



Using Peers to Teach Children with Autism and Other Developmental Difficulties

written by Joe McCleery, Ph.D.

Autism is characterized by pervasive difficulties with social, communication, and language skills, as well as restricted interests and repetitive behaviors. Although assessments have been devised to identify the features of autism during adult-child interactions, the reality is that this developmental disorder is best understood in terms of the difficulties it creates for interacting with same-age peers. Therefore, it is somewhat surprising that many of the clinical and educational interventions for this population are implemented by adults, in isolation from peers. If our goal is for these individuals to interact and communicate successfully with their peers, then why do we primarily focus our efforts on teaching them to interact and communicate with adult therapists?

The likely origin of the adult-mediated nature of most autism interventions is apparent in the history of the development of effective interventions for this population. In the 1960s and 1970s, Ivar Lovaas developed methods for the application of the principles of applied behavior analysis to both reduce challenging behaviors and teach cognitive and language skills to children with autism (1,2). Prior to this period, many of these children were labeled “untreatable” and “unteachable” and placed in psychiatric or other institutional care settings (3). Lovaas’s approach was to use an adult-directed set of intensive adult-child interactions in an effort to eliminate behaviors that interfered with learning, and to teach the child the building blocks of speech/language and cognitive/academic skills. The ultimate aim of Lovaas’s approach at the time was to reduce or remove the skill and other blockades to successful academic and interpersonal inclusion, through early intensive adult-mediated intervention.

In principle, the use of peers as opposed to adults to teach social, communication, and other skills should ultimately serve several needs and purposes. First, direct teaching with peers eliminates or reduces the need to transfer skills learned with adults for use with peers. Second, effective use of available peers as teachers may ultimately reduce the burden on teaching staff. Third, use of peers may serve to increase the number of teaching/learning opportunities provided to the child with autism across the day. Finally, it is worth noting that evidence suggests that typically developing peers may benefit personally and academically from participation in active inclusion settings and activities (see e.g., 4).

What does the research say about use of peers in autism intervention?

In the late 1970s and early 1980s, several researchers began to explore the use of peers as a direct means for improving social and communication skills in learners with autism. To date, there are dozens of peer-reviewed publications on this topic, although the majority of



these studies have involved only two or three children (see [5,6](#) for reviews). For example, Pierce and Schreibman (1995) taught two 10-year-old typically developing children to serve as peer therapists, teaching social and language skills to two 10-year-old children with autism who had verbal abilities of approximately 3 years of age. To do so, the researchers engaged in didactic instruction with the peer teacher across four 30-minute sessions, followed by one month of providing direct feedback to the peer during daily 10-minute play sessions with the child with autism ([7](#)). The peer-mediated intervention led both of the children with autism to engage in more social initiations and to increase their language production during future interactive peer play sessions (see also [8](#)).

In one of the largest and most well controlled studies conducted on peer-mediated intervention for children with autism to date, Walton and Ingersoll (2012) taught six typically developing children to engage in Reciprocal Imitation Training with their siblings with autism. The children with autism were 2 to 5 years of age, and the siblings were 8 to 13 years of age. Through twenty 15- to 30-minute sessions across ten weeks, the researchers trained the siblings using the combination of 1) a child-friendly mini-manual, 2) adult-child role playing interactions, 3) adult modeling of intervention implementation with the child with autism, 4) direct feedback to the sibling on implementation of the intervention with the child with autism, and 5) poster reminders on the wall of the intervention room ([9](#)). Five different intervention skills were taught, consecutively, in phases. The findings of this study were mixed. Several of the siblings struggled to implement two or more of the five intervention component skills. Furthermore, not all of the children with autism exhibited gains in imitation behaviors. Because several previous studies have shown that adult-implementation of this same intervention leads to consistent improvements in imitation skills in very similar children with autism ([10,11,12](#)), these findings suggest that the lack of effects may have been due to failure of the siblings to consistently implement the intervention components. On the other hand, all of the children with autism did exhibit gains in joint engagement skills as a result of the intervention. This latter finding is consistent with previous study results, which suggest that increases in social and communicative initiations are one of the more robust effects of peer-mediated intervention for this population ([6](#)).

The study by Walton and Ingersoll highlights the critical importance of ensuring that expectations for the level of involvement required of the peer are appropriate and achievable, in order to obtain the full impact of peer-mediated intervention. The intensity of the protocols in both the Pierce and Schreibman ([7,8](#)) and Walton and Ingersoll (2012) studies further highlights the reasonably high level of preparation and training time commitment required to teach peers to implement complex, multi-component interventions effectively. For example, Walton and Ingersoll describe that teaching a child one intervention component skill may in some cases interfere with their ability to continue implementing a previously learned intervention skill in ways that are not observed when training adults ([9](#)). Despite these challenges, however, the level and nature of existing



research evidence suggests that peer-mediated intervention is important and can be effective for teaching children with autism a variety of skills (5,6).

A good way to get started with using peers as teachers is to set up relatively simple lessons where the initial goal is to increase the rate of brief but successful peer social-communicative interactions. For example, several studies have been conducted and shown that giving a peer of a PECS user desired items and re-directing the PECS user's spontaneous requests to adults to the peer "with the goods" leads to increased rates of peer-directed communications (13,14,15,16). In this instance, the peer's role as "teacher" is reduced to what will eventually become a normal communicative interaction between the two students. Specifically, the peer is taught to hold desired items, accept picture exchange based communications, and then provide the item requested by the student. This type of interaction can also be made part of regular school-day activities. For example, the teacher can assign a child, or rotate children, playing the role of "Snack Captain" or "Toy Captain," whereby the student is in charge of distributing items following direct communications/requests from other students.

Recommendations for clinical practice

Research evidence suggests that peer-mediated intervention can support children with autism and related developmental difficulties in learning to use critical social, communication, and other skills. Research also highlights some challenges to using peers as teachers. For example, the need to carefully consider and identify intervention skills that peers can implement properly, and to take steps to ensure that the peer implements those teaching skills consistently. Despite a number of publications on this topic, the field of research and development on peer-mediated intervention is still in its relative infancy. Here, I provide a number of practical guidelines and suggestions for the use of peer-mediated interventions given the challenges of real-world contexts and our current understanding based on research.

Guidance and Suggestions for Using Peer-Mediated Intervention:

- Start with a peer-teaching project that is relatively small and simple for all involved
- Select an initial lesson that fits well within your own expertise and comfort zone
- Define in advance the specific behavioral skills you want to increase in your learner
- Define in advance the specific behavioral skills required of the peer during teaching
- Identify and recruit the best peer (skills, characteristics, willingness, tolerance, patience)
- Consider siblings as peer teachers because research suggests they may be more effective
- Inform parents of peer teacher of the level and nature of their child's time commitment
- Inform parents of peer teacher about benefits of participation and assurances of safety
- Set aside sufficient time for planning the lesson/activity and training the peer
- Incorporate direct feedback on the child's teaching with the learner into the training
- Incorporate measures of fidelity/accuracy of implementation by peer, for troubleshooting
- Plan in order to ensure the safety and comfort of both the peer teacher and the learner
- Give the peer specific positive feedback on skills as well as generic praise for participation



- Develop a plan for dealing with various errors that may be made by the peer teacher
- Build confidence and competence via increasing skills and complexity of teaching over time

With realistic goals, advance planning, and stepwise progress, you can make meaningful progress improving core communication and social interaction skills for your students and peer teachers!

References

1. Edelson, S. M., Taubman, M. T., & Lovaas, O. I. (1983). Some social contexts of self-destructive behavior. Journal of Abnormal Child Psychology, 11(2), 299-311.
2. Lovaas, O. I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. Journal of Consulting and Clinical Psychology, 55, 3-9.
3. Henninger, N. A., Taylor, J. L. (2013). Outcomes in adults with autism spectrum disorders: a historical perspective. Autism, 17(1), 103-116.
4. Harris, S. L., Handleman, J. S., Kristoff, B., Bass, L., & Gordon, R. (1990). Changes in language development among autistic and peer children in segregated and integrated preschool settings. Journal of Autism and Developmental Disorders, 20(1), 21-31.
5. Smith, T. (2012). Evolution of research on interventions for individuals with autism spectrum disorder: implications for behavior analysts. The Behavior Analyst, 35, 101-113.
6. Zhang, J., & Wheeler, J. J. (2011). A meta-analysis of peer-mediated interventions for young children with autism spectrum disorders. Education and Training in Autism and Developmental Disabilities, 46(1), 62-77.
7. Pierce, K., & Schreibman, L. (1995). Increasing complex social behaviors in children with autism: effects of peer-implemented pivotal response training. Journal of Applied Behavior Analysis, 28, 285-295.
8. Pierce, K., & Schreibman, L. (1997). Multiple peer use of pivotal response training to increase social behaviors of classmates with autism: results from trained and untrained peers. Journal of Applied Behavior Analysis, 30, 157-160.



9. Walton, K. M., & Ingersoll, B. R. (2012). Evaluation of a sibling-mediated imitation intervention for young children with autism. Journal of Positive Behavioral Intervention 14(4), 241-253.
10. Ingersoll, B. (2010). Brief Report: Pilot randomized controlled trial of Reciprocal Imitation Training for teaching elicited and spontaneous imitation to children with autism. Journal of Autism and Developmental Disorders, 40, 1154-1160.
11. Ingersoll, B., Lewis, E., & Kroman, E. (2007). Teaching the imitation and spontaneous use of descriptive gestures to young children with autism using a naturalistic behavioral intervention. Journal of Autism and Developmental Disorders, 37, 1446-1456.
12. Ingersoll, B. & Schreibman, L. (2006). Teaching reciprocal imitation skills to young children with autism using a naturalistic behavioral approach: Effects on language, pretend play, and joint attention. Journal of Autism and Developmental Disorders, 36, 487-505.
13. Garfinkle, A. N., & Schwartz, I. S. (1994). PECS with peers: Increasing social interaction in an integrated preschool. Paper presented at the meeting of The Association for the Severely Handicapped, San Francisco, CA, November.
14. Kodak, T., Paden, A., & Dickes, N. (2012). Training and Generalization of Peer-Directed Mands With Non-vocal Children With Autism. The Analysis of Verbal Behavior, 28, 119–124.
15. Paden, A. R., Kodak, T, Fisher, W. W., Gawley-Bullington, E. M., & Bouxsein, K. J. (2012). Teaching children with autism to engage in peer-directed mands using a picture exchange communication system. Journal of Applied Behavior Analysis, 45(2), 425–429.
16. Cannella-Malone, H. I., Fant, J. L., & Tullis, C. A. (2010). Using the Picture Exchange Communication System to Increase the social communication of two individuals with severe developmental disabilities. Journal of Developmental and Physical Disabilities, 22, 149–163.