

*Current Issues in Teaching Bilingual Children with Autism Spectrum Disorder*

**Amelia M. Medina and Judy T. Salamon**  
New Mexico State University

*Abstract*

This paper presents a narrative review of the literature at the intersection of bilingualism and practices for teaching children with Autism Spectrum Disorder (ASD). We highlight the gap in the empirical literature about instructional practices for young bilinguals with ASD. Special attention is given to the monolingual ASD and multicultural special education literatures for shared evidence on designing interventions for bilingual children with ASD. Implications are discussed for special educators who may not speak one or more of the world languages of the child.

*Current Issues in Teaching Bilingual Children with Autism Spectrum Disorder*

Current Issues in Teaching Bilingual Children with Autism Spectrum Disorder: Although many studies have been conducted regarding teaching children with Autism Spectrum Disorder (ASD), there are few that address the bilingual child with ASD. In fact, more often than not, the adjective *bilingual* is not used to describe the child with ASD, but rather the family or environment. Autism Spectrum Disorders (ASD) are defined and characterized by atypical language development, social interaction, and idiosyncratic behaviors, including preservative and repetitive repertoires. Considering bilingualism, the well-known Interdependence Hypothesis (Cummins, 1979) proposes a minimal level of proficiency in the first language (L1) as a precursor for success in the second language (L2), based on a shared foundation for academic/cognitive skills.

Within a sociolinguistic framework, Wei and Moyer (2008) give special attention to the unique abilities of bilingual speakers to draw upon past experiences and attitudinal judgments when making moment-by-moment pragmatic decisions during communication with both monolingual and bilingual listeners. This theoretical framework is especially useful for approaching the literature on teaching procedures for children with ASD that consider bilingual complexities not only within a child as mechanism strengths and weaknesses, but also in terms of her/his language history and life participation needs.

*Teaching Practices in Monolingual ASD*

Numerous treatment studies have been conducted with monolingual, mostly English-speaking, children with ASD. Traditional ASD intervention has focused on increasing the child's ability to focus and sustain attention to a presented task (Patton & Watson, 2011) in order to provide skills that the child will need in various educational settings. Some of the common teaching methods used when working with ASD students include: highly supportive teaching environments; low staff-to-student ratios; plans for generalization;

interventions to promote language and communication; predictable and routine schedules; behavioral approaches to address challenging behaviors; supports to facilitate program transitions; and, parent involvement (Wetherby & Prizant, 2000). Patton and Watson (2011) suggest educators develop an evidence-based practice tailored to each individual child.

Applied Behavior Analysis (ABA) is an evidence-based practice widely accepted and implemented by teachers and therapists across the U.S. (Alberto & Troutman, 2009). With this approach, the child with ASD is trained to focus his/her attention of the stimuli presented with an expectation of a response from the child, developed from historical behavioral studies of stimulus-response.

The symbolic deficits and non-verbal outcomes for many children with ASD have led researchers to examine several augmentative/alternative communication (ACC) possibilities. As a common example of ACC, the Picture Exchange Communication System (PECS) was developed as an intervention to teach functional and intentional communication through aided symbols (Frost & Bondy, 1994).

Another traditional intervention approach to working with students with ASD is the implementation of social stories based on work by Gray and Garand (1993). With this approach, children are provided with a visual and auditory means for introducing social concepts. It should be noted that these stories are very culturally based, in both the representation of a specific situation and the expected behavior in that situation. Some cross-cultural literature exists on the nature and beliefs about ASD (e.g. Tincani, Travers, and Boutot (2009), suggesting inter- and intra-cultural modifications to the strategy should be expected.

### ***Method***

The goal of this review is to find relevant research on intervention practices for bilingual children with ASD. To locate this literature, we searched the electronic database Academic Search Premier by key-word mapping and combining the terms *teaching* (or *instruction, intervention, treatment*), *bilingualism* (or *multilingualism, second language, English as a Second Language, English Language Learners*) with *Autism* (or *Autism Spectrum Disorder, Aspergers Syndrome*). For all searches, wildcard characters were used to identify terms varying by spelling, root of the word and alternate word endings. The search field was narrowed to "Title, Abstract" or "Subject Headings." For publications meeting our intent, we then searched within-text citations for additional references.

After eliminating duplicates, 19 articles were deemed relevant to investigating the current issue of teaching practices for bilingual children with ASD. The articles were divided into the following categories: ASD in bilingual populations (N=5); original-data studies on bilinguals with ASD (N=5); and, multicultural considerations for working with ASD (N=9).

## *Results*

### **ASD in Bilingual Populations**

*Identification Differences.* As in most areas of disability studies, it is difficult to characterize empirically-driven best practices with diverse populations. This is due to the complexity of gathering accurate, valid, and reliable data from population with diverse language input and use histories. Several studies address cultural sensitivity in ASD assessment. For example, research has been conducted to identify ASD in the Hispanic population in Texas by looking at socioeconomic factors impacting educational identification (Palmer, Walker, Mandell, Bayles & Miller, 2010). Other studies (e.g. Manning, Wainwright & Bennett, 2010) have explored family adaptations to having a family member who has been diagnosed with ASD. Diagnostic instruments used with Hispanics in Texas were addressed using the Autism Diagnostic Observation Schedule (ADOS) and the Autism Diagnostic Inventory-Revised (ADI-R) to determine reliability in this specific population (Overton, Fielding & de Alba, 2007). Schneider and Hopp (2011) discussed the use of the Bilingual Aphasia Test to determine the language functioning of bilingual children identified with ASD.

*Linguistic Environment.* The impact of bilingual exposure on language learning has not been experimentally studied in children with ASD, although no additional risk is expected. In a review of records, Hambly and Fombonne (2011) studied the correlation between bilingual exposure and the social and language abilities of children (Mean age = 56 months) with ASD by comparing profiles among bilingual (n = 45) and monolingual (n = 30) families. The bilingual children were categorized into simultaneous and sequential dual language exposure groups. Holding language exposure constant, results were significant for interpersonal social skills as measured by the Vineland Adaptive Behavior Scales. There were no significant group differences in language performance. The study provides preliminary evidence that bilingual/multilingual environments do not contribute to additional delays in language development outside those symptomatic of ASD.

#### *Original-data Studies on Bilinguals*

The core features pertaining to cross-cultural research and cultural sensitivity deserve attention to expand the scope and practice of special educators and clinicians working with bilingual children. Although prevalence rates are on the rise, approximately 1 in 150 children in the U.S. are behaviorally diagnosed as having ASD (Smith & Tyler, 2010). Notwithstanding cultural differences, early screenings, language intervention, and positive behavior support, however, may lessen the negative impact of ASD.

*Intervention for Bilingual Language Impairment.* While a recent review of the literature (Kohnert & Medina, 2009) identified 32 between-group studies investigating assessment practices for bilingual learners with language impairment, only three case studies and one group study examined treatment outcomes with this population (see Perozzi, 1982; Perozzi, 1992; Thordardottir, Weismer, & Smith, 1997; Tzivinikou, 2004 as cited in Kohnert & Medina, 2009).

*Language Intervention for Bilingual ASD.* Seung, Siddiqi and Elder (2006) described a longitudinal case study of the ongoing assessment and home-based intervention for a young boy using Korean-English bilingual speech-language services from age 3 years 6 months through age five. Intervention was provided twice weekly in the home language, Korean, for the first 12 months by a Korean-English bilingual speech-language pathologist. During the next six months, English was gradually introduced, then used almost entirely during the last six months of intervention. The authors also describe parent-clinician collaborations for treatment planning, with results indicating positive expressive and receptive growth in both languages, supporting the idea of using the home language as foundational to second language learning for children with ASD.

### *Multicultural Issues in ASD*

In the U.S., English is the language for academic and long-term advancement. Still, a first language is often the glue that binds parent/child relationships. Recent immigrants learn the importance of English quickly, but often at the cost of the first language within and across generations. Similar to typical bilinguals, language proficiencies are expected to fluctuate as a function of input and use in bilingual children with ASD. Brice and Roseberry-McKibbin (2001) highlight issues regarding assessment and instruction for dual language learners. The authors emphasize the question of choosing which language(s) for instructional purposes and the social aspects of being a bilingual, i.e. code-switching, community needs. Basic teaching strategies are given for the monolingual teacher who does not share the home language of her/his students, including audio-visual supports, hands-on learning, peer translation, and code-switching. In the same vein, Dopke (2006) instructs practitioners to ask child- and family-specific question about language programming for children with ASD. Dopke highlights the lack of evidence suggesting children with ASD would be adversely affected by exposure to and expectations of using two or more languages. Instead, family-centered practice is suggested to address case-by-case decision making based on language history, input, and functional needs.

It is also important to explore the multicultural issues related to children with ASD from families outside the dominant Euro-American (i.e. English-speaking) culture in the U.S. Culture-specific differences in prevalence rates, values, beliefs, nonverbal behaviors, and communication style are likely to influence how multicultural families might desire to raise their children with ASD, as compared to the common school-based goals for independence and vocation in U.S. society (Dyches, Wilder, Sudweeks, Obiakor, & Algozzine, 2004; Tincani, Travers, and Boutot, 2009; Wilder, Dyches, Obiakor, and Algozzine, 2004). Finally, Kremer-Sadlik (2005) examined the consequences of not being bilingual for children with ASD with both family and community language needs.

### *Discussion and Conclusion*

Testing components of a social and language training for bilingual children with ASD remains relatively unexplored. Although several professional articles have been published regarding bilingual children with ASD, the authors of this literature review found few original accounts of teaching strategies to use with these bilingual children. According to

the evidence base, the preliminary guidelines for training language choice and social skills in bilingual children with ASD are based on one empirical study (Seung, Siddiqi, & Elder, 2006), a review of records (Hambley & Fombonne, 2010), and multiple expert opinions about the implications of multicultural teaching practices in ASD (e.g. Dyches et al., 2004; Wilder et al., 2004 ). Despite an intersection of the available literatures, it should be concluded that there is an overall lack of empirical knowledge in this area to guide special education of bilinguals with ASD.

In review, we have considered whether traditional interventions for language from diverse literatures is also appropriate for bilingual children with ASD from families and homes outside the dominant Euro-American, English-speaking culture. We emphasize the importance of communication with family members and the need for children with ASD to share the language(s) of their home. In this view, the family environment is the primary site in which a child learns all foundations of both social and language skills necessary for academic and social progress, even if in a different majority language (i.e. English as is the case in the U.S.). Since treatment of ASD is often driven by an individual's needs, or in a case-by-case manner, clinical experts often see issues in multiculturalism and bilingualism as extensions of other findings, recommendations, and descriptions. To gain understanding of intervention effects on functional language learning, research is needed to examine ASD, while accounting for differences in bilingual children's cultural and linguistic experiences. This includes, but is not limited to, language input and use history, the diagnostic profile, previous treatment experiences, and social regard of bilingualism. Future research in these areas is clearly warranted.

### *References*

- Alberto, P.A. & Troutman, A.C. (2009). *Applied Behavior Analysis for Teachers*. Upper Saddle River, New Jersey: Pearson Educational Inc.
- Brice, A. & Roseberry-McKibbin, C. (2001). Choice of languages in instruction: One language or two? *Teaching Exceptional Children*, 33, 10 - 16. Retrieved from Academic Search Premier database.
- Cummins, J. (1979). Linguistic interdependence and educational development of bilingual children. *Review of Educational Research*, 49, 222-251. doi: 10.3102/00346543049002222
- Dopke, S. (2006). Is bilingualism detrimental for children with Autism? Online editorial. Retrieved September 10, 2011, at <http://www.asha.org/members/desref-journals/deskref/default>.
- Dyches, T.T., Wilder, L.K., Sudweeks, R.R., Obiakor, F.E., & Algozzine, B. (2004). Multicultural issues in Autism. *Journal of Autism and Developmental Disorders*, 34, 211-222. Retrieved from Academic Search Premier database.
- Frost, L.A. & Bondy, A. (1994). PECS: The Picture Exchange Communication System. Cherry Hill, NJ: Pyramid Education Consultants.
- Gray, C.A. & Garand, J.D. (1993). Social stories: Improving responses of students with autism with accurate social information. *Focus on Autistic Behavior*, 8, 1-10. Retrieved from Academic Search Premier database.



- Hambly, C. & Fombonne, E. (2011). The impact of bilingual environments on language development in children with Autism Spectrum Disorders, *Journal of Autism and Developmental Disorders*. doi: 10.1007/s10803-011-1365-z
- Ivey, M.L., Heflin, J. & Alberto, P. (2004). The use of social stories to promote independent behaviors in novel events for children with PDD-NOS, *Focus On Autism And Other Developmental Disabilities*, 19, 164-176. Retrieved from Academic Search Premier database.
- Kohnert, K. & Medina, A. (2009). Bilingual Children and Communication Disorders: A 30 Year Research Retrospective. *Seminars in Speech and Language*, 30(40), 219-233.
- Kremer-Sadlik, T. (2005). To be or not to be bilingual: Autistic children from multilingual families. In Cohen, J., McAlister, K.T., Rolstad, K., and McSwan, J. *Proceedings of the 4<sup>th</sup> International Symposium on Bilingualism* (pp. 1225-1234). Somerville, M.A.: Cascadilla Press.
- Manning, M.M., Wainwright, L., & Bennett, J. (2010). The Double ABCX model in racially diverse families with a school-age child with Autism, *Journal of Developmental Disorders*, 41, 320-331. doi: 10.1007/s10803-010-1056-1
- Overton, T., Fielding, C., & Garcia de Alba, R. (2007). Differential diagnosis of Hispanic children referred for Autism Spectrum Disorders: Complex issues, *Journal of Autism and Developmental Disorders*, 37, 1996-2007. doi: 10.1007/s10803-006-0349-x
- Palmer, R.F., Walker, T., Mandell, D., Bayles, B., & Miller, C.S. (2010). Explaining low rates of Autism among Hispanic schoolchildren in Texas, *American Journal of Public Health*, 100, 270-272. Retrieved from Academic Search Premier database.
- Patton, E. & Watson, L.R. (2011). Interventions targeting attention in young children with Autism, *American Journal of Speech-Language Pathology*, 20, 60-69. doi: 10.1044/1058-0360
- Perozzi, J.A. (1982). A pilot study of language facilitation for bilingual, language-handicapped children: Theoretical and intervention implications. *Journal of Speech and Hearing Disorders*, 50, 403-406. Retrieved from Academic Search Premier database.
- Perozzi J.A. & Sanchez, M.C. (1992). The effect of instruction in L1 on receptive acquisition of L2 for bilingual children with language delay. *Language Speech Hearing Services Schools*, 23, 348-352. Retrieved from Academic Search Premier database.
- Roseberry-McKibbin, C. (2008). Service Delivery to CLD Students on the Autism Spectrum. In C. Roseberry-McKibbin (Ed.), *Multicultural students with special language needs, 3rd Edition* (pp. 385–389). Oceanside, CA: Academic Communication Associates.
- Schneider, H.D., & Hopp, J.P. (2011). The use of the Bilingual Aphasia Test for assessment and transcranial direct current stimulation to modulate language acquisition in minimally verbal children with autism, *Clinical Linguistics and Phonetics*, 25, 640-654. doi: 10.3109/02699206.2011.570852
- Seung, H., Siddiqi, S., and Elder, J.H. (2006). Intervention outcomes of a bilingual child with Autism. *Journal of Medical Speech-Language Pathology*, 14, 53-63. Retrieved from Academic Search Premier database.

- Smith, D. D., & Tyler, N. C. (2010). *Introduction to Special Education: Making a Difference*, 7<sup>th</sup> ed. Upper Sadle, NJ: Merrill Publishers.
- Thordardottir, E.T., Weismer S.E., & M.E. Smith (1997). Vocabulary learning in bilingual and monolingual clinical intervention. *Child Language Teaching and Therapy*, 13, 215-227. Retrieved from Academic Search Premier database.
- Tincani, M., Travers, J., and Boutot, A. (2009). Race, culture, and Autism Spectrum Disorder: Understanding the role of diversity in successful educational interventions, *Research & Practice for Persons with Severe Disabilities*, 34, 81-90. Retrieved from Academic Search Premier database.
- Wei, L. and Moyer, M. (2010). Research perspectives on bilingualism and multiculturalism. In *The Blackwell Guide to Research Methods in Bilingualism and Multilingualism* (pp. 3-17). Boston, M.A.: Blackwell.
- Wetherby, A.M, and Prizant, B.M. (Eds.) (2000). *Autism Spectrum Disorders: A Transactional Developmental Perspective*. Baltimore, MD: Paul H. Brookes Publishing Co.
- Wilder, L.K., Dyches, T.T., Obiakor, F.E., and Algozzine, B. (2004). Multicultural perspectives on teaching students with Autism. *Focus on Autism and Other Developmental Disabilities*, 19, 105-113. Retrieved from Academic Search Premier database.

#### ***About the Authors***

Amelia Medina, M.S. CCC-SLP, and Judy Salamon, M.A., CCC-SLP, are nationally certified speech-language pathologists with over 30 years of combined experience in early intervention, schools, and university settings. Ms. Medina specializes in assessment and intervention for bilingual children, while Ms. Salamon's area of expertise is in Autism Spectrum Disorders research. Both authors are currently housed in the Department of Special Education and Communication Disorders, New Mexico State University, Las Cruces, NM.