

Academic Interventions for Students with ASD

Deanna B. Cash

Lynchburg College

Academic Interventions for Students with ASD: A Call for Research

Following the reauthorization of the Individuals with Disabilities Education Improvement Act in 2004 and its emphasis on inclusion of students with disabilities in the general education setting, students with Autism Spectrum Disorder are increasingly taught in general education classrooms (Leblanc, Richardson, & Burns, 2009; Simpson, Boer-Ott, & Smith-Myles, 2003). Data from the Annual Report to Congress on Implementation of IDEA (U.S. Department of Education, 2010) indicated that almost 90% of students with autism in public schools in the United States receive their education in general education classrooms for some part of the school day.

Yet, both general education and special education resource teachers report feeling inadequate to meet the needs of students with ASD in an inclusive environment (Dimitriosa & Pangiota, 2005; Naylor, 2002). Although teachers tend to support the idea of inclusion, a study by Scruggs and Mastropieri (1996) found that almost one third of general education teachers believed they did not possess the necessary skills and training to be successful in educating students with special needs. In fact, a number of studies have revealed the lack of training required to address the needs of students with disabilities in teacher preparation programs for general education teachers (Ivey & Reinke, 2002; Leblanc, Richardson, & Burns, 2009; Stainback & Stainback, 1984). Especially in regards to students with ASD, research has emphasized the need for adequate preparation for all preservice teachers (Jennett, Harris, & Mesibov, 2003). The purpose of this paper is to call attention to the need for systematic research on academic interventions for students diagnosed with ASD.

Scarcity of Academic Research

Perhaps part of the difficulty teacher preparation programs have in training preservice teachers to work with students with ASD is the fact that little research on standard effective academic practices for these students exists. Much of the research to date about students with ASD has focused on behavioral and social issues, perhaps due to the perception that these are the most pressing concerns for these students. Patterns of academic development and instructional needs for students with ASD have received little research attention. Yet, the movement to serve students in the general education setting and an increase in the diagnoses of students with ASD make academic skills a necessary area of focus of research for these students (Minshew, Goldstein, Taylor, & Siegel, 1994). This is particularly true for those diagnosed with milder forms of the disorder, those who are cognitively higher functioning with milder language impairments, students who are likely to be served in general education classrooms. Given the prevalence of ASD and the movement to serve more and more students in the general educational classroom to the greatest degree possible, it is important that teachers are given a repertoire of effective practices for teaching students with ASD (Minshew et al., 1994), especially for reading skills, which serve as the foundation for success in all other academic areas. Rigorous experimental study of educational practices has become increasingly important for this purpose and as a result of the increased attention to the performance of school systems in educating all students effectively (Harvey, May, & Kennedy, 2004).

There may be a number of reasons for the scarcity of academic research related to students with ASD, and one likely reason is that research for students with ASD can be problematic. Given the vast range of cognitive, behavioral, and language symptoms associated with the disorder, designing standardized interventions to address the needs of students with ASD is challenging. Further, large scale randomized control trial studies are difficult to

administer in school communities. Such studies require large numbers of participants to ensure validity and reliability of results. Even with the increased diagnosis of ASD in recent years, it remains difficult to draw the number of students necessary for such a study without introducing other confounding factors, such as variable cognitive, behavioral, and language characteristics. In addition, implementation of large scale studies may interrupt day-to-day educational practices and often require students to miss time from their normal academic routines. Local education agencies, teachers, and parents may be reluctant to allow students to participate for this reason. Finally there is the concern of withholding educational intervention from control group participants in a randomized controlled study who might benefit from those interventions.

Reading Development Research for Students with ASD

There have traditionally been differing perspectives on the development of reading skills for students diagnosed with ASD. Among many professionals and researchers, there is an assumption that reading is a strength for students with ASD (Turkeltaub et al., 2003). However, this supposition may be based on a perceived strength for these students in word recognition, a perception based primarily on case studies of students with hyperlexic abilities, that is, students who show remarkably advanced word recognition skills in spite of pronounced cognitive and language impairment (Aaron, Franz, & Menges, 1990; Healy, 1982), a phenomenon that occurs in only about 6% of the autistic population (Aaron, 1989). In addition, a number of studies have documented word reading accuracy skills commensurate with those of normally developing peers (Frith & Snowling, 1983; Minshew et al., 1994; O'Connor & Klein, 2004). However, a limitation of these studies is that the participants were chosen based on high levels of cognitive ability or relatively advanced reading skills (Nation, et al, 2006). Given this selection bias, there are limitations to generalizing these conclusions to the diverse population of students with ASD,

who vary considerably in ability to decode words (Nation, 1999), perhaps resulting in “overestimation of levels of reading accuracy in children with autism” (Nation, Clark, Wright, & Williams, 2006, p. 913).

In spite of the fact that many believe reading not to be a problem for students with ASD (Nation et al., 2006; Turkeltaub et al., 2004), there is strong documentation that many do have significant problems learning how to read and understanding written text (Nation et al., 2006; Snowling & Frith, 1986; Tager-Flusberg, 1981). The development of reading in students with ASD may differ from that of typically developing peers, given the characteristic difficulties these students have with cognitive and language skills, both of which affect the ability to read (Nation, et al., 2006). Many children with ASD have language impairments (Tager-Flusberg & Joseph, 2003) and, as there is a strong relationship between language impairment and difficulty learning to read, such impairments place children at risk for reading difficulty (Nation, Clark, Marshall, & Durand, 2004).

Discussion

In summary, consensus documents on reading research provide clear direction for effective practice in reading instruction and intervention in general, but systematic study of reading development instruction and intervention with those diagnosed with ASD is lacking. Further, although most of the research to date on students with ASD has focused on behavioral and social issues, research pairing behavioral and academic interventions for those with ASD is lacking. Given the prevalence of ASD and the likelihood that those diagnosed with the disorders will be educated in general education classrooms, where learning to read is a high priority, there is a critical need for research on the application of standard effective practice in reading instruction and appropriate modifications to that instruction for students with ASD.

References

- Aaron, P. G. (1989). *Dyslexia and hyperlexia: Diagnosis and management of developmental reading disabilities*. Dordrecht, ND: Kluwer Academic Publishers.
- Aaron, P. G., Franz, S., & Manges, A. (1990). Dissociation between pronunciation and comprehension in reading disabilities. *Reading and Writing: An Interdisciplinary Journal*, 3, 1-22.
- Dimitriosa, K., & Panagiota, K. (2005) Attitudes of Greek primary school teachers toward the inclusion of students with disabilities. *Electronic Journal of Inclusive Education*, 1,(9), 1-9.
- Frith, U., & Snowling, M. (1983). Reading for meaning and reading for sound in autistic and dyslexic children. *British Journal of Developmental Psychology*, 1, 329-342.
- Harvey, M. T., May, M. E., & Kennedy, C. H. (2004). Nonconcurrent multiple baseline designs and the evaluation of educational systems. *Journal of Behavioral Education*, 13, 264-276.
- Healy, J. (1982). The enigma of hyperlexia. **Reading Research Quarterly**, 17, 319-338.
- Ivey, J. K., & Reinke, K. (2002). Pre-service teachers' attitudes toward inclusion in a non-traditional classroom. *Electronic Journal of Inclusive Education*, 1(6), 1-7.
- Jennett, H. K., Harris, S. L., & Mesibov, G. B. (2003). Commitment to philosophy, teacher efficacy, and burnout among teachers of children with autism. *Journal of Autism and Developmental Disorders*, 33(6), 583-593.
- Leblanc, L., Richardson, W., & Burns, K. A. (2009) Autism spectrum disorder and the inclusive classroom. *Teacher Education and Special Education*, 32, 166-179.

- Minschew, N. J., Goldstein, G., Taylor, H. G., & Siegal, D. J. (1994). Academic achievement in high functioning autistic individuals. *Journal of Clinical and Experimental Neuropsychology, 16*(2), 261–270.
- Nation, K., Clarke, P., Wright, B., & Williams, K.C. (2006). Patterns of reading ability in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 36*, 911-919.
- Naylor, C. (2002). B.C. teachers' views of special education. Retrieved January 4, 2010 from <http://bctf.ca/publications/ResearchReports.aspx?id=5558>.
- O'Conner, I. M., & Klein, P. D. (2004). Exploration of strategies for facilitating the reading comprehension of high-functioning students with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 34*, 115-127.
- Scruggs, T. E., & Mastropieri, M. A. (1996). Teacher perceptions of mainstreaming/inclusion, 1958-1995: A research synthesis. *Exceptional Children, 63*(1), 59-74
- Simpson, R., Boer-Ott, S., & Smith-Myles, B. (2003). Inclusion of learners with autism spectrum disorders in general education settings, *Topics in Language Disorders, 23*, 116-133.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Snowling, M., & Frith, U. (1986). Comprehension in 'hyperlexic' readers. *Journal of Experimental Psychology, 42*, 392-415.
- Stainback, S., & Stainback, W. (1984). A rationale for the merger of special and regular education. *Exceptional Children, 51*, 102-111.
- Tager-Flusberg, H. (1981). On the nature of linguistic functioning in early infantile autism. *Journal of Autism and Developmental Disorders, 11*, 45-56.

Tager-Flusberg, H., & Joseph, R. M. (2003). Identifying neurocognitive phenotypes in autism.

Philosophical Transactions of the Royal Society of London Series B-Biological

Sciences, 358(1430), 303–314.

Turkeltaub, P. E., Flowers, D. L., Verbalis, A., Miranda, M., Gareau, L., & Eden, G. F. (2004).

The neural basis for hyperlexic reading: An fMRI case study. *Neuron*, 41(1), 11-25.

U.S. Department of Education, National Center for Education Statistics. (2010). *The Digest of*

Education Statistics 2009 (NCES 2009-013), Table 51.