ($r_s(39) = 0.62, p < 0.001$), classroom accommodations ($r_s(39) = 0.51, p < 0.001$), and positive behavior supports ($r_s(39) = 0.43, p < 0.005$).

In Item 15, respondents used a Likert scale to respond to six inclusive strategies for SWSD with which candidates in their program are provided opportunities to practice. The results of the Spearman's rho test indicate that the program directors' beliefs positively correlated with the responses to all six parts of Item 15. As such, program directors who believed that SWSD should be included for a larger proportion of the school day were more

likely to report that their program offers opportunities to practice designing curricular modifications for SWSD ($r_s(39) = 0.64, p < 0.0001$), creating classroom accommodations for SWSD ($r_s(39) = 0.61, p < 0.001$), differentiating instruction for SWSD ($r_s(39) = 0.59, p < 0.001$), using positive behavior supports with SWSD ($r_s(39) = 0.58, p < 0.001$), differentiating assessments for SWSD ($r_s(39) = 0.52, p < 0.001$), and collaborating with the parents of SWSD ($r_s(39) = 0.37, p < 0.05$).

Item 20 also utilized a Likert scale, which respondents used to respond to professional dispositions for the inclusion of SWSD that are prioritized by their program. In keeping consistent with the results of the two previous correlations, the results of all six parts of Item 20 were positively correlated with the beliefs of program directors regarding how much of a school day SWSD should be included in general education settings. Based on results of the Spearman's rank order test, program directors who believed that SWSD should be included for larger portions of the school day were more likely to endorse that their program prioritizes the notion that SWSD can be successfully educated in general education classrooms ($r_s(39) = 0.67, p < 0.0001$), that being with typically-developing peers is important for SWSD ($r_s(39) = 0.56, p < 0.001$), that SWSD need high educational expectations ($r_s(39) = 0.50, p < 0.001$), that SWSD should be educated with typically-developing peers in non-core academic classes ($r_s(39) = 0.44, p < 0.005$), and that SWSD should be educated with typically-developing peers in core academic classes ($r_s(39) = 0.42, p < 0.01$).

Two other correlations were also conducted between the size of a participating program and the responses to different survey items. Specifically, program size was positively correlated with the number of special education courses provided, as well as with the number of inclusive practicum hours provided. A Pearson correlation was used for each of these. The size of a

participating program was found to positively correlate with the number of special education courses required ($r(39) = 0.43, p < 0.05$). Thus, larger programs were found to be more likely to require more special education courses. Conversely, no correlation was found between program size and the number of required inclusive practicum hours ($r(39) = 0.076, p = 0.63$).

Two independent t-tests were conducted to compare the public institutions in the sample with the private institutions. These institution types were compared on the number of special education courses they required and the number of inclusive practicum hours they required. There was no significant effect for institution type on the number of required special education courses ($t(39) = 0.23, p = 0.41$), as the public ($M = 1.80, SD = 1.14$) and private ($M = 1.90, SD = 1.30$) institutions in the sample had similar means. Likewise, there was no significant effect for institution type on the number of required practicum hours ($t(39) = -1.25, p = 0.11$), despite public institutions ($M = 71.77, SD = 48.42$) having a high mean than private institutions ($M = 50.00, SD = 45.46$), which was likely due to the large discrepancy between the number of private ($n = 31$) and public institutions ($n = 10$).

Chapter Five: Discussion

The reader should take special note of the themes in the data that are highlighted, as these themes will be used to inform recommendations as to how teacher training programs can improve their preparation of candidates for work with SWSD. In addition to these points, Chapter Five will include a discussion on the limitations of the methodology employed by the present study, as well as the implications of these limitations.

What Programs are Doing

The early investigations of teacher training programs in the 1990s revealed that most programs were not offering coursework in inclusive or special education (Kearney & Durand, 1992; Reed & Monda-Amaya, 1995). Harvey and colleagues' (2010) more recent examination of training programs showed that many teacher training programs had improved their methods of preparing teachers for work with diverse students, as the majority of the programs in the study offered introductory inclusive or special education coursework and inclusive field experiences. While the data from Harvey et al. (2010) points to progress in teacher education for inclusion, it did not reveal whether the same was true for SWSD. Additionally, it was unclear how many programs provide practicum experiences that include SWSD. Thus, the primary goal of the present study was to increase knowledge of what teacher training programs are doing to prepare teacher candidates to educate SWSD in inclusive settings. Specifically, this study sought to determine what methods training programs are using to develop the needed knowledge, skills, and professional dispositions in their candidates to meet the needs of SWSD. It was important to obtain this information because the inclusion of SWSD is becoming more common and teachers have expressed a lack of preparedness for the task.

Knowledge. The results of the present study indicate that one of the means by which

teacher training programs in NYS are preparing preservice teachers to educate SWSD is through offering courses and course content related to this work. Specifically, the majority of participating programs reportedly required courses on exceptionalities, inclusive education, UDL, and special education. Notably, these results are consistent with those of Harvey et al. (2010) and Vitelli (2015) who indicate that teacher training programs are placing greater emphasis on providing courses on inclusion, special education, and UDL. With specific regard to course content, the majority of program directors in the present sample indicated that severe disabilities were covered in their exceptionalities in learning course, albeit less than other disabilities. Additionally, the majority of program directors in the sample stated that the topics of special education law and assistive technology were covered in their program, although they were embedded within other courses and not in a dedicated course.

While the results do highlight some of the means by which teacher training programs are developing knowledge of SWSD in their candidates, they also underscore possible areas of weakness in this area. For example, although some training programs require about two special education courses, on average, the majority of respondents reported that their program requires just one course on special education. Moreover, the present results also indicate that most programs do not cover the inclusion of SWSD, specifically. Although most of the programs that offer an inclusive education course do so, the majority of programs either do not offer an inclusion course or do not cover the inclusion of SWSD in such a course. Delving further, the respondents, on average, do not believe that their training program provides its candidates with pedagogical knowledge concerning the education of SWSD. These results contrast with those indicating that most program directors believe that their program employs faculty members that are knowledgeable of how to support SWSD in inclusive classrooms. It should be noted that

these findings may have been susceptible to a social desirability response bias, as most program directors likely want to believe that their faculty are knowledgeable of the inclusion of SWSD. There were, however, two areas of pedagogical knowledge that were reported to be taught in the majority of the participating programs. Specifically, most programs in the sample were reported to teach about classroom accommodations and positive behavior supports for SWSD. Notably, these two concepts are associated with helping SWSD be physically present in general education classes (Browder et al., 2014; Danforth, 2014). The other three pedagogies related to the inclusion of SWSD were differential instruction, curricular modifications, and differential assessment. Of the programs in the sample, most reportedly do not teach about these to their preservice teachers. This is an unfortunate finding, as according to the literature, these pedagogies are more associated with helping SWSD to more fully participate in the general education curriculum (Browder et al., 2014; Danforth, 2014).

The results of the present study also demonstrate that most of the programs in the sample do not assess candidates' knowledge of SWSD. The programs that do, utilize a mixture of tests and/or quizzes and projects, papers, and/or presentation. As such, those programs that do assess their candidates' knowledge of SWSD seem to employ a mix of examinations and more open-ended projects to do so. Moreover, based on the fairly even distribution of responses, there seems to be no consistent method of assessing candidates' knowledge of SWSD across programs. The use of objective measures such as tests and quizzes as a means of assessing candidates' knowledge of SWSD could be a beneficial method for programs to adopt.

Skills. The present study also sought to discover how NYS teacher training programs are developing their candidate's skills for educating SWSD through coursework and field experience. This included settings in which the programs provided preservice teachers with

practice using certain evidence-based teaching strategies that are effective in the inclusion of SWSD. There were four teaching strategies in which the majority of programs provide practice in the context of in-class work with other preservice teachers, in classrooms with students without disabilities, and in inclusive classrooms. These strategies were UDL, response prompting, positive behavior supports, and cooperative learning/peer-learning strategies. As such, most programs provide opportunities to practice these four skills with real students, but more importantly within the context of inclusive classrooms. These findings were consistent with those from Harvey et al. (2010) that suggest that most teacher training programs provide opportunities to work with diverse learners. Indeed, the majority of participating programs require practicum hours in an inclusive classroom, with an average of 84 hours.

Data on five other inclusive teaching strategies was collected: systematic instruction, inquiry learning, embedded instruction, self-directed learning, and using augmentative and alternative communication. Although, most programs offer opportunities to practice using systematic instruction in class with other preservice teachers, the data reveals that the majority of participating programs do not provide opportunities to practice the other four skills in any setting. Furthermore, most respondents endorsed that candidates in the program do not receive opportunities to practice these skills in inclusive classrooms with SWSD. Indeed, of the nine inclusive teaching strategies studied, none of them are practiced with SWSD by preservice teachers in the majority of programs surveyed.

Similar data was collected as to how training programs are using coursework and field experience for fostering skills in using inclusive education techniques with SWSD. While the majority of programs were reported to offer their preservice teachers opportunities to practice creating classroom accommodations and using positive behavior supports through either

assignments or field experience, only a minority provide practice with differentiating instruction, designing curricular modifications, creating differential assessments, and collaborating with the parents of SWSD. Notably, classroom accommodations and using positive behavior supports are the same two concepts that the majority of the respondents endorsed as areas in which candidates in their program receive instruction. As aforementioned, these two techniques are more associated with promoting the physical presence of SWSD in general education classrooms, more so than fostering their participation in these settings (Browder et al., 2014; Danforth, 2014). Classroom accommodations and positive behavior supports help create a classroom environment that can support more readily the presence of SWSD, but do not necessarily help them participate more fully in the general education curriculum. For example, a student with Down Syndrome might be accommodated with preferential seating to support his or her attention; however, preferential seating does not make the actual curriculum more accessible. Similarly, positive behavior supports might help the general education teacher more easily manage the problem behaviors associated with a student's disability, but these strategies do change instruction or curriculum in such a way as to meet the needs of SWSD. In contrast, differentiating instruction, designing curricular modifications, creating differential assessments, and collaborating with the parents of SWSD are considered more important in promoting the active participation of SWSD in inclusive classrooms (Browder et al., 2014; Danforth, 2014).

Professional dispositions. Another goal of the present student was to determine how teacher training programs in NYS are developing their candidates' professional dispositions toward SWSD through coursework, course content and program culture. One of the means by which programs in NYS are attempting to foster positive professional dispositions is through the assessment of their candidates' professional dispositions towards people with disabilities, as a

majority of participants reported doing. Most respondents endorsed the use of either reflective essays or research papers as evaluative tools, while a near majority reported the use of both.

In addition to assessing their teacher candidates' professional dispositions towards people with disabilities, the data also underscores the professional dispositions that are prioritized by training program in NYS. Three professional dispositions were endorsed by a majority of respondents as being a priority for their program. These included the idea that being with typically developing peers is important for SWSD, that SWSD should be afforded high educational expectations, and that SWSD should be included in non-core academic classes. Conversely, only a minority of programs were reported to prioritize the notion that SWSD should be included in core academic classes or that SWSD can be successfully educated in general education classrooms. As such, some data from the present study suggests that programs want their candidates to value the importance of including SWSD alongside typically developing peers, while other data indicates a belief that this inclusion should occur in non-core academic classes. Notably, this pattern in the data is made even more interesting by the fact that most respondents reported that their program prioritizes the notion that SWSD need high education expectations. Given data indicating that programs prioritize the professional disposition that of high expectation for SWSD, but not their inclusion in core academic classes, one might presume that programs wish to develop the professional disposition that these high education expectations should occur outside of the general education setting.

Implications for Improving Teacher Training

Much like that of Harvey and colleagues (2010), the present study indicates that most teacher training programs offer opportunities for preservice teachers to work with diverse learners through inclusive practica and require general education candidates to take special

education courses. The current study expands on the research conducted by Harvey et al. (2010) through data that points to the types of courses and coursework that programs are using to build their candidates' knowledge of the inclusion of SWSD, as well as the types of practical experiences candidates' are offered to hone their skills related to teaching SWSD. The data indicates that the majority of programs require courses on exceptionalities in learning, inclusive education, special education, and UDL. Moreover, the data suggests that teacher candidates in the participating programs are offered chances to practice inclusive skills such as UDL, response prompting, peer learning strategies, creating classroom accommodations for SWSD, and designing positive behavior supports for SWSD. Despite these positives, the present study also suggests that there remain several prominent weaknesses in the ways in which the majority of the participating programs are preparing their preservice teachers for work with SWSD.

Improving course content. One area of needed improvement highlighted by the present study is a lack of specific instruction for work with SWSD. Specifically, the data indicates that training programs need to increase the coursework and course content that related to SWSD. The present study reveals that most programs only require one special education course, either do not offer an inclusive education course or do not cover SWSD within one, and do not teach about special education law and assistive technology within courses dedicated to these topics. Therefore, one of the ways in which programs could improve their candidate's knowledge of special education law and assistive technology is through covering these topics through dedicated courses, as knowledge of these is considered by CAEP (2015) and inclusive education experts (Alquraini & Gut, 2012; Forlin & West, 2015; Mistrett, Lane, & Ruffino, 2005) as critical to the inclusive success for SWSD.

Perhaps more importantly, teacher training programs in NYS might consider increasing

the number of required special education courses. For some programs, additional coursework might not be feasible, so integrating special education coursework into general education courses might be a more practical solution. Blanton, Pugach, & Florian (2011) prescribe that better training for inclusive education can be achieved through an integration of general education and special education coursework, citing the success of requiring multiple special education courses at programs such as, Syracuse University, University of Utah, and Columbia University. In the same vein, more teacher training programs in NYS should consider covering the inclusion of SWSD in their inclusive education courses. Exposing preservice teachers to the idea of including SWSD through course content not only forces them to increase their knowledge of the issue, but may also inspire them to further their knowledge independently. Moreover, having such knowledge may make it more likely that preservice teachers seek out practicum opportunities and student teacher placements that let them to utilize their knowledge of SWSD.

Another area in which the data suggests that teacher training programs could improve their use of course content to foster knowledge of SWSD is in the inclusive pedagogy that is taught to preservice teachers. The present study suggests that candidates in most programs are not taught about differentiated instruction, curricular modifications, and differential assessment for SWSD, specifically. As aforementioned, these three pedagogies are focused more intently on fostering the *participation* of SWSD in general education. On the other hand, the inclusive pedagogies that the present study suggests are taught within most programs, classroom accommodations and positive behavior supports, are associated with supporting the *presence* of SWSD in general education. As such, it is implicated that training programs in NYS are placing greater emphasis on teaching knowledge that will help their candidates support the physical presence of SWSD than on knowledge that will help them foster participation from these

students. One speculative reason for this paradigm may be an implicit or explicit assumption that most of the instruction provided to SWSD will be from special education teachers regardless of the setting. Depending on the inclusive model being used, this may be the case; however, CAEP clearly outlines that *all* teachers need to be competent educators of all students. Because participation in general education is the ultimate goal of special education, teacher training programs need to consider taking action to more heavily include, within course content, information on inclusive pedagogies that foster the participation of all students. Such action could include encouraging faculty to do so or making the inclusion of SWSD more of a priority when conducting curriculum reviews. For example, faculty members could begin including books that promote the inclusion of SWSD such as Kliewer's (1998) *Schooling Children with Down Syndrome: Toward an Understanding of Possibility*.

Lastly, because most respondents reported that they do not assess knowledge of SWSD, more programs should consider conducting such assessments, as doing so will provide teacher trainers with information as to how effective their programs' methods are in building said knowledge.

Improving field experience. The data garnered through the present study is also suggestive of a lack of specific practicum experiences that are offered by training programs to prepare preservice teachers for work with SWSD. This notion is epitomized by data indicating that the majority of participating programs either did not offer practicum opportunities to work directly with SWSD or were unsure if such opportunities were made available. Providing preservice teachers with more plentiful opportunities to merely interact with SWSD in field experiences would certainly be beneficial, given that teacher attitudes toward inclusion have been shown to be alterable through practicum experiences (Atiles et al., 2012); however, teacher

training could be improved even further by allowing teacher candidates to practice using techniques that have been empirically demonstrated to support the inclusion of SWSD. Notably, the practica experiences of preservice teachers likely varies by practicum site and site supervisor, which could impact candidates' opportunities to interact with SWSD. As such, it may be helpful for teacher training programs to adopt practicum checklists that include working with a student with a severe disability in order to be completed. Alternatively, candidates could be required to write a reflection about their experience working with SWSD. Data from the present study indicates that the majority of programs do not provide opportunities to practice any of the nine evidenced-based techniques asked about in the survey with real SWSD. These strategies included systematic instruction, inquiry learning, embedded instruction, UDL, response prompting, positive behavior supports, and AAC. Ideally, programs would offer more opportunities to practice these strategies with SWSD; however, more applied practice with these techniques in any capacity could improve preservice teachers' preparation for work with SWSD.

In addition to offering more opportunities to practice evidenced-based techniques with SWSD, teacher training programs should consider providing preservice teachers practice with certain inclusive teaching skills in the context of SWSD through coursework and practica. A majority of the present sample of teacher training programs provide opportunities to practice creating classroom accommodations and using positive behavior supports for SWSD; however, these, again, are related more so towards supporting the *presence* of SWSD in general education. In contrast, those skills that support the *participation* of SWSD, namely differentiating instruction, differentiating assessments, designing curricular modifications, and working with the families of SWSD, are not practiced by candidates at a majority of the participating programs. Ideally, programs would offer candidates live practice using these skills for actual SWSD;

however, even practice through course assignments would be a boon, as it would force preservice teachers to alter their instruction in such a way that it allows SWSD to be more active participants in their classroom.

Notably, general education teachers may not be afforded much practical experiences with techniques that foster participation, due to the current roles of general educators and special educators in today's schools. Systematically, it could be that, in many schools, general educators may be tasked with providing a learning environment that is accessible to all students, while special educators provide the instructional modifications necessary for the participation of SWSD. As such, general education teachers may be providers of classroom accommodations and positive behavior supports, while special educators modify curriculum, assessment, and instruction. Such role differentiation may impact training and vice versa. Thus, a broader systems-level issue may be related to the apparent lack of practice general education preservice teachers receives in inclusive techniques for the participation of SWSD, in that general education teachers are not expected to provide these services by employers. What may be needed, then, is for school districts to adopt more fluid expectations for the role of general and special educators.

The present study demonstrates that teacher training programs need to provide more opportunities to practice inclusive teacher strategies in the context of employing them with SWSD. Perhaps more importantly, however, teacher training programs need to be more diligent in providing preservice teachers with opportunities to interact with SWSD, even if it is in a non-instructional capacity. Research studies have indicated that not only have teachers reported feeling inadequately trained to educate SWSD (e.g., Shady et al., 2013), but also that the majority of teachers hold negative attitudes toward the inclusion of SWSD (Santoli et al., 2008). That being said, teacher attitudes toward inclusion have been shown to be alterable through

practicum experiences (Atiles et al., 2012), as well as in improving their self-efficacy for inclusive teaching (Forlin & Chambers, 2011; Miller, Wienke, & Savage, 2000; Wright, 2015). Thus, offering preservice teachers with more opportunities to work with SWSD may not only provide a context for skill-building, but also one that fosters their self-efficacy and attitudes related to the inclusion of SWSD.

Improving professional dispositions. In addition to an apparent lack of specific training for knowledge and skills, the present study suggests that this pattern encompasses professional dispositions as well. For instance, most respondents in the sample endorsed that severe disabilities are not included in their diversity courses and that their candidates are not encouraged to reflect on their attitudes towards SWSD. One might recall from Chapter Two that positive attitudes towards inclusion have been associated with the use of more effective inclusive teaching strategies (Klehm, 2013; Monsen et al, 2014). As such, teachers' attitudes towards inclusion could be considered crucial to their effectiveness as inclusive educators. In order to improve the preparation of preservice teachers for work with SWSD, therefore, training programs must make strides to present severe disabilities as an important diversity issue and encourage their candidates to reflect on how they feel about SWSD in the context of general education. Programs may need to alter the curriculum of diversity courses to include information about this population, as well as assignments or activities designed to facilitate reflections of candidates' beliefs and attitudes towards SWSD. Such, reflection could make candidates more cognizant of their implicit biases, which could positively impact how they interact with and approach the education of SWSD. Additionally, more programs might consider using standardized questionnaires, such as the Attitudes to Disabilities (Power, Green, & WHOOQOL-DIS Group, 2010) or the Multidimensional Attitudes Scale Towards Persons with

Disabilities (Findler, Vilchinsky, & Werner, 2007), to provide numerical data that can be analyzed and evaluated as a further means of informing how programs can improve their methods for developing professional dispositions towards SWSD.

Given that most programs in the sample do not include SWSD in their diversity courses and do not encourage their candidates to reflect on their attitudes towards SWSD, it could be posited that these are methods of promoting professional dispositions that are not highly prioritized. This lack of prioritization is further evidenced by the specific professional dispositions that were reported by the respondents to be prioritized by their program. Notably, most programs appear to prioritize the belief the being with non-disabled peers is important for SWSD, that SWSD need high educational expectations, and that SWSD should be included in non-core academic classes. Conversely, most programs do not prioritize the idea that SWSD should be included in core-academic classes and that SWSD can be successfully educated in general education contexts. Training programs that wish to improve how they build positive professional dispositions towards SWSD should consider developing coursework and course content that fosters these ideals. Betterment in the area might also be achievable through professional development for staff that is focused on the benefits of inclusion for SWSD, which has been demonstrated consistently through empirical research (e.g., de Graaf et al., 2013; Fisher & Meyer, 2002; Logan & Keefe, 1997). In doing so, faculty members may be emboldened to incorporate the concept of inclusion for SWSD in their courses, which, in turn, could promote a program culture that is more positive regarding the inclusion of SWSD. Regardless, a greater emphasis on the possibility of successful inclusion for SWSD in non-core *and* core academic classes could help instill in preservice teachers positive attitudes towards inclusive education for SWSD, which research has demonstrated as a predictor of teachers' self-efficacy to be inclusive

educators (Monsen et al., 2014; Soodak et al., 1998; Vaz et al., 2015). In truth, programs may need to make changes regarding their program culture toward the inclusion of SWSD. As such, training programs should consider hiring faculty members with experience working with a wide breadth of disabilities and ability levels, including severe disabilities.

Toward Complete Classroom Citizenship

It is unrealistic to believe that general education teacher training programs will or should prioritize the education of SWSD equally as that of general education students. The focus of these programs is preparing preservice teachers for a career educating the large majority of students who need minimal to moderate support to be successful. Nevertheless, research has demonstrated that teachers feel underprepared for work with SWSD (Shady et al., 2013), meaning that teacher training programs may need to prioritize preparing preservice teachers for work with SWSD more highly. The present study indicates that across preservice teachers' training in knowledge, skills, and professional dispositions towards work with SWSD programs more highly prioritize teaching strategies, inclusive education techniques, and inclusive attitudes that are more associated with the physical presence of SWSD in general education, than those that foster their participation.

Osgood (2005) noted that inclusion seeks to permit all students with disabilities to fully participate in general education curriculum to the maximum extent possible, while Kliever (1998) and Downing and Peckam-Hardin (2007) highlighted the importance of belongingness for SWSD in inclusive classrooms. It is widely accepted that participation in the curriculum is critical to learning. Given that the ultimate goal of not only inclusive education, but all education, is learning, greater emphasis needs to be placed on giving preservice teachers the tools to facilitate the participation of all students.

It is also widely accepted that the educational aptitude and potential of SWSD is lower than that of most students. As such, their learning in core academic classes like math, science, and ELA is likely to impact their future education and careers less than that of most other students. Thus, nurturing the participation of SWSD in general education is also of crucial importance in that participation helps establish their citizenship within the classroom.

Encouraging the participation of SWSD alongside their peers promotes the notion that they are equal members of the learning experience. This status as a classroom citizen fosters feelings of belongingness, which in turn lends itself to cultivating self-confidence and self-worth.

Moreover, participating with typically developing peers provides SWSD the opportunity to learn and practice social skills in a safe setting where corrective feedback is readily available. Finally, and perhaps most importantly, fostering the participation of SWSD in general education could increase acceptance and understanding in their peers by demonstrating that the education of SWSD is as worthwhile and that they are equal partners in learning. If teacher training programs in NYS wish to develop their preservice teachers into great inclusive educators, the data gathered in the present study indicates that they must prioritize building their candidates the knowledge, skills, and professional dispositions that help SWSD, not only be present in general education classrooms, but those that assist them into becoming active learners who belong.

Methodological Limitations

The present study sought to improve upon the methodology of previous investigations into the preparation of preservice teachers (i.e., Harvey et al., 2010; Kearney & Durand, 1992). These studies employed surveys that relied heavily on one type of response method which, according to Fowler (2014) is not the optimal means of conducting exploratory quantitative survey research. Per the recommendation of Fowler (2014) the present study aimed to utilize a

survey that included a wide variety of different response options to achieve a higher degree of exploration. Although the present study obtained participation from more than half of its targeted participant pool, there are still limitations due to the sampling procedure. First, the distributed survey obtained the perspective of one individual in a program. The number of years a respondent has spent working in the same program and the size of the program could affect each respondent's knowledge of the specifics within that program. Further, the respondents' knowledge of the full content and daily ongoing of each course is not able to be known. Additionally, those program directors that elected to participate may have been biased toward the inclusion of SWSD, in that those with positive attitudes towards the inclusion of SWSD may have been more likely to participate. These program directors may be more likely to be members of programs that more highly value preparing their candidates for work with SWSD, meaning that the results of the study may provide an overestimation of the methods teacher training programs are using. Finally, the study is further limited by its focus on teacher training programs in NYS. Because the sample excluded teacher training programs from other states, the results of the study cannot be generalized beyond state borders.

The generalizability of the study is also hindered by the lack of reliability testing conducted on the survey employed by the study. Due to the very specific nature of the study's research questions, a tailor-made survey needed to be devised. As such, no reliability statistics in the way of reliability coefficients were available. The lack of reliability statistics limits the construct validity of the study, meaning that one must be cautious when generalizing the results of the survey to all teacher training programs in NYS. Although the lack of reliability statistics is somewhat mitigated by the high proportion of participating programs, the generalizability of the data remains limited.

The results of the present study are further limited by the limitations that are inherent to survey research. First, the respondents may have been influenced by a desire to give socially desirable answers. Despite the anonymity of responses, some participants may have been motivated to present their training program as doing more to prepare candidates for work with SWSD than what is being done in reality. Second, the survey relied on the knowledge of the program director, who may not necessarily be the person who is most knowledgeable of their teacher training program in every instance. Further, some program directors may not have known the answer to every question, but provided a response, nonetheless, meaning that not all of the provided information may be accurate. The survey employed several items that used a subjective Likert scale. While useful for the purpose of the present study, Likert scales have an inherent flaw in that it is not always clear to participants what the qualitative difference is between different points on the scale. Finally, the closed-ended nature of most of the questions included in the survey means that information outside of the specific response choices to those items could not be collected.

The results of the present study showcased some of the methods that teacher training programs are and are not using to prepare their candidates to be educators of SWSD. That being said, the data does not delineate why programs are using some methods and not others. Further, the data does not clarify how teacher training programs go about selecting the methods that they are using. Lastly, the results of the study do not allow for determinations to be made as to how well teacher training programs in NYS are preparing their preservice teachers as educators of SWSD. Thus, there is still much about the preparation of preservice teachers with regard to SWSD that remains undiscovered. For instance, it is still unknown as to how the preparation of general education teachers to work with SWSD compares to their preparation for work with

students with disabilities in general. The following section will discuss the potential future directions of research in this real of study.

Directions for Future Research

The current study was an initial attempt to identify ways in which teacher education training programs are preparing general education preservice teachers to work with SWSD. While the study allowed for a general examination of the preparation methods being used by training programs, the information gathered was limited to the knowledge of one individual within a program. Future research may seek to collect information from multiple individuals within a program who could each provide specific information regarding the courses they teach, the knowledge regarding SWSD that they aim to impart, the skills related to teaching SWSD that they wish to develop, and the professional disposition concerning SWSD that they feel are important.

The present study was also limited to teacher training programs within New York State due to its explorative nature and the differences between accreditation standards between states. Future research endeavors might consider expanding their participant pool programs in other states. Additionally, multi-state studies could be conducted by including both accredited and non-accredited programs in the participant pool.

Future researchers may also wish to examine the variability between different types of programs in how they prepare their candidates to work with SWSD. For example, it may be worth exploring how training methods differ between programs that offer a dual certification track (i.e., general education and special education) and those that offer only a general education certification. Investigating the potential differences in the knowledge, skills, and professional of preservice teachers in these two types of programs may also be a worthwhile area of study.

Similarly, future studies may delve into the differences in knowledge, skills, and professional dispositions of preservice teachers seeking certification in early childhood, childhood, middle school, and adolescent education. Finally, future studies may look at the differences in which programs incorporate information related to SWSD at the undergraduate and graduate level.

Due to the exploratory nature of the present study, the reasoning behind why programs do or do not use certain preparation methods was not determined. Future research endeavors may attempt to make these types of determinations. Such research could employ semi-structured interviews as a means of collecting qualitative data as a means of answering these questions. This line of research may also seek to discover how programs go about choosing what preparation methods they use and how they determine what aspects of preparing their candidates to work with SWSD should be prioritized.

Correlational statistics indicated that program directors' beliefs related to the portion of the school day that SWSD should be included positively correlated with the degree of encouragement they felt was given to faculty in their program to incorporate SWSD into their lessons, as well as the degree of importance they felt their program gave to preparing their candidates for work with SWSD. Moreover, these program director beliefs were also positively correlated with their degree of agreement regarding their program's teaching of various inclusive pedagogies. Similarly, program director beliefs were also positively correlated with their degree of agreement regarding their program's opportunities to practice several inclusive techniques in the context of SWSD. Finally, program director beliefs were also positively correlated with their degree of agreement regarding their program's prioritization of certain inclusive professional dispositions related to SWSD. Given these correlations, future researchers might seek to further explore the relationship between program directors' beliefs towards inclusion and the methods

programs use to prepare their candidates for SWSD and students with disabilities in general.

One final line of future research could be to compare the preparation of general education teachers for work with SWSD and students with disabilities, in general. Such research could reveal the degree of overlap between preservice teachers' training for these two populations, as well as the differences that are present. If the methods used by general education teacher training programs to prepare candidates for work with students with disabilities in general are similar to those needed to prepare them for work with SWSD, then teacher training programs may need to more consciously and intentionally incorporate SWSD into their curricula. Conversely, if the methods of preparation are very different, then it may be more difficult for teacher training programs to incorporate training for SWSD into their curricula.

As more information related to the preparation of preservice teachers regarding SWSD, the focus of research endeavors may shift towards evaluating the outcomes of programs' training methods. For example, researchers may consult with teacher training programs to increase the number of opportunities teacher candidates have to work with SWSD. As another example, one may work with programs to develop coursework that incorporates more information related to SWSD. In such cases, pre- and post-tests of pre-service teachers' knowledge, skills, and professional disposition regarding the inclusive education of SWSD may assess the effectiveness of such changes. Doing so could further inform researchers as to how to improve the preparation of preservice teachers regarding the inclusion of SWSD in general education classrooms.

Concluding Summary

The placement of SWSD in the general education is becoming more prevalent, supported by a body of research that it can be academically and socially beneficial for this population. As such, general education teachers need to be prepared to meet the educational needs of SWSD,

which is supported by CAEP standards stating that *all* teachers need to be able to educate *all* students. That being said, general education teachers have expressed in research studies that they feel underprepared to be educators of SWSD. Previous studies into the preparation of general education teachers for inclusion have more broadly investigated it with regard to students with disabilities, in general. Moreover, these studies' explorations relied heavily on one type of response style for their surveys and did not collect data on specific inclusive techniques being taught or on professional dispositions. The present study utilized a survey instrument that incorporated questions with a variety of response options designed to gather data on the methods teacher training programs in NYS are using to prepare their students with the knowledge, skills, and professional dispositions necessary to be educators of SWSD. The resulting data indicated that most training programs require courses in inclusive education, exceptionalities, UDL, and special education, as well as practicum experiences in inclusive settings; however, the data also points to a specific training for SWSD in courses, coursework, and field experiences. Further, the response data suggests that training programs do not prioritize the professional dispositions that SWSD should be included in core academic classes nor that they can be successfully educated in general education. As such, teacher training programs may wish to alter their curricula and practicum requirements to incorporate SWSD more intentionally and explicitly in training. Further, training programs might consider providing professional development to faculty members on the benefit of inclusion for SWSD. Future research might consider exploring why teacher training programs do or do not use certain methods, how the methods they use to prepare for SWSD compare to those use to prepare for students with disabilities in general, and how the beliefs of faculty members towards the inclusion of SWSD impact the methods program utilize to prepare their students. It is important that future research is done so

that improvement in the preparation of preservice teachers for work with SWSD can be made, which may someday translate into betterment in the educational experience of all students, including the most disadvantaged.

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Tables

Table 1

Institution Characteristics of Participating Programs

	N	n	%
Type of Institution	41		
Public		10	24.39
Private		31	75.61
Geographic Region of New York State	41		
Capital District		2	4.88
Central Region		4	9.76
Finger Lakes		5	12.20
Hudson Valley		3	7.32
Long Island		4	9.76
Mohawk Valley		2	4.88
New York City		9	21.95
North Country		3	7.32
Southern Tier		2	4.88
Western New York		7	17.07
Number of Students at Participating Institutions	41		
<1,000		1	2.44
1,000-5,000		22	53.66
5,000-10,000		8	19.51
10,000-20,000		6	14.63

>20,000	4	9.76
		<i>M (SD)</i>
Average Number of Students at Participating Institutions		7604.70 (7837.23)

Table 2

Teacher Training Program Demographics

	N	n	%
Degrees Offered	41		
Bachelor's		11	26.83
Master's		3	7.32
Doctoral		1	2.44
Bachelor's/Master's		17	41.46
Bachelor's/Master's/Doctoral		9	21.95
General Education Certification			
	Childhood Only	Childhood & Middle Childhood	Childhood & Adolescent
			Childhood, Middle Childhood, & Adolescent
Count	4	0	30
% of Total	9.76	0	73.17
			<i>M (SD)</i>
Number of Full-Time Faculty			10.83 (7.23)
Number of Students Enrolled			267.66 (208.61)

Table 3

Program Director Characteristics

	<i>M (SD)</i>	<i>Mode (n)</i>	
Number of Years Working in Program	10.83 (7.23)	-	
Number of SWSD Worked With	7.81 (10.98)	0 (20)	
	N	n	%
Portion of School Day SWSD Should be Included	41		
0%		0	0
1%-25%		25	60.98
26%-50%		12	29.27
51%-75%		3	7.32
76%-100%		1	2.44

Table 4

Four-Point Likert Scale Codes

		Response Code
Likert Response		
Strongly Disagree		1
Disagree		2
Agree		3
Strongly Agree		4

Table 5

Part I: Knowledge

	n	%	M (SD)	SEM	Mode (n)
<i>Item 1: How is educational law covered?</i>					
Not covered	0	0			
Within a course(s)	28	68.29			
Covered within a specific course on educational law	13	18.31			
<i>Item 2.a.: Course in exceptionalities required?</i>					
Yes	41	100			
No	0	0			
<i>Item 2.b.: Degree SWSD covered compared to others</i>					
Not covered	1	2.44			
Much less	18	43.90			
A little less	18	43.90			
Equally	4	9.76			
A little more	0	0			
Much more	0	0			
<i>Item 3: Number of special education courses required</i>			1.93(1.25)	0.20	1(22)
<i>4.a.: Course on inclusive education required?</i>					
Yes	29	70.73			
No	12	29.27			
<i>4.b.: Inclusion of SWSD explicitly taught</i>			2.66 (0.94)	0.17	
Strongly Disagree	4	13.79			
Disagree	7	24.14			
Agree	13	44.83			
Strongly Agree	5	17.24			
<i>Item 5: Course explicitly in inclusion of SWSD?</i>					
Yes	1	2.44			
No	40	97.66			
<i>Item 6: Provided pedagogical knowledge for SWSD</i>			2.10 (0.92)	0.14	

Strongly Disagree	13	31.71		
Disagree	13	31.71		
Agree	13	31.71		
Strongly Agree	2	4.88		
<hr/>				
<i>Item 7: Inclusive principals taught that are related to SWSD</i>				
<i>Item 7.a.: Differential Instruction for SWSD</i>			1.88 (0.90)	0.14
Strongly Disagree	18	43.90		
Disagree	11	26.83		
Agree	11	26.83		
Strongly Agree	1	2.44		
<i>Item 7.b. Classroom Accommodations for SWSD</i>			2.59 (0.95)	0.16
Strongly Disagree	6	14.63		
Disagree	12	29.27		
Agree	16	39.02		
Strongly Agree	7	17.07		
<i>Item 7.c.: Curricular Modifications for SWSD</i>			1.93 (0.97)	0.15
Strongly Disagree	8	19.51		
Disagree	19	46.34		
Agree	13	31.71		
Strongly Agree	1	2.44		
<i>Item 7.d.: Differential Assessment for SWSD</i>			1.76 (0.88)	0.14
Strongly Disagree	21	51.22		
Disagree	10	24.39		
Agree	9	21.95		
Strongly Agree	1	2.44		
<i>Item 7.e.: Positive Behavior Supports for SWSD</i>			2.63 (1.04)	0.16
Strongly Disagree	7	17.07		
Disagree	11	26.83		
Agree	13	31.71		
Strongly Agree	10	24.39		
<hr/>				
<i>Item 8: How assistive technology covered?</i>				
Not covered	0	0		
Within a course(s)	31	75.61		

Covered within a specific course	10	24.39		
<hr/>				
<i>Item 9: UDL course required?</i>				
Yes	28	68.29		
No	13	31.71		
<hr/>				
<i>Item 10.a.: Knowledge of SWSD assessed?</i>				
Yes	15	36.59		
No	15	36.59		
Don't Know	11	26.83		
<i>Item 10.b.: If yes, how?</i>				
Tests/Quizzes	6	40		
Projects/Presentations/Papers	4	26.67		
Tests/Quizzes & Projects/Presentations/Papers	5	33.33		
<hr/>				
<i>Item 11: Faculty have knowledge of SWSD</i>			3.05 (0.77)	0.12
Strongly Disagree	2	4.88		
Disagree	5	12.20		
Agree	23	56.10		
Strongly Agree	11	26.83		
<hr/>				

Table 6

Part II: Skills

	n	%	M (SD)	SEM	Mode (n)
<i>Item 12: Settings to practice inclusive teaching strategies</i>					
<i>Item 12.a.: UDL</i>					
None	2	4.88			
Assignments	18	43.90			
In class with peers	28	68.29			
With students without disabilities	26	63.42			
In inclusive classrooms	26	63.42			
With SWSD in inclusive classrooms	0	0			
<i>Item 12.b.: Systematic Instruction</i>					
None	6	14.63			
Assignments	13	31.71			
In class with peers	21	51.22			
With students without disabilities	17	41.46			
In inclusive classrooms	15	36.59			
With SWSD in inclusive classrooms	3	7.32			
<i>Item 12.c.: Inquiry Learning</i>					
None	17	41.46			
Assignments	11	26.83			
In class with peers	11	26.83			
With students without disabilities	7	17.07			
In inclusive classrooms	7	17.07			
With SWSD in inclusive classrooms	2	4.88			
<i>Item 12.d.: Embedded Instruction</i>					
None	22	53.66			
Assignments	9	21.95			
In class with peers	8	19.51			
With students without disabilities	8	19.51			
In inclusive classrooms	7	17.07			

With SWSD in inclusive classrooms	1	2.44
<i>Item 12.e.: Response Prompting</i>		
None	3	7.32
Assignments	11	26.83
In class with peers	21	51.22
With students without disabilities	29	70.73
In inclusive classrooms	27	65.85
With SWSD in inclusive classrooms	1	2.44
<i>Item 12.f.: Self-Directed Learning</i>		
None	12	29.27
Assignments	14	34.15
In class with peers	18	43.90
With students without disabilities	13	31.71
In inclusive classrooms	15	36.59
With SWSD in inclusive classrooms	7	17.07
<i>Item 12.g.: Positive Behavior Supports</i>		
None	0	0
Assignments	16	39.02
In class with peers	26	63.42
With students without disabilities	36	87.81
In inclusive classrooms	36	87.81
With SWSD in inclusive classrooms	9	21.95
<i>Item 12.h.: Cooperative Learning/Peer Support Strategies</i>		
None	0	0
Assignments	9	21.95
In class with peers	23	56.10
With students without disabilities	37	90.24
In inclusive classrooms	39	95.12
With SWSD in inclusive classrooms	6	14.63
<i>Item 12.g.: Using AAC</i>		
None	28	68.29
Assignments	7	17.07

In class with peers	5	12.20		
With students without disabilities	2	4.88		
In inclusive classrooms	2	4.8		
With SWSD in inclusive classrooms	7	17.07		
<hr/>				
<i>Item 13.a.: Inclusive practicum required?</i>				
Yes	32	78.05		
No	8	19.51		
Don't Know	1	2.44		
<i>Item 13.b.: If yes, how many hours?</i>			83.79 (38.87)	6.77
<hr/>				
<i>Item 14: Practicum opportunities with SWSD?</i>				
Yes	8	19.51		
No	12	29.27		
Don't Know	21	51.22		
<hr/>				
<i>Item 15: Opportunities to practice inclusive skills</i>				
<hr/>				
<i>Item 15.a.: Differential Instruction for SWSD</i>			1.76 (0.88)	0.14
Strongly Disagree	21	51.22		
Disagree	10	24.39		
Agree	9	21.95		
Strongly Agree	1	2.44		
<i>Item 15.b.: Creating Classroom Accommodations for SWSD</i>			2.56 (1.00)	0.16
Strongly Disagree	7	17.07		
Disagree	12	29.27		
Agree	14	34.15		
Strongly Agree	8	19.51		
<i>Item 15.c.: Designing Curricular Modifications for SWSD</i>			1.76 (1.00)	0.16
Strongly Disagree	23	56.10		
Disagree	8	19.51		
Agree	7	17.07		
Strongly Agree	3	7.32		
<i>Item 15.d.: Creating Differential Assessments for SWSD</i>			1.56 (0.84)	0.13
Strongly Disagree	26	63.42		
Disagree	8	19.51		
Agree	6	14.63		

Strongly Agree	1	2.44		
<i>Item 15.e.: Using Positive Behavior Supports for SWSD</i>			2.73 (0.98)	0.15
Strongly Disagree	6	14.63		
Disagree	8	19.51		
Agree	18	43.90		
Strongly Agree	9	21.95		
<i>Item 15.f.: Collaborating with Parents of SWSD</i>			1.90 (1.00)	0.16
Strongly Disagree	18	43.90		
Disagree	13	31.71		
Agree	6	14.63		
Strongly Agree	4	9.76		
<hr/>				
<i>Item 16.a.: How are skills related to educating students with disabilities assessed?</i>				
Tests/quizzes only	7	17.07		
Teaching portfolios only	2	4.88		
Teaching demonstrations only	0	0		
Tests/quizzes & Teaching portfolios	18	43.90		
Tests/quizzes & Teaching Demonstrations	1	2.44		
Teaching Portfolios & Teaching Demonstrations	0	0		
Tests/quizzes, Teaching Portfolios, & Teaching Demonstrations	13	31.71		

Table 7

Part III: Professional Dispositions

	n	%	M (SD)	SEM	Mode (n)
<i>Item 17: Severe disability issues covered in diversity courses?</i>					
Yes	11	26.83			
No	5	12.20			
Don't Know	25	60.98			
<i>Item 18.a.: Professional dispositions towards people with disabilities assessed?</i>					
Yes	32	78.05			
No	2	4.88			
Don't Know	4	9.76			
<i>Item 18.b.: If yes, how?</i>					
Reflective Essays	32	78.05			
Presentations	14	34.15			
Research Papers	19	46.34			
Questionnaires	6	14.63			
<i>Item 19: Candidates encouraged to reflect on attitudes toward SWSD</i>			1.95 (1.00)	0.22	
Strongly Disagree	8	19.51			
Disagree	7	17.07			
Agree	3	7.32			
Strongly Agree	2	4.88			
Don't Know	21	51.22			
<i>Item 20: Professional dispositions prioritized</i>					
<i>Item 20.a.: Being with peers important for SWSD</i>			3.43 (0.77)	0.13	
Strongly Disagree	1	2.44			
Disagree	3	7.32			
Agree	12	29.27			
Strongly Agree	21	51.22			
Don't Know	4	9.76			
<i>Item 20.b.: SWSD need high educational expectations</i>			3.32 (0.71)	0.12	
Strongly Disagree	1	2.44			

Disagree	2	4.88		
Agree	18	43.90		
Strongly Agree	16	39.02		
Don't Know	4	9.76		
<i>Item 20.c.: SWSD included in non-core classes</i>			3.30 (0.81)	0.13
Strongly Disagree	2	4.88		
Disagree	2	4.88		
Agree	16	39.02		
Strongly Agree	17	41.46		
Don't Know	4	9.76		
<i>Item 20.d.: SWSD included in core classes</i>			1.92 (0.86)	0.14
Strongly Disagree	14	34.15		
Disagree	13	31.71		
Agree	9	21.95		
Strongly Agree	1	2.44		
Don't Know	4	9.76		
<i>Item 20.e.: SWSD can be successfully educated in general education</i>			1.68 (0.92)	0.15
Strongly Disagree	22	53.66		
Disagree	6	14.63		
Agree	8	19.51		
Strongly Agree	1	2.44		
Don't Know	4	9.76		

Table 8

Part IV: Supplemental Questions

	n	%	M (SD)	SEM	Mode (n)
<hr/>					
<i>Item 21: Degree of encouragement for faculty in incorporate SWSD into courses</i>			1.88 (1.10)	0.17	
1	21	52.22			
2	9	21.95			
3	6	14.63			
4	5	12.20			
5	0	0			
<hr/>					
<i>Item 22: How important program feels it is to prepare for SWSD</i>			1.95 (1.07)	0.17	
1	18	43.90			
2	13	31.71			
3	4	9.76			
4	6	14.63			
5	0	0			
<hr/>					

Appendix A

Teacher Training Program and SWSD Questionnaire

Section 1: Demographics

1. Is your teacher training program at a public or private institution?
☐Public ☐Private ☐Other, please explain: _____

2. In which region of New York State is your institution located?

<input type="checkbox"/> Western New York	<input type="checkbox"/> Mohawk Valley
<input type="checkbox"/> Finger Lakes	<input type="checkbox"/> Capital District
<input type="checkbox"/> Southern Tier	<input type="checkbox"/> Hudson Valley
<input type="checkbox"/> Central New York	<input type="checkbox"/> New York City
<input type="checkbox"/> North Country	<input type="checkbox"/> Long Island

3. Approximately how many students attend the institution? _____

4. What degrees are offered by the program?
☐Bachelors ☐Masters ☐Doctoral

5. What majors in **Regular Education** are offered by the program at the **bachelor** level?
 Check all that apply.
☐Regular Education Childhood (Kindergarten through 6th Grade)
☐Regular Education Middle Childhood (5th through 9th Grade, generalist or specialist areas)
☐Regular Education Adolescent (7th through 12th Grade)
☐Other, please specify: _____

6. How long have you worked in the program in any capacity (as director or faculty member)? _____

7. How many full-time faculty members are in the teacher education program? _____

8. How many students are currently enrolled in the program? _____

9. Approximately how many students with severe disabilities have you had direct instructional experience? _____

10. What portion of the school day do you believe is appropriate for students with severe disabilities to be included in general education?
☐0% ☐1% - 25% ☐26% - 50% ☐51% - 75% ☐76% - 100%

Section 2: Curricular Content and Training Experiences

*“The following questions are designed to garner information about the practices that **general education training programs** are using to build candidate’s knowledge, skills, and attitudes in working with **students with severe disabilities** in inclusive settings. As such, while you answer these items please note that **students with severe disabilities** refers to school-aged children and adolescents who have one or more physical or mental impairments that extremely limits one or more functional domains (e.g., mobility, communication, self-care, academics, interpersonal skills) to such a degree that widespread and continuous support is required for equal participation in the school community as those students without disabilities. This population includes students with severe autism spectrum disorders, severe or profound intellectual disabilities, and multiple disabilities (including those caused by neuromuscular degenerative disorders such as cerebral palsy).”*

Part I: Knowledge of Students with Severe Disabilities

*“**Knowledge** is defined as the general concepts, theories, and research about effective teaching, regardless of content areas.”*

1. Which option best describes how your general education teacher training program covers educational law, including special education law?

- ☐ Not covered ☐ Covered within a course(s)
☐ Covered in a specific course on education law ☐ Don’t Know

2.a. Does your general education teacher training program require a course on exceptionalities in learning for the completion of a bachelor’s degree?

- ☐ No ☐ Yes ☐ Don’t Know

b. If yes, to what degree are severe disabilities covered in comparison to other disabilities?

- ☐ They are not covered
☐ Much Less
☐ A Little Less
☐ Equally
☐ A Little More
☐ Much More

3. How many courses on special education does your general education teacher training program require for the completion of a bachelor’s degree? _____

4.a. Does your general education teacher training program require a course on inclusive education practices for the completion of a bachelor’s degree?

- ☐ No ☐ Yes ☐ Don’t Know

b. If yes, answer the following statement: The topic of including students with severe disabilities is explicitly taught.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

5. Does your general education teacher training program offer a course explicitly on educating students with severe disabilities?

☐ No ☐ Yes ☐ Don't Know

6. Candidates in your program are provided pedagogical knowledge related to teaching students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

7. This question includes 5 parts. Please read each of them carefully and select the best option.

Inclusive education principles related to educating students with severe disabilities that are taught to candidates in your program include:

a. Differential instruction for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

b. Classroom accommodations for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

c. Curricular modifications for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

d. Differential assessments for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

e. Positive behavior supports for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

8. Which option best describes how your general education teacher training program covers assistive technology?

☐ Not covered ☐ Covered within a course(s)
☐ Covered in a specific course on assistive technology ☐ Don't Know

9. Does your general education teacher training program require a course on Universal Design for Learning for the completion of a bachelor's degree?

☐ No ☐ Yes ☐ Don't Know

10.a. Is knowledge related to educating students with severe disabilities assessed in your program in any way?

☐ No ☐ Yes ☐ Don't Know

b. If yes, how? Check all that apply.

☐ Tests/quizzes ☐ Projects/Presentations/Papers ☐ Other _____

11. Faculty in my department have a comprehensive knowledge of how to support students with severe disabilities in inclusive classrooms.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

Part II: Skills Related to Teaching Students with Severe Disabilities

“Skills are defined as the ability to use content, professional, and pedagogical knowledge effectively and readily in diverse teaching settings in a manner that ensures that all students are learning.”

12. This question includes 9 parts. Each part includes an evidence-based teaching strategy. Please read each of them carefully and select the settings in which ALL candidates in your program are given opportunities to **practice** using these strategies. Select all that apply.

a. Universal Design for Learning

☐ None ☐ Assignments ☐ In class with peers
☐ With students without disabilities ☐ In inclusive classrooms
☐ With students with severe disabilities in general education or special education classrooms

b. Systematic Instruction (a plan of teaching the consists of identifying and defining target skills, the use of fading prompts, positive reinforcement, and activities to promote generalization)

☐ None ☐ Assignments ☐ In class with peers
☐ With students without disabilities ☐ In inclusive classrooms
☐ With students with severe disabilities in general education or special education classrooms

c. Inquiry Learning (an instructional strategy in which students develop questions about a phenomenon and then engage in an investigative process in order to draw conclusions)

☐ None ☐ Assignments ☐ In class with peers
☐ With students without disabilities ☐ In inclusive classrooms
☐ With students with severe disabilities in general education or special education classrooms

d. Embedded Instruction (the instructional approach in which individualized instruction is inserted into a child’s ongoing activities and routines throughout the school day)

☐ None ☐ Assignments ☐ In class with peers
☐ With students without disabilities ☐ In inclusive classrooms
☐ With students with severe disabilities in general education or special education classrooms

e. Response Prompting (verbal or nonverbal cues to help a student think of the correct answer to a posed question, but are faded as a student begins to demonstrate progress toward a target skill)

- ☐ None ☐ Assignments ☐ In class with peers
☐ With students without disabilities ☐ In inclusive classrooms
☐ With students with severe disabilities in general education or special education classrooms

f. Self-Directed Learning (the use of picture-based graphic organizers or schedules to guide students through tasks and activities)

- ☐ None ☐ Assignments ☐ In class with peers
☐ With students without disabilities ☐ In inclusive classrooms
☐ With students with severe disabilities in general education or special education classrooms

g. Positive Behavior Supports

- ☐ None ☐ Assignments ☐ In class with peers
☐ With students without disabilities ☐ In inclusive classrooms
☐ With students with severe disabilities in general education or special education classrooms

h. Cooperative-Learning/Peer-Support Strategies

- ☐ None ☐ Assignments ☐ In class with peers
☐ With students without disabilities ☐ In inclusive classrooms
☐ With students with severe disabilities in general education or special education classrooms

i. Using Augmentative and Alternative Communication (e.g., tablets, letter/picture boards, text-to-speech software)

- ☐ None ☐ Assignments ☐ In class with peers
☐ With students without disabilities ☐ In inclusive classrooms
☐ With students with severe disabilities in general education or special education classrooms

13.a. Does your program require practicum experiences in inclusive classrooms?

- ☐ No ☐ Yes ☐ Don't Know

b. How many hours are required in total? _____

14. Does your program offer practicum opportunities for candidates to work with students with severe disabilities in general education or special education classes?

- ☐ No ☐ Yes ☐ Don't Know

15. This question includes 6 parts. Please read each of them carefully and select the best option.

Candidates in my program are offered opportunities to practice the following skills through assignments or practical opportunities:

a. Differentiating instruction for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

b. Creating classroom accommodations for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

c. Designing curricular modifications for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

d. Creating differential assessments for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

e. Using positive behavior supports for students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

f. Collaborating with parents of students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

16. In your program, how are candidates teaching skills related to educating students with disabilities assessed? Select all that apply.

☐ Teaching demonstrations ☐ Teaching portfolios ☐ Tests/Quizzes

Part III: Professional Dispositions Toward Students with Severe Disabilities

“Professional Dispositions are defined as professional attitudes, values, and beliefs.”

17. To your knowledge, are issues related to individuals with severe disabilities introduced in the diversity courses taken by candidates in your program?

☐ No ☐ Yes ☐ Don't Know

18.a. In your program, are candidates' professional dispositions towards people with disabilities assessed in any way?

☐ No ☐ Yes ☐ Don't Know

b. If yes, in what ways? Select all that apply.

☐ Reflective essays ☐ Presentations ☐ Research papers

☐ Questionnaires ☐ Other: _____

19. Answer the following statement:

Candidates in my program are encouraged to reflect on their attitudes towards students with severe disabilities.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree ☐ Don't Know

20. The following question includes 5 part. Please read each of them carefully and select the best option.

Professional dispositions that are prioritized by my program related to educating students with severe disabilities include:

a. Being with typically-developing peers is important for students with severe disabilities.

☐Strongly Disagree ☐Disagree ☐Agree ☐Strongly Agree ☐Don't Know

b. Students with severe disabilities need high educational expectations.

☐Strongly Disagree ☐Disagree ☐Agree ☐Strongly Agree ☐Don't Know

c. Students with severe disabilities should be educated with typically-developing peers in non-core academic classes.

☐Strongly Disagree ☐Disagree ☐Agree ☐Strongly Agree ☐Don't Know

d. Students with severe disabilities should be educated with typically-developing peers in core academic classes.

☐Strongly Disagree ☐Disagree ☐Agree ☐Strongly Agree ☐Don't Know

e. Students with severe disabilities can be successfully educated in general education classrooms.

☐Strongly Disagree ☐Disagree ☐Agree ☐Strongly Agree ☐Don't Know

Part IV: Supplemental Questions

21. On a scale of 1 to 5, what degree of encouragement is given to faculty members in your program to integrate information about students with severe disabilities into their courses? 1 indicating no encouragement and 5 indicating a great deal of encouragement.

☐1 ☐2 ☐3 ☐4 ☐5

22. The following questions use a rating scale. On a scale from 1 to 5, how important does the program feel it is to prepare your teacher candidates to be competent in working with students with severe disabilities? 1 indicates that the area is not important at all and 5 indicates that it is very important.

☐1 ☐2 ☐3 ☐4 ☐5

Would you like to receive a summary of the study results? ☐No ☐Yes

Appendix B

E-Mail to Program Directors

Dear _____,

I am a graduate student in the School Psychology Doctoral Program at Alfred University, and am currently conducting research for my dissertation about the methods that teacher training programs in New York State are using to prepare their candidates for work with students with severe disabilities in inclusive settings. I will be collecting data through a survey distributed to program directors from teacher education training programs throughout New York State. The topic is one that I am particularly passionate about, as it is very near to my heart. I have worked closely with many students with severe disabilities and have had the fortune to live with a person with severe disabilities my whole life. I feel it is important to collect data from various programs in an effort to improve the education of all students, but particularly those who are so disadvantaged. As such, I hope you will consider participating.

The study looks at the current methods being used by teacher training programs to develop in their candidates the necessary knowledge, skills, and professional dispositions necessary to be effective educators of all students. The topic of including students with severe disabilities is the focus because there is a lack of research in this specific area of educational diversity.

The survey includes no open-ended questions and takes approximately 15 minutes to complete. The answers programs provide will remain confidential. Each program that takes part has the option to receive a summary of the study results and a packet of resources related to the inclusion of students with severe disabilities, which can be shared with pre-service teachers and faculty members in the training program.

I will contact you by email within a week to answer any questions you may have regarding the study. If you would like to participate in the study, please click on the following link, which will direct you to the survey: <https://goo.gl/forms/6rEmgKJ2bWt6nWBp2>

The first page you will see is a consent form. If you wish to participate, please read the entire page and select "Yes" at the bottom. You may withdraw from the study at any point by closing out of the survey internet window. If you have any questions you would like answered prior to the next email, please feel free to contact me through e-mail at sjd9@alfred.edu or by telephone at (315) 744-4743.

Thank you for your time and consideration.

Sincerely,
Sam Donnelly IV, MA
School Psychology Doctoral Candidate

Appendix C

Survey of Teacher Training Program Directors Consent Form

You are invited to take part in an exploratory study of the methods being used by general education teacher training programs in New York State. You were selected as a potential participant because you are the program director of a NYS general education teacher training program. Please read this form before agreeing to partake in the study.

This study is being conducted by Sam Donnelly IV, MA, Alfred University, Alfred, NY 14802.

Background Information

The current study will investigate the methods being used by general education programs in NYS to prepare preservice teachers for work with students with severe disabilities in inclusive classrooms.

Procedure

If you agree to participate in this study, you will be asked to complete the following online questionnaire to the best of your knowledge and that you be forthright in your answers. The survey includes questions regarding courses, coursework, field experience, and program culture, as well as a demographics questionnaire. The questionnaire is intended take about 15-20 minutes to complete.

Risks and Benefits of Participation

Although unlikely, it is possible that you may feel some discomfort while answering some survey items because they relate personally to your career. You are free to terminate your participation at any time during the study by discontinuing the survey. In the unlikely event that you experience mild distress while taking the survey, it is suggested that you contact your institution's mental health department or another local mental health service provider. By electing to participate in this study, you may gain insight into the functioning of your teacher training program and your participation will hopefully inform recommendations for how to improve teacher training. Additionally, you will be provided with a packet of resources concerning students with severe disabilities.

Confidentiality

Your answers to survey items will remain anonymous. In any report that may be published, no information will be divulged that could make it possible to identify a participant or the institution of higher learning they represent. The raw survey data will be held on a password-protected computer on Google Drive, which requires a username and password for access. These results will be transferred to a password-protected Excel file. Only the primary investigator will have access to this Excel file. Research records will be kept for at least three years after the completion of the study, after which they may be destroyed at the discretion of the researcher.

Voluntary Nature of the Study

Your decision whether or not to participate impact your current or future relationship with Alfred University. As aforementioned, if you agree to participate, you may withdraw at any time without penalty. Withdrawal will not disqualify you from receiving the packet of resources.

Contacts and Questions

If you have any questions about your participation int this study you would like to ask before participating, please contact Sam Donnelly IV at sjd9@alfred.edu.

If you have any questions now, or later, related to the integrity of the research, (the rights of research subjects or research-related injuries, where applicable), you are encouraged to contact Dr. Danielle D. Gagne, Chair of the Alfred University Human Subjects Research Committee, at (607) 871-2213 or electronically at HSRC@alfred.edu.

Statement of Consent

By checking the box marked "Yes" you are stating that you have read the above information and that you consent to participate in this study.

☐ Yes

☐ No