The effectiveness of a group teaching interaction procedure for teaching social skills to young children with a pervasive developmental disorder☆

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ABSTRACT

Deficits in social skills are characteristic of children with autism. Clinicians often include teaching these skills as part of comprehensive curriculum. One method of developing social skills for children with autism is the teaching interaction procedure. This procedure involves describing the behavior, providing a rational and cues when to use the behavior, dividing the skill into smaller steps, demonstrating the behavior, having the learner role play the behavior, and providing feedback. This study implemented a teaching interaction procedure as part of group social-skills instruction for five children diagnosed with an autism spectrum disorder. A multiple-probe design across behaviors and replicated across participants was used. All five participants acquired the social skills taught to them and generalization was promoted.

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Children with autism and other autism spectrum disorders typically have qualitative impairments in social interaction. That impairment can range from a child's inability to develop appropriate peer relationships to a lack of enjoyment and interest in others. The inability to engage in appropriate social interactions can have serious consequences for children with autism including a failure to develop friendships (Bauminger & Kasari, 2000), depression (Stewart, Barnard, Pearson, Hasan, & O'Brien, 2006), and failure in school (Ladd, Birch, & Buhs, 1999). Therefore, teaching social skills to children with autism is critical if these children are to develop meaningful relationships and enjoy a high quality of life as they grow older.

In the last 30 years, the number of evaluations of procedures to teach social skills to children with autism has dramatically increased (Matson, Matson, & Rivet, 2007). Some of the procedures used in these studies are: social stories (Barry & Burlew, 2004; Gray & Garand, 1993); video modeling (Apple, Billingsley, & Schwartz, 2005; Charlop-Christy, Le, & Freeman, 2000); discrete trial teaching (Leaf & McEachin, 1999; Lovaas, 1981, 1987; McEachin, Smith, & Lovaas, 1993); and behavioral skills training (Stewart, Carr, & LeBlanc, 2007). Though social stories, video modeling, and discrete trial teaching are some of the most common interventions for teaching social skills to children with autism, the teaching interaction procedure is a promising procedure that has been implemented clinically for children with autism for numerous years (Leaf, Taubman, & McEachin, 2008) and has recently been empirically evaluated (Leaf et al., 2009).

The teaching interaction procedure was first implemented and evaluated as a component of the Achievement Place Teaching Family Model (Hazel, Schumaker, Sherman, & Sheldon-Wildgen, 1983; Kirigin, Braukmann, Atwater, & Wolf, 1982;

Minkin et al., 1976; Phillips, Phillips, Fixsen, & Wolf, 1971, 1974). The teaching interaction procedure is a systematic form of teaching where the teacher describes the behavior, provides a rationale of why the behavior should be used, provides the cues and characteristics of when the behavior should be displayed, and demonstrates the behavior. Then, the learner role-plays the behavior, and the teacher provides feedback (i.e., praise or corrective feedback) about the learner's performance throughout the interaction. The teaching interaction procedure was initially evaluated for teaching conversational skills (Minkin et al., 1976), although subsequently has been implemented to teach safety skills to elementary school children (Yeaton & Bailey, 1978), and for staff training (Harchik, Sherman, Sheldon, & Strouse, 1992). To date, only one study has used the teaching interaction procedure to teach social skills to children with autism (Leaf et al., 2009). In this study, each of three children with autism was taught four social skills in a one-to-one setting. Results of the study showed that each of the participants increased their pro-social behaviors from baseline levels.

The teaching interaction procedure is similar to other behavioral interventions. The procedure to which it is the most similar is behavioral skills training. The single difference between the two procedures is that the teaching interaction procedure provides the learner with a rationale. The provision of the rationale may be important in that the learner may provide himself or herself with self-instructions to engage in the appropriate behavior during times in which the teacher is not present. The teaching interaction procedure is also similar to social stories. The two major differences are that the teaching interaction procedure involves teacher demonstrations and role-playing, whereas social stories do not typically incorporate either of these two components. Teacher demonstration and role-playing may be important for children with autism because they provide opportunities for children to observe the correct social behavior and perhaps learn from observation as well as provide additional opportunities to practice the behavior and receive feedback.

Teaching interaction procedures have typically been implemented in a one-to-one format, as have most discrete trial teaching procedures (Leaf & McEachin, 1999; Lovaas, 1987). Group instruction, however, may have several benefits for both children with autism and for practitioners. First, group instruction may help promote observational learning (Gursel, Tekin-Iftar, & Bozkurt, 2006; Ledford, Gast, Luscre, & Ayres, 2007). Since many children with autism display deficits in observational learning (Varni, Lovaas, Koegel, & Everett, 1979), group instruction may provide opportunities for children to learn from seeing peers practice desired behaviors. Second, group instruction places children with autism in greater proximity to other children, which may increase the opportunity for children to interact. A third possible advantage of group instruction for teaching social skills is that the teaching often requires the learner to interact with others (Rotholz, 1990) and may promote generalization of skills. A fourth possible advantage of group instruction is that it may be more efficient in teaching social skills to multiple clients.

The purpose of the present study was to evaluate the effectiveness of the teaching interaction procedure in teaching social skills to a group of five children with autism. The study evaluated how well each participant displayed social skills taught to them.

1. Methods

1.1. Participants

Five children, ages 4–6 years old, participated in this study, all who were diagnosed with an autism spectrum disorder. To be included in the study, participants had to meet several criteria: (a) they had to be able to communicate in full sentences; (b) they had to have good receptive language (i.e., able to understand over 200 words, and both close-ended and open-ended questions); (c) they could not have an immediate history of self-injurious, aggressive, or severe disruptive behaviors. Direct observations of participants in their natural environments and parental interviews were used to determine if potential participants met these criteria.

Buddy was a 5-year-old boy independently diagnosed with autism by a school psychologist. Buddy had a Mullens Scales of Early Learning standard score of 87 and a Gilliam Autism Rating Scale (GARS) autism quotient of 98. In addition to these two assessments, Buddy had a Preschool Language Scale-4 standard score of 87, and a Social Skills Rating Scale-Parent (SSRS-P) standard score of 63. Buddy could speak in full sentences, had good play skills, and engaged in no obvious aberrant behaviors.

Brady was a 6-year-old boy independently diagnosed with autism by a pediatric neurologist. The only assessment administered was the SSRS-P in which he received a standard score of 98. Brady could speak in full sentences, had limited play, had numerous self-stimulatory behaviors (e.g., hand flapping, repeating questions, and perseverations), and engaged in some non-compliant behaviors (e.g., elopement, flopping, and answering questions incorrectly).

Jeremy was a 5-year-old boy independently diagnosed with autism by a psychologist. Jeremy had a Wechsler Preschool and Primary Scale of Intelligence (WPPSI-III) full IQ score of 89 and a SSRS-P standard score of 59. Jeremy could speak in two to three word sentences, engaged in limited play, and had some non-compliant behaviors (i.e., screaming and refusing to do work).

Larry was a 4-year-old boy independently diagnosed with Aspergers syndrome by a psychologist. Larry had a WPPSI-III full IQ score of 89. Larry had an Autism Diagnostic Observation Schedule (ADOS) score of 11 and a Childhood Autism Rating Scale (CARS) score of 27.5. Larry's Vineland Adaptive Behavior Composite standard score was 85 and his SSRS-P standard score was 106. Larry could speak in full sentences, had moderate play skills, and engaged in repetitive behaviors.