

The state of inclusion of children with Autism Spectrum Disorder in United States public schools

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Abstract

Legislation in the United States mandates that all children with disabilities (including those with autism spectrum disorder) have access to the general education curriculum in the least restrictive environment. Although a number of benefits associated with including children with autism spectrum disorder (ASD) in settings with their typically developing peers have been documented in the literature, skepticism remains regarding the ability of general education teachers to fully address the myriad of challenges experienced by children with ASD in these settings. This paper examines the current state of inclusion in United States Public Schools, reviews the research documenting the outcomes of the inclusion for learners with ASD, and explores arguments both supporting and questioning the role of inclusion when educating children with ASD. This paper also reviews research findings from programs that emphasize inclusion, and the educational methods that support the successful inclusion of children with ASD in general education settings.

Keywords: Autism spectrum disorder; Inclusion; Public school inclusion; Educational practices.

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A inclusão de crianças com Transtornos do Espectro do Autismo nas escolas públicas dos Estados Unidos

Resumo

A legislação norteamericana determina que todas as crianças com deficiência, (incluindo aquelas com transtornos do espectro do autismo) tenham acesso ao currículo da escola comum em contextos menos restritivos possíveis. Embora a literatura documente os benefícios associados à inclusão de crianças com transtorno do espectro do autismo (TEA) em ambientes com os seus pares com desenvolvimento típico, persistem dúvidas sobre a capacidade dos professores da educação regular em atender os múltiplos desafios vivenciados por essas crianças nesses ambientes. Este artigo examina o estado atual da inclusão de educandos com autismo nas escolas públicas dos Estados Unidos, analisa os resultados de pesquisas que versam sobre essa temática e apresenta argumentos favoráveis e questionamentos sobre o papel da inclusão de crianças com TEA. Este trabalho também analisa os resultados de programas que enfatizam a educação inclusiva e os métodos de ensino empregados que favorecem a inclusão, com sucesso, de crianças com TEA na escola regular.

Palavras-chave: Transtorno do espectro do autismo; Inclusão; Inclusão em escolas públicas; Práticas Educativas.

In 1975, the United States Congress enacted the Education for All Handicapped Children Act (1975) to support states and local communities in protecting the rights of, meeting the individual needs of, and improving the educational outcomes for infants, toddlers, children, and youth with disabilities and their families. This landmark law, now known as the Individuals with Disabilities Education Act (IDEA), was passed to assure that all children with disabilities have available to them an education which emphasizes special education and related services designed to meet their unique needs (i.e., a free and appropriate public education, FAPE). Prior to the passage of this law, over one million children with disabilities were excluded from public schools and more than 50% of children with disabilities did not receive educational services. Families had to find services for their children outside of the public school system, these services often provided at the expense of the families (EDUCATION FOR ALL HANDICAPPED CHILDREN ACT, 1975, 20 U.S.C. § 1400(c)(2)).

One aspect of FAPE is the right of students with disabilities to receive their education in the least restrictive environment (LRE). LRE requires each public school system to ensure that “...to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are nondisabled; and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only if the nature or severity of the disability is such that

education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily” (EDUCATION OF ALL HANDICAPPED CHILDREN ACT, 1975, 300.114(a)). Schools are required to provide a continuum of placement options for students receiving special education services including 1) instruction in regular classes, 2) special classes, 3) special schools, 4) home instruction, and 5) instruction in hospitals and institutions.

After the passage of PL 94-142, students throughout the United States began in increasing numbers to receive special education services. However, many received these services in restrictive settings such as special classes and schools. During the 1980's the concepts of mainstreaming, integration, and inclusion evolved. Mainstreaming refers to the placement of students with disabilities in the regular education classroom for part of the school day. When not in the regular education classroom, the students are in classes with other students with disabilities. Integration refers to bringing together groups of students who were previously educated apart from each other. This term was used primarily in reference to integrating students with severe disabilities into regular education schools, rather than educating them in schools for only children with disabilities. Full-time placement in regular education classrooms is referred to as inclusion, while mainstreaming and integration assume the child's home base is a special education setting. Inclusion is advocated by some for all students with disabilities based on the human right of all individuals with disabilities to be educated in naturally occurring settings and activities with their neighborhood peers, siblings, and friends (ERWIN, 1993; MESIBOV & SHEA, 1996; ROGERS, 1993; THOMPSON & DELONEY, 1995).

Opportunities to be fully included with peers without disabilities, however, is not a reality for most students with disabilities. The United States Department of Education (2008) recently reported that, in 2006, 53.7% of students with disabilities (6 to 21 years of age) spent 80% or more of their school day in the regular education classroom, 23.7% spent 40 to 79% of their school day in the regular education classroom, 17.6% spent less than 40% of the school day in the regular education classroom, and 5.1% received special education services in other environments such as the home, hospital, etc.

In the 1997 amendments to IDEA, the focus of the provision of special education services in the U.S. shifted from focusing on placement in the LRE (including inclusive settings) to providing access to the general education curriculum for learners with disabilities, going beyond the concepts of mainstreaming and inclusion. The 1997 Amendments define special education as “specially designed instruction” (IDEA, 1997, 20 U.S.C. § 1401(25); 34 C.F.R. § 300.26(a)(1)) whose purpose is “...to ensure access of the child to the general curriculum, so that he or she can meet the educational standards within the jurisdiction of the public agency that apply to all children” [34 C.F.R. § 300.26(b)(3)]. Ensuring access to the general curriculum means providing students with disabilities the right to the same school curriculum as that provided to students without disabilities, raising expectations for the performance of students with disabilities. Further, the 1997 Amendments state that a child cannot be removed from education in age-appropriate regular classrooms solely because of the need for modifications to be made in the general curriculum (34 C.F.R. § 300.552(e)).

While not requiring students with disabilities to be placed in the regular classroom, the statute expresses a strong preference in favor of such placement.

In an attempt to ensure that schools not only provide students with disabilities access to the general education curriculum, but are also held accountable for the achievement of learners with disabilities, No Child Left Behind (NCLB, 2001), a U.S. federal law, requires the inclusion of students with disabilities in accountability assessments (YELL, DRASGOW, & LOWERY, 2005). Moreover, NCLB mandated instruction be provided by highly qualified teachers and consist of research based instructional practices. When IDEA was reauthorized in 2004, it further aligned with NCLB with an increased focus on accountability, consistent definitions of highly qualified teachers, and emphasis on scientifically based instructional practices (IDEA, 2004).

Children with Autism Spectrum Disorder in U.S. Schools

In 2009, The Centers for Disease Control and Prevention (CDC) estimated that one in every 88 children in the United States is identified with an autism spectrum disorder (ASD; CDC, 2009). However, a more recent study reports the prevalence of ASD in 2011–2012 to be 2.00% of children aged 6–17. This prevalence estimate (1 in 50) is significantly higher than the estimate (1.16%) of children in that age group in 2007 (Blumberg et al., 2013). Subsequently, more and more children are entering school with a diagnosis of an ASD; the number of children with autism receiving special education services increased 36% between 2004 and 2006 (U.S. Department of Education, 2008). In 2011, 81,068,972 students received services under IDEA, and 406,957 under the category of “autism” (Data Accountability Center, 2012). Of these children, approximately 38.5% spend more than 80% of their school day in general education settings (National Center for Education Statistics, 2012). The majority of students with ASD served in general education settings have higher communication and IQ scores than students with ASD served primarily in self-contained special education settings (WHITE, SCAHILL, KLIN, KOENIG, & VOLKMAR, 2007).

Although individuals with ASD share core challenges in a number of developmental areas (i.e., joint attention, social reciprocity, language, literacy, cognition, behavior and emotional regulation; American Speech and Hearing Association [ASHA] 2006a; 2006b), the degree to which they experience these challenges varies (JONES & KLIN, 2009; National Research Council [NRC], 2001). While previous estimates indicated that 70-80% of individuals with ASD also had an intellectual disability (Shea & Mesibov, 2001), recent data suggest at least 50% of children with ASD have IQ scores in the average or above average range (CDC, 2012; Kielimen, Linna, & Moilanen, 2000). In fact, the percentage of children diagnosed with ASD and IQ scores in the average range has increased from 24.6% prior to 1998 to 43.9% post 1998 (FOMBONNE, 2005). Additionally, the number of children with ASD that do not develop functional language skills has declined from approximately 50% to as low as 20% (TAGER FLUSBERG, PAUL, & LORD, 2005) and it is expected that following effective early intervention, most children with ASD will develop spoken language (Rogers, 2006). Explanations for these changes include greater

access to early intervention services (EAVES & HO, 1996; TAGER-FLUSBERG ET AL., 2005; SHEA & MESIBOV, 2005) and/or the diagnosis of children with more mild characteristics of ASD who were not previously identified (BLUMBERT, et al., 2013; TAGER-FLUSBERG et al., 2005).

What Does the Literature Suggest about Inclusion?

A primary purpose of inclusion is the opportunity to engage in meaningful interactions with peers that lead to increased opportunity for learning social and communication skills and friendship formation. Although consistent opportunities to interact with typically developing peers are often part of recommended practices for children with ASD (e.g., NRC, 2001), most research to date has evaluated interventions implemented in more restrictive settings (BARTON & FEIN, 2012) that do not routinely offer such opportunities for learners with ASD, and majority of research assessing the outcomes of inclusion of learners with ASD have been done with preschool-aged children. Further, the limited research focused on the inclusion of learners with ASD has produced inconsistent findings.

Two recent reviews of the literature highlight the lack of consistent findings in relation to the impact of inclusion on learners with ASD and their peers. In their review of the literature, Ferraioli and Harris (2011) concluded 1) the most consistent positive outcomes for children with autism have been observed in inclusive preschool programs, but outcomes for school-age children and adolescents with ASD is less consistently positive; and 2) students with autism in inclusive settings have demonstrated increases in social interaction length, play skills, conversation initiation, engagement in language, and joint attention; but the gains in language and social skills in inclusive settings does not happen without intentional and systematic instruction. That is, the naturally occurring opportunities to learn social and language skills available in inclusive settings do not, in and of themselves, result in skill development in children with ASD. Further, Harrower and Dunlap (2001) concluded that studies have documented that students with autism, who are fully included 1) display higher levels of engagement and social interaction, 2) give and receive higher levels of social support, and 3) have larger friendship networks than students in segregated settings. However, they also noted that students with ASD required structured interventions to be successful and were more frequently on the receiving, rather than the giving, end of social interactions; and this tendency was amplified over the course of the school year. Crossland and Dunlap (2012), in their discussion of effective strategies to support the inclusion of students with ASD, suggest that the focus of the inclusion debate may best be framed around questions of how to provide appropriate supports in inclusive settings. For inclusive placements to be successful, educators must have knowledge of and access to empirically validated strategies that will assist them in this process.

Meeting Educational Goals of Students with ASD in Inclusive Settings

Educators in the U.S. are mandated by federal law to ensure that all children, including children with ASD, meet a common set of general education academic standards (YELL, KATSIYANNIS, DRASGOW, & HERBST, 2003). However, most educational programs designed for children and youth with ASD were created to ameliorate the core challenges associated with ASD (MUNDY, MASTERGEORGE, & MCINTYRE, 2012) and are often considered too specialized (HEFLIN & ISBELL, 2012). Yet, targeting the core challenges associated with ASD is necessary for academic achievement (MUNDY et al., 2012) and increased independence (AYRES, LOWREY, DOUGLAS, & SIEVERS, 2011). Additionally, general education teachers have suggested that the unique and individual needs of children with ASD cannot be adequately addressed in their classroom settings (BUSBY, INGRAM, BOWRON, OLIVER, & LYONS, 2012), and there is a fear that skills (other than academic skills) essential for learners with ASD will go untargeted in general education settings (SIMPSON, MUNDSCHEK, & HEFLIN, 2011). There is some emerging evidence suggesting that, regardless of classroom setting, important instructional targets for children with ASD such as social communication (HUME, BELLINI, & PRATT, 2005; THIEMANN & KAMPS, 2008), joint attention (WONG & KASARI, 2012), and symbolic play (WONG & KASARI) are often under addressed. For example, Ruble and colleagues (2010) found that such important instructional targets were often left out of individualized education plans (IEPs) of children with ASD and IEPs were generally of poor quality.

The appropriateness of the education for students with ASD is also very litigious with rates of cases concerning a FAPE for children with ASD 10 times higher than children with other disabilities (ZIRKEL, 2012). To demonstrate that learners with ASD are receiving FAPE it is critical that teacher provide evidenced-based practices, address individual student needs, and monitor progress and base instructional decisions on performance data (YELL, DRASGOW, & LOWREY, 2005; YELL, KATSIYANNIS, DRASGOW, & HERBST, 2003). This requires that teachers serving children and youth with ASD have expertise in this area (YELL et al., 2005; YELL et al., 2003), yet finding teachers with adequate training in ASD is difficult (SIMPSON et al., 2011; Stahmer, 2007). This shortage of teachers well-prepared to teach learners with ASD continues, despite the recognition by professional organizations, such as the Council for Exceptional Children, of the need for specialized preparation for teachers of learners with ASD (Council for Exceptional Children, 2009).

Teacher Preparation

Teacher preparation programs do not always fully prepare teachers to meet the needs of children with ASD (DYMOND, GIBSON, & MYRAN, 2007; SCHEUERMANN, WEBBER, & BOUTOT, 2003). With a lack of preparation, it is not surprising that both regular and special educators report feeling unprepared to teach learners with ASD (CALLAHAN, HENSON, & COWAN, 2008; HESS, MORRIER, HEFLIN, & IVEY, 2008; JOHNSON, PORTER, & MCPHERSON, 2012;

STAHMER, COLLINGS, & PALINKAS 2005). In recent years, with an increased emphasis on access to the general education curriculum, special education programs began deemphasizing specializations and moving toward preparing special education teachers in noncategorical models (BARNHILL, POLLOWAY, & SUMUTKA, 2011). As a result, students majoring in special education may earn a degree without taking any coursework focused specifically on ASD, and general education majors typically only receive one instructional course that covers all disability categories (SIMPSON et al., 2011). Requirements even vary in university programs offering endorsements in ASD in terms of required coursework and hours spent directly teaching children with ASD (BARNHILL et al., 2011; SCHEUERMANN et al., 2003). Limited preparation leaves teachers unaware of appropriate curriculum and content for children with ASD, or if they acquire that knowledge, unsure how to deliver such a program (CALLAHAN, et al., 2008; HESS, et al., 2008; SCHEUERMANN et al., 2003; STAHMER, et al., 2005). Additionally, many teachers report using instructional practices and strategies that lack research support (HESS et al., 2008; STAHMER et al., 2005). This research-to-practice gap is troubling as it prevents children with ASD from accessing effective interventions (DINGFELDER & MANDELL, 2011).

Evidence-based Practices for Learners with ASD

Methods for teaching learners with ASD generally fall in two categories: comprehensive treatment models (CTMs) or focused intervention practices (FIPs). A CTM is a treatment package designed to address a number of developmental skills whereas an FIP is a strategy or practice that targets an identified behavior(s) (ODOM, COLLETT-KLINGENBERG, ROGERS, & HATTON, 2010). CTMs often incorporate FIPs. Recent literature reviews highlight the benefits of a variety of FIPs (E.G., ODOM, COLLETT-KLINGENBERG, et al., 2010; MACHALICEK, et al., 2008) and CTMs (E.G., ODOM, BOYD, HALL & HUME, 2010; ROGERS & VISMARA, 2008) on the development of children with ASD. Many CTMs vary widely in terms of evidentiary support (ODOM, BOYD, et al.), but many FIPs are considered evidence-based (ODOM, COLLETT-KLINGENBERG et al., 2010).

Selecting appropriate interventions is a difficult task for teachers because of the variability associated with ASD, the impact of characteristics on learning, and the number of interventions advertised as effective from which teachers must select to utilize (White, Smith, Smith, & Stodden, 2012). While the heterogeneity of ASD makes it unlikely that any one method will work for all learners with ASD (NRC, 2001; Simpson, et al., 2011; Stahmer, Schreibman, & Cunningham, 2011), the NRC developed general guidelines for establishing an educational program based on the available literature: (1) addresses the core challenges associated with ASD, (2) considers individual need when selecting instructional targets (e.g., language level, cognitive ability), (3) provides instruction in natural (i.e., authentic) contexts, (4) includes the appropriate level of intensity (e.g., instructional time, opportunities to respond), and (5) continually uses data to make instructional decisions. These central elements are evident in many FIPs and CTMs.

Example of an Evidence-Based CTM. The Learning Experiences and Alternative Program for Preschoolers and Their Parents (LEAP) is an example of a CTM implemented in inclusive classroom settings (STRAIN & CORDISCO, 1994) that meets the criteria outlined by the NRC. The LEAP program began in 1981 in Pittsburgh, Pennsylvania, as a U.S. Department of Education funded model demonstration program serving young children with autism within an inclusive preschool program. In 1998, a model replication LEAP site began in Colorado as a cooperative effort between the Colorado Department of Education, The University of Colorado at Denver, and the Douglas County School District. LEAP is one of two intervention models identified by the NRC (2001) as having an empirical basis and a program component that provides children with ASD systematic, daily exposure to peers who are typical. With over 3 dozen peer-reviewed empirical studies in the literature, LEAP is one of the most extensively validated programs in early childhood special education. As example, in a randomized, controlled study comparing LEAP to a comparison group (i.e., LEAP treatment manual only), children attending LEAP for 2 years made greater gains on measures of cognition, language, social, problem behavior, and autism symptoms (STRAIN & BOVEY, 2011).

Unique features of LEAP that contribute to its effectiveness include: 1) full-time inclusion of children with ASD that includes classroom and curricular adaptations and modifications and supports, 2) high quality programming for children developing typically with systematic interventions for the children with ASD embedded in typical preschool routines and activities, 3) systematic peer-mediated instruction, 4) clearly-written individual learning objectives that include information about prompts to be used, and 5) the utilization of evidence-based practices for children with autism. These practices include peer-mediated interventions, errorless learning, time delay, incidental teaching, pivotal response training, picture exchange communication system (FROST & BONDY, 1994), and positive behavior support. The use of peer mediated instruction begins on the first day (STRAIN & BOVEY, 2011). These practices are embedded into the developmentally appropriate curriculum as defined by the National Association for the Education of Young Children (COPPLE & BREDEKAMP, 2009). Fifteen 3 to 5 year old children are in each classroom, with 10 to 11 developing typically and the remaining children experiencing ASD or other disabilities. In addition, families are provided an opportunity to learn to implement LEAP practices into their daily family routines. Two primary features of LEAP, embedded intervention, and peer mediated instruction, can be incorporated in any inclusive setting for learners with ASD to promote the learning of core academic content along with specific target goals.

Evidence-Based FIPs. There are several additional identified evidence-based practices for students with ASD. Recently, two separate national organizations (i.e., National Professional Development Center [NPDC] on ASD & the National Autism Center's National Standards Project [NSP]) conducted exhaustive reviews of the literature to identify effective strategies when teaching learners with ASD a variety of different skills. Both groups came to relatively similar findings (Odom, Hume, Boyd, & Stabel, 2012; Strain et al., 2011). Based on their review, the NPDC identified 24 evidence-based practices (See Odom, Collett-Klingenberg, et al., 2010). The identified evidence-based practices are widely disseminated on the Internet

including the NPDC website that houses briefs (<http://autismpdc.fpg.unc.edu/content/evidence-based-practices>) or guidelines for effective implementation. Also, in partnership with other National autism centers including the NPDC, the Ohio Center for Autism and Low Incidence (OCALI) created online learning modules for teachers illustrating implementation of evidence-based practices (<http://www.autisminternetmodules.org/>). These evidence-based practices are:

- Antecedent-Based Interventions (ABI)
- Computer-Aided Instruction
- Differential Reinforcement
- Discrete Trial Training
- Extinction
- Functional Behavior Assessment
- Functional Communication Training
- Naturalistic Intervention
- Parent-Implemented Intervention
- Peer-Mediated Instruction and Intervention
- Picture Exchange Communication System (PECS)
- Pivotal Response Training
- Prompting
- Reinforcement
- Response Interruption/Redirection
- Self-Management
- Social Narratives
- Social Skills Groups
- Speech Generating Devices/VOCA
- Structured Work Systems
- Task Analysis
- Time Delay
- Video Modeling
- Visual Supports

Of these 24 practices, antecedent interventions, self-management techniques, delayed contingencies, pivotal response training, peer-mediated and naturalistic interventions (e.g., embedded instruction) are strategies demonstrated in research to be effective in enhancing the social, communication, and academic learning of students with ASD in inclusive settings (as reviewed in Crosland &

Dunlap, 2012; Harrower and Dunlap, 2001). In the next section, we describe two components of LEAP that are also consistent with the evidence-based FIPs that support the inclusion of learners with ASD.

Embedded Instruction (EI). EI is one component of LEAP and a practice that supports the learning of children with disabilities alongside their typically developing peers (National Professional Development Center on Inclusion, 2011). Using EI, teachers are able to target individual goals without jeopardizing access to the core general education curriculum. When used systematically, EI encompasses the essentials for effective teaching and learning and guides teachers through the process using the following four phases of instruction: (1) What to teach? (2) How to teach? (3) When to teach? and (4) How to evaluate? (See Snyder et al., in press, for a full description). EI is considered a preferred instructional practice for children with ASD because it occurs during naturally occurring activities throughout the child's day, in contexts in which the child is to engage in that skill in the future and targets essential learning goals (Barton, Lawrence, & Duerloo, 2012; Heflin & Isbell, 2012; Wolery, Anthony, Caldwell, Snyder, & Morgante, 2002). These characteristics are consistent with the NRC guidelines (NRC, 2001) as well as naturalistic interventions, an evidence-based FIP for learners with ASD (See Odom, Collet-Klingenberg, et al., 2010).

The strategies selected for use in EI can vary based on instructional content and individual need, but should be selected because they are evidence-based (McDonnell et al., 2006). This flexibility is helpful as no single instructional strategy is likely to work for all children with ASD (Stahmer et al., 2011). Additionally, embedding opportunities in the context of existing routines provides children with ASD increased time and opportunities to practice and learn target skills along side their typical peers (McBride & Schwartz, 2003; McDonnell, Johnson, Polychronis, & Risen, 2002). EI has been successfully used to teach children with ASD a variety of skills (Johnson, McDonnell, Holzwarth, & Hunter, 2004; Polychronis, McDonnell, Johnson, Riesen, & Jameson, 2004; Sigafoos et al., 2006), including academic (McDonnell, et al., 2006; Risen, McDonnell, Johnson, Polychronis, & Jameson, 2003), leisure (Kurt & Tekin-Iftar, 2008), and imitation (Venn, et al., 1993) skills. When using EI to teach new skills to learners with ASD, researchers have included least to most prompting (Sigafoos et al., 2006), time delay (Kurt & Tekin-Iftar, 2008; Polychronis et al., 2004; Venn et al., 1993), modeling (Johnson et al., 2004), and simultaneous prompting (Kurt & Tekin-Iftar, 2008; Risen et al., 2003).

Peer Mediated Instruction (PMI). PMI is an evidence-based FIP (Odom, Collett-Klingenberg et al., 2010; Reichow & Volkmar, 2010) and another LEAP component. PMI is also one instructional practice that can be readily embedded in a variety of classroom routines/activities. For example, if a child with ASD rarely socially communicates with his peers, an instructional target may be to increase the frequency of interactions with peers (e.g., What to teach?). To address this skill, a teacher may select 2-3 peers with strong interpersonal skills and teach them strategies shown in the literature to facilitate and sustain interactions with a target student with ASD (How to teach?). Because the goal is to increase initiations, the teacher may

model and provide peers with an opportunity to role play and practice how initiate by saying something nice, maintain an interaction by keeping the conversation going, and encourage an initiation (e.g., look, listen, wait; See Theimann & Goldstein, 2004). To encourage peer use of the strategies, the teacher can initially provide visual cues to remind peers to implement a strategy during the selected activities/routines. Peer-mediated instruction should occur during multiple activities across the school day to promote generalization of the target skill (Sperry, Neitzel, & Engelhardt-Wells, 2010). The teacher selects activities during which the children have the opportunity to socially interact routinely such as during lunch, recess, and interactive cooperative learning activities (Where to teach?). To monitor if the strategy is working, the teacher can create a data collection sheet and record the frequency to which the child with ASD initiates or responds to an initiation from a peer. Alternatively, the teacher can keep an anecdotal record of the child's behavior during these routines prior to and after the introduction of peer-mediated instruction. To ensure peers are completing the intervention, they can complete a checklist indicating whether or not they used the strategies they have learned to facilitate interactions with their peers (e.g., secured attention, elicited communication, offered a choice, initiated a conversation, etc.; How to evaluate?).

EI and PMI are evidence-based practices that support the inclusion of students with ASD while affording teachers time and opportunity to address the core challenges associated with ASD in the context of typically occurring classroom instruction, activities, and routines.

Conclusion

The number of children identified with ASD is increasing, and, with the changing prevalence figures, it is likely that more and more children with ASD will receive their education in inclusive settings. Teachers working in inclusive settings need access to evidence based practices that can be readily applied in their general education classroom curriculum framework while maintaining a focus on remediating the core deficits of learners with ASD. Because of the variability associated with ASD and the lack of adequate teacher preparation, some advocates suggest inclusive settings may not be the most appropriate environment to provide the individualized instruction learners with ASD require (Simpson et al., 2011). At the same time, others continue to contend that education in inclusive settings is essential to the learning needs of children with ASD and that claims to the contrary remain unsubstantiated in the literature (Strain, Schwartz, & Barton, 2011). While the research is inconclusive regarding the outcomes of inclusion on children and youth with ASD, systematic instructional practices like EI and strategies such as PMI have been shown to be effective in facilitating inclusion, while still promoting the learning of goal attainment, of children with ASD.

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