Article

STRATEGIES TO INCLUDE STUDENTS WITH SEVERE/MULTIPLE DISABILITIES WITHIN THE GENERAL EDUCATION CLASSROOM

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Abstact: Federal legislation such as IDEA (1997) and NCLB (2001) have led to an increase in the number of students with significant disabilities receiving instruction in the general education classroom. This inclusionary movement has established a more diverse student population in which general and special education teachers are responsible for providing instruction that meets the needs of all their students. Although most research focuses on effective inclusionary practices for students with high incidence disabilities (e.g., learning disabilities), literature has revealed a dramatic increase in the number of students with severe/multiple disabilities receiving support in general education settings. Therefore, it is imperative that educators acquire the effective inclusive practices necessary to meet the unique needs of students with severe/multiple disabilities. A review of literature was conducted to determine effective ways to include and support students with severe/multiple disabilities within the general education classroom.

Keywords: *inclusion; severe disabilities; multiple disabilities*

Introduction

The National Center for Educational Statistics (2016) found that there were 132,000 children with multiple disabilities between the ages 3 and 21 being served in federally supported educational programs in the 2013-2014 school year. Individuals with multiple disabilities, which refers to persons with concomitant impairments (e.g., intellectual disability and blindness, intellectual disability and orthopedic impairment), usually need support in major life activities that include domestic, leisure, community access, and vocational programming. Often these students receive educational services in separate special education classrooms and do not have the opportunity to be fully and effectively included with their nondisabled peers. However, the Individuals with Disabilities Education Act (IDEA, 2004) and No Child Left Behind (NCLB, 2002) have led to an increase of students with severe/multiple disabilities receiving instruction in general education settings.

The provisions of NCLB (2002) created another push towards inclusion by requiring high-quality state standards and assessments (U.S. Department of Education, 2009). The NCLB specifically emphasized teacher accountability and high student achievement (Birman, Desimone, Porter, & Garet, 2000) based on the performance of all students on state standardized testing on the general education curriculum. Additionally, NCLB mandated the following: (1) students with disabilities must be included in state assessments, and (2) assessment scores for all students must be calculated in the school district's annual yearly progress (Code of Federal Regulations, 2006). The accountability mandates of IDEA (2004) and NCLB have led to a focus on inclusive education to ensure that all students are receiving instruction in the general education curriculum (Harvey, Yssel, Bauserman, & Merbler, 2010).

Including students with disabilities in the general education classroom has been a goal of education reformists for numerous years. IDEA (2004) and NCLB (2002) emphasized that students with disabilities should have access to and demonstrate academic progress in the general education curriculum. To meet the requirements under IDEA and NCLB, educators must be prepared to meet the needs of students with varying abilities in an inclusionary classroom environment. However, the central focus of previous traditional teacher preparation in special education has been on planning instruction and making instructional adaptations for students with disabilities in non-inclusionary environments. Yet, it is only recently that the focus of these procedures has been the inclusive classroom (Cook, Cameron, & Tankersley, 2007). High quality state standards and assessment, in concert with "highly qualified" teacher requirements, have transformed teacher education programs. Nationwide, prospective special education teachers are required to obtain certification in special education and certification in the content area they will be instructing.

IDEA (2004), in alignment with NCLB (2002), calls for *highly qualified* teachers for students in the K-12 school system. This term describes specific standards set for all teachers and includes gaining "full state certification as a teacher" and successful completion of a "state teacher licensing examination." Hence, local educational agencies are required to ensure that all teachers are highly qualified in the content areas in which they teach and that students with disabilities be taught by highly qualified special education teachers (Code of Federal Regulations, 2006). These federal requirements have impacted teacher licensure and certification testing.

History of Inclusion

In 1975, Congress passed the Education for All Handicapped Children Act (U.S. Bureau of Education), which was later reauthorized to IDEA (1990), establishing a federal mandate that all students with disabilities would receive a free and appropriate public education in the least restrictive environment (LRE). One purpose of IDEA was to include students with disabilities into the educational system who had previously been excluded (National Council on Disability, 1994). According to the Code of Federal Regulations (2006), LRE focuses on including students with disabilities in a general education setting "to the maximum extent appropriate and to ensure that children with disabilities…are educated with children who are nondisabled" (34 CFR 300.114). The U.S. Department of Education stated IDEA presumes that the first placement option considered for each child with a disability is the regular classroom in the school that the child would attend if not disabled, with appropriate supplementary aids and services to facilitate such placement (Code of Federal Regulations, 2006). Thus, before a child with a disability can be placed outside the regular education environment, the individualized education program (IEP) team must consider the full range of supplementary aids and services that could be provided to facilitate the child's placement in the regular classroom setting.

Inclusion in Public Education

IDEA (2004) and NCLB (2002) focused on providing students with disabilities access to the general education curriculum in a LRE. In accordance with LRE, students with disabilities need to be educated with non-disabled peers and placements outside the general education classroom should only be considered when supplemental aids and related services do not provide an appropriate education in a general education classroom.

These federal laws have resulted in a higher percentage of students with disabilities receiving their instruction in a general education classroom. Although most of the research on inclusion has focused on students with high incidence disabilities, literature has revealed a dramatic increase of students with severe/multiple disabilities receiving support in general education settings (Sailor, Gee, & Karasoff, 2000).

Not only have these federal laws increased the number of students with low incidence disabilities in inclusive settings, research also indicates multiple social and academic benefits from inclusion. The social benefits for students with severe/multiple disabilities include social acceptance, increased self-esteem, and improved social skills (Kliewer & Biklen, 2001; Mu, Siegel, & Allinder, 2000). A two-year longitudinal study compared the growth of social competence of 40 students with multiple disabilities (Fisher & Meyer, 2002). Half the students received instruction in an inclusive environment and the other half were instructed in a self-contained classroom. After a two-year period, students receiving services in a general education setting scored significantly higher on the Assessment of Social Competence.

In addition to gains in the social and emotional domains, students with severe disabilities have also improved academically. Falvey (2004) stated, "As a result of a comprehensive review of the extant literature by myself and my colleagues, we were unable to identify even a single research article that found that segregated service delivery models are more effective than integrated

models for students with severe disabilities" (p. 10). Research has also indicated that elementary students improved by 31.7% in mathematics and middle school students academically increased in mathematics by 12.5% and increased in reading by 13.8% (Teigland, 2009).

This inclusionary movement has established a more diverse student population in today's classrooms. General educators and special education teachers are responsible for providing an education that meets the needs of all their students. Therefore, educators need to acquire the knowledge and skills necessary to meet the ever-changing classroom population (Jenkins & Ornelles, 2007).

Instructional Practices

A meaningful and accessible inclusive education for students with severe/multiple disabilities consists of appropriate accommodations and/or modifications that allow students to gain access to the general education curriculum (Agran, Brown, Hughs, Quirk, & Ryndak, 2014). Browder and Spooner (2011) defined general curriculum access as providing grade-aligned academic instruction for students with disabilities**.** To establish curriculum accessibility, The National Center on Educational Restructuring and Inclusion (NCERI) identified six effective instructional practices in inclusive classrooms: multi-level instruction, cooperative learning, activity-based learning, mastery learning, technology, and peer support. Proponents of effective instructional strategies address similar practices as those identified by NCERI but also note differing evidence-based practices in inclusionary settings. A strategic principle, known as Universal Design for Learning (for more information visit CAST at http://www.cast.org/), has been adopted in many inclusionary classrooms since it addresses the core principles of NCLB (2002) and NCERI.

The principles of Universal Design for Learning (UDL) are anchored in the following evidence-based practices: explicit instruction, differentiated instruction, peer mediated instruction, curriculum-based evaluation, and assistive technology (CAST). UDL is founded on the premise that effective instructional practices are *built-in* and proactive to accommodate the widest range of all learners, including students with severe/multiple disabilities (Scott, McGuire, & Embry, 2002; Scott, McGuire, & Foley, 2003). Additionally, UDL is used to develop and implement assistive technology and instructional accommodations and modifications to support curricular accessibility, align student's IEP goals with the core curriculum, and support student progress (Janney & Snell, 2006; Wehmeyer, 2006).

Evidence-Based Practices

A systematic review of literature was conducted to determine the most effective ways to include students with severe/multiple disabilities within the general education classroom. An electronic database search was conducted utilizing EBSCO Host to determine evidence-based practices for inclusion of students with severe/multiple disabilities. Although, there is a lack of research with this unique population, certain themes to effectively include these students emerged. These themes included the proper use of augmentative and alternative communication devices, use of micro-switches, embedded instruction, wait time, and utilizing appropriate specialized

instruction during inclusion. Using these evidence based practices can help children with severe/multiple disabilities to be meaningfully included within the general education classroom.

Use of Augmentative and Alternative Communication (AAC) Devices

Communication skills are affected by sensory, motor, cognitive, and social capacities; and impairments in any of these developmental skill areas may interfere with communication development and socialization within the classroom (Rowland, 2011). Learners with severe/multiple disabilities demonstrate various abilities, but they share the need for extensive and ongoing supports to participate in home, school, and community activities (Siegel-Causey & Bashinski, 1997).

The term AAC refers to the compilation of methods and technologies designed to supplement spoken communication for people with limited spoken speech skills (Wilkinson & Hennig, 2007). AAC instruction is naturally embedded within the child's daily routines, which increases the likelihood that students acquire and generalize communication skills (Hourcade, Pilotte, West, & Parette, 2004). AAC is not just an output channel, but is utilized as the medium for both expressive and receptive communication (Romski & Sevcik, 1996). Studies have shown AAC devices to be a success in inclusive settings and include the importance of team strategies to reinforce the use of AAC devices throughout daily routines (Hunt, Soto, Maier, Liboiron, & Bae, 2004; Stoner, Beck, Bock, Hickey, Kosuwan, & Thompson, 2006). Chung and Carter (2013) found AAC devices to be most beneficial during inclusionary practices when the paraprofessional working with the child is trained on the device in order to encourage device use in interactions with their peers.

Chung, Carter, and Sisco (2012) reviewed literature on promoting relationships for students with severe disabilities and of the 31 studies reviewed it was found that students increased positive interactions in various inclusive settings when people within their environment were trained on the communication devices. When AAC devices are utilized using teaming and trained professionals, social interactions within the classroom can be increased and students with severe/multiple disabilities can be an active participant within classroom routines for both academics and social interactions.

Use of Micro-Switches

Micro-switch interventions have been found useful when working with students with disabilities. Micro-switches are technical devices that people with multiple disabilities might use to control environmental events with simple responses (Crawford & Schuster, 1993; Lancioni, O'Reilly, Oliva, Singh, & Coppa, 2002; Mechling, 2006). Micro-switch interventions have been used for tasks such as choice making and meaningful communication between the student and people in his or her environment. Lancioni and colleagues (2016) found that micro-switches could be effectively utilized with students that have minimal responses such as movement of eyelids. It was found that micro-switches could be adapted to help these students reach relevant goals and be included within various environments. Micro-switches can give students with severe/multiple disabilities the opportunity to be constructively engaged within the general education classroom by using simple responses in social situations as well as academic tasks.

Embedded Instruction

Embedded instruction can be utilized to support students with moderate to severe disabilities in general education classes. In embedded instruction, students are taught skills within the ongoing routines of the general education classroom (Risen, McDonnell, Johnson, Polychronis, & Jameson, 2003) which does not cause disruption to the natural flow of the class. During embedded instruction, the classroom teacher systematically controls the presentation of instructional examples and implements instructional procedures designed to support the student's acquisition of the target skill (McDonnell, Johnson, Polychronis, & Risen, 2002). This instruction can support the student's goals in the IEP by focusing on target skills throughout daily lessons.

Students with severe/multiple disabilities often need several learning trials embedded within an activity to ensure learning and progress within the activity. Embedded instruction allows for multiple trials of the skill throughout natural routines rather than all at once within the context of the subject. Paraprofessionals are often able to build in embedded instruction procedures during general education classes without disruption to the class when properly trained. Shepis and colleagues (2001) found that improvements to the quality of instruction provided by support staff paralleled an increase in students' performance. Training support staff can occur through modeling and should be done immediately to aid in proper inclusionary practices. When embedded instruction is utilized in general education classrooms for students with severe/multiple disabilities, it can accommodate their unique learning needs and the characteristics of instructional targets (McDonnell et al., 2006).

Wait Time

It often takes individuals with severe/multiple disabilities longer to interpret what is being asked of them and they need more time to respond (Johnson & Parker, 2013). Wait time is defined as the duration between the teacher's instruction and the student's response (Tincani & Crozier, 2008) and is found to be an intervention that has very strong evidence of its effectiveness (Browder, Delzell, Spooner, Mims, & Baker, 2009; Johnson & Parker, 2013). Wait time was first established as an instructional practice in 1972 when studies found that the average wait time following a question before prompting in a classroom rarely exceeded 1.5 seconds (Rudd, 2001). Students with severe/multiple disabilities often have physical or communication difficulties making it impossible to respond this quickly to requests.

The procedure of wait time can be utilized to guarantee that students have time to process what is being asked, formulate a response, and execute a response prior to being prompted (Johnson & Parker, 2013). Prompting too soon does not allow time for students to process what is being asked and therefore, can lead to learned helplessness. Wait time procedures are often utilized when working with students with severe/multiple disabilities because it is minimally intrusive. Teachers and paraprofessionals can be easily trained on wait time procedures to aid in inclusion of students with severe/multiple disabilities. Watson (2018) identified wait time as being a key practice for full inclusion of students with disabilities. Utilizing wait time while using picture response cards was found to be successful in increasing student accuracy for students with intellectual disabilities (Clarke, Haydon, Bauer, & Epperly, 2015). Wait time procedures can be

utilized in teaching students of various ages with various disabilities (Daugherty, Grisham-Brown, & Hemmeter, 2001).

Specialized Designed Instruction

Utilizing appropriate accommodations and modifications can aid students with severe/multiple disabilities access to the general curriculum at grade appropriate levels alongside their peers. The most effective adaptations in the general classroom are using prior knowledge to develop new skills, adjusting content to make instruction concrete and relevant to the student's life (Jenkinson, 2000), and identifying the students preferred learning style (Udvari-Solner & Thousand, 1997). Modifications can be made throughout the classroom routines to ensure students are fully engaged. Some examples are modifying technology to ensure accessibility; students with multiple disabilities could use the same materials as the rest of the class but complete only a proportion of learning tasks or exercises (Jenkinson, 2000).

Use of specialized curriculum may be necessary for students with severe disabilities to be fully included in the general education classroom. It is imperative for educational teams to work together to develop a meaningful and individualized curriculum for each child to meet their unique needs (Horn, Lieber, Sandall, Schwartz, & Worley, 2002). Once a specialized curriculum is developed there should still be flexibility and the ability to adapt based on the student's day to day medical, educational, and social needs (Vrasmas, 2014). Utilizing the right adaptations, modifications, and curriculum can greatly benefit students with severe/multiple disabilities within the general education classroom.

Conclusion

Federal legislation (i.e., IDEA and NCLB) has led to contemporary educational practices for students with severe/multiple disabilities (Olson, Leko & Roberts, 2016). In 1997, IDEA defined the general education curriculum as "the same curriculum for nondisabled children." IDEA revisions in 2004 specified that all students, regardless of their abilities, have access to grade-level content, participate in state assessments, and have individualized education programs identifying how students will participate and progress in their grade-level curriculum.

Current studies regarding evidence-based inclusive practices for students with severe disabilities are emerging. Findings in the literature demonstrate that students with severe/multiple disabilities have access to a meaningful and appropriate inclusive education through IEP-specified accommodations and modifications incorporated through a UDL environment. Utilizing the above practices and materials can aid children with severe/multiple disabilities to be meaningfully included with their typically developing peers within the general education classroom. These inclusionary practices can potentially give students with severe disabilities the ability to build relationships that extend beyond the classroom and into the community.

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