iejee
INTERNATIONAL ELECTRONIC JOURNAL OF ELEMENTARY EDUCATION

www.iejee.com

Special Issue: The Future of Inclusive Education: International Trends Promoting Access and Equity for All

Editors:

Audri **Sandoval-Gomez**, Ph.D., Meghan **Cosier**, Ph.D.,Donald N. **Cardinal**, Ph.D.

Chapman University, CA, USA
Attallah College of Educational Studies
Thompson Policy Institute on Disability

January 2020 Volume **12** Issue **3**

T&K ACADEMIC

iejee

INTERNATIONAL ELECTRONIC
JOURNAL OF ELEMENTARY EDUCATION

ISSN: 1307-9298

www.iejee.com
iejee@iejee.com

Editorial

Dear IEJEE Readers,

It is a great pleasure for me to present this special issue of International Electronic Journal of Elementary Education (IEJEE) for you. The special issue editors Drs Sandoval-Gomez, Cosier and Cardinal are active researchers at the Chapman University, Attallah College of Educational Studies, Thompson Policy Institute on Disability (TPI), CA. USA.

I have been lucky to spend two years at TPI at Chapman University. I have been witness to their research and dissemination efforts. The way they collaborate with several agencies, other universities and institutions, and their approaches to present their research findings to broader public, educationists, and decision makers are impressing. TPI's annual 'Disability Summit' at Chapman University is a quality arrangement by the involved researchers.

Inclusion, transition and equity are not only topics for their research. They are values that guide their approaches to educational planning for children with special needs. Their perspectives cover individual, local and societal level. TPI strives to impact policy by reducing barriers limiting access to learning, living and working, and the pursuit of a complete and quality life.

Thompson Policy Institute, Chapman University is located in California, but their research get also attention from other states and countries. Their research are focusing on 'weak groups' with strong values and hard data. They show us an alternative path for taking care of, creating opportunities for and utilizing the resources that the children and adolescents with (dis-) ability represent.

I admire the work they do and their contribution to the field by this special issue. Thanks to all contributors and the editorial coordinators and technical staff of IEJEE.

Editor-In-Chief

Prof. Dr. Kamil Özerk

All responsibility for statements made or opinions expressed in articles lies with the author.

Table of Content

Inclusion and the Right to Access to Regular Classes for Students with Disabilities
Audri Sandoval-Gomez, Meghan Cosier, Donald N. Cardinal **233-234**

Alternate Curricula as a Barrier to Inclusive Education for Students With Intellectual Disabilities
Amy Hanreddy, Daniel Östlund **235-247**

Placement of Students with Extensive Support Needs in California School Districts: The State of Inclusion and Exclusion
Meghan Cosier, Audri Sandoval-Gomez, Donald N. Cardinal, Shayne Brophy **249-255**

Inclusion in Vietnam: More than a Quarter Century of Implementation
Nguyen Xuan Hai, Richard A. Villa, Le Van Tac, Jacqueline S. Thousand, Pham Minh Muc **257-264**

Inclusive Education for Students with Autism Spectrum Disorder in Elementary Schools in Vietnam: The Current Situation and Solutions
Cong Van Tran, Muc Minh Pham, Phuong Thi Mai, Tam Thi Le, Dan Trong Nguyen **265-273**

Inclusion and Intellectual Disabilities: A Cross Cultural Review of Descriptions
Deborah Taub, Megan Foster **275-281**

Creating Collaborative Schools in the United States: A Review of Best Practices
Caitlin J. Solone, Bryan E. Thornton, Jenny C. Chiappe, Crystal Perez, Molly K. Rearick, Mary A. Falvey **283-292**

Her Voice: Engaging and Preparing Girls With Disabilities for Science, Technology, Engineering, and Math Careers
Amy Jane Griffiths, Angel Miles Nash, Zachary Maupin, Sneha Kohli Mathur **293-301**

iejee | INTERNATIONAL ELECTRONIC JOURNAL OF ELEMENTARY EDUCATION

January 2020, Volume **12**, Issue **3**, **233-234**

Inclusion and the Right to Access to Regular Classes for Students with Disabilities

Received: **9 September 2019**
Revised: **20 October 2019**
Accepted: **12 December 2019**
ISSN: 1307-9298

www.**iejee**.com

Audri Sandoval-Gomez[a], Meghan Cosier[b], Donald N. Cardinal[c]

DOI: **10.26822/iejee.2020358216**

Introduction

In the past decades many countries have made progress toward increasing access to quality education for students with disabilities, yet The World Bank (2019) estimates that 85% of children with disabilities continue to lack access to any schooling. The right to access for K-12 students with disabilities has been recognized globally and locally in many countries across the world (United Nations Education, Scientific and Cultural Organization [UNESCO], 2016), with each country making decisions on how to increase access to regular classes based on local contexts and needs. The result is the development of innovative policy and practice that support access to regular classes. These innovative policies and practices highlight the promise of access, equity, and inclusion for students with disabilities. We acknowledge that "inclusion" is not an end, but rather something we are all working toward. We agree with the UNESCO (2016) definition of inclusive education which states, "a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion from education and from within education" (p. 86). Furthermore, we support the notion that, "Inclusion and equity in and through education is the cornerstone of a transformative education agenda" (p. 8). Collectively sharing our work and communicating and collaborating in regions across the world helps us learn from each other and enact such a transformative agenda. By doing this, we can focus on increasing access and equity for some of the most marginalized students including students in poverty, women and girls, and students with disabilities. In an effort to promote such communication and collaboration to enact a transformative agenda, the collection of articles in this special issue allows us to highlight the work of increasing equity and access in a number of areas including transition, students with complex support needs, students with Autism, collaboration, and policy.

When considering best practices and policy for elementary age individuals with disabilities, accounting for the long-term outcomes for these individuals is essential; our focus on the short-term must surely be connected to the intended long-term outcomes (Ryndak, Alper, Hughes, & McDonnell, 2012). In "Her Voice: Engaging Girls with Disabilities in STEM Careers," Griffiths, Miles Nash, Maupin and Mathur propose a framework for policy and practice that promotes concrete ways of thinking about shoring up the pipeline for girls with disabilities for careers in STEM.

In considering access to education and transition to employment, we must include students with more complex or extensive support needs (ESN) in our discussions. Both Hanreddy and Östlund and Cosier, Sandoval-Gomez, and Cardinal present perspectives on access and inclusion for populations of students with disabilities considered to have complex or extensive support needs. Hanreddy and Östlund provide a discussion around the potential impact of "alternate curricula" on access for students with disabilities in the US and Sweden, while Cosier, Sandoval-Gomez, and Cardinal demonstrate considerations for identifying factors associated with placement and access for students with ESN. Both articles represent the necessary inclusion of students with ESN in discussions around access and inclusion.

While Hanreddy and Östlund focus on the US and Sweden, articles by Nguyen, Villa, Le, Thousand and Pham focus on access and inclusion in Vietnam more broadly, with Tran, Pham, Mai, Le and Nguyen focusing on individuals with Autism labels. Both articles lend an important and necessary contribution to the field in terms of how developing countries are supporting access and inclusion for all students.

While many articles focus on specific areas of inclusion and access, Taub and Foster widen the lens to look at international policy and the implications of policy on the inclusion of students with disabilities. Taub and Foster attempt to reduce the barriers to cross-cultural research of inclusive practices by investigating the use of terms inclusion and intellectual disability across six countries to potentially improve collaboration and facilitate the generalization of practices.

Lastly, Solone, Thornton, Chiappe, Perez, Rearick, & Falvey provide an overview of best practices on creating a collaborative culture for inclusive education. The authors provide us with a reminder of the importance of collaboration across multiple entities in order to develop sustainable practices of inclusive education.

The articles included in this special issue point to the multi-faceted aspects of inclusive education that must be considered as we support the movement to equity and access for all students. We acknowledge that the articles do not represent all perspectives or all areas of the world. There are many scholars and practitioners working in inclusive education all around the world, and these perspectives are valued; we hope to see future articles represent work in areas not included in these articles, including the South Asia, Australia, and the Global South.

[a]Audri Sandoval-Gomez, Thompson Policy Institute on Disability, USA. E-mail: agomez@chapman.edu
[b]Meghan Cosier, Attallah College of Educational Studies, USA. E-mail: cosier@chapman.edu
[c]Donald N. Cardinal, Chapman University, USA.E-mail: :cardinal@chapman.edu

References

Ryndak, D., Alper, S., Hughes, C., & McDonnell, J. (2012). Documenting impact of educational contexts on long-term outcomes for students with significant disabilities. *Education and Training in Autism and Developmental Disabilities, 47*(2),127-138.

The World Bank. (2019, April 12). *Inclusive education initiative: Transforming education for children with disabilities.* Retrieved from https://www.worldbank.org/en/topic/socialdevelopment/brief/inclusive-education-initiative-transforming-education-for-children-with-disabilities

United Nations Education, Scientific and Cultural Organization [UNESCO]. (2016). Education 2030: Incheon Declaration and Framework for Action for the implementation of Sustainable Development Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. (Call number 37.018.8 EDU [452]). Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000245656

iejee | INTERNATIONAL ELECTRONIC JOURNAL OF ELEMENTARY EDUCATION

January 2020, Volume **12**, Issue **3**, **235-247**

Alternate Curricula as a Barrier to Inclusive Education for Students With Intellectual Disabilities

Amy Hanreddy[a,*], Daniel Östlund[b]

Received: **18 September 2019**
Revised: **16 November 2019**
Accepted: **24 December 2019**
ISSN: 1307-9298

www.iejee.com

DOI: **10.26822/iejee.2020358217**

Abstract

Although intellectual disability is a culturally defined and often fluid concept, individuals with this label are often at the greatest risk of isolation and low expectations, particularly within school environments. Despite institutional narratives on educating and raising expectations for "all" students, the use of alternate curricula for individuals with intellectual disabilities creates a structural barrier that explicitly designates students as incapable of using the same curriculum as nondisabled peers. Through exemplars in the United States and Sweden, the authors argue the use and expansion of alternate curricula is an international trend with troubling short- and long-term consequences for students. In Sweden, a national alternative curriculum is required for all students with intellectual disabilities. In the United States, adoption of alternate achievement standards varies by state; yet, the use of alternate curricular materials in self-contained classrooms is widespread despite questionable alignment to general education standards. In addition to the challenges posed by a separate curriculum for students with intellectual disabilities, approaches to promoting authentic engagement and learning in the context of general education settings and curricula are discussed.

Keywords: Inclusive Education, Alternate Curricula, Intellectual Disabilities, Curriculum Access

Introduction

Through several years of conversations, shared time in schools in both the United States and Sweden, and professional work in teacher education, the authors have found the implementation of alternate curricula to be a systemic challenge to inclusive practices in each of our respective countries. Despite the many distinctions between the United States and Sweden in population, cultural practices, educational systems, and teacher preparation, we contend the common challenges we face, and the recommendations to address these challenges, may have relevance beyond our two countries. Our experiences with educators from other countries around the world demonstrate that, although inclusive approaches to teaching students with intellectual disabilities (IDs) have been documented in some places on a national level (Andriichuk, 2017; Carnovali, 2017), these institutionalized structures remain the exception rather than the rule. This troubling international inclination toward exclusion points to the need for additional dialogue to understand better the systems sustaining segregation of people with IDs worldwide. In this conceptual paper, we first examine our historical contexts, respective policies on inclusive education, and literature on current practices. Next, we provide analysis of key issues and barriers related to alternate curricula and inclusive education. Finally, we propose recommendations for how these barriers might be addressed systematically in the areas of educator preparation, pedagogy, and policy.

Intellectual Disability and Segregation in the United States and Sweden

Individuals with IDs share a complex and difficult history in the United States and Sweden (Barow, 2009; Carey, 2009; Noll & Trent, 2004; Östlund, 2012). This history includes institutionalization, sterilization (Brantlinger, 1995; Laughlin, 2004), exclusion from public schooling, and segregation in public schools (National Council on Disability, 2018). A variety of labels, definitions, and classifications have been invented and adapted over time to describe perceived cognition and potential (Keith & Keith, 2013). More recent descriptions of ID emphasize the interaction between an individual and the environments in which they participate (Shogren, Luckasson, & Schalock, 2014; Shogren et al., 2017), consistent with international definitions of disability which similarly emphasize the interaction between an individual and their environment (United Nations General Assembly, 2007; World Health Organization [WHO], 2001).

In response to the stigma and prejudice faced by people with IDs for centuries, individuals with IDs and their families, advocates, and allies have engaged in advocacy to secure their rightful places in neighborhoods, schools, and the workplace. For example, individuals with IDs were instrumental in the self-advocacy movement of the 1970s, during which they spoke out about experiences in segregated settings, organized protests and sit-ins, and participated in legislative advocacy (Grim, 2015; Pelka, 2012). In both the United States and Sweden, the principle of normalization helped initiate, change legislation, and lay the foundation for ideas found today in documents such as the International Classification of Functioning (WHO, 2001) and the UN Convention on the Rights of Persons With Disabilities (United Nations General Assembly, 2007). More recently, individuals with IDs have engaged in media campaigns to promote acceptance and address stereotypes (e.g., "Not Special Needs"; McClammy, 2017). Despite many gains, school-age students with IDs remain largely segregated from students without disabilities in both U.S. and Swedish schools (Kleinert et al., 2015; National Council on Disability, 2018; Swedish National Audit Office, 2019; U.S. Department of Education, 2018).

Legal and Policy Frameworks Related to Access to General Education in the United States and Sweden

In both Sweden and the US, several policies have been in place for many years that are consistent with the principles of normalization and inclusive education. In both countries, the movement towards inclusive practices began with the right to education for all school aged students, and was expanded with legislation delineating expectations for learning.

[a,*]Corresponding Author: Amy Hanreddy, California State University, Northridge, California, USA. E-mail: amy.n.hanreddy@csun.edu
[b] Daniel Östlund, Kristianstad University, Sweden. E-mail: daniel.ostlund@hkr.se

Access to School

The vision of inclusive education and "a school for all" was formed early in Swedish education policy (Swedish Government Official Reports, 1948:27). Despite this vision, in the 1950s and 1960s, some students—those considered "noneducable"—continued to be referred to institutions without opportunities for education. It was not until 1967 that all children with disabilities were granted access to schools (SFS 1967:940).

Prior to 1973 in the United States, some students with IDs received educational services in public schools, institutions, or local religious institutions, but school-age students with IDs were not yet guaranteed the right to participate in public schools in their communities. The Rehabilitation Act (1973) outlawed discrimination on the basis of disability in programs that receive federal funding, including public schools, and Section 504 of this law provided some protections for students seeking accommodations to access public school settings. In 1975, the Education for All Handicapped Children Act (EAHCA, later the Individuals With Disabilities Education Improvement Act, IDEIA) was passed. Prior to this legislation, approximately one million school-age children with disabilities in the United States did not attend public schools (West, 2000).

Normalization

In response to the institutionalization people with IDs faced during the 19th and 20th centuries, legislation in Western countries the past 50 years has been more closely aligned with the principle of normalization formulated by Bengt Nirje in the 1960s (Nirje, 2003). The principle is based on eight points that must be met for good support: (a) normal daily rhythm (i.e., regular meals and a daily rhythm that does not deviate from that of nondisabled individuals); (b) normal weekly rhythm (i.e., most people live in one place and have their work or their education in another); (c) normal annual rhythm (i.e., to experience weekends and holidays, get vacations, and travel); (d) normal developmental stages (i.e., the importance of experiencing the different developmental stages of life: childhood, adolescence, adulthood, and old age); (e) have their requirements respected (i.e., the importance of making their own choices and wishes that must be respected); (f) staff of both genders in both care and nursing; (g) normal economic standard (i.e., access to normal economic and social security shall apply to all); and (h) normal building standard (i.e., the same standard should apply to people with disabilities as to other community citizens, including better opportunity for integration; Nirje, 2003).

Least Restrictive Environment

The concept of least restrictive environment (LRE) was introduced in the United States with the passage of the IDEIA in 1975 (EAHCA, 1975). This legislation provided definitions for 13 disability categories, including mental retardation, which would later become intellectual disability. While some argue the IDEIA provided the structure and necessary regulations to ensure access for students with disabilities (Katsiyannis, Yell, & Bradley, 2001), others argued this legislation created a second, separate system for serving students with disabilities that led to labeling, segregation, and stigma (Ferri & Connor, 2004). In alignment with Nirje's (2003) normalization principle, the IDEIA uses the term least restrictive environment to describe the mandate that students should be educated with children who do not have disabilities "to the maximum extent appropriate" (IDEIA, 2004). The IDEIA also mandates school districts to provide a continuum of placement options, from those considered "most restrictive" (e.g., hospitals and special education schools) to those considered "least restrictive" (e.g., general education settings).

According to the most recent data, 425 000 students in the United States receive special education services under the label of intellectual disability (National Center for Education Statistics [NCES], 2019). Despite a clear preference for the LRE, approximately 76% of school-age students with IDs in the United States are educated in self-contained special education classrooms on general education campuses for the majority of their school day (Kleinert et al., 2015; NCES, 2019). Although there has been some increase in the number of students with IDs spending 80% or more of their day in general education since 2000 (from 13% to 16%), most of this change occurred from 2000 to 2006, with minimal change in placements among students with IDs from 2006 on (Morningstar, Kurth, & Johnson, 2017; NCES, 2019). Currently, 50% of students with IDs spend less than 40% of their day in general education, 27% are in general education from 40%-79% of their time, and 16% spend 80% or more of their school day in a general education class (NCES, 2019).

The Swedish Education Act (SFS 2010:800) states all children should receive their education by attending compulsory schools. In the Swedish compulsory school system for students ages 6-16, there are four different educational programs (SFS 2010:800): one for compulsory school, one for compulsory schools for students with intellectual disabilities (CSSIDs), one for special schools that teach students with visual impairment or hearing impairment, and one for students of Sami origin. In all four programs, there are common curricular elements fundamental to all students—for example, the school's mission to educate about democracy, the equal value of all humans, and values in line with the content of the Convention on the Rights of the Child (United Nations, 1989). The main differences between the four syllabi are the emphases within each subject, the learning objectives, and the knowledge in which the students are assessed.

According to the latest statistics from the Swedish National Agency for Education (2019), the number of students in CSSIDs is increasing. During the 2018-2019 school year, 10 612 students attended CSSIDs, an increase of almost 7% compared to the previous school year. The largest increase for the 2017-2018 school year was in the "training school" CSSIDs established to meet the needs of students with moderate to severe IDs. In that group, there was an increase of 9% compared to the previous school year (2016-2017). The training school had 4 567 students in the 2017-2018 school year, which is 43% of all students in CSSIDs. The majority of students in CSSIDs—six out of 10—are boys. There is an inflow of students in the higher grades, and the majority of the students who have a mild ID are switched to a CSSID late in their school career. They often begin in the compulsory school but are offered a placement in the CSSID upon experiencing difficulty achieving the academic expectations in that setting. These students are then identified as having an ID via a medical, psychological, social, and educational assessment.

Inclusive Education

Although placement data are readily available for each of our countries, physical placement does not adequately address the degree to which students access and benefit from their education. Despite the promises of individualization and support in special education settings, several researchers have established that self-contained settings offer a high level of distraction, fewer opportunities to respond to instructional cues, and a lack of tailored instruction for individual students (Causton-Theoharis, Theoharis, Orsati, & Cosier, 2011; Kurth, Born, & Love, 2016). In contrast, general education settings offer increased opportunities to learn, benefit from targeted instruction, and interact with typical peers (Hehir et al., 2016 McDonnell, Thorson, & McQuivey, 2000; Taub, McCord, & Ryndak, 2017).

Inclusive education has been defined in many ways, but these definitions consistently describe the critical role of placement in general education settings; support to access the environ-

ment and curriculum; and accessible, shared experiences and instruction for all students (Skrtic, Sailor, & Gee, 1996; Olson, Leko, & Roberts, 2016; McLeskey, Waldron, Spooner, & Algozzine, 2014). Benefits of inclusive education for students with disabilities include improved literacy, language, and math skills compared to students educated in segregated settings (Buckley, Bird, Sacks, & Archer, 2006; Hehir et al., 2016; improved social competence (Fisher & Meyer, 2002); improved communication skills (Ryndak, Ward, Alper, Storch, & Montgomery, 2010); and improved outcomes related to employment and community involvement as an adult (Wagner, Newman, Cameto, Levine, & Garza, 2006). Several studies have indicated students without disabilities benefit from inclusive education through positive impacts on academic achievement (Staub & Peck, 1995), growth in social understandings and empathy (Janney & Snell, 2006), and greater understanding of differences (Lyon, Blue-Banning, & McCart, 2014).

In a recent report, the European Agency of Special Needs and Inclusive Education (2018) indicated a link between inclusive education and social inclusion in education, employment, and living conditions; factors that either promote or hinder inclusion include the quality of inclusive practice, social policy, structures and attitudes in society, and events in the life of the individual. The research findings mentioned in the review suggest schooling in the CSSID reduces opportunities for social inclusion in the short term and in the long term. According to the report, there is a correlation between schooling in self-contained settings and poorer study and vocational qualifications, sheltered employment, financial dependence, poorer opportunities for independent living and poorer social network after completing schooling (European Agency of Special Needs and Inclusive Education, 2018). To sum up, the report points to the long-term consequences of teaching students with disabilities in self-contained classrooms or segregated settings, which contribute to inequality and exclusion in society.

Alternative Curriculum

Although the term alternative curriculum is increasingly aligned with specific educational programs for students with IDs, this practice lacks alignment with the principles of LRE and normalization described in educational policy documents in each country. In this section, we propose common definitions for relevant terms and examine implementation of the alternate curriculum in both policy and practice in each country.

Common Definitions

Curriculum in Sweden is defined as a government-established policy document learning goals in Grades 3, 6, 9. For students with moderate to severe IDs educated in the self-contained training schools, there are no standards for grading the students, and it is not possible for the student to get a grade. Instead, they receive a written assessment that tells them what knowledge they have gained in relation to learning objectives (SFS 2010:800).

In the United States, the term standard refers to "learning goals for what students should know and be able to do" (National Governor's Association Center for Best Practice, 2010, About the Standards, para. 2). The term curriculum is generally used to refer to what happens in the classroom to meet the learning goals defined by the state. This includes lessons, assignments, and materials teachers use (Oliva, 1982). Although many educators in both special and general education develop their own curricula, the rise of standardized assessments following No Child Left Behind has led to an increase in prepackaged curricula (often in the form of textbooks with teachers manuals providing suggested learning activities and online materials) in general education settings.

For discussion in this paper, we use the term alternate curriculum to refer to expectations for learning established by state/national agencies in each of our countries, expectations for students with IDs that differ from expectations for students without disabilities, and approaches to meeting these expectations. We refer to specific software, workbooks, textbooks, or other resources as curricular materials.

Policy Foundation of Alternate Curricula in the United States and Sweden

In the United States, prior to the reauthorization of the IDEA in 1997, there was no federal requirement that students with significant disabilities be included in large-scale assessments of academic performance, and alternate curricula had not been established on a national level. Following the passage of the No Child Left Behind of 2001 (NCLB, 2002), later replaced by ESSA (2015), all students in the United States must participate in statewide accountability measures, regardless of disability status. These assessments were recently aligned with the CCSS in most states. These standards serve as the basis for the skills and knowledge students are expected to acquire through participation in public education and are used in the development of curricular materials adopted by each state. Due to the continued federal requirement that all students must participate in testing (ESSA, 2015), alternative assessments have now been developed by most states to assess the progress of students with significant support needs for whom IEP teams feel the standardized test is not an accurate measure of their progress.

To align learning objectives with alternate assessments, in 2003, regulations allowed states to set alternate achievement standards. In 2007, an analysis of alternate standards (for the states that had them) found, in comparison to established standards for general education students, alternate achievement standards included no meaningful progression of skills from elementary to high school (Towles-Reeves, Kleinert, & Muhomba, 2009). With the adoption of the CCSS in 41 states and the District of Columbia, some states and collaboratives have developed a newer set of alternate achievement curricular standards that reduce the complexity of the CCSS while maintaining alignment to essential elements of the standards (Dynamic Learning Maps, 2016; National Center and State Collaborative, 2014). These alternate standards and assessments are meant to form the curriculum learned by students with the "most significant cognitive disabilities" (U.S. Department of Education, 2003, 34 C.F.R. pt. 200), and participation is determined by IEP teams on an individual level. Consistent with the emphasis on individualization throughout the IDEIA, whether a student is held accountable for the alternate or core curricular standards is a separate decision from their educational placement.

In Sweden, the first official curricula for students with severe IDs was established in 1973 and included all students with IDs. Since the 1970s, the CSSID in Sweden has been using this curriculum (SFS 1967:940), but students with ID are not required to participate in nationwide accountability measures. Since there are not any nationwide accountability measures for students with IDs, it is the responsibility of local school authorities to assess students' progress. In 1990, the curriculum was reformed, but just four years later it was replaced with a combined curricula for all four school types in Sweden, the result of a quest for a "school for all" in the Swedish school politics. In 2011, there was a new reform dividing the curricula into four separate programs again (Östlund, 2012, 2015).

There are different educational paths for students with IDs in Sweden, according to the Swedish Education Act (SFS 2010:800). Each student's guardian/parent has the right to decide which curricula and learning objectives will be used for their child's education. When the students are offered schooling in the CSSIDs, a pedagogical assessment is performed to determine which educational program to recommend for the student. Individual teachers assess whether students have met the standards and learning objectives in the curriculum—there are no standardized tests for students with IDs. Students in general education take national standardized tests in Grades 3, 6, and 9. Getting a grade as a summative assessment is optional for students with mild ID in Grades 6-9. The four pathway options are as follows:

1. Fully included in general education settings following general education curricula,

2. Fully included in general education settings following the CSSID curricula,

3. In a self-contained classroom in a school following the CSSID curricula, or

4. In a special school with its own campus following the CSSID curricula.

Current Practice: Alternate Curricula in the United States and Sweden

The entrenchment of alternate curricula as the default standard for students with ID in both US and Sweden in recent years has served to reify the legislative and structural foundation for separate systems of general and special education in each country. Although the separateness of these structures are deep-rooted, there is significant variability in implementation of alternate standards for teaching in the US (Thurlow et al, 2017) while in Sweden, the alternate curriculum is implemented in a relatively uniform manner.

United States

With the release of the CCSS in 2010 and subsequent adoptions in 41 of the United States, several sets of alternate achievement standards were developed that more closely aligned with general education standards compared to the previous emphasis on functional skills. These included "essential elements" (Dynamic Learning Maps, 2016) and "core content connectors" (National Center and State Collaborative, 2014). Although some guidance on implementation of these alternate standards has been provided in professional conferences and presumably within teacher education programs, it is not clear how these alternate standards align with the variety of alternate assessments implemented by states.

As alternate assessments and achievement standards have been developed, there has been a proliferation of prepackaged curricular materials designed for implementation in self-contained special education settings (Taub et al., 2019). Special education teachers are increasingly encouraged or mandated to use these prepackaged curricular materials that purport alignment with the standards (Taub et al., 2019). One of the largest companies marketing alternate materials, n2y, markets the Unique Learning System (ULS), a curriculum estimated to be used in approximately 60 000 classrooms in the United States (n2y, 2019a). Implementation of ULS is mandated in several districts across the United States, including the Los Angeles Unified School District (n2y, 2019b).

United States example: The Los Angeles unified school district

In the Los Angeles Unified School District in California, beginning in kindergarten (age 5), students who receive special education services are determined to be working toward either the "alternate curriculum" or the "core curriculum" based on an assessment conducted by district staff. Students determined to be working toward the alternate curriculum may be offered a range of placements by the school district. Most often, the offer of placement for students working toward alternate achievement standards is a self-contained special education class comprised of other students with IDs (97%), although some students (approximately 2%) are educated in general education classes with support determined by their IEP, and a small number of students attend special education schools (A. Hanreddy, personal correspondence, July 9, 2019). District wide, the school district has implemented the ULS—a mandated, prepackaged curriculum for students with IDs in language arts, math, social studies, and science. The ULS curriculum is used in approximately 860 classrooms with approximately 9,000 students (n2y, 2019b). When students who are working toward alternate achievement standards in the Los Angeles Unified School District are included in general education for 80% or more of the day, the general curriculum is used as the foundation for instruction, with adaptations to the curriculum provided as needed (Los Angeles Unified School District, 2017).

Sweden

In Sweden there is only a very small selection of teaching materials adapted for the CSSIDs, and it is the responsibility of every teacher to adapt materials and assessment to suit students with IDs. In a recently released report, the Swedish National Audit Office (2019) criticized the Swedish National Agency for Education and the Agency of Special Needs Education in Sweden for not assisting CSSID teachers with assessment support and in interpreting how standards in the alternate curriculum should be assessed. In total, teachers in primary school subjects have access to materials to support assessment in three of 13 subjects, and these materials have existed for a relatively short time—since 2014. In comparison, teachers in compulsory schools in Sweden have access to assessment support in all subjects. The large difference in the number of assessment materials shows teachers in CSSID have a significantly poorer ability to assess students' knowledge than teachers of the compulsory school.

Swedish example

Compared to the variability of policies and implementation in the United States, the Swedish system is implemented on a national level. Students with IDs who are not expected to achieve the learning objectives set by the curricula for the compulsory school are most often educated in the CSSID. To get access to education within the CSSID curriculum, a student must have undergone a medical, psychological, social, and educational assessment that clearly shows the student has an ID. This compulsory school program has been adapted for students with IDs and teaches mostly the same subjects as in the regular compulsory school but with its own scope and sequence. Students with mild IDs study subjects such as Swedish language, math, arts, English language, sports, natural sciences, social sciences, home economics, and handicraft. Students with moderate to severe IDs get education in five subject areas: communication, aesthetic activities, perception of reality, everyday activities, and motor skills.

The education in CSSID is organized in various ways in different municipalities. Twenty percent of the students with mild ID are included in general education classes for at least 50% of their time in school. This number has been constant since the beginning of the 1990s. However, no statistics are collected on how many students with moderate to severe ID are integrated into ordinary school classes. In Swedish research (Östlund, 2015), there are no examples of students with severe to moderate IDs with an alternate curriculum integrated into classes with typically developing students (Swedish Schools Inspectorate, 2016).

Analysis: Alternate Curricula as a Barrier to Inclusive Approaches

The establishment of separate learning standards for students with ID in both the US and Sweden has led to several barriers that compound the previously existing separate structures for teaching and learning. These include an emphasis on life skills instead of broader academic skills, reduced access to the content and skills taught in general educaton setting; the implication that a separate setting is required in order to teach the separate curricula; and less preparation to live and work in inclusive settings as an adult.

Life Skills Over Academic Skills

There is a long tradition of teaching students with IDs functional skills rather than academics in segregated settings in both United States and Sweden (Anderson & Östlund, 2017; Thompson, Walker, Shogren, & Wehmeyer, 2018). The National Council on Disability (2018) refers to this tendency toward the status quo as an "organizational tradition" (p. 35). The teaching in the CSSID in Sweden has been criticized since the late 1990s for being too focused on "care" at the expense of students' knowledge development (Swedish National Agency for Education, 2002; Swedish National Audit Office, 2019). The most recent review (Swedish Schools Inspectorate, 2010) showed similar patterns. The audit showed teaching in the audited schools often lacked sufficient knowledge challenges. The review also highlighted deficiencies in teachers' assessment of students' knowledge development. All schools in the survey also lacked compilations and analyses of students' knowledge outcomes in various subjects. Thirty years of research (Arvidsson, 2016; European Agency of Special Needs and Inclusive Education, 2018; Östlund, 2015) and evaluations (Swedish Schools Inspectorate, 2010; Swedish National Agency for Education, 2002) point to barriers that arise from the structure of separate schooling for students with IDs. From a teaching perspective, research points to shortcomings in the expectations of learning for students. Regarding the long-term implications of this model, studies have showed students educated in self-contained settings are less likely to get a job, attend education programs as young adults, and be socially included in society as adults than students without disabilities (Arvidsson, 2018; European Agency of Special Needs and Inclusive Education, 2018).

Similar to criticisms of the Swedish alternate curricula for lacking adequate challenge or analyses of student learning, self-contained classes in the United States have also been criticized for spending too little time on instruction as well as an emphasis on skills taught out of context (Causton-Theoharis et al., 2011; Kurth et al., 2016). As in Sweden, there is a tradition in the United States of prioritizing "life skills" over academic skills (Browder et al., 2004; Timberlake, 2014). For example, the popularity of "task boxes" that contain manipulatives or laminated cards focused on a specific skill (e.g., sorting, sequencing, or counting), often used in self-contained settings, is evidenced by the over 3 400 results displayed on Teachers Pay Teachers (2019), a popular site for teachers to share resources with one another despite no available evidence on their effectiveness. This practice, among others, stands in sharp contrast to the rich curricular units that comprise most of the general education core curriculum (Lee, Wehmeyer, Soukup, & Palmer, 2010; Taub et al., 2017).

Access to the General Education Curriculum

Access to general education curriculum and access to general education settings are correlated, but not analogous, concepts. Legal mandates in the United States (Every Student Succeeds Act, 2015; IDEIA, 2004) emphasize access to the general education curriculum regardless of the setting where students are educated. These mandates were created to address achievement gaps between students with and without disabilities and are based on the presumption that access to the same curricular expectations and inclusion in accountability systems (i.e., state testing) will ensure teachers hold high expectations for students regardless of disability labels (Lowrey, Drasgow, Renzaglia, & Chezan, 2007).

The IDEIA (2004) defined general education curriculum as "the same curriculum as for nondisabled children" (34 CFR §300.320(a)(1)(i). According to the same law, students who receive special education services are also entitled to adjustment of the curriculum "to address the unique needs of the child that result from the child's disability and to ensure access of the child to the general curriculum" (34 CFR §300.39(b)(3)). These adjustments, often referred to as adaptations (Lee et al., 2006), are described in an individual student's individualized education program (IEP). Thus, although students must access the general curriculum, special education law in the United States provides school teams the flexibility needed to promote this access.

Despite an unambiguous definition for general education curriculum in legislation in the United States, there remains disagreement among special and general educators on the enactment of access to the general education curriculum (Dymond, Renzaglia, Gilsin, & Slagor, 2007). In fact, most special educators appear to interpret this access to include significant adaptation and an emphasis on life skills within the curriculum (Dymond et al., 2007; Timberlake, 2014), while a few place emphasis on both the setting (general education class) and the same materials as students without disabilities (Cosier, Causton-Theoharis, & Theoharis, 2013). Further, there is evidence special education teachers serving students with IDs are often not provided with the same materials as those used in general education classes (Taub et al., 2019).

Although it might be implied that emphasis on access to the general education curriculum promotes access to general education settings for students with IDs, data on educational placements of these students do not support this assumption (U.S. Department of Education, 2018. Since its initial passage in 1975, in addition to requirements related to general education curriculum, IDEIA (2004) has emphasized access to general education settings. The law states school teams must ensure "access to the general education curriculum in the regular classroom, to the maximum extent possible" (20 U.S.C.§1400(c)(5)(A)), yet there has not been a marked increase in time spent in general education for students with IDs since the reauthorizations of ESSA and IDEIA.

Sweden has had "a school for all" as an overall education goal for the past 70 years. Everyone who works in a school is expected to prevent discriminatory behavior, and schools must take into account differences in students' abilities and provide appropriate educational support. In the Swedish education policy, there has been a clear inclusive intention since the 1980s; in recent years, the goals of a physically and socially accessible school have also been clarified. In 2014, this perspective was strengthened when lack of accessibility in schools became a basis for discrimination in Swedish legislation. Regardless, this idea has not yet reached far enough to include students with IDs. If students are following the alternate curricula of the CSSIDs and included in general education, the required time on various subjects differs. For example, in CCSIDs, students are expected to have 5 times as many lessons in home economics as students in general education and twice as many lessons in crafts. To meet the mandated hours, these students, then, are required to leave general education to get the right "hours" following the curricula for the CSSID, which becomes an obstacle to

including the student in general education. Something we noticed in the latest review (Swedish National Audit Office, 2019) is that no national analyses are conducted of students' results within CSSIDs from the National Board of Education. This is noteworthy and is an indication the system of special schools and self-contained classrooms for students with IDs contributes to segregation both in the short and long term.

Separate Curricula, Separate Spaces

It is evident from the policy and practice foundations described previously that there is a strong connection between segregated learning environments and lower expectations for students with IDs. Beratan (2008) defined institutional ableism as "discriminatory structures and practices, as well as uninterrogated beliefs about disability that are deeply ingrained within educational systems" (p. 338). Given our history of segregation on the basis of perceived ability, it is the responsibility of antiableist educators to view traditional approaches for educating students with IDs through a critical lens. Other authors (Halle & Dymond, 2008; Jackson, Ryndak, & Wehmeyer, 2008; Ryndak, Moore, & Orlando, 2008) have explored whether students with IDs could adequately be taught general education curriculum while maintaining separate settings and have emphasized the importance of context in accessing the curriculum. That is, emphasis on only the content of the curriculum does not provide full access. Further, by interpreting "access to the general education curriculum" as access to general education content, while allowing students to continue to be educated in separate settings, ignores the intent of inclusive educational practices and serves to strengthen divisions between general and special education.

As access to the general education curriculum for students with IDs is further distorted to become a set of alternate learning expectations, learning materials and expectations in self-contained settings remain substantially different from those in general education. Thus, a structure is created and reified in which "alternate" standards are the responsibility of the special educator. As such, time spent in general education may be viewed as a "waste" or an interference with the special educators' time and ability to address the learning expectations they are responsible for teaching.

Long-Term Impacts of Alternative Curricula

Given the goals of inclusive education are stated by many to be greater levels of community participation, employment, and self-determination in adulthood (Ryndak et al., 2010; Slee, 2011), it is reasonable to examine the long-term impact of alternate curricula and associated separate schooling. As illustrated by the shared histories of marginalization and exclusion in the United States and Sweden, students with IDs have long been subjected to segregation and lowered expectations in school settings. The outcomes for adult life following an education on the alternate curricula in self-contained settings indicate adults with IDs continue to follow the trajectory of dependence and isolation established throughout their schooling experiences (Bouck, 2012; Ryndak et al., 2010).

In a large-scale Swedish research study, Arvidsson (2016) followed up on 12,269 students with IDs to gain knowledge of what kind of postschool occupations young adults with IDs had. Results from the study showed 47% participated in daily activities; 22.4% were employed, most of them with some type of wage subsidy; 6.6% participated in various forms of education programs; and a large group (24%) was described as being "elsewhere" (not in any of the other three types of occupations; Arvidsson, 2016). Arvidsson (2016) stated the large number of young adults with IDs having an occupation "elsewhere" was unexpected. From an inclusive education perspective, these results indicate the CSSID prepares students for a life in the margins rather than preparing them for a life in an included society. According to the Swedish welfare system, adults with IDs are entitled to participate in daily activities, so the welfare program helps them gain employment after school. For many, the only option is for students to transfer from the CSSID to "daily activity," which is a service for working-age individuals with IDs who are not gainfully employed or studying. By providing only segregated options, the welfare system contributes to a structural segregation of students with IDs.

Alternate Curricula and Teacher Preparation

Reliance on seperate curricula in separate spaces for students with ID has led to minimal preparation or expectation among general education teachers to teach these students. With special educators in short supply, this means that many students with intellectual disabilities are taught by teachers who are less qualified than their general education peers.

General education teachers

The establishment of separate learning objectives and separate materials for students with IDs, combined with the lack of trained special education teachers, may lead to reluctance on the part of general education teachers to include students who they do not feel prepared to teach (Swedish National Agency for Education, 2019). The Swedish school system has a 150-year history of organizing education in dual systems—a system for students in general education and a separate system for students with IDs. Although general education teachers have the ability to teach students with IDs in an inclusive setting, they often question their ability to differentiate their own teaching. Instead, they may recommend the special student be placed in a special setting, with a special curriculum with a special teacher.

General educators in both the United States and Sweden currently receive minimal training and information on special education and IDs. Although teacher training programs vary significantly, general educators in the United States report feeling unprepared to teach learners with disabilities (Blanton, Pugach, & Florian, 2011). It is common in both countries for teacher preparation programs to include only one course on special education for general education teacher candidates, and this course may emphasize characteristics of disability labels rather than strategies for curricular access (Blanton et al., 2011). Since most students with IDs are currently not taught in general education settings (Kleinert et al., 2015; NCES, 2019), they may be considered only peripherally in such courses. When teacher credential programs do not adequately prepare candidates to meet the needs of students with IDs, there is a risk these teachers will advocate for segregated settings where students with IDs can receive assistance from a special teacher who they perceive as more knowledgeable about the separate curricular standards and materials taught in those spaces.

Special education teachers

A shortage of special educators in Sweden and the United States has resulted in limited access to quality instruction in self-contained settings. In Sweden, there is a significant shortage of special educators serving students with IDs. Only 20% of special educators have the correct credential, and some have no credential at all. While the shortage of special educators in the United States is not as dire as in Sweden, 49 states report a shortage of special educators, and the caseloads of existing special educators continues to rise (Samuels & Harwin, 2018).

When students are taught by unqualified staff in settings lacking accountability, it is inevitable students' access to equitable learning conditions will be limited. The Swedish Schools Inspectorate (2010) examined teaching in 28 schools with self-contained classrooms following the CSSID curriculum and found teachers often neglected active reading instruction for

the older students and prioritized self-care and a good emotional climate in the school instead. Many teachers did not take into account the strengths and needs of each student, and the tasks for many students lacked adequate challenge. In higher grades, it was common for teachers to read aloud to students. It was rare, however, for teachers to support students' listening by discussing material and engaging in dialogue on the content of texts. In schools, students were allowed to borrow books based on their own interests, but they were rarely given opportunities to reflect on the reading with a peer or teacher. This study reflects the fact that school authorities have long neglected the teaching of students with IDs. For many years, there were no guidelines for special education credentials, and it was not until 2012 that specific training for teachers with specialization in IDs was established. It is also a consequence of the fact that CSSIDs have, for a long time, lacked and still lack state assessment support to helps special teachers assess students' knowledge development.

Implications

There are many similarities between the US and Sweden in both policies and practices related to alternate curricula that have served to maintain segregated education. In Sweden, there is a nationally mandated alternate set of learning expectations for students with IDs. In the United States, there is a nationally recognized set of learning goals for all students (Common Core), adopted in 41 states, and a national mandate for students with disabilities to make progress toward the core curriculum (ESSA, 2015; IDEIA, 2004). Despite these differences in policy, the practical lives of students with IDs in school remain remarkably similar. Most students with IDs are educated in self-contained settings, and most students are taught using materials and approaches that differ markedly from those used in general education, with drastically different learning goals established by teachers. Unsurprisingly, outcomes for these students are also similar in our countries. Adults with IDs in both countries experience high rates of unemployment and thus poverty and reliance on governmental supports (Arvidsson, 2016; Bouck, 2012; Wagner et al., 2006).

We have established that the struggle to achieve access to both general education curriculum and general education settings is rooted in a history of entrenched ableism. This ableist structure promotes the notion of alternative learning goals and spaces in the spirit of care and individualization, despite strong evidence this approach is not only inherently inequitable but leads to poor outcomes (Anderson & Östlund, 2017; Bouck, 2012; Causton-Theoharis et al., 2011; Cosier et al., 2013). Alternative curricula, therefore, should be viewed with suspicion and as a mechanism of segregation. As an education community, it is time to revisit this issue in teacher preparation, instructional approaches, and policy as we work towards broader ownership, raised expectations, improved access, and enhanced long term outcomes for students with ID.

Educator Preparation

General education teachers in the United States and Sweden often feel unprepared to provide students with IDs meaningful access to the general education curriculum (Anderson & Östlund, 2017; Da Fonte & Barton-Arwood, 2017). To promote meaningful access to all elements of the general education curriculum for students with IDs, these teachers must feel well prepared to foster learning environments that are welcoming and accessible to all students. Rather than limit instruction related to disability to one university course, preparation to foster inclusive learning environments and effectively teach students with IDs (and other disabilities) can be embedded throughout candidates' training. For example, when studying pedagogy for mathematics instruction, candidates can learn to incorporate multiple access points and to adjust instruction to address foundational skills while also introducing new concepts. Similarly, programs preparing special educators must ensure their graduates are prepared with the skills to teach in inclusive (rather than segregated) settings and to individualize instruction in these settings while ensuring access to the curriculum. In the United States, some states have started to identify increased areas of overlap between what general and special educators must know and be able to do by the end of their credential programs, and some credential programs have started to offer concurrent programs for earning both a general and special education credential (Reese, Richards-Tutor, Hansuvadha, Pavri, & Xu, 2018; Young, 2008).

Students with IDs often receive at least some support from a paraprofessional during their school day, and some students receive all or most of their instruction from a paraprofessional (Giangreco, Suter, & Hurley, 2013; Östlund, 2012). Despite the important role these individuals play in a school setting, they often receive minimal training in preparation for their role (Giangreco, Broer, & Suter, 2011), leading to a host of unintended negative consequences (Giangreco, 2010). By expanding the role of special educators in general education settings through coteaching and individualized supports, individual students will become less reliant on the support of paraprofessionals as proxies for special educators. In addition, training specific to the role of a paraprofessional in supporting access to the general education curriculum for all students will support raised expectations as well as engaged and purposeful learning for students with IDs.

Pedagogy

General education curricular reforms in recent years have played a role in moving instruction from rote practice to an emphasis on developing conceptual understandings, using language to articulate learning, and identifying connections across the curriculum (Alberti, 2012; Swedish National Agency for Education, 2018; Yilmaz & Topal, 2014). These pedagogical practices stand in contrast to those in self-contained settings for students with IDs in which the expansion of "alternate curriculum" has maintained focus on concrete understandings, isolated skills, and self-care tasks (Östlund, 2015; Taub et al., 2019. This division between the emphases of learning goals and teaching materials for each population of students solidifies the misconception of special education as a practice incongruous with general education settings. Pedagogical practices that promote access to general education settings for students with IDs include universal design for learning (UDL), project-based learning (PBL), embedded instruction, culturally responsive teaching, and formative assessment strategies. Each of these practices can be considered as critical components in school change efforts to promote the inclusion of students with IDs.

Universal design for learning. To promote meaningful access to general education settings and curriculum, instruction in these settings must shift to models of accessible instruction that consider the variety of learning strengths and needs among all school-age students. Universal design for learning is a set of principles that draws upon the basic learning processes of recognition, expression, and motivation, and incorporates student voice and choice into instructional design (Center for Applied Special Technology, 2019). The guidelines emphasizing multiple means of representation, expression, and engagement are designed for implementation in general education settings, and training related to these principles have become more common in recent years (Jiménez, Graf, & Rose, 2007; Scott, Thoma, Puglia, Temple, & Aguilar, 2017). Although UDL is already beginning to benefit students with high incidence disabilities (Capp, 2017; Katz, 2013), it will be critical for school teams to

ensure UDL implementation occurs in tandem with increased inclusion of students with IDs, and that instruction is designed with consideration of the needs of these students.

Project-based learning. To ensure inclusive pedagogy in general education while addressing the wide range of skills students need in the 21st century, we must shift our traditional instructional model to one in which student learning begins with the end in mind. For example, PBL is an instructional model in which students work to develop a solution to a real-world problem (Bell, 2010). By shifting our focus to project-based and other inquiry-focused models, students naturally incorporate multiple disciplines and see the interconnections between subjects traditionally taught in an isolated manner. The applied nature of these instructional approaches supports both critical thinking and "real-world" understandings (Mkrtchian, 2018). When students work from a problem-solving approach, they can leverage strengths more effectively than models that rely on isolated skills.

Embedded instruction. Although many special education approaches continue to be based on a model of remediation in an effort to help students with disabilities "catch up" to their "typical" peers, this approach is often framed in terms of students' perceived deficits. For students with IDs, using a remediation model carries the potential of playing a never-ending game of catch up. Instead, analyzing the "mismatches" between an individual student's current skills and the skills needed to participate in a given learning activity allows school teams to take action to promote greater access. Using this ecological approach, mismatches can be remediated by making changes to the activity (e.g., providing many ways for students to demonstrate their learning), curricular adaptations, or individualized embedded instruction (Downing, 2010; Johnson, McDonnell, Holzwarth, & Hunter, 2004).

Culturally responsive teaching. As classrooms in both United States and Sweden serve students from increasingly diverse socioeconomic and cultural backgrounds and whose primary home language is not English, we must further examine pedagogy with attention toward culturally and linguistically diverse (CLD) students with IDs. These students appear to face more challenges than typical CLD peers or peers with IDs who are not CLD related to access to general education curriculum, access to services to address their unique needs, and partnerships with families (Mueller, Millian, & Lopez, 2009; Mueller, Singer, & Carranza, 2006; Rivera et al., 2016). Rivera et al. (2016) identified a framework for aligning existing evidence-based practices for teaching CLD-typical students with the unique needs of CLD second language learners with IDs. This model builds upon previous approaches that emphasize a safe learning environment, primary language support, and the use of systematic instruction (Sanford, Brown, & Turner, 2012; Sobul, 1995) but places additional emphasis on UDL, the integration of culture, multiple opportunities to respond, technology, and self-determination (Rivera et al., 2016). Although this model was proposed to meet the unique needs of CLD students with IDs, the additional emphases are consistent with the needs of all learners in diverse general education classrooms and are consistent with evidence-based practices for inclusive teaching approaches in general education.

Formative assessment strategies. Current attempts at identifying a uniform set of simplified expectations in the form of an alternate curriculum fail to account for the vast heterogeneity of students with IDs. Meaningful access to general education curricula for students with IDs will require teachers to recognize the diversity of students by tailoring instruction and learning goals on an individual level. To adequately gauge students' skills and understanding of material, teachers must become skillful in their use of authentic data to measure student performance. Formative assessment refers to the various ways teachers gather information on student learning throughout the learning process to provide feedback and adjust and plan instruction. The strategic use and analysis of formative assessment approaches is a well-supported practice (Bell & Cowie, 2001; Hattie, 2012) that can provide a "snapshot" of the learning strengths and needs of students relative to clearly identified objectives. For students with IDs, formative assessments consistent with UDL provide many ways for students to express their understanding of "big ideas" or target skills in a curricular unit. For example, students might demonstrate understanding of key events in a piece of children's literature through comments in a small group discussion, illustrations on an art project, use of collage or selecting pictures, or through written responses.

Policy

Given our history of segregation of students with IDs, without structural changes, progress toward improved access to general education curricula and settings will not be sustained over time. As previously established, the current general and special education systems in both the United States and Sweden are deeply entrenched and will continue as such unless educators and families begin to question the validity of the current approach. We have established in this paper that alternative curricula, materials, or standards for any population of students on the basis of a disability label serves to maintain segregation and institutionalized ableism. Rather, we must affirm the value of inclusive educational approaches and shift the conversation from one about placement to a dialogue on the instructional practices that make an environment inclusive. From a policy perspective, recommendations aligned with inclusive practices are already well established and being implemented internationally, although infrequently (Booth & Ainscow, 2011; Choi & Park, 2018; Shogren, McCart, Lyon, & Sailor, 2015). International policy resources such as the UN Convention on the Rights of Persons With Disabilities (United Nations General Assembly, 2007), the WHO's (2011) World Report on Disability, and the International Classification of Functioning (WHO, 2001) provide frameworks for examining access in terms of civil rights. On a more practical level, the Index for Inclusion (Booth & Ainscow, 2011), a tool for self-evaluation of evidence-based practices in inclusive education, has been translated and adapted for use in many countries. Aligned with these recommendations, we propose the following:

- Affirm the general education class as the default setting for all students and develop accountability measures to evaluate implementation. This presumes students do not need to "earn" the right to be taught in a general education class and will set the expectation that general education curriculum will be accessible. Despite the fact this policy is already in place in the United States, students with IDs remain largely segregated.

- Expand expectations for general and special educator training programs to emphasize inclusive pedagogy across the curriculum. Rather than one isolated class on special education for general educators, strategies for making curriculum accessible must be embedded throughout the program. Similarly, special educator programs must not assume graduates will teach in self-contained classes; rather, programs should prepare them to coteach, adapt curriculum, and provide embedded instruction to students with a variety of support needs.

- Establish the general education curriculum as the default curriculum for all students. All students must benefit from the common set of concepts and skills established in the curriculum. This curriculum must lend itself to the principles of UDL and PBL and thus allow many opportunities for students to understand curricular content and express their knowledge and skills. Curricular expectations can be paired with individualized

learning goals to allow for tailored and embedded instruction for students who need additional support.

• Provide structures within school systems that support collaboration among teachers and allow the time needed to work together to proactively plan for students and adjust instruction using formative assessments. These structures include planning time counted as part of a teacher's work day and coordinated schedules that allow general and special educators to work together.

• Develop systems to support coteaching approaches in which special and general educators deliver instruction together on a regular basis to their shared students. These systems must include teachers of students with IDs and must ensure parity is maintained between teachers. One teacher is not the "helper" while the other is the "leader." Rather, both are seen as having equal status, and both are responsible for the learning of all students.

• Use accountability measures of teachers and schools that focus on qualities of inclusive teaching and progress for all students in the curriculum. Although in the United States, all students are now included in standardized assessments, this is not the case in Sweden. Further, evaluations of teachers and schools rarely consider evidence-based practices related to inclusive education. To ensure systematic implementation of inclusive approaches, these practices must be included in teacher accountability systems.

Conclusion

In this concept paper, we have established that despite some unique policies and practices in the United States and Sweden, our two countries share a history of segregation and exclusion, which is further maintained by the separation of general and special education systems. Despite national policies espousing an emphasis on access for "all" students, through our cross-cultural examination of systemic barriers to inclusion, we have noted an international trend toward exclusive mindsets and practices related to curriculum access for students with IDs. The use of separate, lowered, or drastically simplified learning objectives, practices, and materials for students with IDs further reifies entrenched systems of segregation. These alternate curricular expectations have resulted in inequitable access to instruction and opportunity in each country and have resulted in poor outcomes among adults with IDs. Despite efforts by advocates for inclusive practices around the world, many countries maintain separate and exclusive systems for the education of students with disabilities. As this is an international issue, efforts to address these ableist structures must take place internationally. Dialogue and cross-cultural work, the enactment of international principles for disability equity (e.g., the UN Convention on the Rights of Persons With Disabilities) at the policy level, and the translation of these principles to practice at the regional and local levels will be essential in advocacy for access and inclusion. Coordinated changes must occur in the areas of educator preparation, pedagogy, and policy to support a shift toward substantive access to general education settings and curriculum for all students as the default rather than the exception.

References

Alberti, S. (2012). Making the shifts (Common Core State Standards). *Educational Leadership, 70*(4), 24-27. Retrieved from http://www.ascd.org/publications/educational-leadership/dec12/vol70/num04/Making-the-Shifts.aspx

Anderson, L., & Östlund, D. (2017). Assessments for learning in Grades 1-9 in a special school for students with intellectual disability in Sweden. *Problems of Education in the 21st Century, 75*, 508–524. Retrieved from http://muep.mau.se/handle/2043/24232

Andriichuk, N. (2017). Historical background of inclusive education development in the Nordic countries. *Journal of Vasyl Stefanyk Precarpathian National University, 4*, 97-104. doi:10.15330/jpnu.4.1.97-104

Arvidsson, J. (2016). *Sysselsättning och social rättvisa: En Nationell Registerstudie om 12,269 unga vuxna med intellektuell funktionsnedsättning* [Post-school occupation and social justice: A National Registry study about 12,269 young adults with intellectual disability]. Doctoral dissertation, Halmstad University.

Barow, T. (2009). *Kein Platz im Volksheim?: Die "Schwachsinnigenfürsorge" in Schweden 1916-1945*. Bad Heilbrunn, Germany: Klinkhardt.

Bell, B., & Cowie, B. (2001). The characteristics of formative assessment in science education. *Science Education, 85*, 536-553. doi:10.1002/sce.1022

Bell, S. (2010). Project-based learning for the 21st century: Skills for the future. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas, 83*, 39-43. doi:10.1080/00098650903505415

Beratan, G. (2008). The song remains the same: Transposition and the disproportionate representation of minority students in special education. *Race Ethnicity and Education, 11*, 337-354. doi:10.1080/13613320802478820

Blanton, L. P., Pugach, M. C., & Florian, L. (2011). *Preparing general educators to improve outcomes for students with disabilities.* Retreived from the American Association of Colleges of Teacher Education and National Council for Learning Disabilities website: http://www.aacte.org

Booth, T., & Ainscow, M. (2011). *Index for inclusion: Developing learning and participation in schools* (3rd ed.). Bristol, England: Centre for Studies on Inclusive Education.

Bouck, E. C. (2012). Secondary students with moderate/severe intellectual disability: Considerations of curriculum and post-school outcomes from the National Longitudinal Transition Study-2. *Journal of Intellectual Disability Research, 56*, 1175–1186. doi:10.1111/j.1365-2788.2011.01517.x

Brantlinger, E. (1995). *Sterilization of people with mental disabilities issues, perspectives, and cases.* Westport, CT: Auburn House.

Browder, D., Flowers, C., Ahlgrim-Delzell, L., Karvonen, M., Spooner, F., & Algozzine, R. (2004). The alignment of alternate assessment content with academic and functional curricula. *The Journal of Special Education, 37*(4), 211-223.

Buckley, S., Bird, G., Sacks, B., & Archer, T. (2006). A comparison of mainstream and special education for teenagers with Down Syndrome: Implications for parents and teachers. *Down Syndrome Research and Practice, 9*(3), 54-67. doi:10.3104/reports.295

Capp, M. (2017). The effectiveness of universal design for learning: A meta-analysis of literature between 2013 and 2016. *International Journal of Inclusive Education, 21*, 791-807. doi:10.1080/13603116.2017.1325074

Carey, A. (2009). *On the margins of citizenship: Intellectual disability and civil rights in twentieth-century America*. Philadelphia, PA: Temple University Press.

Carnovali, S. (2017). The right to inclusive education of persons with disabilities in Italy. Reflections and perspectives. *Athens Journal of Education, 4*, 315-326. doi:10.30958/aje.4-4-1

Causton-Theoharis, J., Theoharis, G., Orsati, F., & Cosier, M. (2011). Does self-contained special education deliver on its promises? A critical inquiry into research and practice. *Journal of Special Education Leadership, 24*(2), 61-78. Retrieved from http://www.casecec.org/resources/jsel.asp

Center for Applied Special Technology. (2019). *About universal design for learning.* Retrieved http://www.cast.org/our-work/about-udl.html

Choi, H., & Park, S. (2018). Teachers' evaluation of inclusive education practices in elementary schools at Seoul: Using the quality indicators of elementary inclusive education. *Korean Journal of Special Education, 53*(2), 23-52.

Cosier, M., Causton-Theoharis, J., & Theoharis, G. (2013). Does access matter? Time in general education and achievement for students with disabilities. *Remedial and Special Education, 34*, 323-332. doi:10.1177/0741932513485448

Da Fonte, M., & Barton-Arwood, S. (2017). Collaboration of general and special education teachers: Perspectives and strategies. *Intervention in School and Clinic, 5*3, 99-106. doi:10.1177/1053451217693370

Downing, J. (2010). *Academic instruction for students with moderate and severe intellectual disabilities in inclusive classrooms.* Thousand Oaks, CA: Corwin Press.

Dymond, S. K., Renzaglia, A., Gilson, C. L., & Slagor, M. T. (2007). Defining access to the general curriculum for high school students with significant cognitive disabilities. *Research and Practice for Persons With Severe Disabilities, 32*, 1–15. doi:10.2511/rpsd.32.1.1

Dynamic Learning Maps. (2016). *What is a learning map model?* Retrieved from https://dynamiclearningmaps.org/about/model#essential-elements

Education of All Handicapped Children Act (EAHCA) of 1975, Pub. L. No. 94-142, 20 U.S.C.

European Agency for Special Needs and Inclusive Education. (2018). Evidence of the link between inclusive education and social inclusion: A review of the literature. Retrieved from https://www.european-agency.org/resources/publications/evidence-literature-review

Every Student Succeeds Act. (2015). PL 114-95, 114 U.S.C.

Ferri, B., & Connor, D. (2004). Special education and the subverting of Brown. *Journal of Gender, Race, and Justice, 8*(1), 57-74. Retrieved from https://jgrj.law.uiowa.edu/

Fisher, M., & Meyer, L. (2002). Development and social competence after two years for students enrolled in inclusive and self-contained educational programs. *Research and Practice for Persons With Severe Disabilities, 27*, 165-174. doi:10.2511/rpsd.27.3.165

Giangreco, M. (2010). One-to-one paraprofessionals for students with disabilities in inclusive classrooms: Is conventional wisdom wrong? *Intellectual and Developmental Disabilities, 48*(1), 1-13. doi:10.1352/1934-9556-48.1.1

Giangreco, M., Broer, S., & Suter, J. (2011). Guidelines for selecting alternatives to overreliance on paraprofessionals: Field-testing in inclusion-oriented schools. *Remedial and Special Education, 32*, 22-38. doi:10.1177/0741932509355951

Giangreco, M., Suter, J., & Hurley, S. (2013). Revisiting personnel utilization in inclusion-oriented schools. *Journal of Special Education, 47*, 121-132. doi:10.1177/0022466911419015

Grim, A. (2015). Sitting in for disability rights: *The section 504 protests of the 1970s* [Web log post]. Retrieved from the National Museum of American History website: https://americanhistory.si.edu/blog/sitting-disability-rights-section-504-protests-1970s

Halle, J. W., & Dymond, S. K. (2008). Inclusive education: A necessary prerequisite to accessing the general curriculum? *Research and Practice for Persons With Severe Disabilities, 33/34*, 196-198. doi:10.2511/rpsd.33.4.196

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning.* New York, NY: Routledge.

Hehir, T., Grindal, T., Freeman, B., Lamoreau, R., Borquaye, Y., Burke, S. (2016). *A summary of the evidence on inclusive education.* Cambridge, MA: Abt Associates. Retrieved online at https://alana.org.br/wp-content/uploads/2016/12/A_Summary_of_the_evidence_on_inclusive_education.pdf

Individuals With Disabilities Education Improvement Act (IDEIA) of 2004, PL 108–446, 20 U.S.C.

Jackson, L., Ryndak, D. L., & Wehmeyer, M. L. (2008). The dynamic relationship between context, curriculum, and student learning: A case for inclusive education as a research-based practice. *Research and Practice for Persons With Severe Disabilities, 33-34*, 175-195. doi:10.2511/rpsd.33.4.175

Janney, R., & Snell, M. (2006). Social relationships and peer support (2nd ed.). Baltimore, MD: Paul H. Brookes.

Jiménez, T. C., Graf, V. L., & Rose, E. (2007). Gaining access to general education: The promise of universal design for learning. *Issues in Teacher Education, 16*(2), 41-54. Retrieved from https://files.eric.ed.gov/fulltext/EJ796250.pdf

Johnson, J., McDonnell, J., Holzwarth, V., & Hunter, K. (2004). The efficacy of embedded instruction for students with developmental disabilities enrolled in general education classes. *Journal of Positive Behavior Interventions, 6*, 214-227. doi:10.1177/10983007040060040301

Katsiyannis, A., Yell, M., & Bradley, R. (2001). Reflections on the 25th anniversary of the Individuals With Disabilities Education Act. *Remedial and Special Education, 22*, 324-334. doi:10.1177/074193250102200602

Katz, J. (2013). The three block model of universal design for learning (UDL): Engaging students in inclusive education. *Canadian Journal of Education, 36*, 153-194. Retrieved from https://files.eric.ed.gov/fulltext/EJ1008728.pdf

Keith, H., & Keith, K. D. (2013). *Intellectual disability: Ethics, dehumanization, and a new moral community.* Chichester, England: Wiley-Blackwell.

Kleinert, H., Towles-Reeves, E., Quenemoen, R., Thurlow, M., Fluegge, L., Weseman, L., & Kerbel, A. (2015). Where students with the most significant cognitive disabilities are taught: Implications for general curriculum access. *Exceptional Children, 81*, 312-328. doi:10.1177/0014402914563697

Kurth, J., Born, K., & Love, H. (2016). Ecobehavioral characteristics of self-contained high school classrooms for students with severe cognitive disability. *Research and Practice for Persons With Severe Disabilities, 41*, 227-243. doi:10.1177/1540796916661492

Laughlin, H. (2004). The eugenical sterilization of the feeble-minded. In S. Noll & J. W. Trent (Eds), *Mental retardation in America: A historical reader* (History of Disability Series, pp. 225-231). New York: New York University Press.

Lee, S.-H., Amos, B. A, Gragoudas, S., Lee, Y., Shogren, K. A., Theoharis, R., & Wehmeyer, M. L. (2006). Curriculum augmentation and adaptation strategies to promote access to the general curriculum for students with intellectual and developmental disabilities. *Education and Training in Developmental Disabilities, 41*, 199-212. Retrieved from the Council for Exceptional Children website: http://daddcec.org/

Lee, S.-H., Wehmeyer, M. L., Soukup, J. H., & Palmer, S. B. (2010). Impact of curriculum modifications on access to the general education curriculum for students with disabilities. *Exceptional Children, 76*, 213–233. doi:10.1177/001440291007600205

Los Angeles Unified School District. (2017). *Determining the appropriate educational placement for students with disabilities in the least restrictive environment (LRE)*. Retrieved from https://achieve.lausd.net/

Lowrey, K., Drasgow, E., Renzaglia, A., & Chezan, L. (2007). Impact of alternate assessment on curricula for students with severe disabilities: Purpose driven or process driven? *Assessment for Effective Intervention, 32*, 244-253. doi:10.1177/15345084070320040601

Lyon, K. J., Blue-Banning, M., & McCart, A. B. (2014). *Lessons from the field.* Lawrence, KS: National Center on Schoolwide Inclusive School Reform: The SWIFT Center.

McClammy, W. (2017, March 21). *Not special needs* [Public service announcement]. Retrieved from http://www.notspecialneeds.com

McDonnell, J., Thorson, N., & Mcquivey, C. (2000). Comparison of the instructional contexts of students with severe disabilities and their peers in general education classes. *Research and Practice for Persons With Severe Disabilities, 25*, 54-58. doi:10.2511/rpsd.25.1.54

McLeskey, J., Waldron, N., Spooner, F., & Algozzine, B. (2014). *Handbook of effective inclusive schools*. New York, NY: Routledge.

Mkrttchian, V. (2018). Project-based learning for students with intellectual disabilities. In P. L. Epler (Ed.), *Instructional strategies in general education and putting the Individuals With Disabilities Act (IDEA) into practice* (pp. 196-221). doi:10.4018/978-1-5225-3111-1.ch007

Morningstar, M., Kurth, J., & Johnson, P. (2017). Examining national trends in educational placements for students with significant disabilities. *Remedial and Special Education, 38*(1), 3-12.

Mueller, T. G., Milian, M., & Lopez, M. I. (2009). Latina mothers' views of a parent-to-parent support group in the special education system. *Research and Practice for Persons With Severe Disabilities, 34*, 113-122. doi:10.2511/rpsd.34.3-4.113

Mueller, T. G., Singer, G., & Carranza, F. (2006). A national survey of the educational planning and language instruction practices for students with moderate to severe disabilities who are English language learners. *Research and Practice for Persons With Severe Disabilities, 31*, 242-254. doi:10.1177/154079690603100304

n2y. (2019a). *A total solution for education*. Retrieved from https://www.n2y.com/total-solution/

n2y. (2019b). *Los Angeles Unified School District* [Case study]. Retrieved from https://www.n2y.com/research-and-results/los-angeles-usd-success-with-unique-learning-system/

National Center and State Collaborative. (2014). *Core content connectors.* Retrieved from https://wiki.ncscpartners.org/index.php/Core_Content_Connectors

National Center for Educational Statistics (NCES). (2019). *Inclusion of students with disabilities.* Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=59

National Council on Disability. (2018). *The segregation of students with disabilities.* Retrieved from https://ncd.gov/sites/default/files/NCD_Segregation-SWD_508.pdf

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core State Standards for English language arts & literacy in history/social studies, science, and technical subjects.* Washington, DC: Author. Retrieved from http://www.corestandards.org/the-standards

Nirje, B. (2003). *Normaliseringsprincipen* [The principle of normalization]. Lund, Sweden: Studentlitteratur.

No Child Left Behind Act of 2001, P.L. 107-110, 20 U.S.C. § 6319 (2002).

Noll, S., & Trent, J. (2004). *Mental retardation in America: A historical reader* (History of Disability Series). New York: New York University Press.

Oliva, P. F. (1982). *Developing the curriculum.* Boston, MA: Little Brown.

Olson, A., Leko, M., & Roberts, C. (2016). Providing students with severe disabilities access to the general education curriculum. *Research and Practice for Persons With Severe Disabilities, 41*, 143-157. doi:10.1177/1540796916651975

Östlund, D. (2012). *The contextual conditions for participation, educational practice in five special schools* (Unpublished doctoral dissertation, Malmö University, Sweden).

Östlund, D. (2015). Students with profound and multiple disabilities in education in Sweden: teaching organisation and modes of student participation. *Research and Practice in Intellectual and Developmental Disabilities, 2*, 148-164. doi:10.1080/23297018.2015.1085327

Pelka, F. (2012). *What we have done: An oral history of the disability rights movement.* Amherst: University of Massachusetts Press.

Reese, L., Richards-Tutor, C., Hansuvadha, N., Pavri, S., & Xu, S. (2018). Teachers for inclusive, diverse urban settings. *Issues in Teacher Education, 27*(1), 17-27. Retrieved from https://files.eric.ed.gov/fulltext/EJ1174905.pdf

Rivera, C., Jiménez, B., Baker, J., Spies, T., Mims, P., & Ginevra, C. (2016). A culturally and linguistically responsive framework for improving academic and postsecondary outcomes of students with moderate or severe intellectual disability. *Physical Disabilities: Education and Related Services, 35*(2), 23-48. Retrieved from https://files.eric.ed.gov/fulltext/EJ1125251.pdf

Ryndak, D. L., Moore, M. A., & Orlando, A. (2008). Access to the general curriculum: The mandate and role of context in research-based practice for students with extensive support needs. *Research and Practice for Persons With Severe Disabilities, 33*, 199-213. doi:10.2511/rpsd.33.4.199

Ryndak, D. L., Ward, T., Alper, S., Storch, J., & Montgomery, J. (2010). Long-term outcomes of services in inclusive and self-contained settings for siblings with comparable significant disabilities. *Education and Training in Autism and Developmental Disabilities, 45*, 38-53. Retrieved from the Council on Exceptional Children website: http://daddcec.org/

Samuels, C., & Harwin, A. (2018, December 5). Shortage of special educators adds to classroom pressures. *Education Week.* Retrieved from https://www.edweek.org/ew/articles/2018/12/05/shortage-of-special-educators-adds-to-classroom.html

Sanford, A., Brown, J., & Turner, M. (2012). Enhancing instruction for English learners in response to intervention systems: The PLUSS model. *Multiple Voices for Ethnically Diverse Exceptional Learners, 13*, 56-70. Retrieved from https://pdxscholar.library.pdx.edu/edu_fac/85/

Scott, L., Thoma, C., Puglia, L., Temple, P., & D'Aguilar, A. (2017). Implementing a UDL framework: A study of current personnel preparation practices. *Intellectual and Developmental Disabilities, 55*, 25-36. doi:10.1352/1934-9556-55.1.25

SFS 1967:940. (1967). *Lagen angående omsorger om vissa psykiskt utvecklingsstörd*a [Law on care for some groups of people with intellectual disability].

SFS 2010:800: Skollag [Education Act]. Accessed 3 December 2019. https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/skollag-2010800_sfs-2010-800

Shogren, K., Luckasson, R., & Schalock, R. (2014). The definition of "context" and its application in the field of intellectual disability. *Journal of Policy and Practice in Intellectual Disabilities, 11*, 109-116. doi:10.1111/jppi.12077

Shogren, K., McCart, A., Lyon, K., & Sailor, W. (2015). All means all: Building knowledge for inclusive schoolwide transformation. *Research and Practice for Persons With Severe Disabilities, 40*, 173-191. doi:10.1177/1540796915586191

Shogren, K., Wehmeyer, M. L., Seo, H., Thompson, J., Schalock, R., Hughes, C., & Palmer, S. (2017). Examining the reliability and validity of the Supports Intensity Scale–Children's Version in children with autism and intellectual disability. *Focus on Autism and Other Developmental Disabilities, 32*, 293-304. doi:10.1177/1088357615625060

Skrtic, T., Sailor, W., & Gee, K. (1996). Voice, collaboration, and inclusion: Democratic themes in educational and social reform initiatives. *Remedial and Special Education, 17*, 142-157. doi:10.1177/074193259601700304

Slee, R. (2011). *The irregular school: Exclusion, schooling, and inclusive education.* London, England: Routledge.

Sobul, D. (1995). *Specially designed academic instruction in English.* Retrieved from https://files.eric.ed.gov/fulltext/ED391357.pdf

Staub, D., & Peck, C. (1995). What are the outcomes for nondisabled students? *Educational Leadership, 52*(4), 36-40.

Swedish Government Official Reports. (1948:27). *1946 – års skolkommissions betänkande med förslag till riktlinjer för det svenska skolväsendets utveckling* [Guidelines for development of the Swedish school system. Report from the 1946 School Commission]. Stockholm, Sweden: Fritze.

Swedish National Agency for Education (2002). Skolverkets rapport nr 216. I särskola eller grundskola? [Swedish National Agency for Education report no 216. In special school or in compulsory school]Stockholm: Liber. Swedish National Agency for Education. (2018). *Curriculum for the compulsory school, preschool class and school-age educare.* Stockholm, Sweden: Author.

Swedish National Agency of Education (2019). PM – Pedagogisk personal i skola och vuxenutbildning läsåret 2018/19 [PM – Staff in schools and in education for adults schoolyear 2018/2019]. Diarenummer: 2019:46.

Swedish National Audit Office. (2019). *Grundsärskolans kunskapsuppdrag – Styrning, stöd och uppföljning [The knowledge assignment in the CSSID – Steering, support and evaluation].* Stockholm, Sweden: Author.

Swedish Schools Inspectorate. (2010). *Undervisningen i svenska i grundsärskolan [The teaching in the Swedish compulsory school for students with intellectual disability].* Quality Review. Report 2010:9. Stockholm, Sweden: Skolinspektionen.

Swedish Schools Inspectorate. (2016). *Integrerade elever – Undervisningssituationen för elever som är mottagna i grundsärskolan och får sin undervisning i grundskolan [Integrated pupils – The teaching situation for students who belongs in CSSID and receive their education in a regular primary school]*. Diarienummer: 400-2015:6583.

Taub, D., Apgar, J., Foster, M., Ryndak, D. L., Burdge, M., & Letson, S. (2019). Investigating the alignment between English language arts curricula developed for students with significant support needs and the CCSS. *Remedial and Special Education.* doi:10.1177/0741932519843184

Taub, D., McCord, J., & Ryndak, D. L. (2017). Opportunities to learn for students with extensive support needs: A context of research-supported practices for all in general education classes. *Journal of Special Education, 51*, 127-137. doi:10.1177/0022466917696263

Teachers Pay Teachers. (2019). *Task boxes.* Retrieved from https://www.teacherspayteachers.com/

Thompson, J., Walker, V., Shogren, K., & Wehmeyer, M. L. (2018). Expanding inclusive educational opportunities for students with the most significant cognitive disabilities through personalized supports. *Intellectual and Developmental Disabilities, 56*, 396-411. doi:10.1352/1934-9556-56.6.396

Thurlow, M., Lazarus, S., Larson, E., Albus, D., Liu, K., & Kwong, E. (2017). *Alternate assessments for students with significant cognitive disabilities: Participation guidelines and definitions* (NCEO Report 406). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.

Timberlake, M. T. (2014). Weighing costs and benefits: Teacher interpretation and implementation of access to the general education curriculum. *Research and Practice for Persons With Severe Disabilities, 39*, 83-99. doi:10.1177/1540796914544547

Towles-Reeves, E., Kleinert, H., & Muhomba, M. (2009). Alternate assessment: Have we learned anything new? *Exceptional Children, 75*, 233-252. doi:10.1177/001440290907500206

United Nations. Commission on Human Rights (1989). *Convention on the Rights of the Child: text of the draft convention as adopted by the Working Group at second reading.* [New York]: United Nations.

United Nations General Assembly (2007). *Convention on the Rights of Persons With Disabilities: Resolution adopted by the General Assembly.* Retrieved from https://www.un.org/development/desa/disabilities/resources/general-assembly/convention-on-the-rights-of-persons-with-disabilities-ares61106.html

U.S. Department of Education. (2003). Improving the academic achievement of the disadvantaged; final rule, 68 Federal Registry 236 (December 9, 2003) (codified at 34 C.F.R. pt. 200)

U.S. Department of Education. (2018). *40th annual report to Congress on the implementation of the Individuals With Disabilities Education Act*. Retrieved from http://www.ed.gov

Wagner, M., Newman, L., Cameto, R., Levine, P., & Garza, N. (2006). *An overview of findings from Wave 2 of the National Longitudinal Transition Study.* Retrieved from the Institute of Education Sciences, National Center for Special Education Research website: https://ies.ed.gov/ncser/pdf/20063004.pdf

West, J. (2000). *Back to school on civil rights: Advancing the federal commitment to leave no child behind.* Washington, DC: National Council on Disability.

World Health Organization (WHO). (2001). *International classification of functioning, disability, and health (ICF).* Retrieved from https://www.who.int/classifications/icf/en/

World Health Organization (WHO). (2011). *World report on disability.* Retrieved from https://www.who.int/disabilities/world_report/2011/report.pdf

Yilmaz, Z., & Topal, Z. (2014). Connecting mathematical reasoning and language arts skills: The case of Common Core State Standards. *Procedia - Social and Behavioral Sciences, 116*, 3716-3721. doi:10.1016/j.sbspro.2014.01.829

Young, K. (2008). "I don't think I'm the right person for that": Theoretical and institutional questions about a combined credential program. *Disability Studies Quarterly, 28*(4). doi:10.18061/dsq.v28i4.132

This page is intentionally left blank

iejee | INTERNATIONAL ELECTRONIC JOURNAL OF ELEMENTARY EDUCATION

January 2020, Volume **12**, Issue **3**, **249-255**

Placement of Students with Extensive Support Needs in California School Districts: The State of Inclusion and Exclusion

Received: **5 October 2019**
Revised: **23 November 2019**
Accepted: **28 December 2019**
ISSN: 1307-9298

www.iejee.com

Meghan Cosier[a,*], Audri Sandoval-Gomez[b], Donald N. Cardinal[c], Shayne Brophy[d]

DOI: **10.26822/iejee.2020358218**

Abstract

Access to general education settings for students with disabilities varies greatly among and within states across the United States and worldwide. The variability in placement and lack of access to general education for students with disabilities, particularly students with extensive support needs, are reasons to identify factors associated with placement and then address the role of current policy. Explored in this study were the placement of students with extensive support needs in 938 school districts across the State of California in the United States and the relationship between placement and economic and demographic factors. Results suggest alarmingly low access to general education classrooms for students with extensive support needs, significant variability in placement, and relationships between placement and factors, such as total enrollment, race, and expenditure.

Keywords: Extensive Support Needs, Special Education, Least Restrictive Environment, Inclusive Education

Introduction

A continued focus on access to placement in regular classes for students with disabilities (SWD) is apparent across the United States and many other countries (Ainscow & Cesár, 2006; Drudy & Kinsella, 2009). In fact, Article 24 of the United Nations Convention on the Rights of Persons With Disabilities (United Nations, 2006) recognizes that establishing inclusive education is essential to realizing the human rights of people with disabilities. Despite the increasing attention on placement in regular classes for SWD, many SWD, particularly those with extensive support needs (ESN; e.g., intellectual disability, autism, and multiple disabilities), continue to be educated away from their peers without disabilities (European Agency for Development in Special Needs Education, 2010; Morningstar, Kurth, & Kozleski, 2014). Furthermore, there is significant variability in placement in, or access to, general education for SWD across various countries (European Agency for Development in Special Needs Education, 2010), across states in the United States (Kurth, 2015; Kurth, Morningstar, & Kozleski, 2014), and across districts within states (Cosier, White, & Wang, 2018). Given that a number of international organizations and initatives cite the importance of placement and access for SWD (United Nations, 2006; United Nations Sustainable Development Goals, 2015), research into factors associated with placement may be applied to future policy and practice that continue to push for increased access for all SWD, particularly those students with ESNs who often have the least access (U.S. Department of Education, 2017). The purpose of this study was to investigate the variability in placement in regular classes and separate settings across districts in California, and factors related to the variability of educational environments for SWD, with a focus on students with ESNs.

As with many countries, the United States continues to work toward increased placement in regular classes with relative success for some SWD (e.g., students with specific learning disability labels) and few increases in access to regular classes for others, such as students with intellectual disabilities (Cole, Murphy, Frisby, Grossi, & Bolte, 2019; Kurth, Morningstar, & Kozleski, 2014). This lack of progress is concerning given states and districts across the United States are required to adhere to policies related to placement, with the guiding least restrictive environment (LRE) principal suggesting a preference for placement in the general education classroom (Yell, 2015).

In regard to preference for access to regular classes, the Individuals With Disabilities Education Act (IDEA; the law that governs special education in the United States) articulates the principle of LRE, stating SWD should be included with their nondisabled peers in the general education classroom "to the maximum extent appropriate" (IDEA, 2004, para. 2[i]) and removed from the regular education environment only when this education, even with "the use of supplementary aids and services[,] cannot be achieved satisfactorily" (IDEA, 2004, p. [a][5][A]). This principle of the act was created with a presumption of access to general education settings (Yell, 2015), yet there is no specific right to access or clear guidelines for implementing this preference. This creates a situation where states and districts are left to interpret the LRE principle as they see fit. The lack of clarity may lead to variation in implementation of such state and federal policy by school- and district-level administrators (Irvine, Lupert, Loreman, & McGhie-Richmond, 2010). These significant differences in access to general education classes among states and districts (Kurth et al., 2014) underscore the shortcomings associated with the LRE principle (Sauer & Jorgensen, 2016).

Nationally, districts and states vary widely in placement practices for SWD (Brock & Schaeffer, 2015; Kurth et al., 2014). This is particularly true for students with ESNs, such as those with emotional behavioral disability (Reddy, 2001; Villarreal, 2015), intellectual disability (Cosier, White, & Wang, 2018; Porter, 2004), autism (U.S. Department of Education, 2017), and multiple disabilities (Kleinert et al., 2015). For example, in California, approximately 6% of students with intellectual disabilities spend 80% or more of the day in a general education classroom. This is in sharp contrast to Iowa, where approximately 64% of students with intellectual disabilities spend 80% or more of the day in a regular class (U.S. Department

[a,*]Corresponding Author: Meghan Cosier, Attallah College of Educational Studies, Chapman University, California, USA. E-mail: cosier@chapman.edu
[b] Audri Sandoval-Gomez, Attallah College of Educational Studies, Chapman University, California, USA. E-mail: agomez@chapman.edu
[c] Donald N. Cardinal, Attallah College of Educational Studies, Chapman University, California, USA. E-mail: cardinal@chapman.edu
[d] Shayne Brophy, Attallah College of Educational Studies, Chapman University, California, USA. E-mail: sbrophy@chapman.edu

of Education, 2017). This same variability is evident between districts and within states among intellectual disability and other disability categories, such as autism (Kurth et al., 2014). Despite the significant variability in placement for SWD, little research exists on the factors associated with placement at the district level, nor have researchers attempted to tease out factors related to such variability that can then be used to inform current and future policy.

Addressing variability and factors associated with placement have direct implications for policy. This includes the identification of trends and factors associated with placement and how they can be addressed via policy mechanisms. Schools, districts, and the state may then be able to make changes in policy and practice that support increased access to general education in systemic, meaningful, and sustainable ways. Prior to identifying specific relationships, identifying placement trends for SWD across districts provides essential information on how current policy is implemented. Moreover, identifying specific relationships between factors associated with placement, such as race (Donovan & Cross, 2002), may create awareness of the need for policy that addresses race and placement in districts across the state. Furthermore, funding issues may be identified that call for the need for additional resources, including personnel and professional development on the inclusion of SWD, especially students with ESNs, in general education settings.

This study is grounded in research in a number of areas related to placement of individuals with disabilities, including the variability in opportunities for access to general education curriculum and contexts (Brock & Schaefer, 2015), relationships between access to general education contexts and demographic and economic factors (Cosier & Causton-Theoharis, 2010), and the relationship between access to general education contexts and achievement (Cosier, Causton-Theoharis, & Theoharis, 2013). This particular study focuses on students with various disability labels, recognizing access to general education varies greatly by disability label, with stagnant growth in access to general education for students considered to have more ESNs, such as those with intellectual disability, autism, and multiple disability labels. While analysis encompassed six disability eligibility categories (specific learning disability, other health impairment, autism, intellectual disability, multiple disabilities, and emotional behavioral disability), this study's focus was on disabilities encompassed in ESNs, including autism, intellectual disability, and multiple disabilities. Moreover, the study design is grounded in prior scholarship acknowledging factors associated with placement, such as geographic location (Brock & Schaefer, 2015; Kurth et al., 2014), race/ethnicity (e.g., Donovan & Cross, 2002; Fierros & Conroy, 2002; National Council on Disability, 2015), expenditure (Cosier & Causton-Theoharis, 2010), and income/socioeconomic status (O'Connor & Fernandez, 2006; Szumski & Karwowski, 2012).

The research cited provides comprehensive information on placement nationally and in certain states, such as Ohio (Brock & Schaeffer, 2015) and New York (Cosier, White, & Wang, 2018). As states have different policies and practices, identifying trends and relationships in a specific state may provide that state with the necessary specific information to address the unique policy and practice recommendations. As California moves toward more inclusive practices, this information could be critical in decision making around future policy, not only in California. There is currently no available research on placement and factors related to students with ESNs in the State of California. To address this gap in the research, two primary research questions associated with placement trends in California were the focus of this study: (a) Is there significant variance across California school districts in the degree to which they include and exclude students in similar disability categories? and (b) What school district factors are associated with placement in general education or separate settings of students with ESNs across school districts?

Method

To address the research questions, we used descriptive and inferential analysis, and descriptive geographic information systems (GIS) mapping of district-level data, across the State of California. Descriptive analyses and GIS mapping were used to identify trends in placement across the state. We used regression analyses to parcel out potential factors associated with placement, including racial and ethnic composition of SWD, number of SWD in the district, percentage of students receiving free or reduced priced meals, and per pupil expenditure.

Data

Using the most current data available from the California Department of Education at the time of this study (2016-2017), we eliminated entries in the database that represented homeschooling, very small local educational agencies (LEAs), or districts where the LEA represented a single school. For example, for this analysis, we excluded the single independent charter schools that act as an independent LEA, as they cannot be compared to entire districts in this type of analysis. However, we understand such LEAs provide valuable information, and we intend to design a study in the future that allows for increased attention to such LEAs. After eliminating outliers, 938 school districts remained in the dataset.

Categories of disability

While we included three main categories of disability to identify students with ESNs (autism, intellectual disability, and multiple disability), additional placement categories were trimmed from our analysis due to their low incidence rates. These low numbers per district were exacerbated by the fact that state reporting, to protect the confidentiality of individual students, included an asterisk in categories with 11 or fewer students. Therefore, these districts were not included in our analyses. These categories represented a total of 3.87% of the total population of SWD in California and include deaf-blindness (0.01%), deafness (0.42%), hard of hearing (1.37%), orthopedic impairment (1.35%), traumatic brain injury (0.21%), and visual impairment (0.45%). The California category of established medical disability (0.06%) was also trimmed for the same rationale.

Composite indices

Across the 938 remaining school districts, we developed composite indices used to provide a clearer interpretation of inclusion and exclusion based on the level of needs of students in each category. The Extensive Needs group, which is the focus of the research represented in this particular portion of the study, included three categories: (a) autism, (b) intellectual disability, and (c) multiple disability.

Measuring placement

In this study, we addressed two different placement options for students with ESNs: (a) inclusive schooling was defined by the percentage of students who spend 80% of the school day in the general education classroom and (b) exclusion was defined by those students who either attend a special school or are educated in a general education classroom less than 40% of the school day. We chose not to use the 40-79% of the day category in this study, as we agree with McLeskey, Landers, Williamson, and Hoppey (2012) that it would be nearly impossible to determine levels of access to general education for the reporting category of 79-40%, since the range is so varied between relatively nonrestrictive environments (79%) to relatively restrictive ones (40%). While this method may not be the best way to measure the constructs of inclusion and exclusion, the data available from the state make this the best available district-level measure of placement.

Variables

Variables used in this study include (with the construct in parentheses): (a) percentage of student with EBD in the following placements: less than 40% of the day in general education and separate setting and 80% or more of the day in general education settings (placement); (b) percentage of students receiving free or reduced price lunch (district socioeconomic status); (c) number of students in the district (district size); (d) district per pupil expenditure (district expenditure); and (e) percentage of Black, White, and Hispanic students with disabilities (race; see Table 1).

Analysis

Research Question 1 was: Is there significant variance across California school districts in the degree to which they include and exclude students in similar disability categories? To address Research Question 1, we present descriptive statistics and descriptive GIS mapping. Research Question 2 was: What schools districts factors are associated with placement in general education or separate settings of students with ESNs across school districts? To address Research Question 2, we present Pearson correlations between critical variables and linear regression analyses used to assess the relationship between common systemic variables and inclusion and exclusion of students with ESNs across California school districts.

Results

In this study, we examined the outcome variables, which included the percentage of SWD in general education at 80% or more of the day and the percentage of SWD in general education less than 40% of the school day and in a separate school or setting. The variables analyzed were race/ethnicity, size of district, and socioeconomic status. Specifically, these variables included: (a) less than 40% of the day in general education and separate setting and 80% or more of the day in general education settings (placement); (b) percentage of students receiving free or reduced price lunch (district socioeconomic status); (c) number of students in the district (district size); (d) district per pupil expenditure (district expenditure); and (e) percentage of Black, White, and Hispanic students with disabilities (race). An overview of the variables can be found in Table 1.

Descriptive Analysis and GIS Mapping

The descriptive analysis suggests a wide range in placement in regular classes and in self-contained or separate settings. The percentage of students with ESNs educated in general education classrooms 80% or more of the day ranged from 0-100 with a mean of 30% and mode of 24%. The percentage of students with ESNs educated 40% or less of the day in general education or in a separate setting ranged from 0-100, with a mean of 42% and median of 46%.

While not formally used in our statistical analysis, the GIS mapping technique provides visual validation to the statistical data presented (see Figures 1 and 2). Each map set represents all 938 school districts in the study. Map sets are needed since school districts vary in their configuration. For example, some districts are elementary only and some are high school and middle school only. Yet, other districts are "unified" or "union" districts, typically including TK-12 student populations. As such, they cannot be reported in a single map. Instead, for each reporting category, we present a set of two maps, one for elementary and unified and another for secondary and unified. This leads to an overlap of the unified school districts appearing on both maps. Viewing them side by side allows for a more complete picture. This overlap only exists in the visual mapping part of this study and has no effect on the statistical analysis. The maps suggest a great deal of variability across districts in California, with districts including high percentages of students with ESNs located geographically adjacent to districts including low percentages of students with ESNs. Similarly, districts with high percentages of students with ESNs in self-contained or separate settings are located geographically adjacent to districts with lower percentages of students with ESNs in self-contained or separate settings.

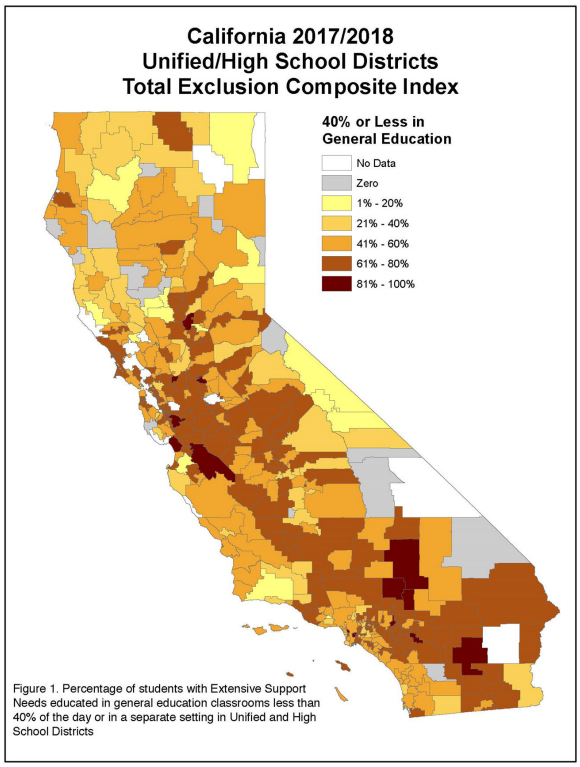

Figure 1. Percentage of students with extensive support needs educated in general education classrooms less than 40% of the day or in a separate setting in the unified and high school districts.

Table 1. *Description of School District Variables*

Variable	*n*	*M*	*Mdn*	*SD*	Min	Max
Total percentage ESN 80%+ of the day in general education	843	28	26	22	0	100
Total percentage ESN included less than 40% of the day or in a separate school	850	50	54	24	0	100
Total SWD enrolled	838	878	288	3220	11	86005
Current expenditure per pupil	920	12575	11375	4556	7372	48156
Percentage eligible free or reduced-price meals	919	56	58	24	1	100
Percentage Black SWD in the district	606	4	1	7	0	49
Percentage Hispanic SWD in the district	736	50	49	27	0	100
Percentage White SWD in the district	738	38	37	24	0	97

Note. n size varies slightly depending on available data for each variable.

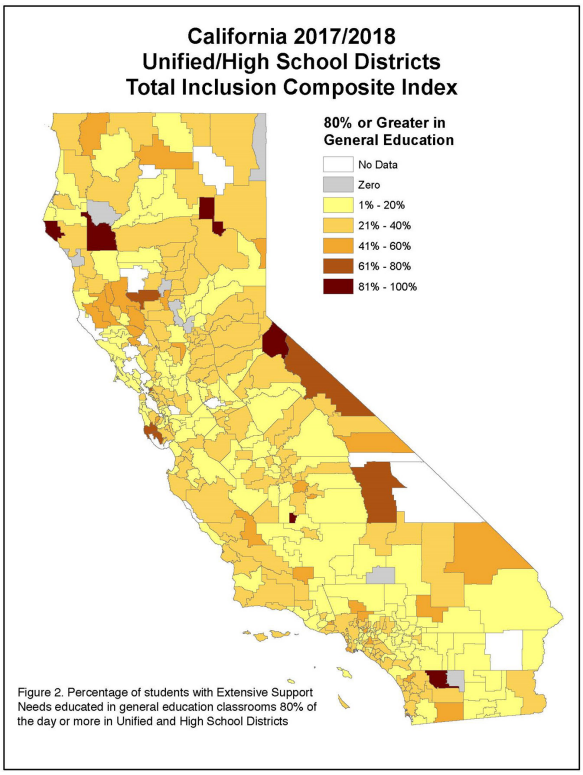

Figure 2. Percentage of students with extensive support needs educated in general education classrooms 80% of the day or more in the unified and high school districts.

Pearson Correlation Analysis

Results of the Pearson correlation analysis showed a number of associations between variables. Most notably, we found the percentage of students with ESNs educated in regular classes 80% or more of the day was positively correlated with the percentage of White SWD (.364, $p< .01$) and total per pupil expenditure (.186, $p< .01$) and was negatively correlated with total enrollment of SWD (-.095, $p< .01$) and percentage of Hispanic (-.140, $p< .01$) and Black (-.202, $p< .01$) SWD. In relation to students with ESNs educated primarily outside the general education classroom, results demonstrated a positive correlation with the percentage of Black (.314, $p< .01$) and Hispanic (.287, $p< .01$) students with disabilities, as well as total enrollment of SWD (.144, $p< .01$), and a negative correlation with the percentage of White SWD (-.437, $p< .01$) and total per pupil expenditure (-.324, $p< .01$).

Following the correlation analysis, we conducted a regression analysis to examine the collective significant effect of the predictor variables of race, district size, percentage of students qualifying for free and reduced price lunch, and expenditure as a predictor of inclusion and exclusion, and to parcel out the individual relationship between the predictor variables and the outcome variable (percentage of students with ESN included in regular classes for a primary portion of the day or educated in a separate setting).

Linear Regression Analyses

Results of the multiple linear regression for students with ESN who spend 80% or more of the day in a general education setting indicated there was a collective significant effect between the independent variables and the outcome variable, $F_{(6,396)}= 12.73$, $p< .001$, $R^2 = .176$. The individual predictors were examined further and indicated the percentage of Black SWD ($\beta= -.170$, $p< .01$), per pupil expenditure ($\beta= .269$, $p< .001$), and percentage of students receiving free or reduced-priced meals ($\beta = -.107$, $p< .001$) were significant predictors in the model (see Table 2).

Results of the multiple linear regression for students with ESNs educated less than 40% of the day in general education or in a completely separate setting indicated there was a collective significant effect between the predictor variables and outcome variable, $\mathbf{F}_{(6,396)}= 25.8$, $p< .001$, $R^2= .282$. The individual predictors were examined further and indicated the percentage of Black SWD ($\beta= .225$, $p< .001$) and per pupil expenditure ($\beta= -.286$, $p< .001$) were significant predictors in the model (see Table 2).

Discussion

Results of this analysis suggest significant variability in placement of students with ESNs across districts and in relationships associated with both race and placement and expenditure and placement. These results provide some insight into placement practices and the interpretation of current policy related to placement of students with ESNs. These results must be interpreted carefully and considered within the entire context of special education practice, policy, and funding in California. Generally, the results point to the need to address policy and practice in relation to interpretation of the LRE principle, particularly focusing on issues of expenditure and race. Furthermore, limitations of the study, such as the unit of analysis being at the district level, indicate the need for further research into the interpretation and implementation of policy at the school, classroom, and stakeholder levels.

Addressing Disparate Placement Practices Through Policy Guidance

Descriptive and GIS mapping analysis demonstrate variability in placement for students with ESNs. The maps suggest districts that are geographically near each other seem to have disparate practices in placement, with some districts includ-

Table 2. *Summary of Regression Analyses*

Variable	Model 1 (80%+ in regular class)		Model 2 (40% or less in regular class or separate setting)	
	B(SE)	*β*	*B(SE)*	*β*
Total enrollment	3.19(0)	-.013	4.2(0)	.011
% Black SWD	-.314(.10)	-.170**	.541(.13)	.225***
% White SWD	.055(.07)	.082	-.174(.09)	.-.200
% Hispanic SWD	-.095(.06)	.269	.123(.08)	.156
Per pupil expenditure	.001(0)	.269***	-.002(0)	-.286***
% students eligible for free or reduced-price lunch	-.061(.026)	-.107**	.056(.03)	.076
R^2 (Adjusted)		.176(.163)		.282(.271)
$F(df_1, df_2)$		12.73(6,396)		25.8(6,396)

Note. $^{*}p< .05$. $^{**}p< .01$. $^{***}p< .001$.

ing higher percentages of SWD and other neighboring districts including very few to no students with ESNs in general education settings. In addition, descriptive analysis shows low rates of inclusion in general education for students with ESNs across the state. Results suggest the need to address placement guidelines and regulations and the need to provide additional resources, such as personnel and professional development, to support the inclusion of students with ESNs in general education classrooms (Ryndak, Reardon, Benner, & Ward, 2007). Furthermore, international organizations and those that provide oversight may use this as a cautionary tale associated with application of policies associated with placement and access to regular classes.

To address placement practices, policymakers and district and school site administrators may want to include clearer training and policy guidance on decision making associated with LRE. Recently, researchers have suggested school-level administrators are often asked to interpret the LRE in practice but do not demonstrate a clear understanding or application of such a principle (O'Laughlin & Lindle, 2015). Furthermore, White, Cosier, and Taub (2018) found many states provide no additional guidance or elaboration on federal LRE regulations, leaving them open for wide interpretation. Similar research in various parts of the globe suggest administrators and those who support inclusive practices often require additional training and knowledge development (Nguluma, Bayrakci, & Titrek, 2017; Valeo, 2008). If administrators are not clear on the guidelines for decision making around LRE, and if states are not providing any additional elaboration or guidance on the implementation of the principle, then it is not a surprise placement practices differ greatly from one district to the next.

Considerations for Race and Expenditure

In this analysis, placement was significantly related to race and expenditure in some way. Specifically, when the percentage of Black SWD increased, inclusion decreased and exclusion increased. The converse was evident as the percentage of White students in the district increased—inclusion increased and exclusion decreased. While the percentage of Hispanic students and increases in exclusion were evident in the correlation analysis, it did not result in a statistically significant relationship in the regression analysis.
These results must be interpreted cautiously as they cannot be tied to student-level phenomena. For example, we cannot state that Black students in particular districts are more likely than other students to be included or excluded, only that we see trends in the percentage of Black SWD and inclusion or exclusion in the district. That said, the results clearly suggest the need to further investigate issues of race placement in the increasingly diverse state of California. Targeted research at the district and school levels may provide the necessary insight and support in the interpretation of these results.

As with race, expenditure shared a strong relationship with inclusion and exclusion, suggesting that, as expenditure rises, so does inclusion, and similarly, as expenditure decreases, exclusion increases. It is essential to avoid the assumption that these results suggest inclusion is "more expensive," as the data for expenditure are not disaggregated to show exactly how much of that money is spent supporting SWD. However, it does suggest better resourced school districts may provide increased opportunities for access to regular classes for SWD. Results on expenditure indicate a need to address the necessary funding for personnel, professional development, and additional resources that support a shift toward inclusive practices. Although inclusive education may not necessarily be more expensive, districts and schools will need additional funding to support the transition from separate settings to inclusive classrooms, or to support pilot inclusion models that can be replicated across the district. Thus, there is a clear need for policy that addresses increased funding for quality inclusive practices.

Directions for Future Research

The limitations in this study highlight the need for additional and multiple forms of research on issues related to placement of SWD. Many of the limitations are associated with data availability and accessibility. First, although the data used in this study are technically publicly available, there is a cost to obtain the data. The data do not all come from the same sources within the California Department of Education; thus, the data must be merged and recoded to conduct the analysis, which comes at significant time and labor costs. This creates barriers to including a number of important variables and/or years of data. We recognize the need to include additional variables and additional years of data to develop a more thorough and robust analysis and hope to continue to develop this dataset.

The second issue with data accessibility is that such publicly available data are only available at the district level. The results of this study point to the need to research issues associated with placement at the school, classroom, and teacher/student levels to obtain a clearer understanding of how stakeholders are implementing and interpreting the LRE principle. The results of this study demonstrate the need for continued quantitative and qualitative research at the school, classroom, and student teacher levels.

Conclusion

Access to regular classes for all SWD, particularly those with ESNs who are often educated in placements outside the general education setting, is not only a pressing global issue (Ainscow & Cesár, 2006), but an issue in California and across the United States. To address inequities in access, we must understand the factors that contribute to these inequities and then systematically address them. This requires a multipronged approach that addresses factors at the classroom, school, district, and state level. Furthermore, specific policy guidance and support is essential. California has the opportunity to act as a leader in working toward increased access for SWD, focusing on the students who traditionally lack access, such as students with autism, intellectual disability, and multiple disabilities.

References

Ainscow, M., & Cesár, M. (2006). Inclusive education ten years after Salamanca: Setting the agenda. *European Journal of Psychology of Education, 21,* 231–238. doi:10.1007/BF03173412

Brock, M. E., & Schaefer, J. M. (2015). Location matters: Geographic location and educational placement of students with developmental disabilities. *Research and Practice for Persons With Severe Disabilities, 40*, 154-164. doi:10.1177/1540796915591988

Cole, S., Murphy, H., Frisby, M., Grossi, T., & Bolte, H. (2019). *A longitudinal study to determine the impact of inclusion on student academic outcomes.* Retrieved from https://www.iidc.indiana.edu/styles/iidc/defiles/CELL/Inclusion-study-handout.pdf

Cosier, M., & Causton-Theoharis, J. (2010). Economic and demographic predictors of inclusive education. *Remedial and Special Education.* Advance online publication. doi: 10.1177/0741932510362513

Cosier, M., Causton-Theoharis, J., & Theoharis, G. (2013). Access to general education` contexts: Time in general education and achievement for students with disabilities. *Remedial and Special Education (Online First)*. Retrieved from rse.sage.com. doi: 10.1177/0741932513485448.

Cosier, M., White, J., & Wang, Q. (2018). Examining the variability in placement of students with Intellectual Disability in New York State. *International Journal of Whole Schooling.* Retrieved from: http://www.wholeschooling.net/Journal_of_Whole_Schooling/IJWSIndex.html

Donovan, M. S., & Cross, C. T. (Eds.). (2002). *Minority students in special and gifted education.* Washington, DC: National Academies Press.

Drudy, S., & Kinsella, W. (2009). Developing an inclusive system in a rapidly changing European society. *International Journal of Inclusive Education, 13*, 647-663. doi:10.1080/13603110802106170

European Agency for Development in Special Needs Education. (2010). *Special needs education country data 2010.* Odense, Denmark: European Agency for Development in Special Needs Education

Fierros, E. G., & Conroy, J. W. (2002). Double jeopardy: An exploration of restrictiveness and race in special education. In D. J. Losen & G. Orfield (Eds.), *Racial inequity in special education* (pp. 39-70). Cambridge, MA: Harvard Educational Press.

Individuals With Disabilities Education Improvement Act of 2004, 20 U.S.C. § 1401 et seq. (2004).

Individuals With Disabilities Education Act. (2019). *Sec 300.114 (a)*. Retrieved from https://sites.ed.gov/idea/regs/b/b/300.114/a

Irvine, A., Lupert, J., Loreman, T., & McGhie-Richmond, D. (2010). Educational leadership to create authentic inclusive schools: The experiences of principals in Canadian rural district. *Exceptionality Education International, 20,* 70-88. Retrieved from https://ir.lib.uwo.ca/eei/vol20/iss2/7/

Kleinert, H., Towles-Reeves, E., Quenemoen, R., Thurlow, M., Fluegge, L., Weseman, L., & Kerbel, A. (2015). Where students with the most significant cognitive disabilities are taught implications for general curriculum access. *Exceptional Children, 81*, 312-328. doi:10.1177/0014402914563697

Kurth, J. (2015). Educational placement of students with autism: The impact of state residence. *Focus on Autism and Other Developmental Disabilities, 30*, 249-256. doi:10.1177/1088357614547891

Kurth, J., Morningstar, M., & Kozleski, E. (2014). The persistence of highly restrictive special education placements for students with low-incidence disabilities. *Research and Practice for Persons With Severe Disabilities, 39*, 227-239. doi:10.1177/1540796914555580

McLeskey, J., Landers, E., Williamson, P., & Hoppey, D. (2012). Are we moving toward educating students with disabilities in less restrictive settings? *Journal of Special Education, 46*, 131–140. doi:10.1177/0022466910376670

Morningstar, M., Kurth, J., & Kozleski, E. (2014). The persistence of restrictive placements for students with low-incidence disabilities. *Research and Practice for Persons With Severe Disabilities, 39*, 227-239. doi:10.1177/1540796914555580

National Council on Disability. (2015). *Breaking the school-to-prison pipeline for students with disabilities.* Retrieved from https://www.ncd.gov/

Nguluma, H., Bayrakci, M., & Titrek, O. (2017). School administrators' attitudes toward inclusion of children with disabilities in the general education classrooms. *International Journal on Lifelong Education and Leadership, 3*(2), 1-12.

O'Connor, C., & Fernandez, S. D. (2006). Race, class, and disproportionality: Reevaluating the relationship between poverty and special education placement. *Educational Researcher, 35*(6), 6-11. doi:10.3102/0013189X035006006

O'Laughlin, L., & Lindle, J. C. (2015). Principals as political agents in the implementation of IDEA's least restrictive environment mandate. *Educational Policy, 29*, 140–161. doi:10.1177/0895904814563207

Porter, G. L. (2004). Meeting the challenge: Inclusion and diversity in Canadian schools. *Education Canada, 44*(1), 11-13. Retrieved from https://www.edcan.ca/articles/meeting-the-challenge-inclusion-and-diversity-in-canadian-schools/

Reddy, L. A. (2001). Serious emotional disturbance in children and adolescents: Current status and future directions. *Behavior Therapy, 32*, 667–691. doi:10.1016/S0005-7894(01)80015-0

Ryndak, D. L., Reardon, R., Benner, S. R., & Ward, T. (n.d.). Transitioning to and sustaining district-wide inclusive services: A 7-year study of a district's ongoing journey and its accompanying complexities. *Research and Practice for Persons With Severe Disabilities, 32*, 228–246. doi:10.2511/rpsd.32.4.228

Sauer, J., & Jorgensen, C. (2016). Still caught in the continuum: A critical analysis of least restrictive environment and its effects on placement of students with intellectual disability. *Inclusion, 4*, 56-74. doi:10.1352/2326-6988-4.2.56

Szumski, G., & Karwowski, M. (2012). School achievement of children with intellectual disability: The role of socioeconomic status, placement, and parents' engagement. *Research in Developmental Disabilities, 33*, 1615-1625. doi:10.1016/j.ridd.2012.03.030

United Nations. (2006, December). *Convention on the rights of persons with disabilities* [Full text of the Convention]. Retrieved from https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html

United Nations. (2015). *United Nations sustainable development goal 4.* Retrieved from https://sustainabledevelopment.un.org/sdg4

U.S. Department of Education. (2017). *IDEA section 618 data products: State level data files.* Retrieved from https://ideadata.org/idea-section-618-data-products

Valeo, A. (2008). Inclusive education support systems: Teacher and administrator views. *International Journal of Inclusive Education, 23*(2), 8-16. Retrieved from https://files.eric.ed.gov/fulltext/EJ814394.pdf

Villarreal, V. (2015). State-level variability of educational outcomes of students with emotional disturbance. *Exceptionality, 23*(1), 1–13. doi:10.1080/09362835.2014.986610

White, J.M., Cosier, M., & Taub, D. (2018). *How states interpret the LRE clause of IDEA: A policy analysis.* Minneapolis, MN: University of Minnesota, The TIES Center.

Yell, M. (2015). *The law and special education* (4th ed.). New York, NY: Pearson.

This page is intentionally left blank

iejee | INTERNATIONAL ELECTRONIC JOURNAL OF ELEMENTARY EDUCATION

January 2020, Volume **12**, Issue **3**, **257-264**

Inclusion in Vietnam: More than a Quarter Century of Implementation

Nguyen Xuan Hai[a], Richard A. Villa[b,*], Le Van Tac[c], Jacqueline S. Thousand[d], Pham Minh Muc[e]

Received: **12 September 2019**
Revised: **13 November 2019**
Accepted: **28 December 2019**
ISSN: 1307-9298

www.iejee.com

DOI: **10.26822/iejee.2020358219**

Abstract

This article traces the evolution of special education policies and services in Vietnam from their introduction to the current expansion of inclusive education for children and youth with disabilities. Impacts reported include increased educational opportunity for and inclusion of children with disabilities, the development of national policy and provincial and local infrastructures for inclusive education, and capacity building for teachers through preservice, in-service, and master's and doctoral programs expressly designed to prepare personnel to forward inclusive education throughout the country.

Keywords: Inclusive Education, International Special Education, Policy Development, Professional Development, Vietnam

Introduction

Vietnam covers an area of 329 600 km2 and has a population of more than 96 million, which makes it the second most populated country in Southeast Asia. It extends across two climatic zones and has more than 3 000 km of coastline. Ethnically, Vietnam is the most homogeneous country of Southeast Asia, with about 90% of the population being Vietnamese.

Vietnam also is the most inclusive, in terms of the education of children and youth with disabilities, of all the Asian countries. How did this happen, and where is the country going with regard to inclusive education? In this article, we describe the evolution, since 1991, of special education services in Vietnam, including the process and impact of the introduction and expansion of inclusive education. We describe the steps taken by the Vietnamese Ministry of Education and Training (MOET), Hanoi National University of Education, and international nongovernmental organizations (NGOs) to install inclusive education as a preferred service delivery model for students with disabilities in Vietnam. Six principles are proposed to advance sustainable development of inclusive educational opportunities and supports for Vietnamese children and youth with disabilities.

Origins and Establishment of Special Education Services in Vietnam

The overall history and evolution of services for students with disabilities in Vietnam parallels that of many other countries in the world. The French colonial government established the first school for Vietnamese students who were deaf in 1886. The year 1975 marks when the Vietnam-American War ended and the country was reunified. In that same year, the Education for All Handicapped Children's Act was enacted by the U.S. Congress, and Vietnam initiated the construction of a special separate school system for students with disabilities. By 1991, Vietnam had established 36 special schools throughout the country, which served 6 000 students with disabilities at an expense of $400 per year per child compared to $20 per year per child without disabilities who attended regular schools.

The seeds of inclusive education in Vietnam were sown nearly 30 years ago. In 1991, Vietnam was the second nation, the first in Asia, to ratify the United Nations (UN) Convention on the Rights of the Child[1]. In that same year, Vietnam enacted legislation in keeping with the UN Convention on the Rights of the Child that required compulsory primary education and enacted a second piece of legislation that dealt with the protection and care for children. The Law of Protection and Care for Children addressed the reintegration of students with disabilities into society, the availability of special schools, and the provision of rehabilitative services. In 1992, a new constitution was ratified that emphasized appropriate vocational training for children with disabilities.

Despite the supportive national legislation and constitutional changes, in practice, the early identification of children with disabilities, provision of parental support, and student inclusion in preschool, primary, or secondary schools was rare. Vietnamese children with intellectual disabilities, physical disabilities, vision and hearing impairments, deaf blindness, learning disabilities, autism, multiple disabilities, and disabilities resulting from Agent Orange syndrome, disease, and congenital conditions had limited access to any schooling. Traditionally, children with disabilities were cared for by their families, who often viewed the children as burdens to society or sources of shame and pity.

Initial Collaborative Efforts Forwarding Inclusion in Vietnam

In response to this prevailing situation, in 1991, the Center for Special Education (CSE) of the Vietnamese National Institute for Educational Sciences began developing and disseminating training materials to support the inclusion of primary school-age students with mild, moderate, and severe disabilities in general education classrooms. The CSE also joined

[a] Nguyen Xuan Hai, Hanoi National University of Education, Hanoi, Vietnam. E-mail: haiblackocean@yahoo.co.uk
[b,*] Correponding Author: Richard A. Villa, Bayridge Consortium Inc., San Diego, California, USA. E-mail: ravillabayridge@cs.com
[c] Le Van Tac, Vietnamese National Institute on Educational Science Center for Special Education, Vietnam. E-mail: taccse7@gmail.com
[d] Jacqueline S. Thousand, California State University San Marcos, California, USA. E-mail: jthousan@csusm.edu
[e] Pham Minh Muc, Vietnamese National Institute on Educational Science Center for Special Education, Vietnam. E-mail: phamminhmuc@yahoo.com

with Catholic Relief Services (CRS) and other NGOs, such as Save the Children, United Nations Children's Fund (UNICEF), and Sweden's Radda Barnen, to create pilot inclusive education models.

In 1995, the CSE and CRS established the first inclusive education models in two northern Vietnamese districts: Thuong Tin and Tu Liem. The pilot sites were selected because one represented a typical rural community and the other represented a typical urban district. Both were in close proximity to Hanoi, the location of the CSE and CRS offices, and had no existing programs for children with disabilities. An initial activity was to identify the number of students with disabilities, which was a difficult task because students with disabilities traditionally had been excluded from official school-related statistics and were cared for at home. Child-find activities conducted in Thuong Tin and Tu Liem identified 1 078 students with disabilities.

Unlike most of the other projects supported by NGOs that focus on the inclusion of children with a specific disability (e.g., students who are blind), CRS Vietnam supported the inclusion of all children, including students with extensive support needs (Villa et al., 2003). The CRS/CSE pilot inclusive education project provided professional learning experiences to administrators, preschool and primary school teachers, and parents of children with disabilities. Training content included rationales for inclusive education, effective multilevel instruction, designing accommodations and modifications, cooperative group learning, student- and family-friendly assessment, and strengths-based individualized educational program planning. The CSE personnel also provided technical assistance to students, families, and school personnel in methods for supporting individual students (e.g., mobility training for a student who was blind, range of motion exercises for a child with cerebral palsy). At the local level, project personnel facilitated the establishment of collaborative teams to plan, implement, and evaluate system change activities to establish inclusive educational practices.

In the 4 years following the initiation of the 1995 CRS pilot inclusion project, 1 000 of the 1 078 identified students with mild, moderate, and severe disabilities were successfully included in general education classrooms in local Thuong Tin and Tu Liem schools. A project evaluation conducted by Catholic Relief Services Vietnam (1998) yielded four major conclusions. First, anecdotal reports from district and local administrators and teachers credited the professional training with prompting major changes in teachers' expectations for children with disabilities and their belief in the feasibility of inclusive education. Prior to the training, expectations for children with disabilities were very limited. Further, teachers reported that, in the past, they did not have the knowledge, resources, or interest in teaching students with disabilities. Anecdotal reports also indicated the training enabled teachers to shift from an exclusively didactic approach to cooperative group learning work with students. A second finding was teachers demonstrated observable increases in their sensitivity to students' individual needs. Third, community members voiced positive changes in their attitudes toward the inclusion of children with disabilities in the community and school. Fourth, parents expressed a more optimistic view of their children's future.

High visibility and the success of this pilot helped facilitate policy changes. Specifically, in 1997, a national regulation barring children with disabilities from preschools was abolished. In 1998, Vietnamese law was changed so, for the first time, students with disabilities had the option of attending either special or regular schools. Also, in 1998, MOET shifted its public philosophical stance, stating that up to 90% of children with special educational needs could be educated in regular schools. It should be noted that the ministry did not identify a specific subgroup or category of disability as unable to have their needs met in general education classrooms. These changes led to the expansion of inclusion efforts described in the following section.

Expansion of Inclusion to Three Additional Provinces

Given the success of the Thuong Tin and Tu Liem project, in 1998, the CSE and CRS decided to expand their collaborative efforts to develop inclusive schools. They applied for and secured funding from the United States Agency on International Development (USAID) under the Displaced Children and Orphan Fund (Villa et al., 2003). The Expansion of Community Support for Children With Disabilities grant application stated:

> *Due to limited capacity and distance from the family and community, separate special education programs and classes have not succeeded in educating the vast majority of children with disabilities in Vietnam, keeping them on the fringes of the society in which they will live and compete for resources. (p. 2)*

This CSE/CRS grant expanded inclusive options to an additional three provinces: Yen Hung-Quang Ninh, Yen Khanh-Ninh Binh, and Luong Son-Hoa Binh. These three were chosen because of their geographic, socioeconomic, and educational diversity as well as the potential for collaboration among communities and organizations.

Two years into implementation, in November 2000, an external evaluation of the project was conducted by a team including professors from national and local Vietnamese universities and teacher training colleges, three medical doctors from Vietnamese pediatric hospitals and clinics, MOET staff, and an international consultant in inclusive education. The evaluation activities were conducted over a 1-week period.

Five sources of data were used in the evaluations: (a) 332 survey questionnaires disseminated to administrators, commune leaders, teachers, and parents of children with and without disabilities; (b) home visits; (c) in-depth group interviews; (d) individual interviews conducted with 28 parents of students with disabilities, 20 teachers, nine parents of students without disabilities, and nine principals; and (e) evaluator field notes. Data collected across the three provinces resulted in approximately 17 hours of classroom observations, 10 hours of audio-taped interviews, and more than 500 pages of survey questionnaires. The evaluation team documented the impact of the Expansion of Community Support for Children With Disabilities project in the six areas described next.

Impact 1: Community Awareness and Support for Children With Disabilities

Community members surveyed and interviewed by the evaluation team indicated that, following participation in project activities, the caring for and supporting of all children, including children with disabilities, clearly became viewed as the responsibility and desire of the community. For example, commune leaders facilitated public awareness campaigns in local newspapers and radio stations. Communes worked through their women and farmer unions to raise funds for schooling children with disabilities.

Impact 2: Development of Local Infrastructures for Inclusive Education

The evaluation team determined, as a result of project activities, a strong infrastructure supportive of inclusive education had developed at province, commune, and school site levels (Villa et al., 2003). Community steering committees comprised of personnel from district education offices, community religious leaders, representatives from the Women's Union and the Farmer's Union, Red Cross, and the Communist Party were established in each community. Members eagerly expressed their desire to support all children in their districts, including children with disabilities. Commune leaders described specific ways in which they actively supported children with disabilities

and their families (e.g., securing wheelchairs and walkers, providing tuition assistance) because of project activities. The project established steering committees, which then built the infrastructure critical for demonstrating sustainable inclusive communities, schools, and classrooms.

Impact 3: Inclusive, Age-Appropriate Placement in Natural Proportions

As children with disabilities were being brought into general education classrooms, every effort was made to ensure they were placed within 1 to 2 years of their chronological age. Prior to the project, students with disabilities who had been given opportunities to attend school frequently were placed in classrooms with much younger children. Consequently, the concept and practice of age-appropriate placement was a major steering committee intervention outcome.

Paralleling the age-appropriate placement outcome was the introduction and implementation of the natural proportion principle (i.e., the principle that the percentage of children with disabilities in a given class should be no greater than the overall percentage of children with disabilities in the general population). Classroom observations, interviews, and survey results indicated, in every case, the natural proportions criteria were observed when students with disabilities were placed through committee and project efforts in the three provinces.

Impact 4: Improved Quality of Teaching and Attitudes Toward Children With Disabilities

Prior to the project, there had been minimal in-service education of any sort. As a result of participating in inclusive education training, community leaders and teachers described: (a) increased activity-based instruction and interaction among teachers and their students, (b) students exploring new ideas via cooperative learning, (c) positive changes in teacher and classmate attitudes and feelings about children with disabilities, and (d) an increased perception that all children should be valued members of a classroom.

Impact 5: Increased Family Support

Affording students with disabilities the opportunity to attend inclusive classes made a positive difference in the lives of families with children with disabilities. For example, the mother of a preschooler with cerebral palsy shared her son, Bon, woke up every morning excited to go to school. She told how he could sit longer and pay attention to both his lessons and his peers. When asked about her expectations and dreams for her son, she shared she now wanted her son to learn to read and write. She said his access to school, trained teachers, and friends had made his and her life happier.

An elder in one village was the grandfather of a primary school-age boy, Thang, who had a disability. This grandfather laughed with joy when he shared his grandson comes home and "relives the lessons every day." He expressed great pride for his community's efforts to improve the quality of his family's life and the lives of families of children with disabilities in their commune.

Impact 6: Overall Improvement in the Educational Lives of Children With Disabilities

At the start of this expansion project in 1998, only 27% (1 304) of the nearly 5 000 preschool and primary school-age children with disabilities in these three provinces attended regular preschool and primary school classrooms. By the end of 2000, an additional 3 000 students with disabilities were attending regular classes, with 86% (4 300) of students with disabilities attending regular classes. Only 588 (14%) of the student population with disabilities were not yet in school. A USAID-approved grant extension allowed the continuation of the expansion project through 2003, enabling project activities to spread to an additional six districts, resulting in 5 000 additional students with disabilities being educated in local schools of these six additional districts and the establishment of inclusive education as the primary service delivery model in 10 of Vietnam's 63 provinces in a brief 8-year period. At the time, the per-pupil cost of educating these students with disabilities averaged $58 per year compared to the $400 average for services in segregated schools and the $20 average for general education students. Clearly, inclusive education had been demonstrated to be cost effective.

In summary, the combined activities of the pilot and expansion projects directly contributed to the education of thousands of students mentioned previously and thousands of additional students with disabilities throughout the country who were included because of the legislative and policy changes, teacher and leadership preparation initiatives, and use of training materials and practices developed by the projects.

Movement Toward Inclusive Education as the Preferred Mode of Education for Children With Disabilities

As with all system change endeavors, sustained commitment and eternal vigilance is required to maintain any progress that has been made, address barriers such as those cited previously, and expand inclusive opportunities countrywide. Vietnam has made such a public commitment to inclusive education, and MOET led the way.

2000-2005: MOET Leadership Introduce Inclusive Education Nationwide

To operationalize its commitment to inclusive education, MOET established four goals to advance inclusive education in 2000:

> 1. By 2005, across the nation, 60%-70% of children with disabilities in urban and "advantaged" areas and 40%-50% of children with disabilities in rural or "disadvantaged" areas would receive their education in general education classrooms with typical age-appropriate peers.
>
> 2. Students in special schools would be transitioned to community schools, and the role of personnel in special schools would be redefined so they function as trainers, technical assistance providers, program evaluators, and consultants.
>
> 3. Cadres of teacher educators would be prepared at the national, district, and school levels to provide ongoing training and technical assistance to local school personnel.
>
> 4. The teacher preparation curriculum would be modified to ensure teachers acquired skills to educate a diverse student body.

As an initial action, MOET directed each of the country's 63 provincial education departments to develop a plan for achieving these four goals. To support the development and implementation of the provincial plans, MOET provided workshops for teachers and university leaders alike. In 2001, workshops for deans and/or vice deans and other leaders of teacher training institutions were conducted in 61 cities and provinces across Vietnam. In 2002, in-service workshops were delivered to incumbent teachers and school directors at the local level through three pedagogical institutions, which also piloted new "best practice" preservice primary

teacher education programs. The MOET also developed best practice materials for use by university faculty to prepare teachers of preschool and primary school-age children with disabilities.

By 2004, training had been provided to all key pedagogic professors and national pedagogical leaders on inclusive education for preschool- and primary-age children. Activities also were initiated to transform local special schools, so personnel who previously served children in segregated settings were equipped to provide outreach and technical assistance in the local community schools. Also, up to and through 2004, an additional 1 200 teachers received in-service training on how to implement inclusive educational practices. Additionally, selected candidates from provincial pedagogical colleges and special schools received 2 years of specialized baccalaureate-level training in inclusive educational practices, with the goal being these professionals would become leaders who could sustain the project's work at the local level when the grant was finished.

2005-2019: Standards, Policies, and Professional Learning to Advance Inclusive Education

Until 2005, the primary focus of inclusive educational activities and training had been at the preschool and primary school levels. Vietnamese governmental agencies, however, knew and understood the need to forward inclusion at the secondary education level as well. In addition, it was understood, if inclusive education was to spread throughout Vietnam for students of any age and grade level, standards of quality for inclusive education needed to be developed and implemented; laws, policies, and procedures supportive of inclusive education needed to be established; and professional preparation of educators needed to include pedagogy on how to adapt curriculum and instruction for a more diverse student population that includes students with a wide range of learning differences and identified disabilities.

What follows are descriptions of the initiatives to establish standards of quality, laws and policies, and professional learning opportunities to advance inclusive education as the preferred mode of education for students with disabilities in Vietnam.

Collaborative efforts to promote the quality of inclusive education through the development of standards

In April of 2012, MOET embarked on a joint venture with faculty of Hanoi National University of Education (HNUE) to develop a set of standards and criteria for guiding and assessing the quality of inclusive education for children with intellectual disabilities in preschool, elementary, and secondary schools. It was recognized that teachers and institutions likely had less knowledge and experience adapting curriculum and instruction for students with intellectual disabilities, as they largely had not been to school prior to the initiation of the inclusion pilot and expansion projects described previously. The eight standards of quality and accompanying 46 criteria that were developed were based upon inclusive educational best practices that had been researched and published primarily in the United States (e.g., setting individualized learning goals in a group learning process, specification of a core curriculum, competence-based assessment of learners that measures individual progress instead of one-off standardized testing). The desired outcome of having a set of inclusive education standards was to not only improve the quality of education for children with intellectual and other disabilities but to provide educational institutions and administrators with the practices and polices they needed to lead the redesign of their schools' organizational structures, policies, and instructional practices.

To get the standards into the hands of provincial school administrators, from 2013 through 2016, MOET held conferences that disseminated the standards in Hanoi, Ho Chi Minh City, and other provinces, such as Da Nang, Ninh Binh, Ninh Thuan, and Quang Ngai. Standards also were disseminated in 2015 at international conferences (e.g., Asia-Pacific Disability Forum in Hanoi, International Workshop on Inclusive Education in Osaka, Japan). The standards and related content were integrated into the coursework for students studying special education at HNUE and Hanoi's National College of Education, particularly in the courses related to policy, strategic action planning and management, special education, and inclusive education.

As a result of these collaborative efforts, educator and administrator awareness of the need to assess and ensure the quality of inclusive education for children with disabilities, particularly those with intellectual disabilities, has increased. Several schools, especially Hanoi schools affiliated with HNUE, have used the standards and criteria to assess and take action to improve the quality of inclusive experiences for their students with intellectual and other disabilities and initiate organizational change in alignment with the standards. The number of children with disabilities, particularly intellectual disabilities, attending and being more involved in academic learning activities in the inclusive classrooms of these schools has increased, and the work of this initiative was translated into policy with the June 22, 2016 MOET Decision Number 23 regulations that articulate the responsibilities of teachers and administrators of preschool and general education institutions regarding inclusive education for students with disabilities. This is one of several national policies, featured and described in Table 1, that MOET issued to provide and expand upon the legal framework for national management mechanisms to install inclusive education in Vietnam.

Law and policy development forwarding inclusive education

As reported in the first large-scale, comprehensive national survey on people with disabilities (General Statistics Office, 2018) conducted in 2016 and 2017, national law and policy have systematically established a clear proinclusive legal framework, explicitly articulating the rights of children with disabilities to a quality education as well as clear roles and responsibilities of all actors in the educational system. This finding is evidenced by the chronology of key laws and policies set forth from 2006 through 2019 presented in Table 1.

These laws and policy circulars both adopt inclusion as an organizing principle of how educational services for children with disabilities are to be structured and delivered and mandate coordinated efforts to increase the capacity of teachers and administrators to structure the education of children with disabilities in inclusive classrooms. To illustrate, MOET's comprehensive January 2018 Decision 338 Education Plan for People With Disabilities (see Table 1) builds upon the previously cited four goals (for 2005) and increases inclusive education targets for 2020 to:

1.Seventy percent of preschool and school-age (i.e., elementary and secondary) students with disabilities accessing quality equitable education,

2.Fifty percent of all educators and administrators having received professional learning experiences to successfully educate students with disabilities,

3.Forty percent of the 63 provinces having an operational Center for Inclusive Education Development resource center providing schools with technical assistance and training, and

4.One hundred percent of provincial governments fully aware of and initiating implementation of national guidelines and regulations on the education for persons with disabilities (summarized in Table 1).

Table 1. *Landmark National Laws, Policies, Regulations, and Circulars Advancing Inclusive Education in Vietnam Since 2006*

Decision No. 23 (June 22, 2006). MOET issues regulations on the responsibilities of teachers and administrators and preschool, elementary and secondary general education institutions on inclusive education for children with disabilities.
Vietnam Law on Disabilities, Chapter IV. Education, Articles 27 -31 (2010). National legislation mandating staffing for educational support of children with disabilities within Vietnamese schools; the establishment of provincial Support Centers for Inclusive Education; development of resource centers that provide technical assistance and training to schools; the responsibilities of teachers, administrators and educational institutions; and the provision of needed educational materials for students with disabilities (e.g., materials in Braille for students who are blind). Inclusive education is emphasized as the main mode of education for children and youth with disabilities.
Decree No. 28, Article 7, Item 2. (April 10, 2012). Teachers educating students with disabilities in inclusive classrooms receive 20% additional salary.
Circular No. 58 (December 28, 2012). MOET and the Ministry of Labor, Invalids, and Social Affairs (MOLISA) stipulate the procedures for establishing, operating, and organizing centers for inclusive education that provide technical support to schools.
Circular No. 42 (December 31, 2013). MOET, MOLISA, and the Ministry of Finance (MIF) articulate policies regarding educational rights of individuals with disabilities including adaptation of curriculum and activities; university studies; and financial support for school supplies, equipment, and scholarships to allow for participation in education.
Circular No. 19 (June 22, 2016). MOET and Ministry of Homeland Affairs (MOHA) establish a new job code for the training of staff (e.g., teachers) that supports the education of individuals with disabilities in educational institutions.
Circular No. 16 (July 12, 2017). MOET issues guidelines for jobs and numbers of educators working in public general education establishments, which includes staff to support the education of individuals with disabilities in educational institutions.
Circular No. 3 (January 29, 2018). MOET issues regulations regarding inclusive education for persons with disabilities, which specifies responsibilities of teachers and administrators to keep information regarding children with disabilities confidential and their responsibilities and rights in implementing competency-based educational reform. This circular also describes establishing within educational settings the resources—materials, specialized equipment, assessment checklists to determine student's abilities, counseling technical assistance personnel—to enable educators to support students with disabilities in their schools and classrooms.
Decision 338 (January 30, 2018). MOET issues the comprehensive Education Plan for People with Disabilities for the 2018 - 2020 time period to advance implementation of inclusive education nationwide.
Decision 2913 (August 10, 2018). MOET issues 5 detailed syllabi and accompanying guidelines for inclusive education modules for preschool, primary, and secondary teacher training programs in Vietnamese colleges and universities.
Decisions 1438 (October 29, 2018). The Ministry of Government issues goals for the 2018-2020 and 2021-2025 time periods to further advance protection, care, and education of children with disabilities in provincial communities nationwide.
Vietnam Law on Education, Article 15. Inclusive education (2019). For the first time, national education law identifies inclusive education as the preferred mode of education and states that the State shall adopt policies to support the implementation of inclusive education.

In October of the same year, the national government, through Decree 1438 (also listed in Table 1) established phased goals over the 2018-2025 time period to advance the inclusion of children with disabilities not only in education but in protection and care services of local communities. Culminating goals for 2025 include:

1.Ninety percent of children with disabilities having access to protection, care, and educational services;

2.Eighty percent of parents and caregivers having been provided knowledge and skills to support children with disabilities to access community protection, care, and educational services;

3.Local staff of social organizations and institutions having been provided with knowledge and skill to facilitate community protection, care, and educational services for children with disabilities; and

4.Ninety percent of the 63 provincial governments establishing and linking pilot models of support for children with disabilities to protection, care, and educational services in the community.

Finally, the most recent 2019 Vietnam Law on Education, Article 15, for the first time identifies inclusive education as a preferred mode of education and expressly states, as a mode of education, it (a) respects diversity, learners' needs and characteristics, and meets differing needs and abilities of learners; (b) ensures equal learning rights and quality; and (c) is nondiscriminatory. Further, the law commits Vietnam to the continued development of policies that support the implementation of inclusive education for children with disabilities according to the provisions of the 2010 Law on Disability and other relevant laws and regulations.

In summary, as the aforementioned goals of recent decisions and law illustrate, Vietnam's current thrust is the sustainable development of inclusive services and education opportunities in communitites nationwide.

Professional preparation for inclusive education

Developing the capacity of teachers to use instructional strategies, school administrators to organize the structure of the day, and resources to be conducive to inclusive classrooms requires ongoing in-service training and support (e.g., through provincial Support Center for Inclusive Education Development resource center technical assistance and training), re-education of teacher educators and local and regional educational leadership personnel at institutions of higher education, and a revamping of teacher preparation curricula. Vietnam's efforts to accomplish the first two—teacher in-service training and support and the re-education of educational leadership—have been described previously and are ongoing. What has not yet been described are the efforts in preservice preparation on inclusion as a requirement for teacher certification and the establishment of new master's and doctoral programs in inclusive special education.

Infusing inclusive education principles and practices into preservice preparation programs

Currently, every preschool teacher in preparation is required to complete a 45-hour course on inclusive principles and practices to obtain teaching certification. Numerous programs preparing elementary and secondary teachers have also adopted this course as part of their curriculum. As noted in Table 1, teachers who educate children with disabilities in their inclusive classrooms receive 20% additional salary.

Master's program in inclusive special education

Following a 2011 MOET decision supporting the initiation of a master's program in inclusive special education, the faculty of special education at HNUE started the first master's degree program to provide educational professionals with additional instruction in special education and inclusive education principles and practices that qualify them to work in a variety of private and public educational institutions (provincial Support Centers for Inclusive Education Development, colleges, schools) and human service settings where children with disabilities are being educated and receiving other services. Candidates who have entered the program have backgrounds in general education, special education, psychology, social work, health, and social science professions. As candidates, they have a choice of two program options—one that focuses on practical instructional and other support skills and a second that provides candidates with additional research skills. In both options, candidates complete a series of core compulsory courses, choose a specialty concentration, and produce a culminating project/thesis. The average time to completion for candidates is 2 years. As of October 2019, 142 candidates have completed one or the other of the programs. An additional 16 will finish in 2020. The authors of this article have had the privilege of instructing candidates in these programs and are most impressed with their enthusiasm, creativity, technical expertise, and vision of inclusion for Vietnam.

Doctoral program in special education

With a 2018 MOET decision supporting the initiation of a doctoral program in inclusive special education, the faculty of special education at HNUE again have taken up the call and are opening its doors to the first Vietnamese special education doctoral candidates.

The Current State of the Education, Life, and Attitudes Toward Individuals With Disabilities in Vietnam

As already mentioned, in late 2016 and early 2017, the Vietnamese General Statistics Office conducted the first large-scale, comprehensive survey to examine the life of individuals with disabilities living in Vietnam. The study, Vietnam National Survey on People With Disabilities (General Statistics Office, 2018), was administered with 35 422 households across all 63 provinces of the country. The purpose of the survey[2] was to identify people with disabilities, to assess their education and socioeconomic conditions, and to provide data for planning and improving the lives of Vietnamese citizens with disabilities.

Survey results revealed 7.06% of the population (age 2 and older) as having a disability and 2.83% of children ages 2 through 17 as having a disability. It should be noted that the majority of students identified as having a disability in Vietnam are students who would be considered as having moderate to severe disabilities in the United States; students with mild disabilities, such as learning disabilities, are not, for the most part, identified as having a disability.

Positive Findings Related to Inclusive Education

The national survey found 94.2% of students identified as having a disability were being educated in general education classes.[3] Nearly half the students with disabilities were identified as having intellectual disabilities. In 2016, the average number of students with disabilities per school was 8.3 persons. Only 0.5% of children with disabilities were educated in special classrooms, and only 1% were educated in special schools. The one exception was children with hearing difficulties: Nearly 26% of these students attended a special classroom.

Continuing Barriers to Inclusive Education

As in all countries attempting to provide inclusive educational opportunities for their citizens with disabilities, there are barriers yet to be overcome. As already suggested, educational policies, structures, and practices supportive of inclusive education have yet to be implemented throughout the country. Additional barriers identified by the survey are continued discrimination, lack of equitable educational opportunities, and uneven teacher professional development.

Discrimination. Discrimination against people with disabilities remains a serious barrier to their participation in society. Only 42.7% of all survey respondents believed children with disabilities should attend school with nondisabled children. Younger respondents tended to be more progressive than older ones, with more than 46% of people under the age of 30 believing children with disabilities should attend "normal" school, compared with 38.5% of those over the age of 60.

Lack of equitable educational opportunity. Survey results revealed accessible opportunities to schools for children with disabilities are much lower than for nondisabled children. Namely, the net school enrollment rate for children with disabilities is 88.7%, while the rate for nondisabled children is 96.1%. The gap in this rate among children with disabilities and nondisabilities increases at the upper secondary level, where only 33.6% of children with disabilities attend school compared with 88.6% of nondisabled youth.

The lack of educational opportunity for and support of children with autism is of particular concern in Vietnam. The Protection Association of Children's Rights (2016) has found the number of Vietnamese children identified as experiencing autism has rapidly increased, yet these children and their families receive little support because autism is not yet identified as a disability category within the law.[4] Results of surveys and interviews of 10 school leaders, 269 teachers, and 120 parents of elementary-age children with autism (Muc, 2019) revealed large numbers of children with autism are not attending school, and, when they do, teachers and family members agree school personnel have not received adequate training and support. Participants in the study called for training for teachers and families, cross-disciplinary collaboration, and policies and practices that recognize autism as a disability and provide the needed educational support.

Uneven teacher professional development. Also found in the report was nearly three quarters (72.3%) of schools still lacked teachers qualified to teach students with disabilities. For every seven teachers in primary and lower secondary schools, only one teacher (14.1%) thusfar has received training to educate students with disabilities.

Six Principles for Sustaining Development of Inclusive Education in Vietnam

Hai (2019), the developer of the master's and doctoral programs at HNUE, a researcher who has closely followed the emerging policies and practices of inclusive education in Vietnam, and coauthor of this article, proposes six principles represented in the star configuration in Figure 1 for guiding future actions to sustain development of inclusive education in Vietnam.

Principle 1. People With Disabilities Are the Center of Sustainable Development

To sustain the development of inclusive education, individuals with disabilities need be at the center of thinking to ensure basic human needs and rights (safety, participation, belonging, respect, opportunities for personal development) common to all individuals are considered and addressed. All citizens have a right to equal opportunity for development in society, to access general resources, and to get public benefit to create knowledge and culture for future generations.

Principle 2. Policies Supportive of Inclusive Education Underpin Inclusive Practice

National policies on the education of persons with disabilities provide national, provincial, and local organizations and governmental agencies direction for supporting inclusive education. The implementation of policies for inclusive education need to meet the real needs of persons with disabilities in their own lives, have financial and human resource backing to actually implement inclusive education with quality and effectiveness, and clarify the roles and responsibilities of local governments, agencies, and schools for regulations to have the desired impact on intended benificiaries.

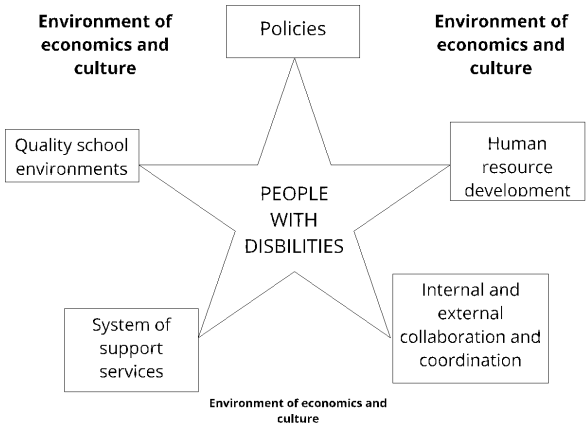

Figure 1. Six principles for guiding sustainable development of inclusive education in Vietnam.

Principle 3. Human Resource Development Is Essential for Sustainable Development

Educational personnel at all levels—general education classroom teachers, special education support personnel, school and provincial administrators, university faculty, researchers—need opportunities to examine and develop their professional values, knowledge, skills, and relationships with one another to become proficient at conceptualizing and constructing inclusive learning experiences for students with disabilities. Human resource development requires the development of standards of practice, job descriptions for existing (e.g., inclusive classroom teacher) and emerging (e.g., special education support personnel) positions, and standards for teacher preparation programs at universities and colleges. Adequate personnel preparation also means educational institutions (e.g., provincial Support Centers for Inclusive Education Development) are proactive in developing and providing in-service training for educators and families of children with disabilities.

Principle 4. The Overall Quality of School Environments Must Be Examined and Improved

Children with disabilities are more likely to be welcomed, valued, and successfully educated in schools that are quality learning environments for all children, with and without disabilities. To determine what organizational structures, policies, and instructional practices need to be improved and redesigned in schools, evaluation of current practices needs to occur. The inclusive education quality assurance standards and criteria jointly developed by MOET and NHUE in 2012 for children with intellectual disabilities are a good starting point for increasing public understanding of the need to assess the quality of school environments. Examining and improving overall school environments across a broad spectrum of cultural, psychological, and pedagogical factors—safety, respect of differences, nondiscriminatory practices, adult and student collaboration, "best practice" teaching and learning methods, family and community involvment—go hand in hand with instilling and installing inclusive education best practices.

Principle 5. A System of Support Services Is Essential for Sustainable Development

For inclusive education to flourish, resources must continue to be allocated, reallocated, and expanded. Despite the fact that most (94.2%) students identified as having a disability receive their education in an inclusive classroom, a significant percentage of elementary-age (11.7%) and upper secondary-age (66.4%) students with disabilities and students with autism of all ages still are not attending school. Clearly, systems of supports need to be developed and expanded to address the needs of these students and those already attending school. Currently, support services (e.g., Support Centers for Inclusive Education Development) in several of the 63 provinces and university teacher preparation programs are available in an increasing number of communities; however, a comprehensive system of supports has yet to be extended to all communities, particularly those in the most rural regions of the country. The MOET, the Ministry of Finance, and other governmental agencies have important continuing roles to play to ensure the number and quality of human resources, material, and technical resources needed across the country are both identified and deployed in planful and systematic ways.

Principle 6. Collaboration and Coordination Is Needed Among Internal and External Organizations

"Collaboration is to education as location is to real estate."

The two U.S. coauthors of this article are fond of making this American comparison or analogy to emphasize the importance of collaboration in most every educational endeavor. Collaboration and coordination of effort among national, provincial, local community (e.g., commune), and school levels were the keys to getting the first inclusive education pilot models started in the early 1990s, and Vietnam benefitted greatly from collaboration with NGOs (e.g., Catholic Relief Services) external to the country to provide both expertise and initial model demonstration funding. Therefore, the sixth and final guiding principle for guiding future actions to sustain development of inclusive education in Vietnam is to remember collaboration sparked this inclusive education movement, and collaboration, creativity, and coordination of funding, policy, and action among all levels of internal educational and governmental levels and current and future external partners will carry it forward to achieve the 2020 and 2025 goals and beyond.

Conclusion

As of the publication of this article, Vietnam has had 28 years of experience with planning for and taking action to establish inclusive education as the preferred service delivery model for students with disabilities The progress that has been made in this time is remarkable, yielding outcomes that position Vietnam as the most inclusive, in terms of the education of children with disabilities, of all Asian countries. New laws and policies in support of an inclusive educational vision and inclusive educational practices have been put into place with impressive speed. Furthermore, the Viet-

namese Ministry of Education and Training has taken steps to transform global thinking into local action by directing and supporting the 63 provincial education departments to take ownership for and implement the ministry's national regulations and guidelines on the education for persons with disabilities to achieve its 2020 goals of increasing the numbers of educational personnel trained, provincial technical assistance resource centers installed, and preschool through secondary students with disabilities receiving an equitable quality education. The Vietnamese vision of inclusive education has been articulated and combined with the development of skills, provision of incentives, allocation of resources, and an action plan developed by the Ministry of Education and Training. There is much other countries can learn from the Vietnamese inclusive education experience.

Footnotes

[1] The United States is the only member nation of the United Nations that has not yet ratified the UN Convention on the Rights of the Child.

[2] To identify disabilities for children ages 2 through 17 years, the survey used the Disability Identification Tool of the Washington Group on Disability Statistics and the Washington/ UNICEF tool.

[3]As a comparison, the United States currently serves 62.7 % of its students with disabilities in general education classrooms for 80% or more of their day (U.S. Department of Education, 2017).

[4] When children with autism are identified, provincial health facilities make the determination and their disability is listed as Other Disabilities.

References

CRS Vietnam. (1998, March). *Mid-term review of inclusive education in Thuong Tin District, Ha Tay Province* (pp. 8-12). Hanoi, Vietnam: Author.

General Statistics Office. (2018). *Vietnam National Survey on People with Disabilities 2016* [Final report]. Hanoi, Vietnam: Statistics Publishing House.

Hai, N. X. (2019). Sustainable development and its model of inclusive education for persons with disabilities in Vietnam. *Journal of Science, 64*(9), 55-65.

Muc, P. M. (2019). *Inclusive education for students with autism spectrum disorder in elementary schools in Vietnam: The current situation and solutions* (Unpublished manuscript). Hanoi, Vietnam: Vietnamese National Institute on Educational Science, Center for Special Education.

Protection Association of Children's Rights. (2016). R*eality of ensuring the rights of children with autism spectrum disorders and some policy recommendations: A research report.* Hanoi, Vietnam: Author.

U.S. Department of Education. (2017). *39th annual report to congress on the implementation of the Individuals With Disabilities Education Act.* Washington, DC: Author.

Villa, R. A., Tac, L. V., Muc P. M., Ryan, S., Thuy, N. T. M., Weill, C., & Thousand J. S. (2003). Inclusion in Vietnam: A decade of implementation. *Research and Practice for Persons With Severe Disabilities 28*, 23-32. doi:10.2511/ rpsd.28.1.23

iejee | INTERNATIONAL ELECTRONIC JOURNAL OF ELEMENTARY EDUCATION

January 2020, Volume **12**, Issue **3**, **265-273**

Inclusive Education for Students with Autism Spectrum Disorder in Elementary Schools in Vietnam: The Current Situation and Solutions

Received: **5 October 2019**
Revised: **21 November 2019**
Accepted: **19 December 2019**
ISSN: 1307-9298

www.iejee.com

DOI: **10.26822/iejee.2020358220**

Cong Van Tran[a] , Muc Minh Pham[b,*], Phuong Thi Mai[c], Tam Thi Le[d], Dan Trong Nguyen[e]

Abstract

In Vietnam, the number of children identified as experiencing autism spectrum disorder (ASD) has rapidly increased. Inclusive education (IE) has been implemented with children with ASD for more than 20 years. The effectiveness with which IE has been implemented to date with children with ASD has previously not been assessed. In this study, we examined (a) the implementation of IE for children with ASD in elementary schools, (b) family and community participation in IE, and (c) factors affecting IE. A mixed-method research design was employed that included surveys and interviews. Surveys included multiple-choice questions on a broad range of IE practices. Ten professionals, community leaders, and school leaders, 263 teachers, and 114 parents of elementary-age children with ASD in Hanoi and Ha Giang participated in the study. Results revealed there were a number of children with ASD who were not attending elementary school. Where IE was implemented for children with ASD, teachers and families often did not receive adequate training and support, thus discouraging their efforts. Participants expressed a desire for more clearly articulated IE practices, training for teachers and families, and cross-disciplinary collaboration.

Keywords: Autism Spectrum Disorder, Elementary Education, Inclusive Education, Vietnam

Autism Spectrum Disorder in Vietnam

Vietnam began to attend to and address the needs of children and youth with autism spectrum disorders (ASDs) beginning in the early years of the 21st century. In January 2019, ASD was officially recognized as a type of disability. It is included in the category of neurodevelopmental disorders (Ministry of Labor, War Invalids, & Social Affairs, 2019). To date, statistical data on the number of students with ASD in Vietnam and the various supports individuals with ASD need are incomplete (Tran et al., 2015). Some researchers have suggested rates of children with ASD have been increasing in Vietnam (Tran & Nguyen, 2017). It is estimated that 0.5%-1% of children in Vietnam have ASD (Nguyen & Tran, 2017). Hence, with 7.7 million children ages 6 to 11 (General Statistics Office of Vietnam, 2019), it is estimated there are approximately 38,500 to 77,000 students with ASD in elementary schools in Vietnam.

Benefit of Inclusive Education for Children With Autism Spectrum Disorder

Hansen, Blakely, Dolata, Raulston, and Machalicek (2014) found children with ASD can benefit from increased opportunities to observe, initiate social interactions, and respond to the social and play bids of typically developing peers inclusive educational settings offer. Previous studies have shown children with ASD in inclusive classrooms have increased the development of social interaction in both communication skills and group activities (Runcharoen, 2014), and their untargeted verbal initiations greatly improved over baseline levels and often approximated the levels of their peers (Rotheram-Fuller et al., 2010). Twenty percent of children with ASD had a reciprocated friendship and also a high social network status (Kasari, Locke, Gulsrud, & Rotheram-Fuller, 2011). The majority of high functioning children with ASD, where high-functioning means a child has no intellectual disability or no clear intellectual disability (i.e., a tested IQ of 70 or above; Hiraiwa, 2012), struggle with peer relationships in general education classrooms, and only a small percentage of them appear to have social success (Kasari et al., 2011). Not only do students with ASD benefit from being included in a general educational setting, but their typical peers also benefit from being exposed to children with disabilities (Dybvik, 2004).

Research of Inclusive Education in the World

Inclusive education (IE) for children with ASD is an organizational and instructional practice in which children with ASD are in the same classrooms as others without disability. Inclusive education is considered the highest goal to facilitate access, success, and participation for children with ASD and the most preeminent educational setting for the development of the majority of children with ASD. Changes in legislation have led to an increased push for children with ASD to be educated in classrooms with typically developing peers (Hansen et al., 2014). The number of students with ASD detected in mainstream schools is increasing (Humphrey, 2008).

Across the world, studies of IE for children with ASD focus on (a) the effects of subjective and objective factors on the ability to learn inclusively for children with ASD (subjective factors include childrens' functional level, whether high functioning or low functioning autism, and the developmental history of each child; objective factors include education history, especially whether the child has had early intervention, and forms of IE; Eldar, Talmor, & Wolf-Zukerman, 2010; Zuki & Rahman, 2016); (b) effective IE measures (Davidson, 2015; Denning & Moody, 2013; Gavaldá & Qinyi, 2012; Simpson, de Boer-Ott, & Smith-Myles, 2003; Wilson & Landa, 2019); (c) the effect of IE on the development of the areas of school skills, communication, and social interaction (Lal, 2005; Ncube, 2014; Runcharoen, 2014); (d) comparing the effectiveness of IE to specialized separate education (Waddington & Reed, 2017);

[a]Cong Van Tran, VNU University of Education, Vietnam National University, Hanoi, Vietnam. Email: congtv@vnu.edu.vn
[b]Corresponding Author: Muc Minh Pham, National Center for Special Education, The Vietnam National Institute of Educational Sciences, Vietnam. Email: phamminhmuc@yahoo.com
[c]Phuong Thi Mai, National Center for Special Education, The Vietnam National Institute of Educational Sciences, Vietnam. Email: maiphuongxcxp@gmail.com
[d]Tam Thi Le, National Center for Special Education, The Vietnam National Institute of Educational Sciences, Vietnam. Email: letamht@gmail.com
[e]Dan Trong Nguyen, National Center for Special Education, The Vietnam National Institute of Educational Sciences, Vietnam. Email: dannguyen.au86@gmail.com

and (e) the significance of applying specific methods, such as music, applied behavior analysis (ABA; Lovaas, 1987), or treatment and education of autistic and related communication handicapped children (TEACCH; Schopler, Mesibov, Shigley, & Bashford, 1984) and the effectiveness of IE, which focusing on the long-term effectiveness in the development of children with ASD (Koegel, Matos-Freden, Lang, & Koegel, 2012; Wiseman, 2015; Panerai et al., 2009).

Research of Inclusive Education in Vietnam

Vietnam is a developing country in the group of "low- and middle-Income countries" (LMIC; World Bank, 2019), with very specific characteristics and difficulties associated with low and middle socioeconomic status. Vietnamese children with disabilities receive attention from society, and public policies reflect this. However, there is an unclear picture of the number of students with ASD and the services being provided to students, their parents, and teachers since ASD has only recently been officially recognized as a disability by the Ministry of Labor, Invalids and Social Affairs (2019).

There is limited understanding of ASD in Vietnam (Vu, Whittaker, Whittaker, & Rodger, 2014). Research on ASD in Vietnam has been conducted on various topics with most publications written in Vietnamese. Some research publications in English on ASD in Vietnam exist, including research on early identification and intervention services (Tran et al., 2015), family difficulties (Vu et al., 2014), and the operating standards of the agencies (Tran & Weiss, 2018). Publications in Vietnamese were found to be much more diverse, ranging from community knowledge and awareness, identification and intervention, and operations of agencies. For example, the content of these studies focused mainly on the current situation of early identification in the special centers and hospitals in Vietnam (Nguyen, 2014b) and application of early intervention methods and measures, such as TEACCH, picture exchange communication system (PECS), ABA, social stories, and Montessori (Nguyen, 2014a).

Researchers on community perceptions and perspectives on autism have shown stigma and discrimination against children with ASD and their families exist in Vietnamese community settings (Vu et al., 2014). Preschool teachers have serious misconceptions about the cause, diagnosis, and treatment of ASD (Vu & Tran, 2014). Researchers have also focused on community-based behavior interventions (CBI) effective for children with ASD (Tran, Vu, Nguyen, Vu, & Vo, 2018), solutions to early intervention issues for the children with ASD in the years 2011-2020 (Nguyen, 2014), and models of community-based ASD intervention. This research revealed symptoms and behavioral problems were reduced and some skills changed in communication, expression and text, family and community life, and play (Vu, Tran, & Tran, 2017).

Epidemiological studies indicate the rate of children with ASD in Vietnam is increasing at a rapid rate (Tran & Nguyen, 2017). The percentage of children with ASD in Vietnam is estimated to range between 0.5%-1% (Tran & Nguyen, 2017). The rate of children with ASD is increasing, and factors that have an important correlation with an increase in ASD include living in an urban environment, male gender, and mother's farming occupation (Hoang et al., 2019).

The Vietnamese National Center for Special Education (NCSE) has been conducting empirical research on IE since 1991, with the support of UNICEF, in 40 communes representing provinces from North, Central, and South Vietnam. In addition to collaborating with UNICEF, Radda Barnen-Sweden (now Sweden Save the Children) and Catholic Relief Services (in the United States) have also cooperated with NCSE to conduct pilot projects in some areas around the nation. Based on the pilot research results, the Ministry of Education and Training (MOET) determined in 2001 that IE should be the main model of education for children with disabilities in Vietnam, including children with ASD.

Regarding broader issues, some studies have shown that policies, management systems, organization, and support for vocational education for individuals with ASD are still inadequate (Nguyen, 2014). The model of intervention classrooms in inclusive preschools has some conveniences, such as saving time, but there are a number of limitations in classroom management and communication among stakeholders (Le, Duong, Pham, Bui, & Tran, 2015). Researchers in some studies have examined the support for students with ASD in inclusive schools, such as solutions for enhancing the reading skills of students with developmental disorders in primary school (Mai & Le, 2018).

Some researchers examined psychological characteristics among children with ASD, such as cognitive characteristics (Ngo, 2009), adaptive behavior characteristics at school (Nguyen, 2014), language characteristics (Nguyen, 2018), and characteristics of children with ASD (Pham, 2013). Studies on gender education and vocational education for children are in the beginning stages of implementation.

The Important Role of Evaluation of Inclusive Education Status

The evaluation of IE for children with ASD in Vietnam is necessary for several reasons. First, the assessment of the situation helps to test the quality and effectiveness of IE for children with ASD. For example, previous studies have shown some children with ASD do not benefit from inclusive educational settings without additional planning and systematic instruction (Bellini & Akullian 2007; Koegel et al., 2012; Williams White et al., 2007).

Second, assessing the situation helps us recognize the difficulties and barriers that exist for IE for children with ASD. For instance, Eldar et al. (2010) examined the inclusion of children with ASD in regular classrooms in Israel and analyzed factors related to its success and failure. Thirty-seven inclusion coordinators participated in Eldar et al.'s study and conveyed views on their own experience. The qualitative methodology used in their study was comprised of regular bimonthly reports by the inclusion coordinators, a comprehensive report on one successful and one "problematic" student event, and open interviews with the inclusion coordinators. Two general categories emerged for success and failure: (a) the included student's functioning (behavioral, social, cognitive) and (b) the inclusion environment (collaboration, attitude, organizational aspects). Two general categories emerged from Eldar et al.'s analysis of success and difficulty factors: (a) the inclusion environment (didactic aspects, the environment's behavior) and (b) the student's functioning (personal/internal factors, social skills, stereotypical behavior, student's abilities).

Witoonchart and Huang (2018) identified four barriers to IE for children with ASD: (a) educational historical determinism, which referred to agendas related to educating children with autism but that had not yet been fully implemented; (b) government marginalization of the need of education for children with autism, which referred to unclear legislation on how to make laws related in educating these children plausible; (c) parental and societal lack of understanding of educating children with special needs, which referred to the misconception of these children's learning ability; and (d) unbalanced and unequipped special education professionals and the crucial reality consideration, which referred to the questionable skills of teachers in teaching this specific group of children. According to Lindsay et al. (2013), teachers also face several challenges in classrooms that include children with ASD, such as understanding and managing behavior, sociostructural barriers (i.e., school policy, lack of training, and resources), and creating an inclusive environment (i.e., lack of understanding from other

teachers, students, and parents). Teachers in their study recommended more resources, training, and support were needed to enhance the education and inclusion of children with ASD.

As mentioned previously, research on epidemiology, early identification, early intervention, and IE of children with ASD in Vietnam has been conducted. However, the number of studies is still quite small compared to the research conducted in other countries. Before this study, research on the reality of IE for children with ASD in Vietnam had not been conducted. The research reported in this article can provide a clearer view of the current situation. In this study, the situation was examined through a variety of perspectives: parents, teachers, school administrators, and autism experts in Vietnam. One of the important goals of this study was to explore the status of IE for students with ASD in rural, mountainous areas where there is difficulty in accessing assessments, interventions, and IE. The research findings will support policymakers and stakeholders in planning support for children with ASD and their families. The results of this study will provide a road map to better support children with ASD in elementary schools in Vietnam.

Our study focuses on two main questions: What is the current situation of IE for children with ASD in Vietnam? and What do teachers, parents, administrators, and community administrators want to improve the quality of IE for ASD children?

Methodology

As part of a state-level project, the research team was able to access a large and varied number of participants in both highly developed and under-developed areas of Vietnam. A combination of research methods was applied to acquire data in both width and depth dimensions. Data analyses were mostly descriptive.

Participants and Recruitment

A total of 387 participants took part in this study, including 263 teachers in inclusive schools; 114 caregivers of children with ASD; and 10 professionals, community, and school leaders. Participant characteristics are presented in Table 1.

Research Procedures

Two provinces of Northern Vietnam were selected: Ha Noi and Ha Giang. Ha Noi is the capital of Vietnam and represents Vietnam's developed urban areas. Ha Giang is a remote area that represents areas of the country with low socioeconomic status. The research team first contacted the Department of Education in the two provinces to seek their support in selecting schools in which students with ASD were enrolled. Subsequently, the research team developed an introduction letter and then contacted and visited the schools for data collection.

Survey questionnaires were completed by 263 teachers and 114 parents. Teachers who participated in the study were introduced to the researchers by the principals of the school where they worked. Researchers explained the purpose of the study, distributed the questionnaires, and collected them after they were completed. Parents of children with ASD were connected with the researchers through teachers who were teaching their children. Although the teachers completed the questionnaires themselves, the parents were interviewed as research assistants recorded their responses to the items on the survey questionnaires.

Finally, 10 professionals considered to have expertise in autism also participated in the study, including researchers from universities, research institutes, nongovernmental organizations, and private centers; school principals and vice principals; social workers; population service staff; a commune chairman; and medical staff. They were invited to participate and had 5 days to agree or decline to participate. If interested in participating, the researcher set up an appointment in an environment where the participant felt comfortable. Interviews lasted between 30 and 90 minutes. They were interviewed to ascertain their understanding and attitudes on statistics and trends related to educating students with ASD and their recommendations for improving IE for children with ASD in Vietnam.

Table 1. *Participant Characteristics*

Inclusive Teachers	Statistics
Total	263
Ethnicity	84% Kinh (major ethnic group in Vietnam); 16% other ethnicities
Gender	89.9% female; 10.1% male
Age	*M*= 40.0; *SD*= 9.0; Age range= 22 to 55
Tenure years	*M*= 17.7; *SD*= 9.8; Year range= 1 to 35
Years of working with children with ASD	*M*= 2.76; *SD*= 2.8; Year range= 0 to 19
Parents	Statistics
Total	114
Caregiver's gender	71.7% mothers; 28.3% fathers
Caregiver's age	*M*= 39.3; *SD*= 9.3; Age range= 25 to 69
Ethnicity	69.6% Kinh; 30.4% other ethnicities
Living locations	45.6% rural; 53.4 urban
Child's gender	78.1% boys; 21.9% girls
Child's age	*M*= 7.9; *SD*= 1.7; Age range= 6 to 11
Professionals	Statistics
	10 professionals including:
	4 school principals and vice principals
	2 commune chairmen
	4 professionals in psychology, education, healthcare

Measurement

In this study, a mixed-methods approach was used, which involved both questionnaires and in-depth interviews for data collection. Questionnaires included multiple-choice questions on a broad range of IE practices for teachers, parents, and school principals and vice principals. In-depth interviews were conducted with school managers and experts in special education fields. The interview questionnaire included five items on the presence of children with ASD in schools and community, supporting services for families and children affected by ASD, individual education programs for children with disabilities in general and with ASD specifically, the inclusion of children with disabilities in general and ASD specifically, and the reality of IE of children with ASD in their schools and community. Researchers contacted assigned teachers, parents, or school principals/vice principals by phone or email; set up a meeting during which participants signed consent forms and gave permission for audio recording; and conducted the interviews using semistructured interview techniques. Each participant was given a small compensation (around $5.00) for their participation.

Self-report questionnaires for teachers and parents were developed by researchers based on the review of literature. The purpose of the questionnaire was to determine teachers' and parents' knowledge and skills regarding the implementation of IE for children with ASD in elementary schools. Questionnaires for teachers included 53 items divided into three main parts. The first part contained general information about the teachers (name, age, background, training, number of years working with children with ASD, number of trainings in ASD received, and knowledge about policies for children with ASD). The second part consisted of questions related to the status of implementing IE at elementary schools for children with ASD. The third part included their recommendations for improving the quality of education for students with ASD.

The questionnaire for parents requested information on demographics and characteristics of the responder and their child with ASD; items about the status of IE services and school activities; perceived barriers to and difficulties of IE (e.g., facilities, training, knowledge, skills, or policy); and their recommendations for assuring access, success, and participation for their children in IE systems (e.g., better payment for teachers, better facilities and equipment, separate intervention services for their children with ASD in the school contexts).

Data Processing and Analyses

Interviews were recorded and transcribed for the researchers. Transcriptions of interviews were manually analyzed by the researchers who read and selected the most important, prominent, and repeated ideas to include in the analysis section. For the self-report questionnaire, the research team used the Statistical Package for Social Sciences Version 20 (SPSS 20) to input and analyze the data through four steps: (a) after collecting questionnaires, all papers were checked to verify completion; (b) the data entry process was implemented by trained research assistants; (c) there was a double check of all questionnaires and data entry to ensure there was no missing information; and (d) the data were analyzed by the research team. For the current study, descriptive analyses including calculating means, standard deviations, and ranges.

Results

After careful data analysis, the research team found important information about IE for children with ASD in Vietnam. They included the accessibility and challenges for children with ASD in IE settings and recommended solutions from teachers, parents, administrators, and community administrators for improving the quality of IE for ASD children.

Evaluation of the Access Status of Children With Autism Spectrum Disorder in Inclusive Educational Settings

An analysis of questionnaire and interview responses from professionals, teachers, and community leaders revealed that, although most children with ASD were attending regular schools, there were still some children with severe ASD who were not going to school. Some were attending special centers or schools. As a commune vice chairman in Ha Giang, said:

> *In terms of children with disabilities, nearly all children go to school, but some families with children with severe disabilities send their children to special schools. Especially, some children with disabilities do not go to school or went to school but dropped out; some children attend schools 1-2 years later than the standard age.*

Another community leader, a comune welfare staff member in Ha Giang, added, "According to our exact data, two children have not gone to school yet because they cannot walk, and two children left school because the school said they could not study and hit friends."

According to data collected from parents who have children with ASD, 23 children with ASD (15.6%) were learning in specialized educational settings, and 17 children (11.6%) were learning in integrated educational settings. Most children with ASD were learning in IE settings (107 children or 72.8%; see Figure 1 for a graphic representation of these data comparing rural an urban settings).

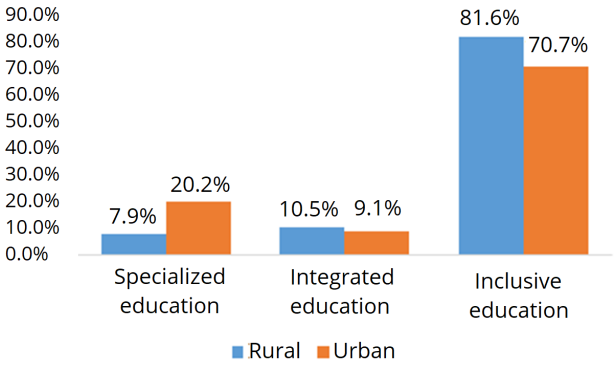

Figure 1. Prevalence of children with ASD learning in different educational settings according to parents.

Although most children with ASD (*n*= 101 or 74.8%) had an individualized education plan (IEP), there were 34 children (25.2%) who did not have an IEP. Interestingly, the percentage of children with ASD in integrated and inclusive educational settings in rural areas was higher than in the urban area. In contrast, the percentage of children with ASD in specialized educational settings in rural areas was lower than in urban areas. In this study, we also found the percentage of children with an IEP in rural areas (64.9%) was lower than those with an IEP in urban areas (80.9%).

Teachers' Ability to Support Inclusive Education for Children With Autism Spectrum Disorder

Research results indicated three main subjective factors prevented teachers from providing high-quality teaching for children with ASD in general education classrooms: (a) educational curriculum, (b) teaching methodology, and (c) lack of supporting facilities. The primary barrier identified by teachers was lack of access to curriculum and strategies to teach students with ASD. There was not an efficient and suitable curriculum for teachers at inclusive schools serving students with ASD. Most teachers were not trained in developing or using specific curricula during their teacher preparation. Research results showed 45% of teachers used self-developed curricula, and 55% did not use any curricula or used programs devel-

oped in other countries. These included such initiatives as the Early Start Denver Model (Dawson et al., 2010), Hanen (Sussman & Lewis, 1999), Small Steps (Pieterse, Treolar, Cairns, Uther, & Brar, 1985), and TEACCH (Schopler et al., 1984)). These curricula have been translated but not adapted to the Vietnamese context. Nineteen of 76 teachers reported they had no chance to use the methods and curricula for teaching children with ASD due to a lack of training.

Teachers responding to the questionnaire indicated they focused primarily on teaching cognitive skills to students with ASD over motor and sensory skills. Specifically, 70% taught math and Vietnamese to children with ASD, 58.8% taught social language to children with ASD, and 15% focused on gross motor skills and sensory processing.

Teachers indicated they did not possess instructional skills that match the strengths and characteristics of each child with ASD in their classes. The survey listed popular teaching methods for children with ASD including ABA, language therapy, music therapy, modeling, structure activities, and relationship development intervention (Gutstein & Gutstein, 2009). More than half of teachers (52.5%) indicated they only used the same general methods and strategies with children with ASD that they use with other students.

The reported lack of educational curriculum and teaching methodology is a result of inadequate teacher preparation, as 43.7% of teachers (*n*= 115) indicated they had not participated in any training in special education in general and ASD in particular. The content of the training they received was focused on general information on disability, and the professional development trainers were educators or doctors from the provincial levels. The study revealed there is a significant lack of training in teaching methodology, adjusting curriculum, and behavior management.

The reason many teachers do not have the opportunity to learn about policy documents was lack of training. The delivery of policy documents to teachers, including IE, is relatively limited. Of 263 teachers, only 26 reported having read documents or books related to special education. Two teachers indicated they had not had access to useful reading materials, and 180 teachers did not answer the question.

Sharing their teaching experience with each other is one way to improve teaching quality. Forty-nine surveyed teachers indicated they often shared their knowledge and skills with other teachers. Some teachers (*n*= 24) reported learning from parents via conversations or official meetings. An elementary teacher explained:

> *There are no regular trained teachers. Some teachers received short-term training on IEP, but the training contents were general information, so it is very difficult for them to teach children with disabilities in general and children with ASD in particular. The results of commune leaders and social workers also show the same fact that teachers of the school are not trained in the education of children with disabilities.*

Lastly, inadequate facility and teaching aids prevent teachers from providing quality IE. About half of the teachers (50.6%) asserted they do not have enough time for children with ASD. The same percentage reported a lack of efficient facilities and teaching aids. Significantly, 69.6% of teachers thought they lacked teaching experience for supporting these children in inclusive classrooms. As one elementary school principal explained, "Facilities and teaching equipment for students with disabilities are not available." An elementary teacher said, "Besides those main subjective factors, there is no funding to invite experts or organize training for teachers; and allowances and policies for IE teachers are not implemented."

Other participants spoke about the role of families. As an elementary teacher explained, "Besides, school-family connection is poor because of low parents' awareness and economic condition. In specific, a small number of parents do not want their children to learn with students with disabilities." Another elementary teacher added, "Many families of children with ASD do not recognize their children as being ASD and do not cooperate in educating children at home." A commune leader/social worker in the community observed, "Moreover, most families of people with disabilities are in difficult economic conditions, so medical examination and treatment and rehabilitation are still limited."

Several participants spoke of the role of community. According to one elementary teacher, "Lastly, community supporting IE but only a formality, no specific activities." One commune leader/social worker added, "The locality has no separate budget to support people with disabilities." Another commune leader/social worker said, "The school does not yet meet the requirements of infrastructure and teaching equipment for students with disabilities."

Parents' Ability to Support Inclusive Education for Children With Autism Spectrum Disorder

The parent survey had several items on the detection and diagnosis of their child's challenges. Nearly half (48.2%) of parents reported having diagnosed their child's ASD before the age of 3. The percentage of parents participating in training was much higher than the percentage of teachers. Of the 114 parents participating in the research study, only 27.1% reported having received no training on special education, while 72.8% indicated they had participated in training on topics such as special education, language therapy, or developing IEPs.

Parents reported they had experienced many challenges and difficulties in securing IE for their children. Only 31.6% of parents reported having a basic understanding of ASD. Almost two thirds of parents (65.8%) reported getting to inclusive schools was challenging for their child. Moreover, more than half of parents (55.7%) did not have any chance to be trained in specific content and techniques for teaching their child at home. More than half of parents (51.9%) expressed they had not received any support from the government for their children at inclusive schools.

Difficulties of Children With Autism Spectrum Disorder in Inclusive Educational Settings and Teachers' Solutions

Participating and working well in inclusive settings seems to be a challenge for children with ASD. Based on research results, typical barriers making the inclusion process difficult for the students with ASD include classroom rules, curriculum, and assessment.

Difficulties in Following Classroom Rules

In Vietnam, students are expected to follow classroom rules, including sitting quietly, keeping silent during instruction, raising hands before talking, and obeying teacher directions. The rules are strictly applied to keep classrooms of up to 55 to 60 students orderly. Following these classroom rules is difficult for children with ASD, according to the results of our study. Of the 263 teachers in the study, nearly 92% reported their students with ASD faced difficulties in understanding and following rules, which led to atypical classroom behaviors like talking freely, making noise, getting out of their seat, or disobeying teachers' directions and requirements for learning activities.

Some factors have been revealed from the direct interviews as subjective reasons contributing to these factors. Teachers tended to use oral instruction rather than providing

visual cues or prompts when introducing or asking students to follow the rules. Modeling how to follow rules for individual children was rarely done. As a consequence of the first factor, visual behavioral management boards/cards or visual classroom rule boards/cards were not used in regular settings (only one surveyed teacher said "yes," accounting for only 0.4% of the teachers). There were incompatibilities between teachers' guidance of classroom rules and children with ASD's challenges in language and social-communicative skills.

Difficulties in Following Their Learning Curriculum

Study results indicate the inability of teachers to modify and adjust curriculum is one of the main reasons many children with ASD were unable to achieve in their classes. Specifically, 96.1% of teachers reported their children with ASD had very low grades on final exams. Most student grades on final exams were below 4 out of a potential of 10. This was especially true for students in Grades 3, 4, and 5.

According to survey results, 46% of teachers shared they had reduced the number of learning subjects for their children with ASD. They perceived students with ASD do not possess the knowledge and skills to study as many subjects as their peers without disabilities. However, 53% of teachers did not reduce the number of subjects for their students with ASD. The students in these classes were expected to take all classes and participated in the same learning activities as their nondisabled peers, including more challenging subjects.

Among the teachers, 43.9% reportedly made no adjustment in allotted time, content, and task difficulty for their students with ASD, whereas 56.1% of teachers reported they had been trying to provide the children with more time and make the learning tasks easier. Nevertheless, interviews revealed these teachers implement modifications without basing modifications on any criteria, which leads to inconsistency in how they adjust learning activities. Although nearly half of participating teachers agreed their children with ASD faced difficulty in accessing and mastering the general education curriculum, only 24 teachers reported developing or using specific programs to provide more suitable learning opportunities for their students.

Difficulty With an Evaluation of Students With Autism Spectrum Disorder's Academic Performance

An additional reason making the process of participating and studying in general education classrooms for children with ASD difficult is the assessment methods used in those settings. According to survey respondents, 75% of the teachers developed an IEP for students with ASD. That result is consistent with the response on the survey item analyzing teachers' evaluation methods for children with ASD: 74% of teachers used IEP-based assessment, 21.2% used curriculum-based assessment, and 4.8% used other assessment types.

Recommendations From Teachers, Parents, and Stakeholders to Improve the Effectiveness of IE for Children With Autism Spectrum Disorder

To improve the quality of IE for children with ASD, teachers recommended awareness and skill-level training, enhanced communication and collaboration, improved identification and assessment procedures, adherence to legislative requirements, and improved facilities. More than half (60.1%) of teachers felt it was essential to increase awareness of community members (i.e., parents, teachers, and typical students) about ASD. An even greater number (71.9%) indicated there should be training provided to teachers on how to include students with ASD. A similar proportion (69.2%) thought there should be a tight connection between teachers, parents, and stakeholders to improve the situation. About half (49.4%) suggested individuals with special education expertise in special education participate in the educational process. As one elementary teacher explained:

> *The question of how to have qualified teachers to teach children with disabilities and children with ASD is most urgent. Therefore, the first thing is to provide knowledge, methods, and skills for teachers teaching students with different types of disabilities.*

Commune leader and social worker interviews also revealed a need for training. One commune social worker said, "The schools must let teachers be trained on IE for children with disabilities," said a community social worker." Additional recommendations from participants are presented in Table 2.

Discussion

Teachers working directly with children with ASD in schools are critical to the success of IE. This study indicates barriers still exist that make IE less than successful for many students with ASD in Vietnam. Teachers lacked the skills to successfully facilitate access and success for students with ASD. Curriculum modification, appropriate teaching methodology, behavior management, and supporting facilities were often found lacking in classrooms where children with ASD were placed. To educate children with ASD, teachers need to have knowledge of the cognitive, social, and behavioral characteristics of this population, individual students' strengths and needs, and how to support these students (Loiacono & Valenti, 2010).

Furthermore, a lack of knowledge is a problem not only for teachers. In Vietnam, the percentage of people in communi-

Table 2. *Additional Participant Recommendations*

An elementary teacher	"Ensuring communication and connection between stakeholders. The schools cooperate closely with local health and welfare staff to mobilize children to go to school."
An elementary teacher	"Strengthening communication to have closer coordination and increase the participation of communities and families of children with disabilities in IE."
A commune leader/social worker	"Mobilizing community forces, and especially families and schools, to educate children with disabilities"
An elementary teacher	"The identification and assessment of children with ASD should be more efficient; in the case of being suspected of having a disability, it is required to assess to have an appropriate educational model."
An elementary teacher	"Regarding legislation implementation, policies for teachers teaching students with disabilities should be in practice."
A commune leader/social worker	"Many policies for people with disabilities and education for people with disabilities have been issued for many years but they have not been implemented, so how should policies be put into practice? Such as policies for IE teachers."
An elementary teacher	"About the facility, teaching aid, and school accommodation, strengthening facilities and teaching equipment for students with disabilities."
A commune leader/social worker	"Ensuring facilities for educating children with disabilities."

ties who have sufficient knowledge of ASD is relatively low (Nguyen & Nguyen, 2016). Parents also experience many challenges and difficulties with respect to quality IE for their children. More than half of parents did not have any chance to be trained on specific content and techniques for teaching their child at home. The provision of regular ongoing training (e.g., courses, seminars, or workshops) could help many teachers at both the preservice and inservice level gain appropriate knowledge and skills to teach children with ASD in general education classrooms (Edward, 2015). Training would also benefit parents and address many of the concerns they identified.

The existence of these barriers to inclusion is not unique to Vietnam. A lack of knowledge and skills to teach children with ASD in inclusive educational settings is a common problem in many countries around the world. A similar difficulty has been recognized in Tanzania, the United States, Saudi Arabia, China, Canada, and other countries (Alharbi et al., 2019; Busby, Ingram, Bowron, Oliver, & Lyons, 2012; Edward, 2015; Lindsay et al., 2013; Liu et al., 2016). Previous studies have shown teachers have little knowledge of children with ASD and how to work with them in general education classrooms. A lack of inservice training and seminars has been identified as a huge barrier to successfully educating children with ASD in general education classrooms (Alharbi et al., 2019; Busby et al., 2012; Edward, 2015; Lindsay et al., 2013; Liu et al., 2016).

The IEP provides an educational map for children with disabilities (Ruble, McGrew, Dalrymple, & Jung, 2010). This study revealed about a quarter of children with ASD did not have an IEP, which is a serious problem resulting in a lack of coordination between parents and educators to identify strengths, goals, and supports needed to educate children with ASD. In the study, parents also reported there is a significant number of children with ASD who do not have their own IEP (25%). Therefore, policymakers and other stakeholders need to focus on the schools located in rural areas to provide training on how to develop IEPs for children with ASD and monitor schools to ensure they are developed.

Conclusion

The resutls of this study indicate IE for students with ASD still faces several challenges that must be overcome before IE is a reality. The research showed a number of children with ASD were not even attending elementary school. Where IE was implemented for children with ASD, teachers and families often did not receive adequate training and support, which served to discourage their efforts. Study participants expressed a desire for more clearly articulated IE policies and practices, training for teachers and families, and cross-disciplinary collaboration.

Acknowledge

This research was funded by the Ministry of Education and Training of Vietnam (Grant No. 031/2018/HĐ-KHGD/16-20. ĐT.031).

References

Alharbi, K. A., Alharbi, A. A., Al-Thunayyan, F. S., Alsuhaibani, K. A., Alsalameh, N. S., Alhomaid, M. H., . . . Hamid, P. F. (2019). Schools teachers' knowledge about autism in Al-Badayacity, Al-Qassim Region, Kingdom of Saudi Arabia. *Materia Socio-Medica, 31*(1), 4-9. doi:10.5455/msm.2019.31.4-9

Bellini, S., & Akullian, J. (2007). A meta-analysis of video modeling and video self-modeling interventions for children and adolescents with autism spectrum disorders. *Exceptional children, 73*(3), 264-287.

Busby, R., Ingram, R., Bowron, R., Oliver, J., & Lyons, B. (2012). Teaching elementary children with autism: Addressing teacher challenges and preparation needs. *The Rural Educator, 33*(2), 27-35. Retrieved from http://epubs.library.msstate.edu/index.php/ruraleducator/article/view/146

Davidson, A. (2015). The effectiveness of strategies that promote the inclusion of children with Autism in mainstream classrooms. *The STeP Journal, 2*, 88-106. Retrieved from http://ojs.cumbria.ac.uk/index.php/step/article/view/263

Dawson, G., Rogers, S., Munson, J., Smith, M., Winter, J., Greenson, J., . . . Varley, J. (2010). Randomized, controlled trial of an intervention for toddlers with autism: The Early Start Denver Model. *Pediatrics, 125*, e17-e23. doi:10.1542/peds.2009-0958

Denning, C. B., & Moody, A. K. (2013). Supporting students with autism spectrum disorders in inclusive settings: Rethinking instruction and design. *Electronic Journal for Inclusive Education, 3*(1), Article 6. Retrieved from https://corescholar.libraries.wright.edu/ejie/vol3/iss1/6/

Dybvik, A. C. (2004). Autism and the inclusion mandate: What happens when the children with severe disabilities like autism are taught in regular classrooms? Daniel knows. *Education Next, 4*, 42-50. Retrieved from https://www.educationnext.org/

Edward, G. (2015). Teachers' knowledge and perceived challenges of teaching children with autism in Tanzanian regular primary schools. *International Journal of Academic Research and Reflection, 3*(5), 36-47. Retrieved from http://www.idpublications.org/

Eldar, E., Talmor, R., & Wolf-Zukerman, T. (2010). Successes and difficulties in the individual inclusion of the children with autism spectrum disorders in the eyes of their coordinators. *International Journal of Inclusive Education, 14*, 97-114. doi:10.1080/13603110802504150

Gavaldá, J. M. S., & Qinyi, T. (2012). Improving the process of inclusive education in children with ASD in mainstream schools. *Procedia-Social and Behavioral Sciences, 46*, 4072-4076. doi:10.1016/j.sbspro.2012.06.200

General Statistics Office of Vietnam. (2019). Number of classes, direct teaching teachers and pupils of general education as of 30 September. Retrieved from https://www.gso.gov.vn/

Gutstein, S. E., & Gutstein, H. R. (2009). *The RDI book: Forging new pathways for autism, Asperger's and PDD with the relationship development intervention program.* Houston, Tex. , ST: Connections Center.

Hansen, S. G., Blakely, A. W., Dolata, J. K., Raulston, T., & Machalicek, W. (2014). Children with autism in the inclusive preschool classroom: A systematic review of single-subject design interventions on social communication skills. *Review Journal of Autism and Developmental Disorders, 1*, 192-206. doi:10.1007/s40489-014-0020-y

Hiraiwa, M. (2012). High-functioning autistic children: From a physician's perspective. *Japan Medical Association Journal, 55*, 298-302. Retrieved from https://www.med.or.jp/english/journal/toc/current.html

Hoang, M. V., Le, V. T., Chu, T. T. Q., Le, B. N., Duong, M. D., Thanh, N. M., . . . Bui, T. T. H. (2019). Prevalence of autism spectrum disorders and their relation to selected socio-demographic factors among children aged 18–30 months in northern Vietnam, 2017. *International Journal of Mental Health Systems, 13*, 29-37. doi:10.1186/s13033-019-0285-8

Humphrey, N. (2008). Including pupils with autistic spectrum disorders in mainstream schools. *Support for Learning, 23*, 41-47. doi:10.1111/j.1467-9604.2007.00367.x

Kasari, C., Locke, J., Gulsrud, A., & Rotheram-Fuller, E. (2011). Social networks and friendships at school: Comparing children with and without ASD. *Journal of Autism and Developmental Disorders, 41*, 533-544. doi:10.1007/s10803-010-1076-x

Koegel, L., Matos-Freden, R., Lang, R., & Koegel, R. (2012). Interventions for children with autism spectrum disorders in inclusive school settings. *Cognitive and Behavioral Practice, 19*, 401-412. doi:10.1016/j.cbpra.2010.11.003

Lal, R. (2005). Effect of inclusive education on language and social development of children with autism. *Asia Pacific Disability Rehabilitation Journal, 16*, 77-84. Retrieved from http://www.aifoeng.it/archives/disability/apdrj/2005_jan_apdrj.pdf

Le, N. A., Duong, H. T., Pham, H. T., Bui, X. T. K., Tran, C. V. (2015). Research on inclusive education model for children with developmental disorders in preschool. *Hanoi National University of Education Journal of Sciences, 60*, 64-74. Retrieved from http://stdb.hnue.edu.vn/portal/journals.php?articleid=3503

Lindsay, S., Proulx, M., Thomson, N., & Scott, H. (2013). Educators' challenges of including children with autism spectrum disorder in mainstream classrooms. *International Journal of Disability, Development and Education, 60*, 347-362. doi:10.1080/1034912X.2013.846470

Liu, Y., Li, J., Zheng, Q., Zaroff, C. M., Hall, B. J., Li, X., & Hao, Y. (2016). Knowledge, attitudes, and perceptions of autism spectrum disorder in a stratified sampling of preschool teachers in China. *BMC Psychiatry, 16*, 142-153. doi:10.1186/s12888-016-0845-2

Loiacono, V., & Valenti, V. (2010). General Education Teachers Need to Be Prepared to Co-Teach the Increasing Number of Children with Autism in Inclusive Settings. *International Journal of Special Education, 25*(3), 24-32.

Lovaas, O. I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. *Journal of Consulting and Clinical Psychology, 55*(1), 3-9. doi:10.1037//0022-006x.55.1.3

Mai, P. T., & Le, T. T. (2018). Supporting the inclusive for students with developmental disorders at Thanh Tri Primary School – Hanoi. *Vietnam Institute of Educational Sciences Journal of Educational Sciences, 9*, 105-109. Retrieved from http://www.vnies.edu.vn/tin-tuc/tap-chi-khoa-hoc/17512/muc-luc-va-tom-tat-tap-chi-khoa-hoc-giao-duc-viet-nam-so-09---thang-09-nam-2018

Ministry of Education and Training (MOET). (2017). *Statistics of primary education.* Retrieved from http://www.moet.gov.vn/

Ministry of Labor, War Invalids, & Social Affairs. (2019). Circular Number 01/2019/TT-BLĐTBXH stipulating the determination of disability level by the Council of disability determination. Retrieved from http://congbao.chinhphu.vn/noi-dung-van-ban-so-01-2019-tt-bldtbxh-28499?cbid=25938

Ncube, A. C. (2014). Social and psychological effects of inclusive classrooms: Insights from teachers of inclusive classes in selected primary schools in Zimbabwe. *Journal of Emerging Trends in Educational Research and Policy Studies, 5*, 449-556. Retrieved from http://jeteraps.scholarlinkresearch.com

Ngo, D. X. (2009). *Research on perceptions of the autistic children in Ho Chi Minh City* (Doctoral dissertation). Institute of Psychology, Hanoi, Vietnam.

Nguyen, K. T., & Nguyen, P. H. (2016). Autism knowledge in the community in Hanoi, Vietnam in 2017: A cross-sectional survey. *International Journal of Science and Research, 7*, 1442-1445. Retrieved from https://www.ijsr.net/archive/v7i3/ART20181010.pdf

Nguyen, P. T. (2018). Linguistic characteristics of autistic children of preschool age. *Journal of Education, 5*, 130-132. Retrieved from https://tapchigiaoduc.moet.gov.vn/vi/magazine/so-dac-biet-ki-1-thang-5/27-dac-diem-ngon-ngu-cua-tre-roi-loan-pho-tu-ki-lua-tuoi-mam-non-5961.html

Nguyen, T. H., Nguyen, T. T. N., Le, B. V., Thanh, N. M., Nguyen, T. K. L., & Nguyen, H. H. (2017). Whole-exome sequencing identifies two novel missense mutations (p. L111P and p. R3048C) of RYR3 in a Vietnamese patient with autism spectrum disorders. *Genes & Genomics, 3*9, 301-306. doi:10.1007/s13258-016-0495-2

Nguyen, T. T. (2014a). *Measures to develop communication skills for autistic children 3-4 years old* (Doctoral dissertation). Retrieved from http://www.vnies.edu.vn/upload/Boiduong/Luan%20An%20Thanh.pdf

Nguyen, Y. T. H. et al. (2014b). *Examining early intervention and inclusive education for the children with autism in Vietnam nowadays and in the period 2011-2020* [State-level research project]. Retrieved from https://www.most.gov.vn/vn/tin-tuc/2783/nghiem-thu-de-tai-doc-lap-cap-nha-nuoc-ve-tre-tu-ki.aspx

Panerai, S., Zingale, M., Trubia, G., Finocchiaro, M., Zuccarello, R., Ferri, R., & Elia, M. (2009). Special education versus inclusive education: The role of the TEACCH program. *Journal of Autism and Developmental Disorders, 39*, 874-882. doi:10.1007/s10803-009-0696-5

Pham, M. M. (2013). Autism and autistic children's education. *Journal of Education, 311*, 24-25, 35. Retrieved from https://tapchigiaoduc.moet.gov.vn/vi/magazine/so-311-ki-i-thang-6/10-tu-ki-va-giao-duc-tre-tu-ki-1567.html

Pieterse, M., Treolar, R., Cairns, S., Uther, D., & Brar, E. (1985). *Small Steps: An early intervention program for children with developmental delays*. North Ryde, New South Wales, Australia: Macquarie University, Special Education Centre.

Rotheram-Fuller, E., Kasari, C., Chamberlain, B., & Locke, J. (2010). Social involvement of children with autism spectrum disorders in elementary school classrooms. *Journal of Child Psychology and Psychiatry, 51*(11), 1227-1234.

Ruble, L. A., McGrew, J., Dalrymple, N., & Jung, L. A. (2010). Examining the quality of IEPs for young children with autism. *Journal of Autism and Developmental Disorders, 40*, 1459-1470. doi:10.1007/s10803-010-1003-1

Runcharoen, S. (2014). The development of social interaction of children with autism in inclusive classrooms. *Procedia-Social and Behavioral Sciences, 116*, 4108-4113. doi:10.1016/j.sbspro.2014.01.899

Sanz-Cervera, P., Fernández-Andrés, M. I., Pastor-Cerezuela, G., & Tárraga-Mínguez, R. (2017). Pre-service teachers' knowledge, misconceptions and gaps about autism spectrum disorder. *Teacher Education and Special Education, 40*(3), 212-224. DOI: 10.1177/088840641770096.

Schopler, E., Mesibov, G. B., Shigley, R. H., & Bashford, A. (1984). Helping autistic children through their parents. In E. Schopler & G. B. Mesibov (Eds.), *The effects of autism on the family* (pp. 65-81). Boston, MA: Springer

Simpson, R. L., de Boer-Ott, S. R., & Smith-Myles, B. (2003). Inclusion of learners with autism spectrum disorders in general education settings. *Topics in Language Disorders, 23*, 116-133. doi:10.1097/00011363-200304000-00005

Sussman, F., & Lewis, R. B. (1999). *More than words: A guide to helping parents promote communication and social skills in children with autism spectrum disorder.* Toronto, Ontario, Canada: Hanen Centre.

Tran, C. V., Weiss, B., Khuc, T. N., Tran, T. T. L., Nguyen, T. T. N., Nguyen, H. T. K., & Dao, T. T. T. (2015). Early identification and intervention services for children with autism in Vietnam. *Health Psychology Report,* 3(3). Doi: 10.5114/hpr.2015.53125

Tran, C. V., & Weiss, B. (2018). Characteristics of agencies providing support services for children with autism spectrum disorders in Vietnam. *International Journal of Social Science and Humanity, 8*, 116-121. doi:10.18178/ijssh.2018.V8.946

Tran, C. V., & Ngo, D. X. (2017). The effectiveness of the autism intervention program is based on the combination of the family and the intervention centers. *Vietnam Journal of Science & Technology, 6*, 48-54.

Tran, C. V., & Nguyen, Y. H. T. (2017). Proportion of children with autism spectrum disorders: The number of statistics. *Hanoi National University of Education Journal of Sciences, 62*(9AB), 322-330. doi10.18173/2354-1075.2017-0112

Tran, C. V., Vu, H. T. T., Nguyen, A. P., Vu, T. V., & Vo, M. T. K. (2018). Effectiveness of community-based behavioral intervention for children with autism spectrum disorders. *Hanoi National University of Education Journal of Science, 63(9), 178-284.*

Vu, H. S., Whittaker, A., Whittaker, M., & Rodger, S. (2014). Living with autism spectrum disorder in Hanoi, Vietnam. *Social Science & Medicine, 120*, 278-285. doi:10.1016/j.socscimed.2014.09.038

Vu, H. T. T., Tran, V. Q. & Tran, C. V. (2017). Community-based model of intervention for the children with autism spectrum disorder: Organization of implementation and initial results. *Proceedings of the Application of Psychology, Education and Developmental Disorders Intervention Conference* (pp. 324-334).

Vu, T. V., & Tran, C. V. (2014). Attitude of preschool teachers in Hanoi on autism spectrum disorder. *Proceedings of National Mental Health in Schools Conference* (pp. 486-496).

Waddington, E. M., & Reed, P. (2017). Comparison of the effects of mainstream and special school on national curriculum outcomes in children with autism spectrum disorder: An archive-based analysis. *Journal of Research in Special Educational Needs, 17*, 132-142. doi:10.1111/1471-3802.12368

Wilson, K. P., & Landa, R. J. (2019). Barriers to educator implementation of a classroom-based intervention for preschoolers with autism spectrum disorder. *Frontiers in Education, 4*, Article 27. doi:10.3389/feduc.2019.00027

Wiseman, S. (2015). The use of music as an educational intervention for children with autistic spectrum disorder (ASD). *Research in Teacher Education, 5*(1), 7-14. Retrieved from https://www.uel.ac.uk/research/research-in-teacher-education

Witoonchart, P., & Huang, Y. J. (2018). Inclusive or segregated classroom: A question of educating children with autism. *Ramathibodi Medical Journal, 41*, 54-66. Retrieved from https://www.tci-thaijo.org/index.php/ramajournal/article/view/125166

World Bank. (2019). *The World Bank in Vietnam: Overview.* Retrieved from https://www.worldbank.org/en/country/vietnam/overview

Zuki, N. H. M., & Rahman, N. S. N. A. (2016). Challenges Malaysian teachers face in the inclusion of autistic students in the normal classroom. *Journal of Education and Social Sciences, 4*, 33-41. Retrieved from http://irep.iium.edu.my/52058/

This page is intentionally left blank

iejee | INTERNATIONAL ELECTRONIC JOURNAL OF ELEMENTARY EDUCATION

January 2020, Volume **12**, Issue **3**, **275-281**

Inclusion and Intellectual Disabilities: A Cross Cultural Review of Descriptions

Deborah Taub[a,*], Megan Foster[b]

Received: **23 September 2019**
Revised: **12 November 2019**
Accepted: **21 December 2019**
ISSN: 1307-9298

www.iejee.com

DOI: **10.26822/iejee.2020358221**

Abstract

The benefits of inclusive practices for students with intellectual disabilities have been demonstrated in several countries; however, large-scale inclusive practices remain elusive. Having a clear understanding of how researchers define the terms inclusion and intellectual disability would support more cross-cultural collaboration and facilitate the generalization of practices. Addressed in this paper is the question of what themes, if any, exist in conceptualizing inclusion and intellectual disability across the peer-reviewed research of six countries, three of which have been identified as highly inclusive and three that have been identified as minimally inclusive. These findings may be used to further research into barriers and opportunities for inclusive practices for students with intellectual disabilities.

Keywords: Intellectual Disability, Inclusion, International, Education

Introduction

An argument has been made for the importance of inclusive practices in education and creating positive postsecondary outcomes for individuals and the larger community in terms of economic opportunities, quality of life, and safeguarding basic human rights (World Health Organization [WHO], 2011). The United Nations' Convention on the Rights of People With Disabilities (CRPD; United Nations, 2006) detailed the basic human rights all people should have and provided suggestions for policy and practice to achieve these goals by 2015. The CRPD has been adopted by 161 countries with the express goal of reaffirming all people are entitled to human rights. Disability is recognized as a culturally constructed experience, so inclusion in daily community experiences with nondisabled peers is an integral part of building sustainable practices and policies. Yet, around the world, millions of children with disabilities remain who are segregated or not included at all in schools (Richler, 2017).

Overview

In this paper, we focus on students with intellectual disabilities (IDs) as defined by the American Association of Intellectual and Developmental Disability (AAIDD). The AAIDD (2019) define ID as "a disability characterized by significant limitations in both intellectual functioning and in adaptive behavior, which covers many everyday social and practical skills. This disability originates before the age of 18" (para. 1). Approximately 1-2% of the population have an ID (McKenzie, Milton, Smith, & Ouellette-Kuntz, 2016). In the United States, compared to people without disabilities and those with other disabilities, people with IDs have worse economic, social, and quality of life outcomes (Bouck, 2012). They also have been consistently segregated in school (Kurth, Morningstar, & Kozleski, 2014) despite research on inclusive practices indicating better in-school and postschool outcomes for students with IDs (White & Weiner, 2004).

Because the CRPD is a legally binding international treaty with a supervisory body and implementation mechanisms, the definitions it uses have significant potential to create widespread and sustainable change. While each country, state, and even school will have a different context, if researchers clearly describe foundational definitions, such as what is meant by students with educational needs and inclusion, then an implementation framework would support scaling up at an international level. Until all people with disabilities, including those with IDs, are active and equal members of school communities, the goals of the CRPD remain unfulfilled. We use the construct of inclusion to mean all students, including those with IDs, are active members of the school and classroom community working toward the same goals as their peers without disabilities and have the possibility of those goals being achieved with appropriate accommodations and support.

Constructing Disability

The construction of disability has and continues to evolve (Buntinx & Schalock, 2010). The medical model holds disability as a purely biological construct that impairs a person. While some progress has been made in psychological and medical professions in taking into account the lived experiences of disability, many countries' educational systems remain focused on solely a biological definition of disability (Sabatello, 2014). The result of such a medical model of disability is multifold, including viewing people with disabilities as passive recipients of aid, focusing on disability as something that should be cured—and if not cured then pitied, and aggregating disability experiences into an abstract "normal" experience that rarely mirrors lived experiences. Instead, what disability means depends in part on individual variables such as socioeconomic status, nationality, race, and gender. Conflating all experiences of a medical label into one aggregate experience may further marginalize individuals who have intersectional identities.

The social model of disability, on the other hand, attempts to take into account not only individual variables such as socioeconomic status and nationality but also the person with the disability as the central impetus of action and experience. The barriers that exist are not in the person but are a result of environmental and cultural inflexibility that conceptualizes a mythical normal and builds around that phantasmal original (Butler, 1999). The social model of dis-

[a,*]Corresponding Author: Deborah Taub, OTL Education Solutions. Virginia, USA. E-mail: drdtaub@gmail.com
[b]Megan Foster, Utica College, Utica, New York, USA. E-mail: mhfoster@utica.edu

ability does not deny a biological aspect to disability; rather, it acknowledges the experience of disability as going beyond the body to include social, financial, spiritual, educational, ecological, and other systems and experiences. While the CRPD allows for a wide range of disability constructions through its definition of disability as "those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others" (United Nations, 2006, para. 2), without an understanding of the social role of disability, the goals of the CRPD are unattainable. The AAIDD's (2019) definition of intellectual disability, which takes into account experiences and barriers outside of the individual, is better aligned to the goals of the CRPD than a strictly medical definition (Weller, 2011).

Using the social model of disability, it would be expected that definitions of disability vary by context and country. While this is true, the lack of common definitions of disability have been reported as challenges throughout the literature (Bolderson, Mabbett, Hvinden, & van Oorschot, 2002). A comparative analysis for the European Commission outlined the problems with differing definitions of disability (Bolderson et al., 2002). The authors found each country in the European Union had varying definitions of disability, which often focused on aid and financial assistance received. The authors also argued the lack of commonality surrounding disability created problems for individuals who moved from one country to the next and also for doing any comparative work to inform policy (Bolderson et al., 2002).

Inclusion

Similar to disability, there is no one universally accepted definition of inclusion as it relates to education, though most researchers agree inclusion is more than merely sitting in the same classroom as one's peers (Nes, Demo, & Ianes, 2018). The act of inclusion involves acceptance, belonging, and an active and equitable role in the community. It is the belief all students have the right to an education equal to that of their peers. According to UNICEF (2013) in the State of the World's Children report, "Inclusive education entails providing meaningful learning opportunities to all students within the regular school system. It allows children with and without disabilities to attend the same age-appropriate classes at the local school, with additional, individually tailored supports as needed" (p. 7). This definition aligns with other international organizations that promote inclusion, such as the United Nations, the Index of Inclusion, and Inclusion International.

The CRPD outlines the objective that people with disabilities have equal rights "to live in the community, with choices equal to others, and shall take effective and appropriate measures to facilitate full enjoyment by persons with disabilities of this right and their full inclusion and participation in the community" (United Nations, 2006, para. 1). Inclusion in educational systems is a key driver for inclusion into the rest of the community. Studies have shown inclusion in general education classrooms with appropriate supports and services leads to better postsecondary outcomes than in segregated settings, so this may be a way to support an equitable opportunity for all people (Test et al., 2009). When schools segregate students based on academic ability or disability labels, they inadvertently set up a hierarchy of power later reflected in the larger society.

Research has shown when schools plan for all learners and make the content and environment accessible to all students, students with and without disabilities have improved academic outcomes. Conversely, when students with disabilities (SWDs) are in segregated settings, their opportunities to learn are hampered, and they have less positive postschool outcomes (Test et al., 2009). Additionally, in inclusive settings, students learn human variation is a natural expectation, a foundation that may support equity across the lifespan (UNICEF, 2013).

Researchers have shown inclusion improves academic performance in both literacy and mathematics for SWDs, including students with IDs (Peetsma, Vergeer, Roeleveld, & Karsten, 2001; Ryndak, Morrison, & Sommerstein, 1999). Students educated in inclusive classrooms spend more time on academic standards and have increased engagement on academics when compared to their peers in segregated settings (Wehmeyer, Lattin, Lapp-Rincker, & Agran, 2003). In addition, research indicates students in inclusive settings have access to higher quality teaching practices and increased rigor and expectations (Hunt & Farron-Davis, 1992). Furthermore, inclusion has been linked to increased attendance and overall health of SWDs (Dessemontet, Bless, & Morin, 2012).

When SWDs are taught in the general education context with their peers, they are provided positive social and behavioral role models so they can learn social and behavioral skills that occur in a natural setting. This promotes both explicit and incidental learning, which has been shown to increase social skills and positive behavior (McDonnell, Mathot-Buckner, Thorson, & Fister, 2001; McGregor & Vogelsberg, 1998; Odom et al., 2004). When inclusion occurs in primary and secondary schools, it often results in inclusion after graduation.

Brown et al. (1986) found students who were educated in the general education context were also more likely than their peers in segregated settings to be employed after graduation. In fact, White and Weiner (2004) found inclusion was the number one predictor of employment postgraduation for students with IDs. Inclusion was a stronger predictor of employment than intelligence, behavior, or disability. Furthermore, it has been found that inclusion increases independence postgraduation (Blackorby, Hancock, & Siegel, 1993; White & Weiner, 2004). Increased employment and independence has been linked to increased quality of life for individuals with disabilities, including students with extensive support needs (Ryndak, Ward, Alper, Montegomery, & Storch, 2010). In-school and postschool outcomes are improved when all students are provided the opportunity to learn alongside their peers. These outcomes support economic growth and stability, which will strengthen the larger society.

Because variations in the definition of inclusion exist, international comparisons of inclusive education may be an extremely arduous task. When researching inclusion, it was sometimes difficult to determine what inclusion referred to in that setting and research context. Furthermore, we focused on students with IDs, a population often excluded from formal education (Richler, 2017). Compounding the issue, many international articles do not define the student population, or they use the broad terms students with disabilities or students with educational needs, which makes it difficult, if not impossible, to determine if students with IDs are included in the study.

Implementation Science

While research has consistently shown positive outcomes for all students, creating, sustaining, and scaling up inclusive educational systems remains an elusive goal. To scale up inclusive practices, it would be helpful if researchers, advocates, and educators could pool their knowledge. However, there are differing understandings of disability labels and inclusion across the world (Taub, Foster, Orlando, & Ryndak, 2017), making it difficult to use lessons learned in one context to inform instructional methods and systems change work in another setting. Implementation science is a methodology and framework for translating research into sustainable and systemic policies and practices (Learning Collaborative for Implementation Science in Global Brain Disorders, 2016) and a possible methodology for systematically promoting inclusive practices. The process

includes understanding the specific drivers and context in which the intervention is being rolled out, consistently using data to evaluate and refine implementation, and using this process for continued refinement and scaling up.

Significant drivers of inclusive practices in CRPD are equity and economic growth. Some researchers and policymakers argue, when working toward change, "equity is not a by-product but an essential element—a value—of thoughtfully considered intervention design, learning agendas, and applied data collection and evaluation and research" (Farrow & Morrison, 2019, p. 5). Inclusive education is an equity issue; indeed it may be the equity issue. Currently, UNESCO reports 90% of children with disabilities in the developing world do not attend school (Richler, 2017). Each country and state would have individualized drivers, levers, and barriers that necessitate consideration for implementation, improvement, and reproduction. These individualized aspects do not eliminate the possibility of international cooperative learning.

Educators, policymakers, families, and researchers need to learn from others' successes and barriers to facilitate effective educational systems. While each context has specific barriers to and levers for change, lessons may be learned across contexts. During research studies, clearly categorizing context and participants sets the stage for more unified learning. While a common definition of intellectual disability and inclusion may not be necessary across all countries, to learn from each other, a clear understanding of the terms and goals is required.

This research began with an initial question of whether there was a correlation between highly inclusive countries and those with a high quality of life for people with IDs. A literature search using the University of North Carolina, Greensboro University library online database was conducted to determine if there were international rankings of countries that included people with disabilities in schools, with a specific focus on identifying countries with high and low rates of school inclusion for students with IDs. Next, a Google search was conducted to identify other potential ranking sources. Another set of searches was conducted on quality of life indicators for people with IDs (economic standing, happiness, friendship). Quality of life and inclusion rankings from WHO, UNESCO, World Bank, and World Bank Group and Gallup Poll were reviewed and compared.

There was limited agreement across sources for where countries ranked in terms of inclusion levels and quality of life data for people with disabilities. Some common issues making the initial research question ineffective were aggregated data for all types of disabilities, differing definitions of common terms (such as intellectual disability and inclusion), and lack of detailed data on quality of life for people with IDs, all of which resulted in often conflicting pictures of a country's inclusion levels and/or quality of life for people with IDs. Ultimately, the World Report on Disability rankings of delivery of education in specific European countries (WHO, 2011) were used to identify and match countries with high and low inclusive educational practices because the data were clearest on location of service delivery (separate school/separate class/inclusive classes). As a result, we addressed a more percussive research question of what, if any, themes existed in conceptualizing inclusion and intellectual disability across the peer-reviewed research of six countries, three of which we identified as highly inclusive and three we identified as minimally inclusive.

Methodology

Six paired countries were identified based on population, geography (island vs. mainland), and inclusion levels, with one pair having relatively high levels of inclusion and the other having relatively low levels of inclusion. The list of countries was limited and thus near-population matches could not always be made. High levels of inclusion were determined based on Figure 7.3 in the World Report on Disability (WHO, 2011). Spain's population of 46 million had approximately 83% of SWDs in inclusive classes and the remaining 17% in segregated schools, and Spain was paired with Germany. Germany's 82.79 million population had almost the exact inverse inclusion rates with only 17% of SWDs included and 83% in segregated schools. Portugal and Belgium were paired due to similar population levels (10.31 million and 11.35 million, respectively). Portugal was identified as having 85% of SWDs in inclusive classes, 5% in segregated classes in typical schools, and 10% in segregated schools. In the chart, Belgium was divided into Flanders and Wallonia; however, for the purposes of this research, they were viewed as a single entity. The data from the World Report on Disability (WHO, 2011) were averaged as 91% of SWDs in separate schools and 9% in inclusive settings. The smaller population country with low inclusion rates was Latvia with 1.9 million people and approximately 18% inclusion placements, 12% of SWDs in segregated classes in typical schools, and the remaining 70% in segregated schools. There were two small population countries with high inclusion rates: Iceland and Norway. Iceland had 338,349 people, while Norway had 5.25 million. Finally, Norway was chosen over Iceland even though the population difference between the countries was larger due to additional variables in play with an island country. Norway had approximately 84% of SWDs in inclusive classrooms, 13% in segregated classes in a typical school, and 3% in segregated schools. Norway was paired with Latvia. Latvia had approximately 70% of SWDs in segregated schools, 10% in segregated classes in regular schools, and 20% in inclusive classes.

Next, we conducted another literature review using eight online library databases, such as JSTOR, WorldCat, and ProQuest Central. Several combinations of search terms were used, including the keywords intellectual disability, teaching, school, inclusion, special education needs, education, cognitive, and each identified country's name. The search was limited to peer-reviewed articles from 1980-2019. An initial review of titles was used to determine if the article had the potential to be included. Articles on nonrelated topics such as genetic testing or fish hatcheries were not included. We then reviewed the abstracts to determine which studies met the criteria of including students with IDs, being about or in inclusive primary or secondary school settings, and discussing or located in the country of interest. The remaining articles were acquired and read to ensure they matched eligibility criteria. Data were collected and entered into a database that included the country, definitions or characteristics of ID or students with special education needs (SENs), definitions or descriptions of inclusion or inclusive practices, number of students addressed, if appropriate, and additional notes on context or content.

We then used a modified hybrid approach to thematic analysis that incorporated both identifying themes important to answer the research questions while using the data to develop and uncover new themes during the analysis (Swain, 2018). We each reviewed a different set of articles and checked in several times throughout the process to compare terms used, data gathered, and to answer questions. All data were recorded in the database for future analysis.

Results

We initially identified 385 possible articles through the searches. The number of possible articles from each search was 151 from Norway, 100 from Germany, 81 from Spain, 30 from Belgium, 15 from Portugal, and one from Latvia.

After reviewing the titles and abstracts, 66 potential papers remained: 19 from Norway, 18 from Germany, 13 from Belgium, 11 from Spain, four from Portugal, and one from Latvia. We rejected articles if the abstract did not target the identified country clearly or did not include discussion on students with IDs and inclusion. Articles that identified multiple countries were evaluated separately for each country to identify pertinent data.

Next, we read each remaining article to confirm it met the criteria and to collect data on constructs of students with IDs and components of inclusion or inclusive practices. During the second reading, seven articles were inaccessible, and additional articles were discarded due to the same reasons as in the abstract review. For instance, in five cases, one article in the bibliography mentioned the targeted country, but the article did not. Generalized papers on inclusion with no specific country mentioned that focused on philosophy or rights across the world were not included in these results, leaving 10 articles for analysis. The remaining 19 articles included eight from Norway, three from Germany, three from Portugal, two from Spain, two from Belgium, and one from Latvia.

Defining Students with Intellectual Disabilities

Understanding the definition of ID would vary across borders, the objective of this research was to look for common learner characteristics to identify themes related to this population. While the majority of papers defined students with SENs, 15% expanded on this label to include a more precise description of what learner difficulties, SENs, IDs, or academic difficulties entailed. Articles from each of the countries referred to students with IDs yet never defined the criteria for ID. Two articles from Norway, on the other hand, had very clear definitions, including an article by Scharenberg, Rollett, and Bos (2019) who defined ID using operationalized boundaries from psychological assessments. Three articles from Germany had a bit more information about SENs than just that generic label. Henke et al. (2017) provided a less detailed definition but did include a bit of additional information by defining SENs with a focus on students who have a need in a learning domain. Weiss, Markowetz, and Kiel (2018) stated, “In Germany . . . 'moderate and severe ID' is a category of education; respectively, a certain area of special needs which is related to limitations in functioning (conceptual, social, practical)” (p. 838). Pijl, Frostad, and Flem (2008) argued both the medical and social models of disability are problematic when defining SENs for their study.

Defining Inclusion

Several authors provided definitions of inclusion that explained what it was by stating what it was not. For instance, authors stated inclusion was more than being in the room and had importance beyond social skills. Authors of two of the articles used Booth and Ainscow’s (2002) Index for Inclusion: Developing Learning and Participation in Schools as a rubric for what inclusion should be. Other authors used the beyond access model of inclusion by Sonnenmeier, McSheehan, and Jorgensen (2005) as the bar for inclusion. These were the only studies that included physically sharing space, being social, and learning alongside peers without disabilities as a part of the criteria for defining inclusion. In the remaining articles, authors discussed inclusion without clarifying components of the definition or providing an overarching idea of inclusion as students being in the same classroom as peers without disabilities with a sole focus on the social realm.

The authors covered peer friendships, self-determination skills, teacher and student relationships, supports needed for student involvement, making academics accessible, teachers’ perceptions of inclusion, the training teachers need to implement inclusive practices, and an overarching focus on building inclusion. There was overlap in topics between the high-inclusive and low-inclusive countries. Both included information on peer supports, making academics accessible, supports needed for students, and training needed to support teachers, as well as teachers’ perceptions of inclusion and student and teacher relationships. There were two topics present only in the articles from low-inclusion countries: (a) an overall conversation on building inclusive classrooms or schools and (b) the skills teachers need to implement inclusion. The one topic present only in the high-inclusive countries was a study on student self-determination.

Discussion

In an effort to build a more complete understanding of educational inclusion with a goal of learning from how various countries have implemented large-scale systemic change, the original intent of this research was to create a protocol for comparing policies, laws, and practices of countries with high and low rates of inclusive education. The early findings indicated, while research consistently showed inclusive practices were beneficial, many studies did not include people with low incidence disabilities such as IDs, and, across each country, there were different definitions of both disability categories and inclusion. These basic differences in variables made it difficult to compare systems across borders. This initial investigation into differences in foundational definitions of intellectual disability and inclusion provides a starting point for researchers to develop clear protocols of explicit descriptions of these two constructs to contextualize local efforts and make it easier for researchers, educators, advocates, and policymakers to determine universal themes, if any, on including students with IDs as active participants in general education classrooms with their peers without disabilities as the norm rather than the outlier.

The most evident theme that emerged from the literature review was the lack of consistency found between articles and countries. In the literature, there were no common definitions of key terms, even in countries such as Germany that have a legal definition of the term intellectual disability. Without a description of the students served and a definition of inclusive education, a meaningful comparison between countries remains difficult and thus a barrier to improving and learning from other countries’ practices. For example, many articles focused on the very broad term students with special education needs without explicitly defining the learner characteristics of those students included in the study, in some cases making it impossible to determine if students with IDs were included in the population of study. The definitions in the original 183 articles defined disability quite differently, with some articles including sex (female) and others including ethnicity in a larger construct of marginalization and disability.

The importance and value of recognizing disability as socially constructed does not preclude the need for researchers, educators, and policymakers to find patterns of what works to support various learner characteristics. For instance, in the United States, data are clear that students with IDs who are educated in segregated settings are less likely to be included and, upon graduation, are more likely to be unemployed, have few friends, and experience little independence (Brown et al., 1986; Butterworth et al., 2014). Without a common understanding of what learner characteristics comprise the construct of ID in the United States, it is only through disaggregating disability category data these patterns become clear; identifying the pattern allows researchers, educators, and policymakers to begin to deconstruct where barriers exist for these students. With common understandings across international studies, it would be possible to determine if there were practices or policies that support better postsecondary outcomes for these students that could be disseminated and implemented in other contexts. Having unclear understandings of learner characteristics makes it difficult to disseminate evidence-based practices across the world so each country does not have to start from scratch but instead can build from lessons learned.

Similarly, the term inclusion can vary considerably, and, in the final articles used for analysis, only one of them provided clear characteristics for what inclusion should look like (Mortier, Van Hove, & De Schauwer, 2010). Many of the articles included in the original dataset used "included" to mean all students are educated, regardless of setting. For instance, in the initial sample of papers, the focus was on including females, students from lower socioeconomic families, and students with physical disabilities. Other articles used the term "inclusion" or "included," but the study seemed to only occur in self-contained classes. Is inclusion merely sharing the same physical space? At a school level or a classroom level? Is inclusion primarily for social reasons? Or are academics just as important? We used a more comprehensive definition of inclusion that involves not only being in the same space but working with peers without disabilities on the same academic work, though it may be modified in terms of depth of knowledge and difficulty. The various definitions of inclusion may reflect larger societal beliefs about who is or is not worthy of an education, but the range of categories was a barrier to international comparisons.

Another theme that emerged when doing an initial search of datasets related to data and population. First, some countries lacked updated data on inclusion and disability, thus compounding the issue of consistency since it was unclear if progress had been made since the latest data were reported. Second, based on the report from the WHO (2011), larger countries were generally not as inclusive as smaller countries such as Iceland. This trend, along with the limited number of countries included in their dataset, made finding comparable countries challenging. For example, Spain has a relatively high rate of inclusion, and a population of 46 million was compared to Germany's low rate of inclusion and population of 82 million. Countries with larger populations face challenges smaller countries do not due to the number of students served and thus the increased number of SWDs served. As a result, we attempted to account for population by matching countries according to population; however, variations still exist.

Lastly, countries that relied on tracking systems had lower rates of inclusion. Germany, for example, places students into tracks at a young age based on perceived academic potential. Students are considered to be university bound or vocation bound and then educated accordingly. This system of tracking students invariably leads to segregation, where SWDs and those who struggle academically are placed into tracks that differ from their same-age peers. This system of tracking not only shapes a students' education but also their future life trajectory.

Why does it matter if researchers, educators, and policymakers review international literature on teaching students with IDs and inclusive practices? First, each day students are excluded from the general education classroom, they are losing opportunities to learn they cannot afford to lose. Second, as the CRPD, WHO, and UNESCO have argued, when a subgroup of the population is barred from education, their quality of life tends to be low, and their families have a loss of income due to caregiving requirements. Third, the tenets of implementation science have been identified as useful when trying to create sustainable, systematic change and improvement (Fixsen, Blase, Metz, & Van Dyke, 2015), especially for change that requires attitudinal and behavioral shifts, as it takes into account local context. However, when the research and practice reported does not clearly detail the contexts in which they are working, including in this case the learner characteristics of the students and the characteristics of what is meant by inclusion, it is difficult to move from individual change to systemic development. Thus, not only were there very few articles on the practice or theory of including students with IDs, but those we found often provided little context from which others could learn when implementing change.

Limitations

A major limitation of this study was the lack of a more comprehensive ranking of inclusion than the World Report on Disability (WHO, 2011). This list focused solely on select European nations, leaving out many countries that should inform practice. It was used because it provided a clear and common construct for further inquiry that could later be extended to other countries. An additional concern was the low number of articles found overall, with only 5.5% of those articles meeting the inclusion criteria. This limited the understanding of inclusive education in the countries selected. It is possible the keywords were too detailed, which would have excluded articles of possible interest. In addition, we relied on university databases that resulted in very few articles written in languages other than English. Since the focus was on international education, it is likely there are many articles written in other languages that would have met the criteria. Another limitation was the lack of available datasets comparing educational placements in various countries. The dataset chosen only compared 30 European countries. This significantly limited the initial selection of countries and thus the articles we found.

Future Recommendations

Researchers who clearly detail the learner characteristics of the population in their studies and who provide detailed characteristics of what inclusion means in their context would support opportunities for cross-cultural learning. Describing disability categories or characteristics and clear explanations of educational placements would greatly reduce the confusion related to differing terminology. In addition, countries that do not currently collect and disaggregate data on their population of people with disabilities need to do so. The CRPD offers tools and guidance for data collection; however, there is no one way to collect this data as long as it includes, but is not necessarily limited to, the number of people and their age ranges who have various disabilities or learner characteristics (e.g., male/female, deaf, blind, ethnicity, requiring adapted intellectual and behavior supports across multiple settings), where they are getting their education at the classroom level (e.g., general education classroom v. separate classroom) and the amount of time there, as well as common contextual expectations or practices of what that schooling entails (e.g., active participation or sitting in the back of the room with an adult other than the teacher, academics or physical education, art or music, completing the same or similar work as their peers without disabilities or significantly different work). Postsecondary data are also necessary to examine quality of life levels for individuals with disability.

Ensuring children with disabilities receive a high-quality education in an inclusive environment should be a priority of all countries. To do this, and to fulfil the goals of the CRPD and ensure equity for people with disabilities, systemic barriers to inclusion need to be removed. The measurement of that progress requires clear data collection, monitoring, and analysis to regularly inform policies and practices.

References

American Association of Intellectual and Developmental Delays (AAIDD). (2019). *Definition of intellectual disability.* Retrieved from www.aaidd.org

Blackorby, J., Hancock, G., & Siegel, S. (1993). *Human capital and structural explanations of post-school success for youth with disabilities: A latent variable exploration of the National Longitudinal Transition Study.* Paper presented to Special Education SIG at the annual meeting of the American Educational Research Association, Atlanta, GA. Retrieved from https://files.eric.ed.gov/fulltext/ED380914.pdf

Booth, T, & Ainscow, M. (2002). *Index for inclusion: Developing learning and participation in schools.* Retrieved from the Centre for Studies on Inclusive Education website: http://www.csie.org.uk/resources/inclusion-index-explained.shtml

Bolderson, H., Mabbett, D., Hvinden, B., & van Oorschot, W. J. H. (2002). *Definitions of disability in Europe: A comparative analysis* [Final report]. London, England: Brunel University.

Bouck, E. C. (2012). Secondary students with moderate/severe intellectual disability: Considerations of curriculum and post-school outcomes from the National Longitudinal Transition Study-2. *Journal of Intellectual Disability Research, 56*, 1175-1186. doi:10.1111/j.1365-2788.2011.01517

Brown, L., Rogan, P., Shiraga, B., Zanella Albright, K., Kesler, K., Bryson, F., Vandeventer, P., & Loomis, R. (1986). A vocational follow-up evaluation of the 1984-1986 Madison Metropolitan School District graduates with severe intellectual disabilities. In L. Brown, R. Loomis, K. Zanella Albright, P. Rogan, J. York, B. Shiraga, A. Udvari Solner, & E. Long (Eds.), *Educational programs for students with severe intellectual disabilities* (Vol. XVI, pp. 1-19). Madison, WI: Madison Metropolitan School District.

Buntinx, W. H., & Schalock, R. L. (2010). Models of disability, quality of life, and individualized supports: Implications for professional practice in intellectual disability. *Journal of Policy and Practice in Intellectual Disabilities, 7*, 283-294. doi:10.1111/j.1741-1130.2010.00278

Butler, J. (1999). *Gender trouble: Feminism and the subversion of identity.* New York, NY: Routledge.

Butterworth, J., Smith, F. A., Hall, A. C., Migliore, A., Winsor, J., Domin, D., . . . Hall, C. H. (2014). *StateData: The national report on employment services and outcomes.* Boston, MA: Institute for Community Inclusion.

Dessemontet, R. S., Bless, G., & Morin, D. (2012). Effects of inclusion on the academic achievement and adaptive behaviour of children with intellectual disabilities. *Journal of Intellectual Disability Research, 56*, 579-587. doi:10.1111/j.1365-2788.2011.01497

Farrow, F., & Morrison, S. (2019). *Placing equity concerns at the center of knowledge development.* Retrieved from the Centern for the Study of Social Policy website: https://cssp.org/resource/equity-at-the-center/

Fixsen, D., Blase, K., Metz, A., & Van Dyke, M. (2015). Implementation science. *International Encyclopedia of the Social and Behavioral Sciences, 11*, 695–702. doi:10.1016/B978-0-08-097086-8.10548-3

Henke, T., Bogda, K., Lambrecht, J., Bosse, S., Koch, H., Maaz, K., & Spörer, N. (2017). Will you be my friend? A multilevel network analysis of friendships of students with and without special educational needs backgrounds in inclusive classrooms. *Zeitschrift Für Erziehungswissenschaft, 20*, 449-474. doi:10.1007/s11618-017-0767

Hunt, P., & Farron-Davis, F. (1992). A preliminary investigation of IEP quality and content associated with placement in general education versus special education classes. *Journal of the Association for Persons With Severe Handicaps, 17*, 247-253. doi:10.1177/154079699201700406

Kurth, J. A., Morningstar, M. E., & Kozleski, E. B. (2014). The persistence of highly restrictive special education placements for students with low-incidence disabilities. *Research and Practice for Persons With Severe Disabilities, 39*, 227-239. doi:10.1177/1540796914555580

Learning Collaborative for Implementation Science in Global Brain Disorders. (2016). *Toolkit: Overcoming barriers to implementation in global health.* Retrieved from the Fogarty International Center, Center for Global Health Studies website: https://www.fic.nih.gov/About/center-global-health-studies/neuroscience-implementation-toolkit/Pages/default.aspx

McDonnell, J., Mathot-Buckner, C., Thorson, N., & Fister, S., (2001). Supporting the inclusion of students with moderate and severe disabilities in junior high school general education classes: The effects of classwide peer tutoring, multi-element curriculum, and accommodations. *Education and Treatment of Children, 24*, 141-160. Retrieved from www.jstor.org/stable/42899651

McGregor, G., & Vogelsberg, R. T. (1998). *Inclusive schooling practices: Pedagogical and research foundations. A synthesis of the literature that informs best practices about inclusive schooling.* Pittsburgh, PA: Allegheny University of the Health Sciences.

McKenzie, K., Milton, M., Smith, G., & Ouellette-Kuntz, H. (2016). Systematic review of the prevalence and incidence of intellectual disabilities: current trends and issues. *Current Developmental Disorders Reports, 3*, 104-115. doi:10.1007/s40474-016-0085-7

Mortier, K., Van Hove, G., & De Schauwer, E. (2010). Supports for children with disabilities inregular education classrooms: an account of different perspectives in Flanders. *International Journal of Inclusive Education, 14*, 543-561. doi:10.1080/13603110802504929

Nes, K., Demo, H., & Ianes, D. (2018). Inclusion at risk? Push- and pull-out phenomena in inclusive school systems: The Italian and Norwegian experiences. *International Journal of Inclusive Education, 22*, 111-129. doi:10.1080/13603116.2017.1362045

Odom, S. L., Vitztum, J., Wolery, R., Lieber, J., Sandall, S., Hanson, M. J., Beckman, P., Schwartz, P., & Horn, E. (2004). Preschool inclusion in the United States: A review of research from an ecological systems perspective. *Journal of Research in Special Educational Needs, 4*, 17–49. doi:10.1111/J.1471-3802.2004.00016

Peetsma, T., Vergeer, M., Roeleveld, J., & Karsten, S. (2001). Inclusion in education: Comparing pupils' development in special and regular education. *Educational Review, 53*, 125-135. doi:10.1080/00131910125044

Pijl, S. J., Frostad, P., & Flem, A. (2008). The social position of pupils with special needs in regular schools. *Scandinavian Journal of Educational Research, 52*, 387-405. doi:10.1080/00313830802184558

Richler, D. (2017, November 30). *Including children with disabilities in education: Inertia or tipping point?* [Web log post]. Retrieved from the Global Partnership for Education website: https://www.globalpartnership.org/blog/including-children-disabilities-education-inertia-or-tipping-point

Ryndak, D. L., Morrison, A. P., & Sommerstein, L. (1999). Literacy before and after inclusion in general education settings: A case study. *Journal of the Association for Persons With Severe Handicaps, 24*, 5-22. doi:10.2511/rpsd.24.1.5

Ryndak, D. L., Ward, T., Alper, S., Montgomery, J. W., & Storch, J. F. (2010). Long-term outcomes of services for two persons with significant disabilities with differing educational experiences: A qualitative consideration of the impact of educational experiences. *Education and Training in Autism and Developmental Disabilities, 45*, 323–338.

Sabatello, M. (2014). A short history of the international disability rights movement. In M. Sabatello & M. Schulze (Eds.), *Human rights and disability advocacy* (pp. 13–24). Philadelphia: University of Pennsylvania Press.

Scharenberg, K., Rollett, W., & Bos, W. (2019). Do differences in classroom composition provide unequal opportunities for academic learning and social participation of SEN students in inclusive classes in primary school? *School Effectiveness and School Improvement, 30*, 309-327. doi:10.1080/09243453.2019.1590423

Sonnenmeier, R. M., McSheehan, M., & Jorgensen, C. M. (2005). A case study of team supports for a student with autism's communication and engagement within the general education curriculum: Preliminary report of the beyond access model. *Augmentative and Alternative Communication, 21*, 101-115. doi:10.1080/07434610500103608

Swain, J. (2018). *A hybrid approach to thematic analysis in qualitative research: Using a practical example*. Sage Research Methods Cases. doi:10.4135/9781526435477

Taub, D., Foster, M. H., Orlando, A.-M., & Ryndak, D. L. (2017). Ethical considerations for inclusive practices for students with extensive support needs. In A. Gajewski (Ed.), *Ethics, equity, and inclusive educatio*n (pp. 119-144). doi:10.1108/S1479-363620170000009005

Test, D., Mazzotti, V. L., Mustian, A. L., Fowler, C. H., Kortering, L., & Kohler, P. (2009). Evidence-based secondary transition predictors for improving postschool outcomes for students with disabilities. *Career Development for Exceptional Individuals, 32*, 160-181. doi:10.1177/0885728809346960

UNICEF. (2013). *The State of the World's Children.* Retrieved from https://www.unicef.org/sowc/

United Nations. (2006). *The United Nations Convention on the Rights of People With Disabilities*. Retrieved from https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html

Wehmeyer, M. L., Lattin, D. L., Lapp-Rincker, G., & Agran, M. (2003). Access to the general curriculum of middle school students with mental retardation: An observational study. *Remedial and Special Education, 24*, 262-272. doi:10.1177/07419325030240050201

Weiss, S., Markowetz, R., & Kiel, E. (2018). How to teach students with moderate and severe intellectual disabilities in inclusive and special education settings: Teachers' perspectives on skills, knowledge and attitudes. *European Educational Research Journal, 17*, 837-856. doi:10.1177/1474904118780171

Weller, P. J. (2011). The Convention on the Rights of Persons With Disabilities and the social model of health: New perspectives (Monash University Faculty of Law Legal Studies Research Paper No. 20). *Journal of Mental Health Law*, 74–83. doi:10.2139/ssrn.2142323

White, J., & Weiner, J. S. (2004). Influence of least restrictive environment and community based training on integrated employment outcomes for transitioning students with severe disabilities. *Journal of Vocational Rehabilitation, 21*, 149-156. Retrieved from https://content.iospress.com/articles/journal-of-vocational-rehabilitation/jvr00263

World Health Organization (WHO). (2011). *World report on disability.* Retreived from https://www.who.int/disabilities/world_report/2011/en/

This page is intentionally left blank

iejee | INTERNATIONAL ELECTRONIC JOURNAL OF ELEMENTARY EDUCATION

January 2020, Volume **12**, Issue **3**, **283-292**

Creating Collaborative Schools in the United States: A Review of Best Practices

Caitlin J. Solone[a], Bryan E. Thornton[b], Jenny C. Chiappe[c], Crystal Perez[d], Molly K. Rearick[e], Mary A. Falvey[f]

Received: **28 September 2019**
Revised: **21 November 2019**
Accepted: **30 December 2019**
ISSN: 1307-9298

www.iejee.com

DOI: **10.26822/iejee.2020358222**

Abstract

Collaboration is considered an essential characteristic for inclusive education to be effective and reflective of research-based best practices. General and special education teachers and related service personnel must work together and share goals, strategies, and physical space for students with and without disabilities to learn in inclusive settings. Teachers and parents must build trusting and collaborative partnerships in the delivery of inclusive education. Finally, students with and without disabilities must work together and support one another in building effective schools. We offer research-based strategies for and examples of effective collaborative relationships and outcomes from those relationships.

Keywords: Collaboration, Co-Teaching, Collaborative Learning, Collaborative Teaching, Collaborative Practices, Inclusive Education, Inclusion, Special Education

Introduction

In the United States, students with eligible disabilities who attend schools that receive federal funding are entitled to a "free and appropriate public education," or FAPE (U.S. Department of Education, 2010). If the nature of the disability impedes the student's ability to learn and make progress in general education, the student may be eligible for special education services and supports. Special education services may include many components including specially designed instruction, therapeutic services such as speech therapy, occupational therapy, physical therapy, classroom accommodations, assistive technology devices, one-on-one assistants, and more. For students receiving these services, an Individualized Education Program (IEP) is required by law and outlines the specially designed, individualized program the school must provide the student. This program is reviewed and updated annually by the student's IEP team. This team includes the parents or guardians, the student, general and special education teachers, an administrator such as a school principal, and any service providers the student requires to make meaningful academic gains each year. The multidisciplinary approach inherent in special education elicits the need for effective collaboration amongst IEP team members to provide the most comprehensive and cohesive program possible. Throughout this article, a review of existing literature and several vignettes based on true events will be used to illustrate the need for, challenges of, and evidence-based solutions to promote effective collaboration amongst IEP team members.

The Need for Collaboration

Sebastian is a 5-year-old boy with Down syndrome who had successfully attended and completed an integrated preschool program for students with and without disabilities taught by qualified teachers in California. Upon completion of his preschool program at the age of 5, the school district recommended he be placed in a segregated self-contained classroom for students in kindergarten to second grade with moderate to severe disabilities for 78% of his school day. Despite the fact Sebastian's family, his attorney, and expert witnesses strongly objected to this placement. The school district and the family were at odds and unable to come to a collaborative consensus. The family eventually decided to file for due process, which would allow an impartial judge to render a decision about what was best for Sebastian. The family firmly believed his growth in communication skills, social pragmatics, knowledge of grade-level curriculum, and ultimately his ability to function in society would be severely curtailed if he was forced into a segregated special education class for the majority of his school day. The school district's contention was, for him to make progress on his IEP goals, Sebastian needed to attend a segregated self-contained classroom for 78% of the day. The parents were met with no opportunity to collaborate with the IEP team on this matter and no room for further discussion or problem solving.

Creating and establishing opportunities for people with and without disabilities to engage and learn with and from each other is essential for building communities that work for everyone (O'Brien & Mount, 2015). Historically, people with disabilities, like Sebastian, have had to endure rejection and forced segregation within society. In spite of U.S. litigation and legislation intended to eliminate such rejection and discrimination, tragically large numbers of people with disabilities continue to live, work, and go to school in segregated, isolated settings that often lead to lives of loneliness, diminished self-worth, and a sense of disempowerment (Falvey, 2005; National Council on Disability, 2018). Though individuals are still met with resistance around inclusive efforts today, many American schools and districts are moving toward more inclusive practices, spurring a great need for more intentional and effective collaboration techniques and practices.

Inclusion

For the past 40 years, researchers have conducted efficacy studies on inclusive versus segregated schooling for students

[a]Caitlin J. Solone, California State University, Los Angeles and University of California, Los Angeles, USA. E-mail: csolone@ucla.edu
[b]Bryan E. Thornton, California State University, Los Angeles and University of California, Los Angeles, USA. E-mail: bethornton1@gmail.com
[c]Jenny C. Chiappe, California State University, Dominguez Hills, USA. E-mail: jchiappe@csudh.edu
[d]Crystal Perez, Los Angeles Unified School District, USA. E-mail: cmp1803@lausd.net
[e]Molly K. Rearick, IGNITE Collective Inc., USA. E-mail: molly@ignitefutures.org
[f]Corresponding Author: Mary A. Falvey, Charter College of Education, California State University, Los Angeles. California, USA. E-mail: Mfalvey@calstatela.edu

with disabilities in the United States (Kalambouka, Farrell, Dyson, & Kaplan, 2007; Lipsky & Gardner, 1989; Morningstar, Shogren, Lee, & Born, 2015). These research findings have concluded time and time again that inclusive education is more effective for both students with and without disabilities (Kurth, Mastergeorge, & Paschall, 2016; Morningstar, Kurth, & Johnson, 2017). This research has provided educators, parents, students, and litigators with evidence that inclusive classrooms are the research-based best practice placements for students with and without disabilities.

When parents and students are at odds with a school district's decisions, working through differences collaboratively can result in mutually agreed upon decisions. Unfortunately, in the case of Sebastian, that did not occur. Sebastian's parents sought legal council and his case was taken to due process, a legal right afforded to parents under the Individuals with Disabilities Education Act (IDEA; 2004). After several months, a decision was made. The court ordered the school district to provide Sebastian with a general education kindergarten placement with an inclusion specialist and a parent-approved behavior analyst to support Sebastian's learning. The district was also required to pay the cost of the above services and the legal fees the family had incurred throughout the process. In addition, the school district had to pay for their own legal fees. The school district's extraordinary expenses could have been avoided if the district had worked with the family and offered services that reflected research-based best practices—that is, inclusive education with individualized supports and services. Collaborative decision making that utilizes research-based best practices is both economical and socially just and can make a substantial difference to not only students with disabilities and their families, but also to the educational system and society at large.

Inclusive schools and communities are essential if we are to create a world that truly works for everyone. To create such a world, individuals with disabilities need to be the focus and emphasis of the opportunities and services provided. Unfortunately, when students with disabilities are assessed and identified as needing special education services, their deficits are too often the focus. Special education inherently utilizes student deficits as the justification for individualized supports, and while this is an essential component of identifying support needs, opportunities and expectations can too often be limited by ableist beliefs.

Education often aligns with a medical model of disability, which suggests that disabilities should be "fixed", "changed", or "cured" by professionals, treatments, or interventions. The social model of disability, on the other hand, posits that disabilities are socially constructed by way of the physical, structural, and attitudinal barriers within society, and it is society that must change to accommodate diverse individuals (Owens, 2015). To break down barriers that have historically resulted in segregation and isolation for students with disabilities, schools should adopt the social model of disability and begin to dismantle old systems and structures that disable students and instead provide the supports and services needed to accommodate all learners. In truly inclusive schools, everyone shares the same purpose, albeit sometimes with different methods for achieving those purposes. In other words all means all (Shogren, McCart, Lyon, & Sailor, 2015,) when referring to inclusive education.

Inclusion occurs when every individual at a school is in their age-appropriate classroom working on the same curriculum and content with access to individualized accommodations, modifications, services, and supports as needed. The Schoolwide Integrated Framework for Transformation (SWIFT) Center located at the University of Kansas is a powerful resource that supports inclusion and education reform at the state and district level. They outline key elements of inclusive schools which include inclusive academic and behavioral instruction, a strong and positive school culture, trusting family and community partnerships, and collaboration. Inclusive classrooms are crafted using research-based practices such as: (a) peer-tutoring, (b) co-teaching, (c) strong instructional practices, (d) accommodations and modifications, (e) collaboration, and (f) democratic environments that support all students' learning and participation (Lindsey, Thousand, Jew, & Piowlski, 2018; Mastropieri & Scruggs, 2001).

Successful schooling and community-based services begin with the presence of strong collaborative relationships and partnerships. Effective communication among professionals and family members, including the person with a disability, is essential. Everyone benefits from a culture of working together when designing and implementing educational and community-based services and supports for people with and without disabilities. Collaboration, then, is at the heart of successful inclusion.

Defining Collaboration

Collaboration refers to people working together toward common goals and entails individuals with disabilities themselves, professionals, family members, community members, and friends coming together to work toward and achieve a shared vision. Individuals on collaborative teams have varied life perspectives and experiences and can add a great deal to the collaborative planning process. To become a collaborative team, the members of the team must share resources, expertise, perspectives, and responsibilities to create inclusive, effective, and meaningful programs and services for students with and without disabilities. Collaboration is about bringing individuals together in such a way that each member of the team agrees to use their heart (e.g., their character and intentions), their head (e.g., their beliefs and attitudes), and their hands (e.g., their actions and their approaches), to create a clear sense of purpose, values, and goals (Blanchard, Ripley, & Parisi-Carew, 2015).

Collaboration does not mean avoiding confrontation. On the contrary, collaboration provides a vehicle for discussing difficult concepts and reflecting on various beliefs, attitudes, strategies, and ideas to build new perspectives. Collaboration does not force members of the collaborative team to arrive at a consensus. Sometimes it means individuals do not get their own way, but rather feel they can live with the collective decision made by the team, albeit after having had the opportunity for all team members to express their opinions and provide input. Collaboration is not a lack of individual accountability; rather it is best achieved when there are varied opinions. This entails each member of the collaborative team truly listening to each other, and collectively creating a shared vision. Collaboration is a commitment to a culture of mutual respect and trust, ultimately serving as a catalyst toward optimal student outcomes.

Characteristics of Collaboration

Much has been written about the numerous characteristics and essential elements of collaboration. Sometimes team members may feel forced to work together; however, when people work together and create a collaborative structure, the work runs more smoothly, is divided more evenly, and often results in improved outcomes for students. Collaboration, at a minimum, requires all team members commit to working together toward a common goal, which is how best to support students (Friend & Cook, 2013). IEP team members as required under IDEA, consist of teachers (both special and general education), administrator, parents, students, and when appropriate, related service personnel, psychologists (as needed), and others who can contribute to building an educational program for a student with a disability.

Parity

Collaboration requires parity among team members. Each person's contribution must be viewed as equally valued, and each person must be given equal power in the decision-making process. Collaboration must be based upon a commitment that all participants are important, listened to, and respected (Friend & Cook, 2013). Achieving parity or equal status can prove difficult when the dynamic of those involved has created or embraced a culture of "us and them." It is essential for schools and families to break away from this type of mentality for there to be parity among all team members, including students and their families.

Mutual goals

Collaboration is based upon establishing mutual goals among team members. Team members do not have to share all their individual goals to collaborate, but it is necessary they have a shared vision and goals for the collaborative team meeting (Blanchard et al., 2015). For example, IEP team members must agree that the education of the student in focus is the central purpose of the meeting. In addition, the outcome for all team members should be to develop an appropriate educational program for that student, with significant input, insight, and wisdom from all team members. Members of the team must keep the student as the focus of the meeting or collaboration and not their individual or collective egos.

Shared responsibility for participation and decision making. Collaboration depends on shared responsibility for participation and decision-making. Collaborators must assume the responsibility of actively engaging in decision-making processes and ensure all stakeholders have the opportunity to do so as well. Effective collaboration embraces the unique perspectives of all team members and requires a sense of trust and shared responsibility (Friend & Cook, 2013). A reminder may be needed that the student and their parents are essential members of the team and must be given respect and encouragement to be engaged in all decision making.

Shared resources

Individuals who collaborate share resources with each other. Sharing resources of time, knowledge, and materials can enhance the sense of ownership and creativity among team members. No member of the team should be disadvantaged due to a lack of resources, materials, or specialized knowledge. Parents of students with disabilities and students themselves are sometimes disadvantaged in IEP meetings because they are not always familiar with the jargon, limitations, or available options. Educators must be cognizant of this possible disadvantage and make every effort to provide parents and students with the necessary information and resources so they can contribute in making informed recommendations (Blanchard et al., 2015).

Shared responsibility for outcomes

Individuals who collaborate share responsibility for outcomes. Whether the results of collaboration are positive or negative, all participating individuals are responsible for what comes to pass and must work toward agreed upon components of the plan with fidelity and integrity to the best of their ability (Friend & Cook, 2013). With shared responsibility comes shared accountability and the need for collaborators to not only hold themselves and each other accountable for adhering to the agreed upon commitments, but also to ensure the commitments are practical and the workload is delegated in an equitable way. Issues can arise when team members are expected to execute unrealistic goals due to time constraints, limitations in expertise, or other factors. It is essential to be conscientious of each team member's workload and availability for additional work so agreements can be executed with fidelity and all team member can feel successful.

The major purpose of collaboration is to create change and to build new and improved educational opportunities for students and ultimately for schools. Collaboration among the various stakeholders, including teachers, students, families, school personnel, and administrators can be used to effectively transform schools, community agencies, and opportunities for individuals with and without disabilities to experience better outcomes.

Synergy

Collaboration offers the opportunity to experience synergistic ideas and perspectives. Synergy is the creation of a whole that is greater than the sum of its parts. Synergy is evident when problem solving results in solutions no one individual necessarily owns or is committed to; rather, team members share their ideas in such ways that new ideas and concepts emerge. Team collaboration is a key ingredient in delivering effective and high-quality services in schools. This relies on collaborative relationships in which team members work together in a seamless manner toward shared goals and subsequently develop strategies to carry out actions and remain accountable (King-Sears, Janney, & Snell, 2015). In the following sections, specific strategies for effective collaboration among educators, parents, and students are discussed.

Collaboration Between General and Special Educators and Service Providers

Collaboration among educators and related service personnel is vital to the success of students with disabilities. General and special education teachers and related service providers receive highly specified training in their respective domains giving them a wealth of knowledge to use to meet the needs of the students they serve. When their expertise is shared amongst one another, the opportunities for students to make educational gains improves dramatically (Murawski & Spencer, 2012). Historically, however, teacher education programs and specialist training programs have limited or nonexistent opportunities for educational personnel to learn, plan, and collaborate together (Delano, Keefe, & Perner, 2008). Training delivered separately may beget a siloed service delivery system, unless systematic and strategic practices around collaboration are in place.

When one or more of the collaborative characteristics are missing, common pitfalls may arise. For example, one study conducted in the United States examined collaboration between special and general education teachers. Several special education teachers expressed feeling they lacked authority and were underused when working in a general education classroom (Conderman, 2018). One effective strategy to overcome this sense of feeling undervalued or underutilized is for general and special education teachers to co-plan and co-teach together (Murawski & Hughes, 2010). Being seen as equals by students and one another is important and can be achieved when teachers work collaboratively to co-plan lessons, share preparatory responsibilities, and co-teach.

Co-teaching is defined as two or more educators coming together to plan and teach with a heterogeneous group of students in a general education classroom (Beninghof, 2012; Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). When implemented effectively, co-teaching has repeatedly been shown to yield advantageous academic and social results for students with and without disabilities (McDuffie, Mastropieri, & Scruggs, 2009; Murawski, 2006) and has proven particularly beneficial for students in the areas of

reading and writing (Tremblay, 2013). Additionally, co-taught classrooms have a greater focus on social skills instruction and result in building stronger classroom communities (Murawski, 2006; Walther-Thomas, 1997; Weichel, 2001).

In addition to collaboration among teachers, it is essential teachers effectively collaborate with related service personnel (e.g., occupational therapists, speech and language pathologists, adapted physical education teachers). Section 300.34 of IDEA (2004), a federal law, defines "related services" as "supportive services as required to assist a child with a disability to benefit from special education". The role of the related service provider may differ based on the type and extent of the services required. Related service providers may work at more than one school and, depending on the specific student, their service delivery models are likely to vary. For instance, for some students, service providers may offer teachers suggestions and strategies through a consultative service delivery model, services may be provided inside the students' classroom, or services may be implemented outside of the classroom in a one-on-one or small group setting. Similar to general and special education teachers, related service providers should allot time to collaborate and plan with teachers and can also engage in co-teaching to successfully incorporate and embed the strategies they have delineated within their instruction.

Students with significant support needs similar to Sebastian often have many adults working in different capacities to support various aspects of their education. Special and general education teachers, occupational therapists, speech and language therapists, adapted physical education teachers, counselors, and other specialists simultaneously serve students to ensure each student receiving special education services can derive meaningful benefit from their educational program each school year, a requirement mandated by a recent U.S. Supreme Court ruling in Endrew F. v. Douglas County School District (2017). Traditionally, IEP team members come together once per year at the annual IEP meeting to discuss a student's progress, needs, and future goals after which members of the team may go back to siloed existences, working in isolation from one another (Murawski & Spencer, 2012). While collaborative practices can and do happen naturally in some cases, consistent ongoing collaboration is an essential ingredient for successful learning outcomes, or deriving meaningful benefit from their educational program.

There are many ways teachers can collaborate. One way is through collaborative curricular planning. Because all teachers engage in curricular planning, this is a natural time for special and general educators to collaborate. Teachers and related service providers must decide on when, where, and how often they will meet to ensure ongoing collaboration and coordination of student services. For collaboration to work, teachers must establish an open system of communication that allows all parties to reach out to one another via email, text message, or other means of communication, while also being respectful of each collaborator's time. Ideally, general education teachers will share their lesson plans with the special education teacher so the special education teacher can, in turn, prepare accommodations and modifications a student with a disability may need or from which they might benefit. In this scenario, the general education teacher comes prepared with weekly plans, while the special education teacher comes prepared with a deep knowledge of a student's IEP goals, services, and supports, and expertise about required accommodations, modifications, and interventions. Having structured agendas can be another helpful strategy to ensure efficiency since time is likely to be limited. One team member can serve as a timekeeper to make sure the meeting moves along at a pace that will allow them to complete the meeting having fully addressed the outlined agenda. Special education teachers can provide support in offering ideas for curricular adaptations for students with and without disabilities, ensuring a student's IEP goals are addressed throughout the day, and preparing lesson plans accessible to all learners.

Teams can also collaborate informally. In addition to holding weekly planning meetings, special and general education teachers can arrange to eat lunch together to discuss students' educational needs and progress. Both should agree neither has all of the answers and should remain open to each other's input. Together, a team of educators and related service personnel are able to provide a comprehensive and well-rounded educational program for each student and their classmates who might also be struggling to learn a particular concept or skill.

Despite the academic (Murawski, 2006) and social (Weichel, 2001) benefits collaboration can yield, perceptions of collaboration vary widely (Hagelman, 2013). Educators often express a myriad of concerns relating to collaboration, including: (a) lack of adequate planning time, (b) differing values and beliefs, and (c) a lack of collaborative efficiency (Carter, Prater, Jackson, & Marchant, 2010).

Each team member comes with a different background, training, norms, perspectives, life experiences, and circumstances that all interact to shape the way each unique person sees the world, their place in it, and the best way to serve students. At times, these attributes may be at odds with one another. Individual team members must be committed to building and maintaining a culture of trust rather than resistance, respect for multiple perspectives, and a willingness to collaboratively problem solve.

When team members embrace each other's perspectives, stakeholders can be part of a team without feeling judged, inferior, or like their time is wasted. They are valued, voices are heard, and qualms can be expressed without fear. This allows individuals to contribute meaningfully and to the best of their capacity. Additionally, when individuals work in cultures where there is trust, they tend to express greater job satisfaction, a stronger alignment with the stated mission of the team or organization, a closer connection to their colleagues, increased empathy for their co-workers, and reduced burnout (Zak, 2017). With the benefits of collaboration being mutually beneficial to adults and students alike, greater emphasis on building and maintaining collaborative teams has the potential to shift education in ways that promote sustainability and improve achievement.

Collaboration Between Parents and Teachers

According to Erwin, Shogren, Soodak, Turnbull, and Turnbull (2011) a robust research-based literature demonstrates parent-teacher collaborative relationships as imperative for successful academic, behavioral, and social improvement of students with disabilities. Many parents feel unwelcome and uncomfortable participating in their children's education (Fish, 2006). While some schools have made efforts to comply with federal and state policies to meet the needs of students who receive special education services, this is not always the case (Larios & Zetlin, 2006; Scorgie, 2015).

IDEA includes parent involvement as a key requirement in the creation of documents such as the IEP, which is a blueprint for the delivery of educational services for students with disabilities (Fish, 2006). Parents oftentimes experience a sense of powerlessness in IEP meetings. These feelings can often negatively impact parents who may already be faced with stressors such as feeling ill equipped to raise a child with a disability. This can challenge their parenting and can impact their self-confidence.

The United States is made up of a diverse population of many different ethnicities, languages, and cultures. Research with

culturally and linguistically diverse (CLD) families has provided some important insight and directives for educators in terms of including and welcoming parents as collaborators and co-creators of students' educational programs. In a qualitative study with young Latina mothers of children with autism, Perez (2017) found these mothers felt special education professionals need to work on improving the quality, consistency, and tactful approaches in collaboration with them. Similarly, Fish (2006) found many parents feel ill-equipped to attend to the educational needs of their children and feel unprepared to respond to special education jargon. Perez (2017) discovered much of the information in written documents for parents, whether in English and Spanish, employed jargon and did not contain terminology commonly understood or defined.

Special education documents are full of discipline specific concepts, terminology, and acronyms, making it challenging for people who have not had similar training or extensive experience in special education to understand them. In addition, Perez (2017) found CLD families felt a disconnect with special education professionals because of their cultural background. Sometimes CLD families felt they should not question professionals, as this can be seen as a form of disrespect in their culture (Kalyanpur, Harry, & Skrtic, 2000). Families who have a low socioeconomic status may also struggle with collaboration and experience an imbalance of power with educational professionals (Conroy, 2012). In some cases, parents of children with disabilities face many obstacles due to both a lack of resources known or available to them and limited knowledge about their children's disabilities. Financial strain on a family can exasperate these challenges and other challenges that interfere with establishing collaborative partnerships.

Harry (1992) shared, while it is true some parents may not particularly want to participate in their children's IEP, it is vital parents be sufficiently informed to elect their level of participation, make informed decisions, and give meaningful consent. Parents sometimes feel undervalued, intimidated, and judged by professionals. Perez (2017) revealed that, many times, parents of children with disabilities are misunderstood and misjudged by educational professionals, adding to the failure to effectively collaborate with parents.

It is important to recognize collaborative, active, equitable, and meaningful participation of parents of children with disabilities in their children's education as an imperative factor that needs to be addressed. Based upon her research, Perez (2017) recommends CLD parents become more outspoken about their concerns with educational professionals without hesitation or fear of being disregarded. Also, the responsibility of listening with empathetic intentions and purposeful responsiveness toward CLD parents falls upon the school districts and educators. Turnbull et al. (2011) emphasize that, just like one's own background influences what we value, how we think, and how we behave, each family will also be influenced by their cultural background and their foundational values. According to Falvey (2005), both educators and parents may have histories of difficult relationships. The author emphasizes the importance of letting go of the past and moving forward to collaboratively resolve problems and create opportunities and futures for students with disabilities.

Research surrounding family-educator collaboration is plentiful, and includes several common themes related to best practices. These are: (a) communication, (b) equity, (c) trust, and (d) respect (Blue-Banning, Summers, Frankland, Lord Nelson, & Beegle, 2004; Scorgie, 2015; Staples & Diliberto, 2010; Sucuoğlu & Bakkaloğlu, 2018; Trainor, 2010; Valle, 2011; Zaretsky, 2004). Blue-Banning et al. (2004) described best practices for family-educator collaboration as "common sense and ordinary human decency" (p. 181). To address cultural and community differences, discussion of the following points must occur within each school setting.

Lucy's story is an example of how collaboration made an enormous difference in the quality and effectiveness of a student's inclusive education. Lucy began her public-school experience in a segregated special education class in a suburban school in California. As a kindergartner, she was eligible for special education services due to autism and expressive language delays, and her parents believed she would be better served in an inclusive setting. Lucy prospers when interacting with her older brother, children in their neighborhood, and other members of her community.

When Lucy's parents petitioned the school district that their daughter be fully included, they were categorically denied. Lucy's general education kindergarten teacher worked with the family and their advocate to include Lucy, who initially was placed in her classroom for 20 to 30 minutes each day. In this new environment, Lucy gained social skills such as following routines, and academic skills such as learning letters and numbers. She interacted with her classmates while learning grade-level material, and the general and special education teachers shared positive reports of her success.

When Lucy's parents called a team meeting to request full inclusion for first grade, Lucy's general education kindergarten teacher was her strongest advocate. In part as a result of this advocacy, the school district agreed to place Lucy in an inclusive first grade classroom. Recently, Lucy began her

Table 1. *Best Practices for Educators*

Theme	Best Practices for Educators
Communication	• Focus on quality and quantity (consider frequency, purpose, and content) • Communicate in a timely manner • Be honest and open • Include positive comments along with negative ones • Use communication methods that work for each family (e.g., phone calls, emails, in person) • Avoid jargon
Equity	• Acknowledge families as experts on their children • Be willing to learn and to admit when you do not have an answer or a skill • Work as a team to develop goals and solutions—engage in shared decision making • Maintain awareness of perceived power and authority
Trust	• Be reliable • Show you care for students • Use discretion with private or sensitive information
Respect	• Honor each family's language, ethnicity, culture, etc. • Be aware of families' other commitments • Set high expectations for students • Treat students as people • Be on time

second-grade year, fully included, and continues to make documented progress with the support of her parents, teachers, and other support staff. Ongoing collaboration between her parents and teachers is key to facilitating her success. Lucy's story offers one example of how collaboration between parents and educators can make a significant difference in a student's life.

Collaboration Between Students With and Without Disabilities

Research on elementary-age students' understandings of race and socioeconomic status (SES) have repeatedly highlighted the malleability of student thinking about social identities (Cameron & Rutland, 2008). Over the last two decades, an emerging literature has expanded on this to consider school-age children's beliefs about disability as well. Several studies conducted in the United States have documented existing biases in school-age children's attitudes toward students with disabilities, suggesting children without disabilities tend to express social preference for their classmates without disabilities as compared to those with physical or intellectual disabilities (Nowicki & Sandieson, 2002). However, research has shown attitudinal and behavioral changes can occur as a result of both education (often in the form of ability awareness training) and contact. These changes in attitude and behavior can occur, in part, due to a recognition of shared similarities between students with and without disabilities (de Boer, Pijl, & Minnaert, 2012; Rillotta & Nettelbeck, 2007). Clearly, contact between students has the potential to increase the social acceptance of students with disabilities by their peers without disabilities. This has served as one of the cornerstone arguments in favor of inclusion and collaboration.

Proponents of inclusive education claim having students with disabilities attend their neighborhood schools in general education classrooms results in increased opportunities for their social participation (United Nations, 2006). Evidence supports these claims, suggesting not only does increased contact between students with and without disabilities lead to better social outcomes for students with disabilities, but also similar benefits can be reported for youth without disabilities as well. Inclusion and student-to-student collaboration has been associated repeatedly with increased tolerance and empathy and the development of meaningful cross-ability friendships. However, Pijl (2005) noted physical inclusion alone does not necessarily result in such benefits. In a a review of the literature on the effects of inclusive education on students' attitudes toward peers with disabilities, several studies demonstrated inclusive education was associated with a negative effect on student attitudes (de Boer, Phil, & Minnert, 2017) Having students with and without disabilities merely share space is not always enough to effect change. It is essential to consider how students share space and to examine the roles of teachers in facilitating this process. Social psychological research offers one way of thinking about how students might share space.

Intergroup Contact

In The Nature of Prejudice, U.S. social psychologist Floyd Allport (1954) laid out a highly influential theory on intergroup contact, which demonstrated the positive effects of contact between members of different social groups. In Allport's estimation, mere exposure between groups could reduce prejudice. While Allport's work focused primarily on different racial and ethnic groups, subsequent researchers have demonstrated similar effects in relation to sexual orientation, mental illness, and disability.Yet researchers, including Allport himself, have acknowledged the limits of mere exposure, noting cases in which contrasting effects of intergroup contact were demonstrated. In some cases, exposure actually exacerbated prejudice, which perhaps helps to explain the divergent studies included in de Boer and Minnaert's (2012) review of the literature on inclusion and student attitudes. In offering an explanation for conflicting findings on intergroup contact, Allport posited four ideal features or positive factors that could influence intergroup contact in a way in which prejudice would be more likely to decrease.: (a) equal status of the groups in the situation, (b) common goals, (c) intergroup cooperation and collaboration, and (d) the support of authorities, law, or custom. All four of these positive factors hold implications for teachers in terms of designing an inclusive environment that moves beyond tolerance and fosters values such as acceptance and appreciation.

Cooperative Learning

Cooperative learning offers an evidenced-base activity that can increase meaningful learning for all students and also move beyond mere space sharing (Thousand, Villa, & Nevin, 2002; Villa, Thousand, & Nevin, 2010). More specifically, cooperative learning has the potential to embody all four of Allport's positive factors. Cooperative learning, in its many forms, requires students to work together at an activity to achieve common goals (Johnson & Johnson, 1975, 1989; Kagan, 1992; Slavin, 1983, 1990). It is important to ask, however, "What types of attitudes are being passed on in the implementation of cooperative learning?" While Murray (2002) reviewed the theoretical basis underpinning cooperative learning, many teachers may follow the basic protocol of cooperative learning activities without asking essential questions such as, "Are all students participating in meaningful ways?" or, "What are the implications of or philosophy behind how I am facilitating this process?"

In a sense, teachers, classrooms, and the overall culture of the school act as the support of authorities, laws, and customs, while common goals and intergroup cooperation are embedded within the framework of cooperative learning. Allport (1954) refers this as equal status of the groups in the situation. Teachers have a responsibility to design and guide cooperative learning activities in a way that promotes equal status among groups. This does not mean all students are always treated or educated in exactly the same manner. Rather all students should be treated with and afforded the same dignity and respect while providing equal opportunities for success. Appropriate accommodations and modifications should be made available to students with and without disabilities to ensure meaningful participation in learning activities. In doing this, general and special education teachers must challenge or subvert any tendencies on the part of the students or themselves toward paternalism, charity, or pity and avoid sending the message that the job of general education students is to help students with disabilities. Cooperative learning is not a one-way street. Ultimately, students with disabilities must be given the opportunity to demonstrate reciprocity and to contribute in meaningful ways to their classroom and with their classmates. The attitudes and spirit in which cooperative learning, specifically, and inclusion, more generally, are undertaken are key.

Physician Rachel Remen (1999), a leading medical educator, therapist, and teacher in the United States has distinguished between attitudes of helping, serving, and fixing. She wrote:

> *Helping, fixing and serving represent three different ways of seeing life. When you help, you see life as weak. When you fix, you see life as broken. When you serve, you see life as whole. . . . Serving is different from helping. Helping is not a relationship between equals. A helper may see others as weaker than they are, needier than they are, and people often feel this inequality. The danger in helping is that we may inadvertently take away from people more than we could ever give them; we may diminish their self-esteem, their sense of worth, integrity or even wholeness. (p. 1)*

As facilitators of collaboration, teachers should reflect on how their own beliefs and, potentially, biases inform the way they

design and lead cooperative learning and other collaborative activities. Cooperative learning offers tremendous potential for inclusion. However, the philosophies and attitudes undergirding the approach must also be taken into consideration—common goals, intergroup cooperation, meaningful contributions, equal status of group members, and the support of persons in positions of authority.

Classrooms and schools frequently employ a tutor and tutee approach, arising out of a cognitive science perspective (Murray, 2002), between students with and without disabilities. However, to build a collaborative relationship between students, each student, regardless of their ability, should have an opportunity to be a leader and contributing member to their group and classroom. To make this a reality, students with and without disabilities must comprehend and contribute to how they are contributing members. Cooperative learning opportunities provide for self-evaluation, which can teach students to be self-determined at a young age to be better prepared for the transition into adulthood. A first step is to invite and welcome students with disabilities as members of their IEP team. Unfortunately, students with disabilities often sit in their own IEP meetings unaware of how to be an active participant. They may need to be taught skills related to active participation. To do this, active engagement in group activities, such as those provided by cooperative learning, need to begin at the preschool level so students are prepared for ongoing participation in their own education. Opportunities to make meaningful contributions to classroom activities and IEP meetings need to be prioritized and scaffolded as needed.

While cooperative learning groups foster self-determination for students via opportunities for self-evaluation and leadership, they also allow students to establish positive social interdependence, though teachers have to decide how to structure and intervene when challenges inevitably occur (Baloche & Brody, 2017). For instance, students may not be equally contributing to a task. This could be due to a lack of skills or experience related to collaboration, differential social status, or limited communication skills (Le, Janssen, & Wubbels, 2018). Together, general and special educators (and other service providers) need to address these concerns. To better facilitate collaboration between students with and without disabilities, students need to learn about respecting differences and how to problem solve. Teachers can help model these processes and skills. Though academic progress is, of course, one of the main objectives of cooperative learning, the value of cooperation in and of itself should not be overlooked. Disability activist, Mia Mingus (2010), has identified interdependence as a key principle of disability justice. It is never too early to begin sharing the principles of collaboration and interdependence with students.

To avoid the student with a disability becoming dependent on another student or adult, cooperative learning groups should be structured so each student has a role (Johnson & Johnson, 2008). For students with disabilities to be successful in cooperative learning groups and to be active participants, students may need to receive individualized accommodations and modifications. According to Johnson and Johnson (1999), three types of cooperative learning groups include formal, informal, and cooperative base groups. Teachers need to establish set roles and guidelines for the various responsibilities so students can be successful (King, 2008). In addition, teachers should adjust their own roles when they observe the groups and be intentional in how and when they intervene (Johnson & Johnson, 2008).

Accessible Spaces

Recommendations for how to encourage a collaborative classroom include providing an accessible environment. As IEP teams collaboratively recommend and plan for inclusive environments, they should consider how access occurs (Olson, Leko, & Roberts, 2016). If a paraprofessional or a classroom assistant is assigned to a student, the teacher should assign adults to rotate around the room and monitor the student while encouraging and allowing for as much independence and interdependence in and among students as possible (Carter & Kennedy, 2006).

A thriving example that portrays all three collaborative relationships between educators, educators and parents, and students is the journey of a young man named Alex. Crystal, one of the authors of this article, can personally account to the importance and success a fully included student with disabilities can have and the importance of collaboration at all levels and times. Alex, a 21-year-old who has the label of autism, is successfully enrolled in his fourth year in one of Southern California's public universities. Alex was initially diagnosed with autism at age 4 and was considered within the severe range of the spectrum by their local school district and Regional Center, a private nonprofit organization which coordinates and provides community-based services to people with developmental disabilities in California. Alex began speaking when he was about six and a half years old, and struggled with control over his stereotypy, a repetitive or ritualistic movement, posture, or utterance. In addition, he struggled with changes to his routine, visual and auditory stimulation, and remaining seated when expected by his teachers. Yet, he seemed to have an intense interest in academics and appeared to retain what he was learning. Alex began his schooling in a segregated special education class. When he was 7 years old, Crystal asked the school to place Alex in a general education classroom with special education supports. Initially, Crystal received some pushback from educators, administrators, and even some parents of other students. However, with the support of her case manager from the Regional Center, they placed Alex in a general education classroom with support. Crystal and her son definitely had their successes and challenges in Alex's inclusive journey through the public-school system. In the end, Alex and Crystal found more willing participants and collaborators in their journey. Collaboration among the general education teacher, special education teacher, and related service providers became much more important when Alex became fully included in general education settings. Crystal expressed to the educational professionals her concern for Alex missing vital instructional time. The providers needed to determine the amount of times Alex would be pulled out for occupational therapy, adaptive physical education, and language and speech services. Their resolution after collaborating was to push in Alex's classroom and have some afterschool sessions. The push in settings also allowed Alex's general education teacher and one-to-one assistant an opportunity to observe and replicate the techniques the providers were using with Alex. This was one of many collaborative decisions between Alex's general education teacher, special education teacher, and related service providers that helped him succeed academically and socially.

Collaboration between Alex's parent and his teachers were key throughout his public-school career. Because the majority of his teachers did not have a special education background, many times Crystal was their resource not only as a special educator but also as Alex's mother. Most educators were open to ideas and suggestions concerning Alex, all having his best interest in mind. In other instances, Alex's parent and his teachers collaborated in searching for ideas on how to best create opportunities for him to socialize. In elementary school, this included using his one to one assistant in organized play scenarios at lunch and recess and also having the one to one assistant lead small group instruction with other students besides Alex. In high school, this included having Alex assigned to the football team as the

videographer and participating in weightlifting with football team members. Alex's parent and his teachers had the best collaborative experience when they exercised mutual respect and being active listeners.

Collaboration between students, peers, and educators was the most meaningful to Alex during his high school years. Alex created meaningful and long-lasting friendships with his typical peers early on with the supports of his one-to-one assistant. These relationships followed him through to high school and beyond. Alex's peers were supportive through social events at his high school, defending him when necessary, and by remaining in contact with him now as seniors in college. Both Alex's peers and their parents agree Alex was not the only one who benefitted from their friendship—they also gained socially and emotionally by Alex being in their lives.

When his high school journey ended, Alex expressed some very positive experiences and memories such as being crowned freshman homecoming prince, being the high school football team videographer, successfully passing several advanced placement courses, and walking across the stage with the top 50 students to receive their high school diplomas. Alex is currently in his fourth year as a university student maintaining a 3.0 GPA with supports in place from the Office for Students With Disabilities and other social services agencies. He will be graduating with his bachelor's degree at the end of this academic year and is applying for a master's degree program. He has also been an advocate and guest speaker in elementary schools and university classes since he was 12 years old to educate and advocate for those who, like him, have a disability. Not every child will have the same outcome, but if the appropriate opportunities are not offered based on an individual's needs, we are limiting growth and denying students the chance to meet their highest potentials.

Summary

Collaboration among and between all stakeholders is critical in the design and delivery of inclusive education. Building respectful collaborative relationships that reflect integrity, effective communication, and supporting one another is an essential ingredient for inclusive education to be effective. Inclusive education is considered a research-based best practice service delivery model for students with and without disabilities. Collaboration is one of the key essential elements to ensure effective inclusive education.

References

Allport, G. W. (1954). *The nature of prejudice.* Reading, MA: Addison-Wesley.

Baloche, L., & Brody, C. M. (2017). Cooperative learning: Exploring challenges, crafting innovations. *Journal of Education for Teaching: International Research and Pedagogy, 43*, 274-283. doi:10.1080/02607476.2017.1319513

Beninghof, A. M. (2012). Co-teaching that works: Structures and strategies for maximizing student learning. Indianapolis, IN: Jossey-Bass.

Blanchard, K., Ripley, J., & Paisi-Carew, E. (2015). *Collaboration begins with you.* Oakland, CA: Barrett-Kohler.

Blue-Banning, M., Summers, J., Frankland, H. C., Lord Nelson, L., & Beegle, G. (2004). Dimensions of family and professional partnerships: Constructive guidelines for collaboration. *Exceptional Children, 70*, 167-184. doi:10.1177/001440290407000203

Cameron, L., & Rutland, A. (2008). An integrative approach to changing children's intergroup attitudes. In S. R. Levy (Ed.), *Intergroup attitudes and relations in childhood through Adulthood* (pp. 191-203). New York, NY: Oxford University Press.

Carter, E. W., & Kennedy, C. H. (2006). Promoting access to the general curriculum using peer support strategies. *Research and Practice for Persons With Severe Disabilities, 31*, 284-292. doi:10.1177/154079690603100402

Carter, N., Prater, M. A., Jackson, A., & Marchant, M. (2010). Educators' perceptions of collaborative planning processes for students with disabilities. *Preventing School Failure: Alternative Education for Children and Youth, 54*, 60-70. doi:10.3200/PSFL.54.1.60-70

Conroy, P. W. (2012). Collaborating with cultural and linguistically diverse families of students in rural schools who receive special education services. *Rural Special Education Quarterly, 31*, 24-28. doi:10.1177/875687051203100304

Conderman, G. (2018). Establishing parity in middle and secondary co-taught classrooms. *The Clearing House: A Journal of Education Strategies, Issues and Ideas, 91*, 222-228. doi:10.1080/00098655.2018.1524358

Delano, M. E., Keefe, L., & Perner, D. (2008). Personnel preparation: Recurring challenges and the need for action to ensure access to general education. *Research and Practice for Persons With Severe Disabilities, 34,* 232-240. doi:10.2511/rpsd.33.4.232

De Boer, A., Pijl, S. J., & Minnaert, A. (2012). Students' attitudes towards peers with disabilities: A review of the literature. *International Journal of Disability, Development and Education, 59*, 379-392. doi:10.1080/1034912X.2012.723944

Endrew F. v. Douglas County School District RE-1, 137 S. Ct. 988 (2017).

Falvey, M. A. (2005). *Believe in my child with special needs.* Baltimore, MD: Brookes.

Fish, W. W. (2006). Perceptions of parents of students with autism towards the IEP meeting: A case study of one family support group chapter. *Education, 127*, 56-68. doi:10.3200/PSFL.53.1.8-14

Friend, M., & Cook, L. (2013). *Interactions: Collaboration skills for school professionals* (7th ed.). Boston, MA: Pearson.

Friend, M., Cook, L., Hurley-Chamberlain, D., & Shamberger, C. (2010). Co-teaching: An illustration of the complexity of collaboration in special education. *Journal of Educational and Psychological Consultation, 20*, 9-27. doi:10.1080/10474410903535380

Hagelman, E. (2013). *Spccial education co-teachers' perceptions: Collaboration, involvement in instruction and satisfaction.* University of New Orleans Theses and Dissertations. 1741.

Individuals with Disabilities Education Act (2004). Sec. 300.321. IEP Team. Retrieved from https://sites.ed.gov/idea/regs/b/d/300.321

Individuals with Disabilities Education Act (2004). Sec. 300.34. Related services. Retrieved from https://sites.ed.gov/idea/regs/b/a/300.34

Johnson, D. W., & Johnson, R. T. (1975). *Cooperative learning: The power of positive goal interdependence.* University of Minnesota.

Johnson, D. W., & Johnson, R. T. (1989). *Cooperation and competition: Theory and research.* Bloomington, IN: Interaction Book.

Johnson, D. W., & Johnson, R. T. (1999). Making cooperative learning work. *Theory Into Practice, 38,* 67-73. doi:10.1080/00405849909543834

Johnson, D. W., & Johnson, R. T. (2008). Social interdependence theory and cooperative learning: The teacher's role. In R. Gillies, A. Ashman, & J. Terwel (Eds.), *The teacher's role in implementing cooperative learning in the classroom* (pp. 10-37). New York, NY: Springer.

Kagan, S. (1992). *Cooperative learning.* San Juan Capistrano, CA: Resources for Teachers.

Kalambouka, A., Farrell, P., Dyson, A., & Kaplan, I. (2007). The impact of placing pupils with special education needs in mainstream schools on the achievement of their peers. *Educational Research, 49*, 365-382. doi:0.1080/00131880701717222

Kalyanpur, M., Harry, B., & Skrtic, T. (2000). Equity and advocacy expectations of culturally diverse families' participation in special education. International Journal of Disability, Development and Education, 47, 119-136. doi:10.1080/713671106

King, A. (2008). Structured peer interaction to promote higher-order thinking and complex learning in cooperating groups. In R. Gillies, A. Ashman, & J. Terwel (Eds.), The teacher's role in implementing cooperative learning in the classroom (pp. 74-91). New York, NY: Springer.

King-Sears, Janney, R., & Snell, M.E. (2015). *Collaborative Teaming* (3rd ed.). Baltimore, MD: Brookes.

Kurth, J., Mastergeorge, A. M., & Paschall, K. (2016). Economic and demographic factors impacting placement of students with autism. *Education and Training in Autism and Developmental Disabilities, 51*, 3-12. Retrieved from https://www.jstor.org/stable/26420360

Larios, R., & Zetlin, A. (2012). Parental involvement and participation of monolingualand bilingual Latino families during individual education program meetings. *Journal of Education Research, 6*, 279-298. Retrieved from https://www.jstor.org/journal/jeducresearch

Le, H., Janssen, J., & Wubbels, T. (2018). Collaborative learning practices: Teacher and student perceived obstacles to effective student collaboration. Cambridge Journal of Education, 48, 103-122. doi:10.1080/0305764X.2016.1259389

Lindsey, D. B., Thousand, J. S., Jew, C. L., & Piowlski, L. R. (2017). *Culturally proficient Inclusive schools: All means all!* Thousand Oaks, CA: Corwin Press.

Lipsky, D., & Gardner, A. (1989). *Beyond separate education. Quality education for all.* Baltimore, MD: Brookes.

Mastropieri, M. A., & Scruggs, T. E. (2001). Promoting inclusion in secondary classrooms. *Learning Disability Quarterly, 24*, 265-274. doi:10.2307/1511115

McDuffie, K. A., Mastropieri, M. A., & Scruggs, T. E. (2009). Differential effects of peer tutoring in co-taught and non-co-taught classes: Results for content learning and student-teacher interactions. *Exceptional Children, 75*, 493-510. doi:10.1177/001440290907500406

Mingus, M. (2010). Changing the framework: Disability justice. *Resist Newsletter, 19*, 1-2.

Morningstar, M. E., Shogren, K. A., Lee, H., & Born, K. (2015). Preliminary lessons about supporting participation and learning in inclusive classrooms. *Research and Practice for Persons With Severe Disabilities, 40*, 192-210. doi:10.1177/1540796915594158

Morningstar, M., Kurth, J., & Johnson, P. (2017). Examining national trends in educational placements for students with significant disabilities. *Remedial and Special Education, 28*, 3-12. doi:10.1177/0741932516678327

Murawski, W. W. (2006). Student outcomes in co-taught secondary English classes: How can we improve? *Reading & Writing Quarterly, 22*, 227-247. doi:10.1080/10573560500455703

Murawski, W. W., & Hughes, C. E. (2010). Response to intervention, collaboration, and co-teaching: A logical combination for successful systematic change. *Preventing School Failure: Alternative Education for Children and Youth, 53*, 267-277. doi:10.3200/PSFL.53.267-277

Murawski, W., & Spencer, S. (2012). *Collaborate, communicate, differentiate!: How to increase student learning in today's diverse schools*. Thousand Oaks, CA: Corwin.

Murray, F. B. (2002). Why understanding the theoretical basis of cooperative learning enhances teaching success. In J. S. Thousand, R. A. Villa, & A. I. Nevin (Eds.), *Creativity & collaborative learning: The practical guide to empowering students, teachers, and families* (pp. 175-180). Baltimore, MD: Brookes.

Nowicki, E. A., & Sandieson, R. (2002). A meta-analysis of school-age children's attitudes towards persons with physical or intellectual disabilities. *International Journal of Disability, Development and Education, 49*, 243-265. doi:10.1080/1034912022000007270

O'Brien, J., & Mount, B. (2015). *Pathfinders: People with developmental disabilities and their allies building communities that work better for everybody*. Toronto, Ontario, Canada: Inclusion Press.

Olson, A., Leko, M. M., & Roberts, C. A. (2016). Providing students with severe disabilities access to the general education curriculum. *Research and Practice for Persons With Severe Disabilities, 41*, 143-157. doi:10.1177/1540796916651975

Owens, J. (2015). Exploring the critiques of the social model of disability: The transformative possibility of Arendt's notion of power. *Sociology of Health & Illness, 37*, 385–403. doi:10.1111/1467-9566.12199

Perez, C. M. (2017). *Empowering Latino parents: Advocating for elementary aged children with autism spectrum disorder (ASD)* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (Order No. 10280061)

Pijl, S. J. (2005). Interventions for social integration: Training of social skills for students with disabilities in regular education (in Dutch). In B. F. van der Meulen, C. Vlaskamp, & K. C. van den Bos (Eds.), *Interventions in special needs education* (pp. 122-135). Rotterdam, The Netherlands: Lemniscaat B.V.

Remen, R. N. (1999). *Helping, fixing or serving?* Retrieved from https://www.uc.edu/content/dam/uc/honors/docs/communityengagement/HelpingFixingServing.pdf

Rillotta, F., & Nettelbeck, T. E. D. (2007). Effects of an awareness program on attitudes of students without an intellectual disability towards persons with an intellectual disability. *Journal of intellectual and developmental disability, 32*, 19-27. doi:10.1080/13668250701194042

Scorgie, K. (2015). Ambiguous belonging and the challenge of inclusion: Parent perspectives on school membership. *Emotional and Behavioural Difficulties, 20*, 35-50. doi:10.1080/13632752.2014.947098

Shogren, K. A., McCart, A. B., Lyon, K. J., & Sailor, W. S. (2015). All means all. *Research & Practice for Persons With Severe Disabilities, 40*, 173-191. doi:10.1177/1540796915586191

Slavin, R. (1983). When does cooperative learning increase student achievement? *Psychological Bulletin, 94*, 429-445.

Staples, K. E., & Diliberto, J. A. (2010). Guidelines for successful parent involvement: Working with parents of students with disabilities. *TEACHING Exceptional Children, 42,* 58-63. doi:10.1177/004005991004200607

Thousand, J. S., Villa, R. A., & Nevin, A. I. (2002). *Creativity and collaborative learning: The practical guide to empowering students, teachers, and families.* Baltimore, MD: Brookes.

Trainor, A. A. (2010). Educators' expectations of parent participation: The role of cultural and social capital. *Multiple Voices for Ethnically Diverse Exceptional Learners, 12*, 33-50. doi:10.5555/muvo.12.2.01x3497585xtw067

Tremblay, P. (2013). Comparative outcomes of two instructional models for students with learning disabilities: Inclusion with co-teaching and solo-taught special education. *Journal of Research in Special Educational Needs, 13*, 251-258. doi:10.1111/j.1471-3802.2012.01270.x

United Nations. (2006). *Convention of the rights of persons with disabilities and optional protocol.* Retrieved from https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html

U.S. Department of Education. (2010). Free appropriate public education for students with disabilities: Requirements under section 504 of the Rehabilitation Act of 1973. Retrieved from https://www2.ed.gov/about/offices/list/ocr/docs/edlite-FAPE504.html

Valle, J. W. (2011). Down the rabbit hole: A commentary about research on parents and special education. *Learning Disability Quarterly, 34*, 183-190. doi:10.1177/0731948711417555

Villa, R. A., Thousand, J. S., & Nevin, A. (2010). *Collaborating with students in instruction and decision-making.* Thousand Oaks, CA: Corwin Press.

Walther-Thomas, C. S. (1997). Co-teaching experiences: The benefits and problems that teachers and principals report over time. *Journal of Learning Disabilities, 30*, 395-407. doi:10.1177/002221949703000406

Weichel, W.A. (2001). *An analysis of student outcomes on co-taught settings in comparison to other special educaton service delivery options for students with learning disabilities.* Dissertation Abstracts international, 62(07),2386 (UMI No. 3021407)

Zaretsky, L. (2004). Advocacy and administration: From conflict to collaboration. *Journal of Educational Administration, 42*, 270-286. doi:10.1108/09578230410525649

Zak, P. J. (2017). *The neuroscience of trust. Harvard Business Review.* Retrieved from https://hbr.org/2017/01/the-neuroscience-of-trust

iejee | INTERNATIONAL ELECTRONIC JOURNAL OF ELEMENTARY EDUCATION

January 2020, Volume **12**, Issue **3**, **293-301**

Her Voice: Engaging and Preparing Girls With Disabilities for Science, Technology, Engineering, and Math Careers

Amy Jane Griffiths[a], Angel Miles Nash[b], Zachary Maupin[c], Sneha Kohli Mathur[d]

Received: **7 October 2019**
Revised: **2 December 2019**
Accepted: **29 December 2019**
ISSN: 1307-9298

www.iejee.com

DOI: **10.26822/iejee.2020358223**

Abstract

Science, technology, engineering, and math (STEM) related fields comprise the top 30 occupations expected to grow the fastest by 2026. This increase in job opportunities, coupled with the evolution of technology, is creating higher demands for diversity in the labor market. Currently all students require innovative training and support from a young age to pursue STEM careers successfully. However, women and girls with disabilities face unique barriers along the STEM education pipeline. In this paper, we report the current and projected labor market trends in the United States. We then consider how this labor market information can be used by elementary educators to engage girls with disabilities in STEM-related learning effectively. Finally, through our analysis of labor market needs and the available assessment and intervention literature, we present a science-informed framework for intervention.

Keywords: STEM Education, Girls with Disabilities, Transition, Career Planning

Introduction

In the United States, more than 156 million jobs are available, with projections of 0.7% annual increases in available jobs over the next 10 years (U.S. Department of Labor, Bureau of Labor Statistics, 2017a). We must consider the influence of science, technology, engineering, and math (STEM)-related professions as employment opportunities and options increase. To this point, 15% of the U.S. workforce is in computer, engineering, and science careers; these and other STEM-related fields comprise the top 30 occupations expected to grow the fastest by 2026 (U.S. Department of Labor, Bureau of Labor Statistics, 2017b, 2018a). This progressive increase in job opportunities, coupled with the evolution of technology, is creating higher demands for diversity of thought, experience, perspective, and background in the labor market.

Currently all students require innovative training and support from a young age to pursue STEM careers successfully; however, girls and women with disabilities face additional unique barriers (National Science Foundation, 2015). These obstacles are embedded in interpersonal, social, communal, and sociocultural systems that require intentional changes to policy and procedures (Harley, 2011; O'Day & Foley, 2008). For girls and women with disabilities, these opportunities must take into account the systems that surround their path through education and early career development. Despite a lack of research on girls and women with disabilities in STEM-related fields, there is an undeniable need for improving this trajectory for current students and those to come.

Our approach in this paper considers the needs of the labor market, as well as students' distinct ecological factors, which can influence and inform effective intervention. By analyzing state and national labor market data, we intend to support educators in early and comprehensive preparation for successful post-K-12 education and workforce transitions for girls and women with disabilities in STEM-related fields.

Science, Technology, Engineering, and Math Workforce: The Future's Demand and Diversity

The rapidly increasing pace of technology advancement has and will continue to influence social and educational change. School settings sustain undeniable impacts as educators continually prepare their students for technology-driven futures. Future labor markets demand earlier preparation to best support student workforce transitions. Likewise, education's response to the diverse positionalities of students offers essential opportunities for schools to intentionally plan and implement meaningful programming. The historicity of exclusion in the STEM pipeline establishes a foundational need to support students who have been historically marginalized. These marginalized groups include individuals with disabilities (Griffiths, Giannantonio, Hurley-Hanson, & Cardinal, 2016) and girls and women (Noonan, 2017). When demands for STEM-related skills meet students' needs for transition support, we set pedagogical precedence for providing more innovative supports.

In response to modern sociotechnological advances, educators are compelled to pursue and provide more innovative means of preparing students to learn and integrate technical knowledge and skills effectively. Furthermore, policy directives charge public schools with providing transition services for students as they ready to leave the educational system and enter the workforce (Lee, 2011). For example, the Individuals With Disabilities Education Act (IDEA, 2004) mandated that schools develop individualized transition plans before 16 years of age for students who receive special education services. The federal government has outlined that individualized transition plans are to consist of assessment information, present levels of performance, transition services necessary to support progress, a yearly review of post-secondary goals, and a summary of progress. A student's regular individualized education program team members are responsible for devising and implementing this plan based on the student's interests, strengths, and ability level. Integrating these components into a successful strategy for

[a]Correspondence Detail: Amy Jane Griffiths, Attallah College of Educational Studies, Chapman University, California, USA. E-mail: agriffit@chapman.edu
[b]Angel Miles Nash, Chapman University, California, USA. E-mail: milesnash@chapman.edu
[c]Zachary Maupin, Chapman University, California, USA. E-mail: zmaupin@chapman.edu
[d]Sneha Kohli Mathur, Chapman University, California, USA. E-mail: mathu109@mail.chapman.edu

transitioning is intended to promote independent living, additional education, and career readiness.

A looming reality of an increasingly competitive and automated workforce is approaching both students and educators (Institute for the Future & Dell Technologies, 2017; World Economic Forum, 2018). Additional factors such as artificial intelligence and the growing STEM-education requirements for participating in the workforce may present themselves as barriers to individuals with disabilities who are unprepared or untrained. These challenges may become amplified by disproportionality of opportunity and a lack of effort on behalf of companies to make the workforce more inclusive. Understanding the nuances and effects of these obstacles requires a separate investigation of individuals with disabilities and women in the STEM workforce.

Students With Disabilities Pursuing Science, Technology, Engineering, and Math

Researchers have explored how similar suggestions can be useful for students and employees who live similar intersectional realities (Griffiths & Miles Nash, 2019). The similarities across these investigations include the need for transition planning from high school into the workforce or higher education. While there has been a progression in this area, there is room for improvement that specifically addresses individuals' unique perspectives. For example, there is some research highlighting the positionalities of girls and women in STEM (Modi, Schoenberg, & Salmond, 2012).

Throughout history, individuals with disabilities have been marginalized in their access to employment opportunities (Griffiths et al., 2016). Employment outcomes for these individuals are drastically lower than those without disabilities, with as little as 21% of individuals with disabilities reporting gainful employment (U.S. Department of Labor, Bureau of Labor Statistics, 2018b). With as few as 7% of the science and engineering workforce reporting a disability, the National Science Foundation (2015) stated substantial barriers are present for individuals with disabilities, in addition to women and minority ethnic and racial groups, accessing STEM-related jobs. Unfortunately, this issue persists with a sparse number of recruitment programs identified in research and a general lack of discussion in special education (Fichten et al., 2003; Marino, 2010). Despite encountering these obstacles, students with disabilities have shown great success in pursuing postsecondary education and careers in STEM-related fields (Bellman, Burgstahler, & Chudler, 2018; Schreffler, Vasquez, Chini, & James, 2019).

Lee (2011) found an increase in college enrollment for students with disabilities, with approximately 22% pursuing a STEM major. Further findings implied positive experiences for students with disabilities, often enrolling in community colleges before transitioning to well-compensated STEM careers or continued postsecondary education (e.g., 4-year colleges). Unfortunately, students with select disabilities present a much higher risk of struggling to complete or finish college degrees in STEM (Stamp, Banerjee, & Brown, 2014). A large body of research has indicated teachers struggle to facilitate inclusive STEM classrooms and may require additional training and skills to increase access and learning for students with disabilities (Bargerhuff, Cowan, & Kirch, 2010; Lee, 2011; Rule, Stefanich, Haselhuhn, & Peiffer, 2009). This population of students is underrepresented in traditional designs for instruction.

We have made improvements in the process of transition planning for students with disabilities who are transitioning from high school to the workforce or further education. However, increased conversations on topics of universal design for learning (UDL) and instruction are pivotal in supporting students with disabilities to pursue STEM education and careers (Izzo & Bauer, 2015; Schreffler et al., 2019). Originally, UDL was developed in the field of architecture to encourage product designs to support an environment more accessible to all people. Universal design has grown to be present in a variety of disciplines in education, including instruction and learning (Schreffler et al., 2019). Universal design promotes consideration being given to an individual's ability or skill level, learning preference, age, gender, sexual orientation, culture, and disabilities (Burgstahler, 2017).

Three critical factors in UDL include providing multiple means of engagement, representation, and action and expression (Center for Applied Special Technology [CAST], 2011a). These principals represent the why, what, and how of learning, respectively. They are intended to support learners who are purposeful and motivated, resourceful, and knowledgeable, as well as strategic and goal-directed (CAST, 2011b). The CAST developed general guidelines for integrating UDL into teaching and learning. These aspects of learning are essential assets for increasing access to STEM curriculum for students with disabilities (Schreffler et al., 2019).

Women With Disabilities in Science, Technology, Engineering, and Math

Girls and women with disabilities face a unique crossroads during their educational experiences and when preparing for workforce transitions as a result of their multiple marginalized identities. As the representation and understanding of girls with disabilities in the STEM pipeline are marked by severe disproportionality in research and literature, we have chosen to focus on women as an indicator of how gender may inform girls' experiences. Being a woman with a disability has been likened to double jeopardy due to the related disadvantages that can impact transition outcomes in pursuing further education or careers (Harley, 2011). The elements of an individual's gender orientation and disability classification are inseparable and uniquely combine to result in their identity as a person. Unfortunately, there is a substantial lack of scholarship on girlhood or womanhood in conjunction with a focus on disability classification. This underrepresentation further demands attention and action to promote equity and inclusion of both gender and ability in STEM education research.

Historically, women have encountered inequities in the workplace and education (Noonan, 2017; Sumi, 2012). The resulting disproportion is further represented in STEM, as men in 2015 occupied 76% of STEM jobs, while total job distribution was reported to be 53% men and 47% women (Noonan, 2017). The Society of Women Engineers (2018) reported, despite substantially reducing the discrepancy between boys and girls completing STEM courses in high school over the past 30 years, only 9.5% of female freshmen pursued STEM majors compared to 27.9% of males. Additionally, over 32% of women changed majors from STEM programs, and only 30% who earned bachelor's degrees in engineering continued to work in engineering 20 years after earning their degrees.

Recent reports indicate women in STEM represent 13% of engineers, 26% of computer scientists, 17% of tenured/tenure-track engineering faculty, and 28.4% of positions in science and engineering occupations (National Science Foundation, 2017a; Society of Women Engineers, 2018). However, a continued wage gap exists between men and women in select STEM fields (Society of Women Engineers, 2018). Moreover, while women's participation in the U.S. labor force has shown substantial advancement over time, this progress has declined in the 21st century—most notably in women with less educational experience (Black, Whitmore, Schanzenback, & Breitwieser, 2017). The absence of women in the workforce and education has a substantial impact on equitable opportunities and economic growth overall (Bandara, 2015).

Gender disproportionality presents a more-than-obvious gap in the field of STEM; this gap grows even wider when we con-

sider disability classifications. Women with disabilities are subject to daunting vulnerabilities in the labor market, including unemployment, underemployment, negative work experiences, increased workplace demands, and more overall insecurities related to work (Harley, 2011). Griffiths and Miles Nash (2019) reviewed further sociocultural factors that contribute to this discrimination, including stereotype threat, implicit bias, and a lack of targeted professional supports that stunt women's success and thriving in STEM fields. These hurdles are evident in findings where women with disabilities are employed at substantially lower rates (34.5%) than men with or without disabilities (41.9% and 85.6%, respectively; O'Day & Foley, 2008).

Given these barriers to successful employment, we must be focused and strategic when career planning for girls with disabilities. As 85% of the employment opportunities available in 2030 are for jobs that do not yet exist (Institute for the Future & Dell Technologies, 2017), it is essential to develop systemic pathways that include the contributions of employees who offer unique and varied manners of approaching and completing tasks. In particular, women with disabilities are equipped to offer a range of contributions based on their abilities to navigate educational and professional spaces not originally designed to include them. Using available labor market data can be particularly helpful in securing long-term employment. It can help students and education professionals create pathways to careers in which students can support themselves (Justice & Norwood, 2016).

Supporting Transition Stakeholders and Structures With an Ecological Systems Approach

Ecological systems theory is an approach that considers individuals interacting in and throughout various layers of their immediate settings, including their physical, social, and cultural environments over time (Bronfenbrenner, 1977). An individual's development is impacted by the settings in which they directly interact and by the larger systems indirectly connected to them; Bronfenbrenner (1979) believed human development is best understood by considering all systems in which the individual is embedded and their dynamics. These interaction effects are multidimensional, with each person and system influencing and being influenced by one another. Bronfenbrenner's (1977, 1979) work on ecological systems theory is accepted widely and used extensively across a variety of research topics (Neal & Neal, 2013).

In our consideration of the contextual factors impacting the career preparation of girls with disabilities, an ecological framework lends itself well to identifying details and specific supports to promote early preparation for STEM-transitions. As early as 1991, Hanna and Rogovsky examined systems influencing women with disabilities in the workforce. They proposed a simplified, triangular model observing factors including sociocultural, self-concept, and participation for women with disabilities. These three foundational components were described as being interactive parts of a much more complex set of dynamics involving one's participation across individual resources, physical condition, participatory behavior, as well as attitudes toward self and others and community level resources, physical environment, cultures, subcultures, and patterns of behavior (Hanna & Rogovsky, 1991).

Similarly, when bringing an ecological perspective to social inclusion practices, the domains of interpersonal relationships and community participation have continued to be used as structural components (Simplican, Leader, Kosciulek, & Leahy, 2015). Ecological layers, including individual, interpersonal, organizational, community, and sociopolitical levels, were used to consider their influence on interpersonal relationships and community participation. This emphasis on social interaction and relationships throughout each system level is the foundation for a networked model of ecological systems (Neal & Neal, 2013). Using labor market data to inform our approach, we have built on these models to support an ecological systems framework that focuses on the individual's participation and relationships across their home, community, and culture as they progress from preschool through 12th grade, higher education, and into employment (Griffiths & Miles Nash, 2019).

Our framework was developed to emphasize the individual's participation and relationships throughout relevant systems involved in pursuing postschool and workforce transitions. Girls with disabilities cannot effectively participate in these relationships and systems if school teams are not aware of the needs in those systems. To encourage participation and success, we must understand the needs of the labor market and integrate this information into our intervention framework. Specifically, in the employment system, we must know the types of skills needed and positions available as we prepare girls with disabilities for future careers. Then, we must integrate this labor market information into our approach across all levels.

It is essential to facilitate collaboration among team members in girls' homes, schools, and future employment settings to prepare for the change across levels and systems. Team members are encouraged to expand their awareness and knowledge to be more mindful and intentional in their planning, connecting student interests and goals with appropriate curriculum and resources to increase diversity. This exposure will continue to bridge the gaps women with disabilities face when pursuing STEM-related fields, thus supporting their needs and goals. These steps are intended to help identify and match individual student needs to interventions and support across each system. This approach builds on the FACES model we discuss in the Intervention section of this paper (Griffiths & Miles Nash, 2019). This paper is focused explicitly on interest and employment in STEM fields, and it may not apply to some individuals who require significant support or who do not have an interest in these areas. However, the framework was developed specifically using labor market information to assess and plan for interventions that may apply to everyone.

We established an overarching goal to support early transition planning for girls with disabilities interested in STEM considering curriculum, pedagogy, and interventions across levels. When addressing the critical points of intervention for preparing girls in STEM, we propose intervening at the following systems levels: (a) individual, (b) preschool through 12th grade (PK-12), (c) higher education, and (d) employment, each uniquely influenced by home, community, cultural systems (see Figure 1).

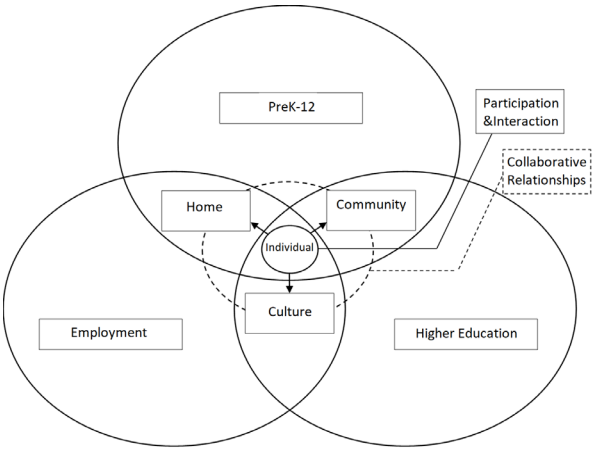

Figure 1. A systems theory framework for transition planning.

Given this topic is in its infancy in terms of research and practice, in this paper, we begin to explore ways in which we can apply what we do know to the challenges identified in the literature. We consider the following questions:

- What are current labor market trends and 10-year projections, particularly in STEM fields, for the United States, and a sample state (i.e., California)?

- How can teams use this labor market information in an ecological systems approach to engage girls with disabilities in the identified STEM fields?

Understanding Current Labor Market Data to Inform Assessment and Intervention

Not enough is being done to adequately prepare individuals with disabilities, particularly girls, to be competitive in the changing labor market. Accurate real-time data must be used to help inform the process of preparing students for meaningful careers in the future labor market. Government-collected data sources have not kept pace with the rate of change in rapidly transforming occupations such as cybersecurity, Internet of things, and blockchain. Using real-time data, we can obtain the most current job skills, occupations, and certifications these industries require. These data were not available a few years ago. Now, high schools, school counselors, colleges, and future employers will not be able to prepare girls with disabilities for employment without understanding the landscape of the future of work. Often, there is an increased focus on getting the individual with a disability any job, but there is little focus on the needs of the global economy. It is critical to understand how best to support these individuals in building a life that includes a sustainable and meaningful career with a livable wage.

Data Collection: Current Labor Market Trends

Labor market data provided by Walrod and Walrod (2018) consisted of labor market information, economic data, and real-time job posting data. The data collection effort harmonized dozens of public and state labor market sources, including the Bureau of Labor Statistics, the U.S. Census Bureau, and the Bureau of Economic Analysis. A variety of proprietary data sources and analytic tools were also used in data collection and analysis, specifically data from real-time labor market information providers such as Emsi and Burning Glass. We can assess the labor market needs by looking at necessary and high-demand job skills, available jobs, and projected job growth in the next 10 years (Griffiths, Cosier, & Morgan, 2019).

Job Skills

Rather than looking solely at specific jobs, it helps to isolate the skills most often required in the labor market; this allows us to prepare individuals with the specific skills needed rather than for a potential position, which may evolve or disappear in the future.

Necessary Skills

The top necessary skills for current job postings are detailed in the following sections. Necessary skills fall into two categories: baseline skills and specialized skills. Baseline skills are foundational skills that are intangible and may be transferable to other positions or careers, such as creativity or innovation. Specialized skills include completing tasks that are more technical or hybridized and require training, such as coding or budgeting. Specific in-demand skills were prioritized based on the number of job postings that included these skills in the posting.

Based on the number of job postings from the labor market sources mentioned previously, the following are considered the top four in-demand baseline skills in the United States: (a) communication skills (7 542 240 job postings), (b) teamwork/collaboration (3 765 154 job postings), (c) organizational skills (3 356 446 job postings), and (d) problem solving (2 961 468 job postings). The top four specialized skills with the highest number of job postings in the United States included: (a) customer service (4 017 926 job postings), (b) sales (2 853 731 job postings), (c) scheduling (2 797 461 job postings), and (d) budgeting (1 850 345 job postings). Depending on the stakeholder's location, it might be helpful to look at both national and local information (Griffiths et al., 2019).

When planning for employment programs in specific regions, it is helpful to compare national data to in-state data trends. For example, in California, the following are considered the top four in-demand baseline skills based on the number of job postings in which they appeared: (a) communication skills (1 115 417 job postings), (b) teamwork/collaboration (588 379 job postings), (c) organizational skills (514 286 job postings), and (d) skills in Microsoft Excel (458 871 job postings). The top four specialized skills in California and the associated number of job postings included: (a) customer service (520 617 job postings), (b) scheduling (394 635 job postings), (c) sales (378 904 job postings), and (d) budgeting (272 047 job postings). Educators may also be interested in comparing national and state data to county-specific information, which are also available using the same databases. Key stakeholders may use these data to build employment intervention programs focused on the skills needed in their geographic location.

Many STEM-related jobs include the need for software and programming skills. The job posting data indicate the following skills are in high demand in the United States: Microsoft Excel, Microsoft Office, Microsoft Word, Microsoft PowerPoint, Structured Query Language (SQL), Java, software development, Oracle, JavaScript, Python, SAP, Linux, and software engineering.

High Demand Skills and Top Qualifications

In addition to understanding the necessary skills, it is helpful to know the level of supply and demand for relevant skills as well as the specific qualifications that may be in high demand. We calculated supply and demand by comparing the frequency of specific skills present in job postings against skills present in the current workforce. Along with job posting analytics, this comparison used a dataset of more than 100 million online resumés and profiles. All resumés and profiles used in these comparisons have been updated in the last three years. The skills associated with workforce profiles represent employees at all levels of education, training, and experience. The job skills were then categorized into hard skills, common skills, and top qualifications. We present the most relevant hard and common skills in STEM-related fields in the following sections. To identify a discrepancy in supply and demand, we compared two percentages. The first percentage was calculated by dividing the job postings with the identified skill by the total number of job postings during a two-year period. The second was calculated by dividing the job-seeker profiles with the specified skill by the total number of profiles during the same two-year period. We calculated the discrepancy in supply and demand by subtracting the frequency in postings from the frequency in profiles. For these skills, the more employers seek the listed skill, and the fewer people there are listing these skills in their online profiles, the higher the number will be (Griffiths et al., 2019).

Hard skills in STEM fields mostly included taking care of others, particularly in the medical field. These jobs included nursing (4.08% discrepancy), intensive care work (1.48% discrepancy), basic life support (1.41% discrepancy), surgeries (1.27% discrepancy), acute care (1.24% discrepancy), advanced cardiovascular life support (1.15% discrepancy), pediatrics (.92% discrepancy), and rehabilitation work (.78% discrepancy). Common skills cut across multiple fields and may be particularly important when teaching individuals with

disabilities—the skills needed to be successful in the STEM workforce. The STEM-related skills in high demand included: communications (10.29% discrepancy), innovation (5.89% discrepancy), written communication (3.69% discrepancy), interpersonal skills (2.93%), management (2.49%), verbal communication skills (2.41% discrepancy), problem solving (2.38% discrepancy), computer literacy (2.36% discrepancy), decision making (1.38% discrepancy), mentorship (.86% discrepancy), operations (.76% discrepancy), and coordinating (.10% discrepancy).

Available and In-Demand Jobs

Along with these skills, many in-demand jobs include specific qualifications. Of those top qualifications needed in current job postings, many are related to STEM fields. These included: licensed practical nurse (884 993 job postings), critical care registered nurse (645 344 job postings), CNOR certification, a certification program for perioperative nurses (604 082 job postings), nurse practitioners (567 372 job postings), certified nursing assistant (494 871 job postings), licensed vocational nurses (308 513 job postings), certified information systems security professionals (171 483 job postings), patient care technicians (151 763 job postings), American registry of radiologic technologists (128 977 job postings), and certified information security manager (128 939 job postings).

After a skills analysis is complete, stakeholders should begin to evaluate the types of jobs currently open and available for students who are in need of employment. Included in this section is a list of jobs actively available in the United States with the average active number of job postings for the last two years. The analysis was limited to active postings of the top 1.000 jobs. Job postings were listed for the United States and for a sample state to demonstrate the types of data available (Griffiths et al., 2019). In the United States, STEM-related jobs included registered nurses (238 595 job postings), software engineers (81 648 job postings), physicians (75 638 job postings), and maintenance mechanics (52 008 job postings). In our sample state, California, we found similar results. Specifically, there are several job postings for registered nurses (20 659 job postings), software engineers (20 248 job postings), physicians (5.275 job postings), speech and language pathologists (4.937 job postings), and design engineers (4.881 job postings).

Projected Job Growth

Projected job growth allows educators to support girls with disabilities in preparing for jobs likely to be soon in demand in the United States. To calculate the skills projection information, Walrod and Walrod (2018) used econometric time series models with machine learning methodology to predict growth in job posting demand for skills. Projected job growth was calculated using the percentage change in the largest occupations over the next 10 years (2018-2028). We have included data for the United States and for California to illustrate similarities and differences by region (Griffiths et al., 2019).

In the United States and California, personal care aide positions were projected to grow the most, with a 37.60% change in the United States and a 41.8% change in California. When focusing on STEM-related fields, registered nurses (15.4% change), postsecondary teachers (13.30% change), and maintenance and repair workers (10.03% change) will be in high demand. In California, software developers (31.4% change), registered nurses (17.3% change), and postsecondary teachers (12.1% change) will be in high demand.

Now that we have developed a sense of the labor market needs currently and in the next 10 years, we must consider how teams can use this labor market information. We are particularly interested in applying it in an ecological systems approach to engage girls with disabilities in the identified STEM fields.

Application: Creating an Assessment and Intervention Framework Based on the Data

Labor market information should be applied throughout the assessment and intervention process. In the following sections, we provide concrete suggestions for using this information, while considering the ecological systems in which girls with disabilities are embedded.

Assessment

Once we have gathered some necessary labor market information, we can begin the planning and intervention process. Rowe, Mazzotti, Hirano, and Alverson (2015) highlighted the Blueprint for Reform, which outlined a guide to incorporate assessments for students to support their successful transition to college and career endeavors. The five steps for service providers to collaborate on include: (a) determining what to assess, (b) selecting the appropriate assessments, (c) conducting the assessments, (d) analyzing the assessment results, and (e) signing the assessment data for planning and intervention. The traditional transition planning process is typically conducted annually with little input from the student and is focused on the student's current capabilities, weaknesses, and identified disabilities. Rowe et al. (2015) proposed having the assessment process be ongoing, with the student playing an active role and focusing on their strengths and how they can use those strengths for future roles in employment and the community. We suggest that professionals incorporate current and future labor market needs into this planning process.

When creating a plan for transition, many professionals may use occupational and skills assessments such as the O*net (2019), Casey Life Skills (2017), PAIRIN (2017), MindTools (2019), MBTI (Myers Briggs Foundation, 2019), Career Beliefs Inventory (Mind Garden, 2019), Career Keys (Jones, 2014), and Reflect (Graduate Management Admission Council, 2014). There are also online resources, such as careeronestop.org, that have a combination of assessments and toolkits to help match assessment outcomes with potential jobs. Individuals may consider how their assessment data reflect the needs of the labor market and take additional care to think about the unique needs of girls with disabilities in the current ecological setting. Some questions to ask during this assessment process include:

1. Given labor market data, are we assessing in the right areas (i.e., hard skills/soft skills needed in the STEM fields)?

2. Do the outcomes of our assessment match up with the current and future projected needs?

3. If there is a discrepancy between assessment data and labor market needs, what data do we need?

Intervention

As we considered the various systems that impact individuals' development and the available research in related areas, we identified five critical points of intervention. The labor market must inform the points of intervention to provide the appropriate preparation and skills training in this framework. These interventions are used to enhance STEM employment and engagement outcomes for historically underserved individuals. The FACES framework represents the many faces of diversity. By using this framework to shape our approaches across systems, we endeavor to improve access to meaningful and long-lasting employment. We define the five components of the FACES intervention framework in the following sections.

Facilitation

Effective collaboration is associated with positive outcomes for students and is a critical component of providing equitable educational opportunities. To have a collaborative team approach across systems, school professionals must facilitate open communication and develop shared goals for the future (Griffiths, Alsip, Hart, Round, & Brady, in press). When considering career-focused planning for individuals with disabilities, we should start as early as elementary school to develop work-related behaviors (e.g., social skills, work ethic, problem-solving skills, dependability, following through on tasks, following directions; Blalock & Patton, 1996). Also, training teams on future-focused planning using labor market data and intervention will allow everyone to share a similar vision for the child. Collectively, school professionals can facilitate change with the common understanding that the world is evolving, and we need to prepare our youth for these changes.

Awareness

Awareness refers to broadening individuals, institutions, and communities' knowledge of the need for girls and women with disabilities to be included in STEM fields. Girls and women with disabilities have a unique and necessary perspective to offer in various STEM fields. We must increase and sustain an understanding of their positive influence on the world through STEM (Joseph, Hailu, & Boston, 2017; Tabak & Collins, 2017).

Connection

Connection means creating opportunities for girls to understand the relationship between their current STEM learning and their professional and personal aspirations in the future. When girls see how their use of STEM positively impacts the world around them, they are more likely to persist in the STEM pipeline from education to employment (Modi, Schoenberg, & Salmond, 2012). Our approaches must encourage them to contribute their voice and value through their involvement in STEM. This connection is attainable through engaging hands-on curricula relatable to their surrounding context (Bystydzienski, Eisenhart, & Bruning, 2015) and informed by the employment needs in their communities.

Exposure

Providing access to the types of jobs and activities in which they can participate is critical to meaningful exposure. Opportunities for training, internships, and mentorship should be made available to girls across developmental levels and settings (e.g., in special education programs, in the community). Likewise, along their educational paths, access to educators and STEM-related professionals with whom they have an affinity helps girls with disabilities persist, as it demonstrates success and fulfillment in STEM careers are a real possibility (Feldhaus & Bentrem, 2015; Fifolt & Searby, 2010; Kendricks, Nedunuri, & Arment, 2013). School teams can use labor market data to identify potential employers in need of skilled em-

Table 1. *FACES: Levels of Intervention for Facilitating Transitions*

System	F Facilitation	A Awareness	C Connection	E Exposure	S Support
Individual	Individuals help pick their team Teach self-advocacy and goal setting	Understand and assess strengths and struggles related to skills needed Self-advocacy in sharing value	Match interests and skills to the labor market needs Career assessment	Unique skills and needs matched to mentors and models	Person-centered assessment and labor market informed planning Targeted intervention based on strengths and struggles
PK-12	Training teachers, staff, counse-lors, and parents Develop a shared vision and goals	Professions and careers impact on society Start early	"Hands-on" curriculum and learning Future aspirations devel-op-ment Internship and work experi-ence	Mentors Access to special programs	School counselors and service providers Accommodations such as sign language needs and technology Adapted curriculum
Higher Ed	Communicate with PK-12 schools to share requirements and needs to facilitate students enter-ing with the necessary skillset	Targeted campaign Sponsor events Organizational partner-ships	Career planning Add voice and agency	Professors Mentors and role models Tailored classes	Instructor support Childcare Accommodations in institutions Universal Design for Learning
Employers	Work with outside agencies and schools to create a pipeline	Demonstrate how diversity adds value to organizations Change in gendered mispercep-tions	Career training Diversity adds value Employer initiatives	Leadership exam-ples Understand the im-pact of individuals with disabilities in positive and lasting ways	Hiring application and inter-view adjustments Accommodations for diversity of support across disciplines Training for employ-ees with and without disabilities
Home/ Communi-ty/ Cultural	Build relationships with schools and employers to set up learning opportunities for students and staff	Community events Mindful of messages conveyed and language used regarding girls with disabilities involve-ment in STEM careers	Connect STEM work to changing the world Discuss as an attainable possibility Apply to the activities to the individual's cultur-al/ community context	Parents and schools create opportuni-ties for community exposure Include everyone in special events Enroll in camps and en-richment	Outside and in-home supports (e.g., tutors) with awareness of bias Accommodations in multiple contexts based on specific needs

Note: Adapted from Making STEM Education Inclusive: Opening Doors to Engage Girls and Women With Disabilities, by A. J. Griffiths & A. M. Nash, 2019.

ployees and develop partnerships to increase exposure and training in STEM careers for girls with disabilities.

Support

Support refers to offering evidence-based tools, accommodations, and approaches for success at each educational and professional level. It is critical that support is based on the needs of the individual, in the context of the subject matter, and occurs early and often in STEM education and professional settings (Izzo & Bauer, 2015; Lee, 2011). Educators must encourage the inclusion of girls with disabilities in STEM opportunities in school setting. They must advocate these opportunities as directly linked to the needs of the STEM employment community through the use of data.

When developing a systemwide plan to address the needs of girls with disabilities across the various FACES domains, educators may ask the following questions: (a) Does our plan lead to sustainable outcomes for girls with disabilities? (b) Does it include real-life opportunities for them to practice and receive feedback on skills from individuals who represent them? (c) Do our services match student strengths, goals, and needs? and (d) Are we collecting data on progress toward long-term employment? We must also consider how to use labor market data throughout the process. We can then use this data to facilitate discussion across stakeholders, encouraging open discussions across all members of the system along the pipeline. We can use this information to assess relevant areas and create transition plans that include the right supports, particularly those that support the acquisition of the necessary skills. We can also consider training educators and supporters across contexts to focus their efforts on the projected needs of the national and local context.

Conclusion

Through our analysis of labor market needs and the current assessment and intervention literature, we have developed a science-informed framework for intervention. However, there is a significant need for further research on the preparation and participation of girls with disabilities in STEM fields. We also need to understand the impact of using labor market data on long-term outcomes of individuals as they enter and continue along their career paths.

References

Bandara, A. (2015). The economic cost of gender gaps in effective labor: Africa's missing growth reserve. *Feminist Economics 21*, 162–186. doi:10.1080/13545701.2014.986153

Bellman, S., Burgstahler, S., & Chudler, E. H. (2018). Broadening participation by including more individuals with disabilities in STEM: Promising practices from an engineering research center. *American Behavioral Scientist, 62*, 645–656. doi:10.1177/0002764218768864

Black, S. E., Whitmore Schanzenback, D., & Breitwieser, A. (2017). The recent declines in women's labor force participation. In D.W. Schanzenbach & R. Nunn (Eds.), *The 51%: Driving growth through women's economic participation* (pp. 5-17). Retrieved from the Brookings Institution website: https://www.brookings.edu/wp-content/uploads/2017/10/es_10192017_the51percent_ebook.pdf

Blalock, G., & Patton, J. R. (1996). Transition and students with learning disabilities: Creating sound futures. *Journal of Learning Disabilities, 29*(1), 7-16. doi:10.1177/002221949602900104

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*, 513-531. doi:10.1037/0003-066X.32.7.513.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Cambridge, England: Harvard University Press.

Burgstahler, S. (2017). *Equal access: Universal design of instruction.* Retrieved from https://www.washington.edu/doit/sites/default/files/atoms/files/EA_Instruction.pdf

Burning Glass Technologies. (2018). Retrieved from https://www.burning-glass.com/solutions/education/

Bystydzienski, J. M., Eisenhart, M., & Bruning, M. (2015). High school is not too late: Developing girls' interest and engagement in engineering careers. *Career Development Quarterly, 63*, 88-95. doi:10.1002/j.2161-0045.2015.00097.x

Career One Stop. (2019). *Skills assessment.* Retrieved from https://www.careeronestop.org/ExploreCareers/Assessments/skills.aspx

Casey Life Skills. (2017). Retrieved from https://caseylifeskills.secure.force.com

Center for Applied Special Technology (CAST). (2011a). *UDL: The UDL guidelines.* Retrieved from http://udlguidelines.cast.org/

Center for Applied Special Technology (CAST). (2011b). *About universal design for learning.* Retrieved from http://www.cast.org/our-work/about-udl.html

Emsi. (2018). *Our Data.* Retrieved from https://www.economicmodeling.com/

Feldhaus, C., & Bentrem, K. (2015). STEM mentoring and the use of the principles of adult mentoring inventory. *International Journal of Mentoring and Coaching in Education, 4*, 213-235. doi:10.1108/IJMCE-11-2014-0039

Fichten, C. S., Asuncion, J. V., Barile, M., Robillard, C., Fossey, M. E., & Lamb, D. (2003). Canadian postsecondary students with disabilities: Where are they? *The Canadian Journal of Higher Education, 33*, 71-114. Retrieved from http://journals.sfu.ca/cjhe/index.php/cjhe/article/view/183441

Fifolt, M., & Searby, L. (2010). Mentoring in Cooperative Education and Internships: Preparing Protégés for STEM Professions. *Journal of STEM Education: Innovations & Research, 11*(1), 17-26. Retrieved from https://www.jstem.org/

Gregory, S. (2016). *Stereotypes can be threatening.* Retrieved from the American Association of University Women website: https://www.aauw.org/article/stereotypes-can-be-threatening/

Griffiths, A. J., Alsip, J., Hart, S., Round, R. L., & Brady, J. (in press). Together we can do so much: A systematic review and conceptual framework of collaboration in schools. *Canadian Journal of School Psychology.*

Griffiths, A. J., Cosier, M., & Morgan, S. (2019). *Research-to-practice brief: Using labor market projections for successful transition planning.* Thompson Policy Institute Disability Summit Fourth Annual Report. Orange, CA: Chapman University, Attallah College of Educational Studies.

Griffiths, A. J., Giannantonio, C. M., Hurley-Hanson, A. E., & Cardinal, D. (2016). Autism in the workplace: Assessing the transition needs of young adults with autism spectrum disorder. *Journal of Business and Management, 22*(1), 5-22. Retrieved from https://digitalcommons.chapman.edu/education_articles/231/

Griffiths, A. J., & Miles Nash, A. (2019). Making STEM education inclusive: Opening doors to engage girls and women with disabilities. Thompson Policy Institute Disability Summit Fourth Annual Report. Orange, CA: Chapman University, Attallah College of Educational Studies.

Hanna, W. J., & Rogovsky, B. (1991). Women with disabilities: Two handicaps plus. *Disability, Handicap & Society, 6*, 49–63. doi:10.1080/02674649166780041

Harley, E. K. (2011). *The impact of interpersonal relationships on postschool employment outcomes and community satisfaction for young women with learning disabilities: An ecological perspective* (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses database. (UMI No. 3485949)

Individuals With Disabilities Education Act, 20 U.S.C. § 1400-1414 § (2004).

Institute for the Future & Dell Technologies. (2017). *The next era of human machine partnerships report*. Retrieved from https://www.delltechnologies.com/content/dam/ delltechnologies/assets/perspectives/2030/pdf/SR1940_IFTFforDellTechnologies_Human-Machine_070517_readerhigh-res.pdf

Izzo, M. V., & Bauer, W. M. (2015). Universal design for learning: enhancing achievement and employment of STEM students with disabilities. *Universal Access in the Information Society, 14*(1), 17-27. doi:10.1007/s10209-013-0332-1

Jones, L. K. (2014). Career key. Retrieved from http://www.careerkey.org/

Joseph, N. M., Hailu, M., & Boston, D. (2017). Black women's and girls' persistence in the P-20 mathematics pipeline: Two decade of children, youth, and adult education research. *Review of Research in Education, 41*, 203-227. doi:10.3102/0091732X16689045

Justice, H., & Norwood, C. (2016). Purposeful planning: Using data to drive programs of study. *Techniques, 91*(6), 41–44. Retrieved from https://www.acteonline.org/publications/techniques/

Kendricks, K. D., Nedunuri, K. V., & Arment, A. R. (2013). Minority student perceptions of the impact of mentoring to enhance academic performance in STEM disciplines. *Journal of STEM Education: Innovations & Research, 14*(2), 38-46. Retrieved from https://www.jstem.org/

Landuvar, L. C. (2013). *Disparities in STEM employment by sex, race, and Hispanic origin* (Report No. ACS-24). Washington, DC: U.S. Census Bureau.

Lee, A. (2011). A comparison of postsecondary science, technology, engineering, and mathematics (STEM) enrollment for students with and without disabilities. *Career Development for Exceptional Individuals, 34*, 72-82. doi:10.1177/0885728810386591

Marino, M. T. (2010). Defining a technology research agenda for elementary and secondary students with learning and other high-incidence disabilities in inclusive science classrooms. *Journal of Special Education Technology, 25*(1), 1–27. doi:10.1177/016264341002500101

Mind Tools. (2019). *SMART goals: How to make your goals achievable.* Retrieved from https://www.mindtools.com/pages/article/get-started.htm

Modi, K., Schoenberg, J., & Salmond, K. (2012). *Generation STEM: What girls say about science, technology, engineering, and math* (A Report from the Girl Scout Research Institute). New York, NY: Girl Scouts of the USA.

Muthumbi, J. W. (2008). Enhancing transition outcome for youth with disabilities: The partnerships for youth initiative. *Journal of Vocational Rehabilitation, 29*, 93-103. Retrieved from https://content.iospress.com/articles/journal-of-vocational-rehabilitation/jvr00436

Myers and Briggs Foundation. (2019). *Take the MBTI Instrument.* Retrieved from https://www.myersbriggs.org/my-mbti-personality-type/take-the-mbti-instrument/home.htm

National Science Foundation. (2017). *Employed women scientists and engineers, as a percentage of selected occupations: 2015.* Retrieved from https://www.nsf.gov/statistics/2017/ nsf17310/digest/occupation/women.cfm

Neal, J. W., & Neal, Z. P. (2013). Nested or networked? Future directions for ecological systems theory. *Social Development, 22*, 722-737. doi:10.1111/sode.12018

Noonan, R. (2017). *Women in STEM: 2017 Update* (ESA Issue Brief No. 06-17). Retrieved from the U.S. Department of Commerce website: https://www.commerce.gov/sites/default/files/migrated/reports/women-in-stem-2017-update.pdf

O'Day, B., & Foley, S. (2008). What do we know, and not know, about women with disabilities in the workforce? *Impact: Feature Issue on Employment and Women With Disabilities, 21*(1), 4-5. Retrieved from https://ici.umn.edu/products/impact/211/211.pdf

O*Net Resource Center. (2019). *Tools.* Retrieved from https://www.onetcenter.org/tools.html

PAIRIN. (2017). *Soft skills assessment.* Retrieved from https://pairin.com/soft-skills-assessment/

Rashid, B. (2016). Rise of the freelance economy. *Forbes.* Retrieved from https://www.forbes.com/sites/brianrashid/2016/01/26/the-rise-of-the-freelancer-economy/

Rowe, D. A., Mazzotti, V. L., Hirano, K., & Alverson, C. Y. (2015). Assessing transition skills in the 21st century. *TEACHING Exceptional Children, 47*, 301-309. doi:10.1177/0040059915587670

Schreffler, J., Vasquez, E., III, Chini, J., & James, W. (2019). Universal design for learning in postsecondary STEM education for students with disabilities: A systematic literature review. *International Journal of STEM Education, 6*(8), 1-10. doi:10.1186/s40594-019-0161-8

Simplican, S. C., Leader, G., Kosciulek, J., & Leahy, M. (2015). Defining social inclusion of people with intellectual and developmental disabilities: An ecological model of social networks and community participation. *Research in Developmental Disabilities, 38*, 18–29. doi:10.1016/j.ridd.2014.10.008

Society of Women Engineers. (2018). *Fast facts.* Retrieved from https://research.swe.org/wp-content/uploads/2018/10/18-SWE-Research-Flyer_FINAL.pdf

Spencer, S. J., Steele, C. M., & Quinn, D. M. (1999). Stereotype threat and women's math performance. *Journal of Experimental Social Psychology, 35*(1), 4-28. doi:10.1006/jesp.1988.1373

Stamp, L., Banerjee, M., & Brown, F. C. (2014). Self-advocacy and perceptions of college readiness among students with ADHD. *Journal of Postsecondary Education and Disability, 27*(2), 139–160.

Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69*, 797-811. doi:10.1037/0022-3514.69.5.797

Sumi, V. S. (2012). *Education and gender discrimination.* Paper presented at the National Seminar on Women's Human Rights – A Feminist Discourse, Maulana Azad National Urdu University, Hyderabad, India. Retrieved https://files.eric.ed.gov/fulltext/ED543630.pdf

Tabak, L. A., & Collins, F. S. (2011). Weaving a richer tapestry in biomedical science. *Science, 333*(6045), 940-941. doi:10.1126/science.1211704

Turnbull, A. (2010). *Transitioning to enviable lives for adults with autism and beyond evidence-based practice: Wisdom-based action as a process of facilitating IDEA outcomes* (Mollie Villeret Davis Lecture). Retrieved from https://repositories.lib.utexas.edu/handle/2152/74308

Turnbull, H. R., Turnbull, A. P., & Cooper, D. (2018). The supreme court, Endrew, and the appropriate education of students with disabilities. *Exceptional Children, 84*, 124-140. doi:10.1177/0014402917734150

U.S. Department of Education, Office of Special Education and Rehabilitative Services. (2017). *A transition guide to postsecondary education and employment for students and youth with disabilities.* Washington, DC: Author.

U.S. Department of Labor, Bureau of Labor Statistics. (2017a). *Employment projections.* Retrieved from https://www.bls.gov/news.release/ecopro.nr0.htm

U.S. Department of Labor, Bureau of Labor Statistics. (2017b). *May 2017 National occupational employment and wage estimates United States.* Retrieved from https://www.bls.gov/oes/ current/oes_nat.htm

U.S. Department of Labor, Bureau of Labor Statistics. (2018a). *Fastest growing occupations, 2016 and projected 2026.* Retrieved from https://www.bls.gov/emp/tables/fastest-growing-occupations.htm

U.S. Department of Labor, Bureau of Labor Statistics. (2018b, June 21). *Persons with a disability: Labor force characteristics news release* [Press release]. Retrieved from https://www.bls.gov/news.release/disabl.htm

Walrod, W., & Walrod, P. (2018). *Labor market analytics report* [Internal unpublished report]. Retrieved from https://www.qidianusa.com/

World Economic Forum. (2018). *Future jobs report.* Retrieved from http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf

iejee

www.iejee.com