Improving Inappropriate Social Behavior of Autistic Students Using the LISTEN Intervention Strategy

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A case study was conducted on the development of the LISTEN intervention strategy for use with autistic students to improve inappropriate social behaviors. The study was conducted in a special education classroom in an autism school in Kuwait. Examination of LISTEN Intervention Strategy applications included: duration of targeted behavior; methods used to teach the strategy; classroom activities used to teach the appropriate behavior; rewards provided to the participant; data collection and analysis; results; and final recommendations to the Kuwait Ministry of Education (KMOE) regarding future research. Study results revealed that implementation of the LISTEN strategy modified the targeted inappropriate social behavior of the participating autistic student. Observational data showed that repeated modeling by the teacher was required during the first two steps of the LISTEN strategy before understanding of the strategy by the student could be verified. Additionally, when the teacher integrated symbols familiar to the student into the second step of the strategy, the student was able to follow the strategy and remained seated in the presence of a visitor in the classroom.

In 1943, autism was first identified at The Johns Hopkins Hospital; in 1981 it was categorized as an independent term (Centers for Disease Control and Prevention, 2008; Turnbull, Turnbull, Smith, & Leal, 2002). In fact, some of the earliest published descriptions of a behavior comparable to autism date to the 18th century (Centers for Disease Control and Prevention, 2008). In 1999, the Kuwait Ministry of Education (KMOE) established the first school for students with autism, while other private schools included students with autism in classrooms for those with other disabilities in a school-within-a-school environment (Al-Shammari, 2005). Autism spectrum disorders (ASDs) are a group of developmental disabilities characterized by significant impairments in social interaction and communication and the presence of unusual behaviors and interests (Centers for Disease Control and Prevention, 2008). Autism, in general, is a chronic disorder that appears in the first three years of life, revealing deficits in social interaction, communication skills and behaviors (Autism Society of America; Collins et al., 2006; Lukusa et al., 2007; Turnbull, Turnbull, Shank, Smith & Leal, 2002; White, Scellih, Klin, Koenig, & Volkmar, 2007). The etiology of the disorder remains unidentified, although current research is focused on genetic, pharmacological, and environmental factors (Bailey, LeCouteur, Gottesman, Bolton, Simonoff, Yuzida, & Rutter, 1995; Whitely, Rodgers & Shatlock, 1998). Autism is four times more prevalent in boys than girls and knows no racial, ethnic or social boundaries. Family income, lifestyle, and educational levels do not affect the chance of autism’s occurrence (Autism Society of America; British Colum-

In this research, a case study was conducted involving a male student with autism who exhibited an inability to interact socially with other individuals; namely those persons unfamiliar to him. Concern was valid since this behavior is common among persons with autism. As supported by Edelson (2008), one of the most prevalent symptoms of autism is a dysfunction in social behaviors.

Brief Review of Literature as Setting for Study

The social difficulties associated with autism vary from individual to individual and include lack of eye contact, poor joint attention, failure to initiate verbal exchange, and inability to establish age-appropriate relationships (Dawson, Toth, Abbott, Osterling, Munson, & Estes, 2004). Children with autism characteristically display a lack of spontaneous play of all kinds (Boucher & Wolfberg, 2003). In addition, children with autism typically have difficulty generalizing learned skills to new settings and are unable to use new skills with new people or materials (Handleman, 1999). Social skills deficits directly affect autistic children’s interactions and relationships with peers in their environment (Bock, 2007; Tse, Strulovitch, Tagalakis, Meng, & Fombonne, 2007). As supported by Bowen, Jensen and Clark (2004), autistic students, like most other persons with disabilities, do not demonstrate the ability to make and maintain friendships with other people in their environment because their “social skills deficits have not acquired the necessary skills to interact with others in an age-appropriate manner” (Bowen, Jensen, & Clark, 2004, p. 185). Autistic students’ inability to understand social customs and respond in an age-appropriate manner results in social isolation and frustration (Cearoni & Garber, 1991). Additionally, inappropriate behaviors tend to be common and repetitive, as demonstrated in the daily routines and activities of students with autism (Lam & Aman, 2007). The frustration experienced by the autistic child may lead to inappropriate behaviors in the classroom. Effective strategies in countering such behaviors would benefit teachers and students in the classroom setting.

Interventions are specific planned programs for improvement or remediation that focus on and intend to prevent the occurrence of inappropriate target behaviors. Interventions based on the social skills of autistic children can also be practiced in early childhood classrooms (Kroeger, Schultz, & Newsom, 2006). Many intervention programs focus on improving the lives of students with special needs. However, few studies have examined interventions that focus primarily on individuals with autism. Al-Shammari and Yawkey (2008) described the importance of interventions in a review of several research studies that defined interventions as a set of procedures related to identifying processes and methods, objectives, data sources, plans, and services.

In the study conducted by Al-Shammari and Yawkey (2008), three types of intervention programs were selected that had effectively demonstrated an ability to teach students with special needs appropriate social and communicative skills. The intervention programs included: 1) play intervention training, which included outside activities during which the teacher directed and guided the student’s play activity, while during inside activities, the teacher modeled the play activity; 2) play enrichment intervention activities, such as providing important procedures that included play observation and involvement in the play intervention (Johnson, Christie, & Yawkey, 1999); and 3) social-behavioral learning strategy intervention, as summarized in Stop-Observe-Deliberate-Act (SODA), which attempts to train the autistic student to use self-talk in social play activities (Bock, 2007).

Kroeger, Schultz, and Newsom (2006) indicated greater gains in social skills in a
group of children with autism who received an intervention that involved a direct teaching method as compared with the other play activities group, even though both groups showed improvement in prosocial behaviors. These types of interventions are significantly important in the remediation of social behaviors in autistic children.

Purpose of the Study

The purpose of the study was to develop an intervention strategy that could be used to improve the inappropriate social behaviors of a student with autism and gauge its effectiveness. Tse, Strulovitch, Tagalakis, Meng, and Fombonne (2007, p. 1) stated that there is “a need for more controlled studies on autistic children social skills training groups and also indicated significant improvements in social skills and problem behaviors of autistic children.” While there are many studies of autistic children’s inappropriate behaviors, only a few have focused on intervention strategies designed to improve such behaviors.

For instance, in a study conducted by Healing Thresholds (2008) on social skills training for children with autism, it was found that “more research is needed to understand what factors make social stories effective in some cases and not others” (p. 1). According to The Gray Center (2008), “they [children with autism] and their families are often left with unanswered questions of social nature—and don’t know where to turn” (p. 1). Further, “this is where social coaching can be valuable” (p. 1).

Methods and Procedures

The researchers used several methods to collect data. Each is described below.

Collection of Autistic Student Baseline Data

The population for this case study consisted of one student with autism in the Autism School-KMOE. This participant was selected because he exhibited inappropriate social behaviors and thus was an excellent candidate for testing of the LISTEN intervention.

The Autism School is one of the segregated Kuwaiti special education public schools (Schools within School) that specializes specifically in educating students with autism (Al-Shammari, 2005). During the 2007-2008 school year, a total of 13 students with autism were enrolled in the school, with 12 attending on a regular basis (KMOE, 2008). All of the students in the Autism School originated from the same country and have the same ethnic origins and cultural background.

In this study, the participating student was a 21-year-old male in the last grade-year. In 1999, a diagnostic test was administered that revealed his autism level to be 40.5 (Western Psychological Services, 1999); he received the test while enrolled in a school for mentally retarded students in Kuwait. He had been enrolled in the Autism School for nine years, where his curriculum was based on the teacher’s experiences. He was without a formal curriculum during the first eight years.

The participant also experienced problems with hearing and with written and oral communication. In addition, he exhibited repetitive behaviors and aggressiveness combined with sensory issues.

With regard to the participant’s parental support, his father was 51 years old and had a middle school diploma, while his mother was 43 years old and had a diploma from a two-year college. The participant was the second of six children and the only child in the family with special needs. The participant was selected for this study based on inappropriate social behaviors exhibited in the special education classroom. The special education teacher had ten years of teaching experience with students with disabilities. The teacher documented the participant’s inappropriate behaviors and then shared them with the principal researcher of this study. In fact, the main challenge exhibited by the study participant was manifested whenever a visitor arrived in the classroom. The participant
would approach the visitor and stand close by, but not communicate with the visitor. In fact, the participant’s inappropriate behaviors actually served to intimidate most visitors. In an attempt to redirect the participant’s inappropriate behavior, the teacher used flashcards as a cue to prompt the participant to return to his seat.

The principal researcher gathered additional data on the participant after a review of his school files, observation, and the recording of anecdotal information gathered during periods when the participant exhibited inappropriate behaviors in the classroom.

**Development of the LISTEN Strategy**

LISTEN is an acronym for a multi-component strategy developed to improve inappropriate social skills behaviors exhibited by students with autism. The strategy was initially used in a special education school in Kuwait. Each letter in LISTEN represents a different component of the strategy: L for learn, I for interact, S for study, T for training, E for emulate, and N for normalize. As described in the following dialog, the researchers developed this strategy based on the need to help autistic students reduce their inappropriate social behaviors in the classroom and possibly at home.

**Verifications and Reliability**

The intervention was verified using two procedures: (1) giving the LISTEN Procedure Form to two faculty members who are specialists in both English and Arabic to check the translations from English to Arabic; and (2) giving the LISTEN form to 11 of 18 special education teachers in the school to check the reliability of the steps on the form. The result of the reliability statistics yielded a Cronbach’s Alpha Coefficient of 0.821, indicating a high degree of agreement among the 11 special education teachers and demonstrating conformity to internal constructs relative to the form’s use in this study (Newman, Swaminathan & Trawick-Smith, 2008).

**Training Session for the Teacher**

The participating teacher in this study was a female with a bachelor’s degree in Islamic Education. She has ten years of experience teaching in the Autistic School. In addition, she worked with the participant in this study for the last three years. She taught the student for two class periods per day during the school year.

The principal researcher gave the teacher a training session on LISTEN. The teacher then implemented the intervention strategy for two weeks in the same Autism School in Kuwait. She instructed the autistic student in a specific play activity that taught him indirectly about changes to his inappropriate behaviors. The teacher repeated the intervention for 30 minutes on three occasions each day until the autistic student changed his behavior. The researchers generalized the results and developed a strategy that may be applied with similar cases.

**LISTEN Intervention Applications**

Direct instruction in social skills training was used to intervene in the inappropriate social behavior of the participating student. The LISTEN strategy was designed to intervene in inappropriate social behaviors by using several teaching methods through a specific planned process that included steps and procedures based on play. This process was coordinated by the principal researcher and applied and practiced by the teacher in the classroom. Each of the steps is described below.

**Methods of Teaching**

The Direct Instruction method served as the foundation of the LISTEN strategy. When implementing this strategy with autistic students, the teacher used the following protocol: 1) tell the student what behavior they will be learning and what is expected of them; 2) present the new expected behavior
through modeling using another student; 3) allow the autistic student to practice the new expected behavior repeatedly through role play with the teacher and/or other students; 4) assess the student’s assimilation of the new expected behavior; and 5) provide the student with opportunities to utilize the new behavior in controlled situations.

In the current study, the inappropriate behavior to be changed involved the participating student’s behavior whenever a visitor entered the classroom. The participating student would leave his desk and stand very close to the visitor and remain uncommunicative. The new desired behavior was to have the student remain seated when visitors entered the classroom.

Activities

To achieve a change in the targeted inappropriate behavior, the following activities were planned and executed as part of the LISTEN strategy:

Step 1 – Learn. In this component, the teacher discussed the inappropriate behavior with the student. The teacher explained that this behavior caused visitors to the classroom to be unhappy and that they would work together to teach the student a new way to greet visitors that would make them happy and want to visit the classroom. A detailed checklist that the student should follow when a visitor entered the classroom was explained and given to the student by the teacher. The teacher allowed the autistic child to observe the desired behavior through a role-play activity performed by another adult and student in which the adult entered the classroom and the student remained seated and followed the behaviors detailed on the checklist.

Step 2 – Interact. During the “Interact” phase of the strategy, the student engaged in a role-play activity with the teacher in which a visitor entered the classroom and the student remained seated. Each time the student successfully exhibited the desired behavior he was awarded a sticker and allowed to select a prize. During this phase, the teacher introduced the planned play activity, interacted with student and explained the procedures within this activity (e.g., visitor is coming, visitor is knocking on the door, the visitor enters the classroom, and where should he be seated when having a visitor in the classroom). In addition, the teacher redirected the student if the desired behavior was not achieved during the activity by modeling the feedback provided by the observer.

Step 3 – Study. In the “study” component of the LISTEN strategy, the student studied and memorized the steps on his checklist by matching the symbols on the form. In other words, the teacher explained in detail to the student all steps required, and asked the student to place each symbol on each step in the form. The “study” phase continued until the student demonstrated the required behaviors as on the form. Then, the student received a reward after meeting the target observations.

Step 4 – Training. The “training” component of the LISTEN strategy consisted of these procedures:

1. Teacher planned for visitors to come to the classroom at pre-scheduled times.
2. Teacher prompted the student about the visitor’s arrival five minutes before his scheduled arrival.
3. The student took out the form and marked the first two items on the form as completed.
4. Teacher prompted the student again that the visitor would be arriving and asked the student what he should do when he saw the visitor. This step was repeated until the student demonstrated an understanding of the order of procedures on the form.
5. Student saw a visitor entering the classroom, used the form correctly, and observed other students interacting in an appropriate way when a visitor entered the classroom. Each
time, the participating student observed other students demonstrating the appropriate behaviors as per the checklist.

**Step 5 – Emulate.** In this component, the teacher planned a social activity outside the classroom in which the student participated and used the LISTEN Procedure Form. At the conclusion of the activity, the participant received a reward for independently and correctly following each step of the strategy.

**Step 6 – Normalize.** During the “normalize” component of the LISTEN strategy, the participating student was observed by school staff and visitors implementing all steps of the strategy independently and correctly inside and outside the classroom.

**Rewards**

A reward chart using stickers and earned prizes was used to motivate and sustain the student’s desired behavioral change. Each time the student remained seated when a stranger entered the classroom, he received a sticker on the chart placed on his desk. Initially after earning each sticker, the student was allowed to select from a variety of tokens. As the study progressed, the number of stickers required to earn a visit to the “prize box” was increased until five stickers were required before a prize was awarded to ensure repeating the desired behavior.

**Data Collection and Analyses**

Thirty-minute interventions three times each day were collected through implementation of the six procedural steps in the LISTEN strategy. Specifically, the principal researcher, who was the observer in this study, observed both the student and teacher following steps in the strategy. He documented their behaviors and then provided feedback to the teacher about improving her execution of the strategy’s behavioral steps. These procedures are summarized below.

First, in the “learn” step, the observer noted that the teacher introduced the inappropriate behavior, explained the problems that visitors may face in the classroom or even in the social setting, asked the students to work together, and then asked the teacher to start instructing the student with autism in following the steps as described on the LISTEN Form. The observer noticed that the autistic student repeatedly drew closer to the visitor before applying the strategy. During this time, the teacher applied the strategy and the autistic student responded to his teacher. Also, the teacher faced a similar problem when introducing each new step of the LISTEN strategy. However, the teacher modeled, repeated, and rewarded each step several times to ensure accuracy, and then proceeded further through a play activity.

Second, during the *interact* phase, the researcher observed the teacher (1) introducing the inappropriate behavior that the student demonstrated with a visitor and (2) the play activity procedures. Data gathered during observations primarily emphasized student-teacher interactions during this activity. Specifically, in this phase the student did not respond immediately to the teacher during the first several introductions of the main procedures in the activity. Repeatedly, the teacher modeled the procedures during the play activity. Then it was observed that the student responded without demonstrating inappropriate behaviors during the activity. With more teacher repetition of the same procedures plus the addition of symbols recognized by the student, the autistic student finally interacted with his teacher and remained seated in the presence of a visitor. After that, both the principal researcher and teacher began to use symbols to follow steps and procedures during the play activity.

Third, in the *study* step, the researcher observed both the teacher and student at the beginning of the class. Initially, the teacher explained each of the steps on the form, and repeated them several times. The student followed the teacher and interacted by producing unclear language, understood by the
teacher, as a response to each step. As noted through observations, this student could not accurately follow the steps required by the teacher. In response, the teacher began to use familiar symbols that made sense to student until he acquired the target behaviors. This procedure helped the student to place all pictures-symbols in their matched places on the form. Finally, the teacher repeated the previous procedure many times to guarantee accuracy and so that the student would gain the skills.

Fourth, during the training step, the researcher and teacher planned a social activity in which other students demonstrated the steps in the LISTEN strategy correctly before involving the student with autism in the activity. The teacher then asked the student with autism to observe and act in a manner similar to the other students who participated in the activity. This practice required the greatest amount of time because of the modeling, directing, and guiding required before the student followed the steps. Finally, the teacher gave the parents a parallel activity to practice at home with their son utilizing the same LISTEN strategy steps. This home activity served as independent "homework" in assisting the student to assimilate the steps in the strategy.

Fifth, in the emulate step, the researcher and teacher planned an outside social play activity. The teacher invited other teachers and their students to participate in this activity outside the classroom. The teachers, with their students, gathered in the Arts Hall, and then moved to the Gym Hall in which all materials needed for this activity were provided. Essentially, the teacher asked other teachers to follow the steps in the LISTEN strategy and to train their students to use it. The researcher collected data based on observation of the participating students, noting that the autistic student was involved in the activity as the teachers explained the steps and procedures. All students participating in the activity looked at the arts and sports in the halls as they moved around. Then, the teachers took the students to a set of desks, and reminded them about the visitor. Teachers involved in the activity first modeled the steps and then followed them with students. Students responded perfectly during the activity by following the steps modeled by their teachers. However, the participating student was slow to respond and appeared to be waiting for signs or symbols. About 15 repetitions of the same procedures in this step led to a positive response from the student—he followed the same steps as other students, demonstrating the target behaviors during visits with outside individuals who were participating in this activity.

Six, in the normalize step, the student with autism participated in a social setting activity within the school that involved a group of students. The researcher observed the autistic student’s involvement in the activity, and found that he did not respond to a visitor in a manner similar to that of the other students. However, the autistic student took a few minutes to sit and look indirectly at other students’ interactions in the social setting. Finally, he responded a second time within the same group. In response, teachers sent in seven other visitors, one every 10-15 minutes, to ensure demonstration of the target behaviors required of the autistic student.

Results

Results demonstrated that implementation of the LISTEN strategy modified the targeted inappropriate social behavior of the participating autistic student. Observational data showed that repeated modeling by the teacher was required during the first two steps of the LISTEN strategy before understanding of the strategy by the student was verified. Additionally, when the teacher integrated symbols familiar to the student into the step two of the strategy, the student was able to follow the strategy and remained seated in the presence of a visitor in the classroom.

The training step in the LISTEN strategy
required the greatest modeling, directing, and guiding by the teacher before the participating student was able to follow the steps correctly. To facilitate student assimilation of the procedure, the teacher added a parallel activity to be used by the participant’s parents at home. This added independent practice appeared to enhance student performance during steps 5 and 6 of the strategy. Outside the classroom, the participating student required approximately 15 repetitions of the procedure before the targeted behavior was modified. Independently, the participating autistic student responded positively by correctly responding to the presence of a visitor after the second trial. From the 2nd through the 4th trials during the normalize step of the procedure, the participating autistic student independently implemented the LISTEN strategy and successfully modified his inappropriate social behavior by remaining seated in the presence of a visitor.

Conclusion and Recommendations
With concluding comments, the results of this research are clear and straightforward. The five steps of LISTEN, learn, interact, study, train, and emulate clearly spell out two fundamental things: the levels and sequencing have the potential to impact young children with autism and practicality and observability provide social validity to a method and procedure that can be easily used and practical. With clear steps and examples this LISTEN procedure yields evidence that this approach has the potential to decrease inappropriate behaviors of an autistic student.

As selected recommendations, the LISTEN model can be examined for its validity from several perspectives. First, it is imperative to increase the population of intervention from one to more students…to assess and evaluate the LISTEN paradigm on more children diagnostic with autism. Since diagnosis of autism varies considerably, the methods and ways and ways of diagnosing autism must be controlled experimentally in a special education sense of “control.”

Second, the LISTEN model is ideal for video training of autistic children and subsequent modeling employed for teaching and social, play actions and behaviors. Using the LISTEN model within a play/social context with video taping might be more efficient behaviorally to assist growth of these particular behaviors.

Lastly, it is critical that LISTEN model couple with stories of empathy and self-realization of others. This bridging might critically improve not only the efficient of the LISTEN model but enhance the capacity of LISTEN to increase the number of intervention students impacted successfully by LISTEN strategies. These social stories of empathy, self-realization and self awareness bridged with LISTEN model strategies might produce effective results.

Regardless, additional research attention needs to be focused on the development and utilization of LISTEN procedures.

References


Note:
*The LISTEN MODEL and INTERVENTION STRATEGIES described herein have been 2008 © copyrighted internationally by its author, Dr. Zaid Al-Shammari. All usage of this model and strategies must be cleared first with Dr Al-Shammari.