TEACHING SOCIAL SKILLS TO CHILDREN WITH AUTISM SPECTRUM DISORDERS USING TIERS OF SUPPORT: A GUIDE FOR SCHOOL-BASED PROFESSIONALS

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The quintessential characteristic of autism spectrum disorders (ASD) is having difficulty with basic social interactions. Due to the pervasiveness of their social skills difficulties, it is necessary that supports for increasing social skills of children with ASD are included as part of the educational plan within schools. The purpose of this article is to provide educators with a framework for using multiple tiers of instruction to teach social skills to children with ASD. Specifically, a number of evidence-based strategies for teaching social skills are summarized within a systemic, multitiered approach. It is anticipated that such a model proves helpful as educators address issues related to service delivery provisions for students with ASD. © 2010 Wiley Periodicals, Inc.

Autism spectrum disorders (ASD), which include autism, Asperger’s Syndrome (AS), and pervasive developmental disorder—not otherwise specified (PDD-NOS), are disorders characterized by a host of difficulties with social interactions, communication, and repetitive behaviors or interests (American Psychiatric Association, 2000). Although currently defined by a triad of impairments, difficulty with social relationships and interactions has been one of the hallmarks of autism since its first description (Kanner, 1943) and, more recently, has been suggested to be the defining feature of ASD (Laushey & Heflin, 2000). Across the spectrum, characteristics of the social sequela manifest uniquely, rarely being the same from one individual to the next. In general, children with ASD demonstrate extreme difficulties engaging in even the simplest of social behaviors, such as engaging in appropriate eye contact, initiating and maintaining conversations, listening to or responding to verbal requests, developing and maintaining age-appropriate friendships, and interacting in basic games (Carter, Ornstein-Davis, Klin, & Volkmar, 2005; Dawson et al., 2004). Despite these generalities, some children with ASD may appear to be social in the presence of familiar adults or peers and, at times, socially engaged. The majority of children with ASD, however, will demonstrate extreme social difficulty when in the presence of novel people or stimuli (Handleman, 1999). Efforts to teach children with ASD skills that enhance participation in family, school, and community activities become paramount because of such difficulties.

Within the past two decades, the number of children identified as having ASD has increased substantially. Traditionally, ASD were considered low-incidence disabilities, occurring in only 4 to 6 per 10,000 (or 1 in approximately 1,600) live births (Lotter, 1967). The most current estimates from the Centers for Disease Control and Prevention (CDC, 2007), however, estimate that ASD occur in 1 in every 150 births, making it the fastest growing developmental disability in the United States. Such an increase likely has had a direct impact on educators in public schools across the country in relation to demands for educationally related services. In fact, the U.S. Department of Education reports that the number of children receiving services under the autism category of the Individuals with Disabilities Education Improvement Act (IDEIA, 2004) has increased 1,342% between 1993 and 2006 (Fighting Autism, 2008). Moreover, there has been an increasing trend to include students with ASD in general education classrooms (National Research Council, 2001). Examination of data on inclusion relative to each disability category under the IDEIA suggests that students with ASD are increasingly served in inclusive settings (Office of Special Education Programs, 2004). Whereas only 4.8% of students with ASD were included in 1990–1991, nearly 29.1% were in

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education for 80% or more of their day in 2003–2004. Truly, educating students with ASD in inclusive environments has become a more common practice.

Due to the increased number of students with ASD in schools and the push for providing educationally related services within inclusive environments, effective means of planning and implementing social skills interventions are needed. This need has been compounded further due to recent shifts in education calling for alternative approaches that emphasize intervention-based service delivery guided by child outcome data. For example, Response to Intervention (RTI), a service delivery approach for providing interventions to students at increasing levels of intensity based on progress monitoring and data analysis (Batsche et al., 2006), has been endorsed by educational professionals and policy makers to achieve the stated goals of both the No Child Left Behind Act (NCLB, 2001) and the IDEIA. Moreover, RTI has been recognized as a framework that can address the academic and behavioral needs for all students, with the goal of achieving positive student outcomes within less restricted environments (Fuchs & Fuchs, 1998). Essentially, the practice of RTI represents a framework founded on the assumption that all children deserve effective, high-quality instruction and that early intervention services for academic and/or behavioral difficulties are both more efficient and more successful (Batsche et al.).

Because RTI is a comprehensive reform model rather than a specific curriculum, variations in its use may exist from setting to setting. There are three components, however, that are standard within the RTI approach (see Table 1). First, RTI consists of quality teaching and the use of research-based interventions provided across multiple tiers (see Figure 1). At Tier 1, all students are provided with research-based instruction in the general education classroom. With quality Tier 1 instruction in place, it is expected that approximately 80% of students will meet expectations. The 20% of students who remain behind peers despite Tier 1 instruction begin to receive supplemental research-based small-group interventions at Tier 2. Finally, approximately 5% of students will receive intensive individualized research-based interventions at Tier 3. Second, RTI uses a system of data-collection procedures at all levels of support. At Tier 1, data-collection procedures typically include the use of screeners to determine which students may need additional intervention. At Tiers 2 and 3, progress-monitoring assessments are administered to students to determine the effectiveness of interventions and make changes as needed. Third, RTI uses the data that are gathered at each tier to inform educational decision making. That is, data are used to inform educational teams if instruction/intervention is effective or if adjustments must be made.

At its early inception, RTI was designed to address academic difficulties with children suspected of having high-incidence disabilities, namely specific learning disability, within primary grades (Bender & Shores, 2007; Fuchs, Mock, Morgan, & Young, 2003; Gresham, 2002a; National Joint

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Table 1

<table>
<thead>
<tr>
<th>Essential Components of RTI</th>
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<tbody>
<tr>
<td>Component</td>
</tr>
<tr>
<td>1. Multitier Service Delivery</td>
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<tr>
<td>2. Data Collection at Each Tier</td>
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<td>3. Data-Based Decision Making</td>
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Committee on Learning Disabilities [NJCLD], 2005; Vaughn & Fuchs, 2003) and typically in the area of reading (Fuchs & Fuchs, 2006; Fuchs et al., 2003; Marston, 2005; NJCLD, 2005). Studies examining the efficacy of RTI within this academic sphere have demonstrated that multiple layers of intervention improve student outcomes without referral for or placement in special education (e.g., Ardoin, Witt, Connell, & Koenig, 2005). Researchers and practitioners, however, previously have embraced the concepts and components of RTI within the delivery of Positive Behavior Support (PBS) in schools. PBS emphasizes the application of evidence-based behavioral interventions across school, classroom, and individual levels (Sugai et al., 2000; Sugai & Horner, 2002) and is guided by the same tenets promoted in RTI: (a) tiered approach to service delivery, (b) ongoing progress monitoring, and (c) using data to make important educational decisions. Most recently, the use of systemic, multilayered behavioral approaches has been demonstrated to improve the outcomes of students at risk for or with severe behavioral difficulties (e.g., Cheney, Flower, & Templeton, 2008; Malecki & Demaray, 2007; Sandomeirski, Kincaid, & Algozzine, 2007). From this perspective, RTI (and PBS) implementation truly can serve all students, with the goal of achieving positive academic and behavioral outcomes through prevention, early identification, and intervention matched to specific needs. As such, it is logical to recommend that such a framework also can be extended to meet the diverse needs of students with ASD, especially given the increased population of such students who require ongoing social support and instruction.

The purpose of this article is to provide educators with a framework for using a multitiered approach to teach social skills to children with ASD. To be most effective, school-based efforts aimed at enhancing the social skill development of individuals with ASD should be conducted by using a systemic approach. That is, social skills interventions should focus on a combination of school-wide, small-group, and individualized supports. The importance of developing such a model is predicated

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**Figure 1.** Three-tiered model of school supports.
on the fact that social skills difficulties continue to permeate the lives of individuals with ASD. Without the development of appropriate social skills, individuals with ASD likely will continue to exhibit social failure and likely will not achieve independent functional skills. For example, studies examining long-term outcomes have demonstrated that individuals with ASD who have limited social skills develop serious mental health conditions, fail to establish long-term relationships, and may encounter problems with the legal system (Barnhill, 2007; Engstrom, Ekstrom, & Emilsson, 2003; Howlin, 2000; Howlin, Goode, Hutton, & Rutter, 2004). Moreover, and most disheartening, is the fact that only 12% of individuals with ASD are employed as adults (Barnard, Harvey, Prior, & Potter, 2001). Clearly, the need for teaching social skills within schools is warranted. Examples of common social skills strategies that commonly occur in schools or have been demonstrated to work well with children and youth with ASD are provided as a model of multitiered practice (see Figure 2 for a visual representation). It is anticipated that such a model may prove helpful as educators improve intervention practices to address issues related to service delivery provisions for students with ASD.

**School-Wide (Universal) Approaches**

**Character Education**

Character Education (CE) is an umbrella term used to describe curricula designed to increase the prosocial behavior of students, as well as promote a sense of community in schools (Lickona, 1991). Typically, CE includes concepts such as social–emotional learning, violence prevention, and conflict resolution and mediation. Over the course of the school year, large-group instruction is provided to all students to address common “character traits,” such as caring, trustworthiness, respect, citizenship, and responsibility. At times, instruction may involve class meetings, buddy programs that pair older and younger students, and family/community involvement activities. By conducting a variety of instructional approaches and activities, students develop ethical values that are good for society (Lickona).
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The Character Education Partnership (CEP) currently targets three specific areas necessary for effective character education: (a) social skills training (SST), (b) training in self-awareness and self-management, and (c) social problem solving/decision making (Berkowitz & Bier, 2005). In addition to these three characteristics, effective CE takes on a systemic, school-wide approach that engages school staff as a community with a collective responsibility to guide the education of all students (Lickona, Schaps, & Lewis, 2007). Similar to PBS and other school-based prevention programs that create a communal approach to change, implementation of effective CE programs is purported to increase prosocial behaviors of all students and result in decreased rates of inappropriate behaviors (i.e., bullying), suspensions, and expulsions.

Despite the potential value of CE programs, the existing literature regarding their efficacy is limited. To date, only a handful of empirical studies demonstrates the utility of CE programs. For example, DeRosier and Mercer (2007) demonstrated that the LifeStories for Kids series, a school-based storytelling intervention, was effective at reducing rates of aggression and immature–impulsive behavior of students. In addition, the All-Stars Character Education program demonstrated effectiveness in reducing antisocial behavior (Harrington, Giles, Hoyle, Feeney, & Yungbluth, 2001). Although support for CE programs is emerging, it may be premature to suggest that CE is an evidence-based approach or has any direct impact on the social behaviors of students with ASD. However, such programs are often already in place in many schools and can serve as an excellent foundation (school-wide instruction) for teaching positive student behavior.

Large-Group Social Skills Instruction

SST programs have a well-documented literature base supporting their use as part of a school-wide initiative (e.g., Skiba & Peterson, 2003; Sugai & Lewis, 1996; Walker, Colvin, & Ramsey, 1995). Although not meant intentionally to remediate the social skills deficits of students with ASD specifically, many large-scale, school-based SST programs can assist with reducing the number of social skills deficits experienced by these students, as well as increase their overall behavioral functioning because students with ASD (as well as students with other disabilities such as Attention-Deficit/Hyperactivity Disorder and/or Social Anxiety Disorder) need to be taught the skills needed to succeed in school, no matter how routine the skill may appear.

Large-group/school-wide SST combines daily academic instruction with skill-based lessons on specific social skills. That is, teachers find small increments of time (i.e., 15–30 minutes) to infuse social skills instruction into daily academic content without removing students from the classroom (Korinek & Popp, 1997). Incorporating SST into whole-class instruction has several advantages. First, combining SST and other academic content is time and cost efficient. There is little need for extra personnel (e.g., resource teachers, student services personnel), and instruction occurs during down times within classrooms. Second, classrooms are increasingly diverse, and the disparate life experiences and ranges of social skills that all children possess vary greatly (Gresham, 2002b; Meier, DiPerna, & Oster, 2006). Because social skills are critical for attaining academic and behavioral success (Lane, Wehby, & Cooley, 2006), efforts to provide all students with an equal opportunity to learn academic and nonacademic skills are critical. Third, the lessons learned and practiced within the classroom setting are more likely to generalize to other environments where students with ASD will need them most (Gresham, Sugai, & Horner, 2001). Finally, because more students with ASD receive their instruction within general education settings, educators cannot assume that these students will receive social skills instruction elsewhere. Instead, educators must look for effective ways to teach students with ASD social skills within the context of inclusive contexts.

Currently, two evidence-based curricula are available that may assist educators in providing school-wide SST as part of a treatment approach for students with ASD. For example, the Strong...
Kids program (Merrell, 2007a,b) provides easy-to-implement, scripted lessons aimed at promoting social–emotional competence and resilience in children and adolescents. Each class activity within the Strong Kids program takes 30–45-minutes to complete and can fit into a variety of lessons. Specifically, students learn how to (a) understand emotions, (b) manage anger, (c) relieve stress, and (d) solve interpersonal problems. Current research on the Strong Kids program suggests that students who participate demonstrate significant gains in social–emotional understanding and coping skills (Gueldner, 2006), as well as decreased symptoms of behavior problems (Isava, 2004). Moreover, the social–emotional skills taught as part of the Strong Kids curriculum appear to maintain following instruction (Harlacher, 2008), demonstrating the preventative utility of this program. (See http://strongkids.uoregon.edu for a review of the Strong Kids programs and related contemporary scholarship.)

A second, research-based, school-wide SST approach that would be effective in teaching foundational social skills to students with ASD is Second Step (Committee for Children, 1986). Similar to the Strong Kids curriculum, Second Step teaches social–emotional understanding and allows students time to practice vital social skills such as empathy, emotional regulation, and social problem solving. (See www.cfchildren.org/programs/ssp/overview/ for a review of Second Step and related contemporary scholarship.) Contemporary research examining the efficacy of Second Step suggests that students' exhibit lowered levels of aggression (e.g., McMahon & Washburn, 2003) and increased levels of prosocial skills and behaviors (e.g., Edwards, Hunt, Meyers, Grogg, & Jarrett, 2005; Frey, Nolen, Edstrom, & Hirschstein, 2005; McMahon, Washburn, Felix, Yakin, & Childrey, 2000) after receiving instruction.

Although effective, large-group SST may be too subtle for individuals with ASD to understand completely. For example, an educator may become frustrated that a student with autism fails to make adequate social progress, even after repeated lessons from a well-known program has been presented within the classroom. Such an occurrence is commonplace and likely occurs because the lessons on “being a good friend” may be taught using approaches such as “storytelling” or board games (methods that are potentially nebulous for students with ASD). Although such an approach may be appropriate for some students (mainly higher functioning individuals), many students with ASD will fail to learn because they do not receive direct, systematic instruction on the specific skills needed to make and keep friends. When the effects of large-group SST, or other school-wide approaches, do not appear to be working, more focused, small-group approaches are necessary.

**Small-Group (Secondary) Approaches**

**Social Skills Groups**

Historically, the most common approach for conducting SST with individuals with ASD has been through small groups. In fact, many schools and agencies across the country purchase a variety of social skills curricula and establish small groups for students with ASD in hopes of increasing their social skills. The simple act of purchasing programs, creating groups, and conducting lessons, in and of itself, however, is no guarantee that individuals with ASD will learn and demonstrate appropriate social skills. In truth, research has demonstrated that traditional small-group SST programs have only minimal effectiveness in teaching social skills that extend to more naturalistic environments (Gresham et al., 2001; Quinn, Kavale, Mathur, Rutherford, & Forness, 1999). Now, this statement should not suggest that incorporating small-group SST into the educational plan of students with ASD is not essential—it is! Rather, it suggests that the effective approach to teaching social skills needs to be more systematic than simply purchasing a curriculum and running a group.

Systematic social skills instruction involves carefully planning lessons by identifying target skills/goals, carefully outlining and implementing instructional procedures for teaching necessary target skills, evaluating the effectiveness of instruction, and adjusting instruction based on data.
Table 2
Steps for Small-Group Social Skills Programming

<table>
<thead>
<tr>
<th>Steps</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>1 Identify/Target Specific Social Skills</td>
<td>• Tells you what you need to teach</td>
</tr>
<tr>
<td>2 Distinguish between Skill &amp; Performance</td>
<td>• Determines the focus of your intervention</td>
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<tr>
<td>Deficit</td>
<td></td>
</tr>
<tr>
<td>3 Provide Direct, Systematized Instruction</td>
<td>• Teaches skills in a meaningful and purposeful manner</td>
</tr>
<tr>
<td>4 Monitor Student Progress</td>
<td>• Determines whether the instruction is effective for the student</td>
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(Gresham et al., 2001; Hurth, Shaw, Izeman, Whaley, & Rogers, 1999; Westling & Fox, 2000). That is, systematic instruction provides a structured teaching plan that educators follow. Too often, educators adopt the most recent social skills curriculum and force children with ASD to learn global skills (i.e., “friendship” skills) rather than matching instructional strategies to the type of skill deficit(s) exhibited (Bellini, 2008; Quinn et al., 1999). Without a high degree of specificity in instructional planning, most small-group SST will have minimal effects, if any at all. Considerations for effective small-group SST include four basic steps (see Table 2): (a) identify and target specific social skills, (b) distinguish between a skill deficit and a performance deficit, (c) provide direct, systematized instruction, and (d) monitor student progress. A brief description of each of these steps follows [readers interested in a systematic procedure for planning and implementing small-group SST should refer to Bellini (2008)].

Identify and Target Specific Social Skills. Prior to conducting a social skills group, considerable time and effort should be made to identify and target specific skills for instruction. The identification of social skills deficits can occur as part of an evaluation conducted by student services support personnel in schools, such as school psychologists, counselors, autism consultants, and/or speech and language pathologists. These professionals collect information from teachers, as well as through observations of student behavior. Some evaluations, however, may not be comprehensive enough to capture the true nature of the social skills difficulties that individuals with ASD may possess. Therefore, a more thorough assessment should be conducted. Such an evaluation provides detail regarding strengths and weaknesses of students’ social skills, and, more importantly, provides data that link directly to goals and objectives for social skills instruction. Several strategies to identify and target social skills deficits include the use of interviews, rating scales, and direct observations.

Perhaps the simplest way to begin identifying and targeting social skills is to interview those who know the child best (i.e., parents and teachers). Interviewees should seek information to questions such as: (a) What is the extent and nature of social skills (and related) difficulties? (b) In what settings do the social skills difficulties occur? (c) What specific events influence or predict social skills difficulties? (d) What factors frequent or maintain the social skills difficulties? and (e) What is the frequency, duration, and/or intensity of the social skills difficulties? In addition to interviewing parents and teachers, interviewees are encouraged to talk to the child. The child will provide information related to social interests and motivation, as well as provide an opportunity for the interviewee to observe his or her social interactions.

In addition to interviews, educators should use a series of rating scales to identify and target social skills difficulties in students with ASD. Rating scales are helpful in pinpointing additional information regarding social skills deficits (e.g., the child’s ability to play cooperatively with peers, respond to greetings, or recognize emotions in others). Moreover, rating scales provide an estimate of the severity of problems, such as how often inappropriate social interactions occur (e.g., ends conversations abruptly, changes the topic of conversation to fit self-interests). Most rating scales are
administered at the onset of creating a social skills group and can also be used as part of a system to evaluate the effectiveness of instruction. Although a comprehensive list of appropriate rating scales is beyond the scope of this article, common measures useful to educators are provided in Table 3.

Conducting interviews and administering rating scales is a starting point for identifying specific skills lessons to include in small groups. Directly observing the student, however, derives the most useful and relevant information for developing effective instruction. Direct observations of the individual’s behavior provide a direct measure of social skills difficulties as they occur in naturalistic settings such as the classroom, playground, cafeteria, and/or hallway. Although they are time-consuming, direct observations provide information related to a child’s social performance across multiple settings and multiple persons that cannot be obtained in any other way. First, they allow the observer to notice things occurring within the environment that may be affecting an individual’s behavior in that setting. Second, directly observing children with ASD permits the observer to view the behaviors and reactions of peers. It is useful to see firsthand how a child with a spectrum disorder differs from other students, as well as establish the degree to which his or her behavior deviates from peers. Finally, when conducted concurrently with instruction, direct observations allow one to evaluate if the SST has been effective.

Distinguish Between a Skill Deficit and a Performance Deficit. Once skills have been identified and a thorough assessment of the child’s functioning has been made, it is essential to determine whether the social skills difficulties that the child experiences are the result of a skill deficit or a performance deficit (Elliot & Gresham, 1991). Assessments may reveal that the individual has a skill deficit, or, simply, does not have a particular skill or the necessary foundations of behavior to function in or adapt to his/her environment. For example, a child with high-functioning autism may not know how to join a conversation with two or more people without interrupting. Therefore, it is necessary to teach specific skills. A performance deficit refers to times when an individual knows the skills necessary to perform the behavior, but does not use them consistently. Using the same example, a child may have the skills to join in a conversation without interrupting, but fails to do so. In this case, it will be important first to isolate the variables that impede performance (e.g., anxiety) and then provide support, encouragement, and reinforcement for appropriate behaviors. From the information provided, failure to differentiate between a skill deficit or performance deficit may very well determine the success of instruction because the interventions differ greatly for each.

Provide Direct, Systematized Instruction. Prior to teaching individuals within a social skills group, several critical variables must be explored to ensure that instruction is direct and systematic.
First, group leaders need to identify and select appropriate materials for instruction. Several curricula designed for teaching social skills to individuals with ASD are available (see Table 4). Each of these curricula provides lesson plans and activities for sequencing instruction. Second, group leaders must train members of their instructional team. Specifically, co-leaders or volunteers who assist with implementing small-group SST need to be trained on the components of the lessons, implementation strategies, and use of prompts and reinforcement (Bellini, 2008). Third, leaders need to determine if typically developing peers or individuals with other social skills difficulties (e.g., children with ADHD and social anxiety) will be included in the group. Including typically developing peers and/or peers with similar deficits (but who are capable of demonstrating basic social advances) provides more opportunities to practice skills and offer feedback. Fourth, leaders of small-group SST need to identify when, where, and for how long groups will occur. There is no one place that is better than another, and SST can occur in classrooms, resource rooms, and even the playground. Finally, efforts to manage behavior must be considered to maintain control in groups. Most successful groups incorporate a token economy that awards points/tokens for appropriate behaviors such as attending, participating, or completing homework. Participants can then exchange their points/tokens for desirable objects as a reward. A response cost also can be incorporated into the group (e.g., students lose points for noncompliance), but efforts need to minimize point loss.

Direct, systematic instruction refers to teaching skills in a purposeful and meaningful manner. For SST to be effective, students with ASD first need to know how or why learning social skills is necessary (Myles, 2005). Rationale for teaching socials skills should include why the information is important or useful and how the student can use the information taught within the lesson(s). Moreover, teaching efforts need to provide students with information regarding what
skills are going to be taught, what activities will be used to teach the skills, and the length of time of instruction within each group session. Once this foundation has been laid, systematic instruction can occur. Each lesson or skill that is taught must follow the following sequence: (a) discussion of skills and/or review of previous skills, (b) modeling of the skill (showing the student what to do) by group facilitators and students, (c) role-playing the skill with real-life examples provided by students, and (d) constructive evaluation of role-play performance by peers and group facilitators.

Monitor Student Progress. Evaluation of the effectiveness of small-group SST is essential, as it allows not only for the demonstration of success of instruction, but also accountability. Methods to monitor student progress are similar to those used to assess social functioning (use of rating scales and direct observations). Educators should, however, over-rely on observational data that ties specifically to the skills taught as part of the SST. As was mentioned previously, observations provide a direct measure of how a child is functioning in naturalistic contexts. That is, observational data are collected during unstructured activities such as recess without teacher prompting or reinforcement. Although a comprehensive review of the methods for observing and recording social skills is beyond the scope of this article, several examples are provided as a guiding framework. Appendix A demonstrates a comprehensive recording system that is based on the Behavioral Observation of Students in Schools (B.O.S.S.; Shapiro, 2004). This system, designed by the author, uses a partial interval recording system to record the estimated frequency and percentage of intervals of the targeted social skill behavior. Given the complexity of this tool, it is likely that school psychologists or other professionals trained in behavioral observation approaches (e.g., behavior analyst, behavior specialist) would use such a system. Appendices B and C provide examples of data sheets that can be developed by school psychologists or other behavioral personnel and used by teachers.

Peer-Mediated Approaches

Very often, typically developing peers view the interests of individuals with ASD as strange or atypical. As a result, children with ASD may be disliked and intentionally “left out” of activities or opportunities to interact with others. Efforts can be made, however, to decrease social isolation by using peers who have developed skills needed to assist others when they struggle in a social situation (Aspy & Grossman, 2007). Peer-mediated approaches are efforts that attempt to increase the networks of friends that students with ASD have, as well as assist in providing them with opportunities to learn and practice a variety of social skills within naturally occurring contexts (e.g., playground, cafeteria). For example, peers may be used to facilitate or teach basic social interaction skills and new social activities (how to play a new game) or provide opportunities to become socially connected with others. Overall, most peer-mediated approaches provide structure for students with ASD, which adds a sense of predictability. Moreover, many peer-mediated approaches likely will help to increase acceptance of students with ASD. A description of some common strategies, their empirical research, and application to school-based settings follows.

Circle of Friends. A Circle of Friends network is a group of students who meet on a regular basis to help an individual, or small group of students, who is/are socially disconnected. Essentially, this group looks after one other and helps individuals with ASD to build relationships with peers and increase their overall sense of belonging within the social world. In addition to promoting the social connectedness of individuals with ASD, Circle of Friends networks often result in improvements in peers’ acceptance of individuals with disabilities (Frederickson & Turner, 2003).
A limited amount of research has demonstrated that the implementation of a Circle of Friends network has been effective at increasing appropriate social interactions during unstructured activities in schools (Miller, Cooke, Test, & White, 2003) and improving spontaneous social initiations (Gold, 1994; Kalyva & Avramidis, 2005). It is likely that the application of a Circle of Friends network may prove more beneficial when used as part of a systemic (tiered) approach to remediating the social skills difficulties experienced by individuals with ASD.

If a Circle of Friends network is used, it is recommended that educators follow a few simple steps to ensure safeguards for students with ASD. First, individuals who make up the Circle of Friends network should be selected carefully. Although it may be easy to ask for volunteers willing to be part of this intervention, selection of appropriate candidates likely will increase positive outcomes. For example, peers who are selected generally should be compliant with school rules, interested in helping students with ASD, and have similar interests with target students. Second, peers who participate in the circle should receive training to help them understand the characteristics of the target student, as well as how to deal with specific behaviors that may arise. With a little planning and minimal commitment, a Circle of Friends network can make positive differences in the lives of individuals with ASD, as it opens up opportunities for social inclusion.

**Integrated Play Groups.** To teach appropriate social and play skills, Wolfberg (2003) and Wolfberg and Schuler (1993) emphasized the use of a support system that teaches typically developing peers to improve the social play skills of children with ASD. This support system, called Integrated Play Groups (IPG), is a method whereby environments are physically arranged to foster social interaction, communication, and play experiences between children with ASD and typical peers. Moreover, typically developing peers are trained to use a variety of skills including getting a friend’s attention, asking to play, sharing, and giving compliments (Bass & Mulick, 2007). In IPG, small groups comprising three to five students regularly play together under the guidance of an adult facilitator (called the *play guide*). During these times, the play guide encourages the target child to interact with typical peers. The peers then use their skills to engage the target child in activities. The IPG model is believed to increase the motivation of individuals with ASD to socialize and play with peers, as well as increase the likelihood that peers will be more accepting of students with disabilities.

A growing body of literature suggests that IPG is a promising intervention for students with ASD (Bass & Mulick, 2007). In their first study, Wolfberg and Schuler (1993) demonstrated that IPG resulted in reduction of stereotyped and isolated play and increased the amount of social play (e.g., sharing toys, sharing common focus on one activity) in several students with ASD. The use of IPG has also been used to increase the use of pretend play (Yang, Wolfberg, Wu, & Hwu, 2003), prolong interactions with peers, and improve the use of social language (Wolfberg & Schuler, 1999). More recently, Lantz, Nelson, and Loftin (2004) demonstrated the effectiveness of IPG to improve the turn-taking behaviors and sharing of emotional expression for a 6-year-old boy with autism in a preschool setting. Although this preliminary research is suggestive of an effective strategy, more empirical investigations are needed prior to considering IPG as an evidence-based approach. Preliminary results suggest, however, that this approach may be beneficial as part of a system for improving the social skills of students with ASD.

Creating and conducting IPG takes some effort, and a certain amount of training is necessary for facilitators to be effective. All IPG are composed of *Guides*, *Expert Players*, and *Novice Players* (see Table 5 for overview of roles). After being composed, the playgroups meet two times per week for a period of 30–60 minutes. Within the groups, children participate together, focused on a developmentally appropriate play activity that is facilitated by a guide trained in IPG (Wolfberg & Schuler, 1999). The main purpose of IPG is to structure opportunities for novice and expert players...
Table 5  
Role Definitions for Participants in IPG

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<tr>
<th>Role</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Guides</td>
<td>• IPG Facilitator who:</td>
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<tr>
<td></td>
<td>◦ has experience working with children with autism spectrum disorders</td>
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<tr>
<td></td>
<td>◦ has been trained in implementing IPG</td>
</tr>
<tr>
<td>Expert Players</td>
<td>• Typically developing peers who have good social, communication, and imaginative play skills</td>
</tr>
<tr>
<td>Novice Players</td>
<td>• Children with autism spectrum disorders (or demonstrate similar social skills needs)</td>
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</table>

to interact and guide (and challenge) novice players’ participation in new or complex forms of play. The IPG program includes specific methods for designing, implementing, and guiding playgroups (see Wolfberg, 2003, for advanced information on creating IPG).

Peer Buddies. The peer buddy systems that are typically used within schools are passive in nature. That is, there is no actual training that peers receive nor are specific skills directly taught from the peer to the target student. Rather, the intervention is dependent on the natural transmission of social skills from a more socially competent peer to the student with ASD (Roeyers, 1996). Peers simply act as a support and provide assistance to students on an as-needed basis. For example, a third-grade student with AS may be frequently prompted by his peer buddy to engage in appropriate teacher-pleasing behaviors such as beginning an academic worksheet, lining up for recess, and remaining quiet during independent seatwork. The peer buddy’s responsibility in this example is more of a role model than a teacher. In this sense, peer buddy systems operate through proximity control (Odom & Strain, 1984), whereby students with ASD are expected to learn by watching and interacting with their nondisabled peer.

Despite the intuitive nature of the passive peer buddy approach, research has yet to demonstrate consistent positive findings for improving specific social interaction skills of individuals with ASD. This is not to say that peer buddy systems cannot be, or are not, helpful in prompting students with ASD to engage in appropriate behaviors. A host of clinical examples and talking with educators quickly will affirm the positive outcomes for using a peer buddy system within a classroom. The use of peers in close proximity to children with ASD is less likely, however, to lead to significant improvement in specific social behaviors that maintain and generalize across a variety of settings (Odom & Strain, 1984; Roeyers, 1996). That is, although a peer buddy may promote positive behaviors during class time, it is unlikely that such behaviors will be used spontaneously to engage in social interactions with other children in a different location within the school or among a variety of home and community settings, probably because the proximity approach does not specify specific goals or social skills for the buddy to facilitate. To increase the likelihood of individuals with ASD learning specific social skills that maintain and generalize to a variety of school and community settings, a more direct teaching model, such as SST, should be implemented alongside a buddy program.

When small-group–based approaches fail to promote adequate skill development, it is necessary to provide more intensive intervention support. Specifically, when data gathered from multiple observations across multiple environments demonstrate that a student’s skill level is below that of his or her peers or shows limited improvement, a host of interventions that can be implemented within schools and across community and home environments are warranted. At this level of intervention, the student should continue to be engaged in large- and small-group interventions. Greater emphasis should be placed, however, on teaching specific skills as part of an individualized intervention. Several approaches are offered that provide teaching for discrete skills.
INDIVIDUALIZED APPROACHES

Social Stories™

Social Stories™ are individualized short stories that can be used to assist students with ASD in interpreting and understanding challenging or confusing social situations (Gray, 2003). The objective of Social Stories™ is to describe social situations in which an individual might have difficulty identifying relevant social cues or expected behaviors and to understand the consequences of behaving in various ways (Gray, 2000, 2003; Scattone, Tingstrom, & Wilczynski, 2006). Specifically, Social Stories™ “provide information on what people in a given situation are doing, thinking or feeling, the sequence of events, the identification of significant social cues and their meaning, and the script of what to do or say” (Attwood, 2000). From this description, the purposes of Social Stories™ are to (a) describe social situations, contexts, and the likely behaviors of others and (b) provide an appropriate behavioral response cue that the individual can use. In this sense, Social Stories™ are “how-to” books for understanding and responding to difficult social situations or contexts (Sansosti, Powell-Smith, & Kincaid, 2004). It may appear, at least from this description, that Social Stories™ are simply task analyses used to prompt a specific order of responses or set of skills. A true Social Story describes more than it directs (Gray 2000), however, and it assists individuals with ASD in understanding their social world.

During the past decade, the clinical support for the use of Social Stories™ in homes, schools, and other community settings has been quite strong (Chapman & Trowbridge, 2000; Scattone et al., 2006). In fact, simply talking to clinicians, advocates, and various school-based student support personnel (e.g., school psychologists, speech-language pathologists, behavior analysts) would lead one to believe that Social Stories™ are a “tried and true” intervention for remediating the social deficits of individuals with ASD. Current empirical support for the use of Social Stories™ can best be described as incomplete, however. Although prior research investigating the effects of Social Stories™ has demonstrated successful outcomes in reducing repetitive and tantrum behaviors (Kuttler, Myles, & Carlson, 1998; Lorimer, Simpson, Myles, & Ganz, 2002; Reynhout & Carter, 2007), decreasing disruptive classroom behaviors (Scattone, Wilczynski, Edwards, & Rabian, 2002), increasing the frequency of social interactions (Norris & Dattilo, 1999; Sansosti & Powell-Smith, 2006; Scattone et al., 2006; Thiemann & Goldstein, 2001), and increasing appropriate play (Barry & Burlew, 2004), a host of methodological concerns and confounding treatment variables raise questions regarding the true efficacy of Social Stories™ as an evidenced-based practice. In their comprehensive review and synthesis of the existing research, Sansosti and colleagues (2004) found that the majority of studies that were conducted lacked experimental control, had weak treatment effects, and were confounded by a variety of treatment variables making it difficult to determine if Social Stories™ alone were responsible for changes observed in target behaviors. Despite this somewhat discouraging review of the literature, Sansosti and colleagues (2004) provided a preliminary indication that Social Stories™ may be a practical option for a number of individuals with ASD due to a small number of studies demonstrating a high rate of success across a variety of educational contexts.

Developing a Social Story™ is similar in scope to other approaches for creating individualized student supports. First, a teacher or parent identifies a specific target behavior or a difficult social situation. Once a target situation or behavior is identified, the second step involves identifying the salient features of the context or setting. For example, information should be gathered on where the situation occurs, who is involved, how long it lasts, how it begins and ends, and what occurs. These steps are similar in scope to completing a functional behavior assessment (FBA). Finally, this information is used to write the content of a Social Story™.
Gray (2000; 2003) and Gray and Garand (1993) provide detailed guidelines describing how Social Stories™ should be written and implemented. These guidelines describe both basic and complete sentence types, as well as the correct ratios by which these sentences must occur in a story. It is necessary for educators to understand the specific guidelines for the creation of Social Stories™. A review of the extant literature has demonstrated that Social Stories™ are commonly written without regard for the specific guidelines outlined by Gray, which may be responsible for the limited amount of research supporting their efficacy (Sansosti, 2008). To address these concerns (and perhaps contribute to the literature base), school-based personnel are encouraged to engage in a variety of professional development activities that will ensure that Social Stories™ are being created accurately. Perhaps the most successful way for educators to gain the necessary skills is to attend workshops and training provided by Carol Gray or Team Social Stories™. Educators may wish to engage in their own learning through a variety of training materials that are available through The Gray Center for Social Learning (interested readers are encouraged to visit: www.thegraycenter.org). These materials, including videos, DVDs, and books, are likely to assist a variety of professionals in structuring and developing accurate Social Stories™.

After a complete and thorough FBA has been conducted and a subsequent story has been created, school-based personnel should consider the manner by which Social Stories™ will be presented to the child. Traditionally, Social Stories™ have been read to or by the participant(s). This method often entails the teacher reading the story with the child, followed by the child reading the story independently. If reading is an area of difficulty for the child, additional implementation approaches may be considered. Gray (2000; 2003) suggests that Social Stories™ can be recorded on a cassette [or CD] and presented through a tape [or CD] player for students who demonstrate reading difficulties or cannot read. Using this method, the child follows along in his or her story book while the story is being read aloud from the recording (an auditory signal is incorporated to prompt the child to turn the page of the story). In addition to these approaches, the content of Social Stories™ can be presented by way of computers (e.g., Hagiwara & Myles, 1999; Sansosti & Powell-Smith, 2008) or paired with visual symbols, pictures, and video modeling (e.g., Sansosti & Powell-Smith).

**Video Modeling**

Video modeling is a method that can be used to teach a variety of social, academic, and self-help skills to individuals with ASD who have well-developed imitation skills. Specifically, video modeling involves having children with ASD watch a video-recorded demonstration of a model engaging in a specific series of actions or verbalizations and then having them imitate the model (Bellini & Akullian, 2007; Charlop-Christy, Le, & Freeman, 2000; MacDonald, Clark, Garrigan, & Vangala, 2005). By modeling the target behavior(s) on video in a systematic and discrete manner, the child learns to memorize and imitate these behaviors for use in appropriate settings.

The rationale for video modeling is based largely on Albert Bandura’s social learning theory. In his influential work, Bandura (1977; 1986) demonstrated that an array of behavior is learned by observing and imitating the action of others. Furthermore, Bandura showed that watching others receive consequences for their behaviors serves as a guide for the viewer. For example, if a student observes others in her class receiving praise for sitting quietly and working independently, she likely will sit quietly and work to receive the reinforcer. As a result of this phenomenon, an individual spontaneously will imitate behaviors that he or she has observed in others within settings other than where the behavior originally was observed. Unlike their peers, children and adolescents with ASD rarely learn skills vicariously. Instead, individuals with ASD benefit from visually cued instruction that incorporates repetitive opportunities to model behavior (National Research Council, 2001; Quill,
To this end, video modeling offers a way for students with ASD to acquire a wide array of behaviors.

To date, video modeling has been used with a wide variety of students with ASD and is an area full of possibilities for teaching specific skills. Specifically, video modeling has been demonstrated to increase social initiations (Nikopoulos & Keenan, 2004), perspective taking (Charlop-Christy & Daneshvar, 2003), and play skills (D’Ateno, Mangiapanello, & Taylor, 2003). Furthermore, video-modeling techniques have been employed within school-based settings to teach correct spelling sequences (Kinney, Vedora, & Stromer, 2003), social interactions (Maione & Mirenda, 2006; Sansosti & Powell-Smith, 2008), compliment giving (Apple, Billingsley, & Schwartz, 2005), and pretend play skills (MacDonald et al., 2005). Video-modeling techniques also have been found to result in quicker acquisition of skills and are more cost- and time-efficient than live (in vivo) modeling (Charlop-Christy et al., 2000). Clearly, the research support for video modeling is strong, and many opportunities exist for incorporating the use of video within educational environments.

Developing a video model may appear to be a complicated task, but it actually is quite easy. Recent advances in technology, combined with the ability to purchase affordable video equipment, make creating a video model an uncomplicated task, even for the most technologically illiterate. To create a video model, an educator first will need access to a video camera (preferably a digital camcorder), a computer (for editing and displaying digital video files), or a TV and VCR (challenging, but effective). Although a video model can be created using a camcorder that records to tapes or DVD disks and presented on a television, the process of editing likely will be more difficult and the final product may not be as appealing esthetically. Educators who have access to or work with Apple computers will find developing video models to be tremendously easy because software for editing and presenting a video not only is available, but also exceptionally user friendly.

Given that the appropriate equipment is available, it is essential for the user to test his or her skills with the gear. First, get to know the digital camcorder: Does it record to a MiniDV tape, or is the video captured and stored in memory? Does the external microphone pick up sounds well enough to hear when recorded? How do clips transfer from the camcorder to a computer? Most digital camcorders manufactured in the last decade are easy to use and offer plug-and-play capability. Second, experiment with basic video-editing software such as iMovie (included on all Apple computers) or Windows Movie Maker (included on recent versions of Windows). Specifically, it is important to understand how to transfer clips to the video-editing software and engage in basic editing and saving of clips that are compatible with all computers. Once a comfort level with the equipment is established, it is time to begin developing a video model.

Creating and implementing a video model is relatively straightforward (see Neumann, 2004, for more extensive information on how to make video models). First, a target skill is identified based on information obtained through interviews, rating scales, and/or direct observations. Second, the identified target skill is further broken down into smaller, teachable units (a task analysis). Outlining the independent parts of the skill to be taught is important because it allows educators to determine the sequence of skills/steps the model will demonstrate. Third, write a script and plan for recording the model appropriately. Fourth, identify and train the model(s) who will appear in the video. Models can be adults or peers, and the selection likely will be based on the type of skill displayed in the video. The use of peers for models is preferred because watching a peer is likely to increase the generalization of the skill(s). Fifth, record the video and transfer the files for editing. For example, unwanted parts or segments with an excessive time lag may be deleted. More technically savvy individuals may decide to incorporate word captions, embed other cues (such as arrows to indicate objects/displays of emotions), or use special features to emphasize the use of the skill(s). After these steps are completed successfully, the video model is ready to present to the student and monitor for effectiveness.
Often, there are times when students with ASD are disinterested in new or different experiences, or are so engrossed in their own special interests, that motivating them to learn is a daunting task (Gagnon, 2001). As is true with most learners, incorporating an individual’s special interest/character as a inspiring tool may increase motivation. A Power Card is a visually based strategy that incorporates the special interest of an individual with autism to assist in understanding social situations, teaching appropriate social interactions skills, and/or performing steps in a routine through characters (Gagnon, 2001).

Power Cards are small (typically the same size as a business card or trading card). On the front of the card are pictures or other visual cues that represent the student’s special interest and are motivating. The other side of the card contains a brief script incorporating a character (usually a hero) most closely related to the individual’s special interest. This script provides details about a specific problematic situation or target behavior and includes a portrayal of how the hero solves a problem similar to one experienced by the student. Typically, the solution to the problem situation is broken down into three to five steps on the back of the card for the student to review and follow. Because of their small size, Power Cards can be carried; easily attached (using Velcro) to the inside a book, notebook, or locker for easy access; or placed on the corner of a child’s desk (Gagnon, 2001; Myles, 2005).

The Power Card strategy is based on the principles of priming and modeling. Priming is a technique used to increase structure and predictability by preparing an individual through exposure to a situation, skill, or lesson in advance. For example, to prepare a third-grade student with autism for a school field trip to an animal park, his teacher described the sequence of events using a series of pictures (e.g., riding the bus from school, see animals, eat lunch, ride bus back to school). Modeling is another type of visual strategy that is frequently used for individuals with ASD to teach understanding and sequencing of behaviors. Specifically, models depict a sequence of events for the student to imitate. Power Cards employ both priming and modeling as they are typically presented to an individual prior to an activity (priming), and depict a hero or host of characters solving a social problem (modeling).

In recent years, empirical support for Power Cards has begun to emerge. For example, Myles, Keeling, and Van Horn (2001) demonstrated in two case studies that Power Cards resulted in marked improvement in student behaviors. More recently, Keeling, Myles, Gagnon, and Simpson (2003) demonstrated that a Power Card intervention depicting the Power Puff Girls was effective in increasing the sportsmanship behaviors a 10-year-old girl with autism. Specifically, decreases in the participant’s frequency of screaming behaviors when she lost a game were observed, and the changes generalized across multiple settings. From the extant literature, it appears that Power Cards may be a creative (and portable) intervention for positively managing problem behaviors of individuals with ASD by teaching appropriate replacement skills.

Creating a Power Card is relatively easy and does not require advanced technical skills. First, educators must identify the special interests and/or heroes of the students. If personnel are unsure of the student’s special interests, a brief interview with parents, peers, and the student (if applicable) will quickly provide this information. In addition, observations of the student may provide insight into his or her special interests. Second, educators will need to write the character sketch. Each Power Card begins with a reference to the hero followed by the steps to carry out the strategy or new behavior. Typically, initial information is presented describing how the hero places value on the expected behavior, followed by a list of key elements for solving a particular social problem. It is important to consider the comprehension level of the student when writing the script, making sure that the student can understand the information that is provided. Third, the script and appropriate
pictures are put together on a business-sized card and printed for the student. Cards can then be laminated; attached to desk, notebooks, or lockers; or carried by the student.

**Summary**

The quintessential characteristic of ASD is having difficulty with basic social interactions. Although many individuals with ASD possess a desire to engage socially, they often lack the skills necessary to be successful. As a result, these children and adolescents often engage in social behaviors that are commonly described as obtuse, awkward, and inappropriate. Moreover, their social skills difficulties frequently span home-, community-, and school-based settings. Due to the pervasiveness of their social skills difficulties, it is essential that supports for increasing social skills of children with ASD are included as part of the educational plan within schools. To best meet the needs of individuals with ASD in schools, educators must incorporate a systemic, multitiered approach to teaching social skills. Such an approach begins with school-wide supports that provide structure for students with ASD and, at the same time, provide education to all students within a building. Strategies at the systems level may include incorporation of character education and large-group social skills instruction, or other school-wide positive behavior supports. In addition to systemic approaches, educators should provide small-group interventions to children and adolescents with ASD to teach specific skills and offer opportunities to practice with typically developing peers. Despite educators’ best intentions to develop systemic and small-group approaches, individualized interventions likely will be necessary. A variety of individualized approaches have been suggested that provide students with ASD the specific lessons for understanding and responding to the social world.

**Critical Practice Needs and Future Research**

From a practical perspective, there are many elements that must be considered before creating and implementing a multitiered social skills approach. First, it is important for administrative and educational staff to assess the degree to which a tiered approach is needed and can be implemented effectively. For example, how many students with ASD are currently in the school? Do teachers actively support such an approach? How will the community be involved in implementation efforts? In addition to examining these questions, staff will need to consider potential barriers and facilitators unique to such an approach. For example, are there adequate interventions at each tier? Are there mechanisms to ensure that progress-monitoring data are collected frequently and reliably? Has there been adequate professional development to enhance knowledge and skills related to this approach? To answer these questions, it is important to collect and analyze multiple sources of data using a democratic decision-making model. Second, a systematic plan for meeting the needs of students with ASD within a multiple tier approach must be created. This plan should include (a) specific goals for each area of need, (b) methods for meeting the goals, (c) timeline for meeting the goals, and (d) ongoing and specific methods for evaluating progress. Third, implementation and evaluation of the tiered system should occur.

To date, no data have been provided regarding the efficacy of a multitiered social skills approach with schools. As a result, it is critical that future research endeavors examine the effectiveness of such a model on improving both short-term and long-term outcomes for individuals with ASD. In addition, research should investigate several questions regarding implementation: (a) Are there validated intervention models? (b) Are there adequately trained personnel? (c) What leadership is needed for success? (d) What role should parents have in the process? (e) How should implementation integrity be viewed and assessed? In the coming years, research that addresses such variables, as well as effectiveness of the model, will prove useful for schools and school districts when planning for comprehensive social skills interventions for students with ASD.
APPENDIX A

SIRS: Social Interaction Recording System

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<thead>
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<th>Child Observed:</th>
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ASE = Active display of social engagement/communication
AbSE = Absence of social engagement/communication

Teaching Social Skills to Children with Autism

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<tr>
<th>Target Student</th>
<th>*Peer Comparison</th>
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<tbody>
<tr>
<td>S ASE:</td>
<td>% ASE:</td>
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<tr>
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<td>% ASE:</td>
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<tr>
<td>P AbSE:</td>
<td>% AbSE:</td>
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Total Intervals Observed: Total Intervals Observed:

APPENDIX B:

Sample Partial Interval Recording Data Sheet

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<th>Student:</th>
<th>Georgio A.</th>
<th>Date:</th>
<th>9-25-2008</th>
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<tbody>
<tr>
<td>Observer:</td>
<td>Marcus</td>
<td>Time Started:</td>
<td>9:30 AM</td>
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<tr>
<td>Setting:</td>
<td>Recess</td>
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<table>
<thead>
<tr>
<th>Target Behavior:</th>
<th>Sportsmanship</th>
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<tbody>
<tr>
<td>Behavior Definition:</td>
<td>Following the rules of a game, Helping a player up off the ground, Offering positive encouragement (“way to go” “good job” “good luck” “maybe next time”), Taking turns, etc.</td>
</tr>
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<table>
<thead>
<tr>
<th>Key:</th>
<th>+ = Occurrence -- = Non-Occurrence (Each interval = 1-minute)</th>
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<tr>
<td>+</td>
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| Number (Percent) of Intervals of Occurrence: | 6 Intervals (30% of Intervals) |
| Number (Percent) of Intervals of Non-Occurrence: | 14 Intervals (70% of Intervals) |

APPENDIX B:

Sample Duration Recording Data Sheet

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<td>Observer:</td>
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<th>Target Behavior:</th>
<th>Social Interaction/Engagement</th>
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<td>Behavior Definition:</td>
<td>Instances when child initiates or participates in some play activity or conversation with one or more children; Instances when child actively contributed to a reciprocal conversation or attended to a topic of conversation</td>
</tr>
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<table>
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<th>Episode</th>
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<td>3</td>
<td>11:40</td>
<td>11:42</td>
<td>2</td>
</tr>
</tbody>
</table>

| Total Duration of Target Behavior | 8 minutes |
| Percent of Time Target Behavior Displayed (Duration/Total Time) | 53.33% |

Note: Adapted from Sansosti, Powell-Smith, and Cowan (in press).
REFERENCES


Psychology in the Schools DOI: 10.1002/pits


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