Skills Development for Individuals with Autism Spectrum Disorder

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Abstract

This article explores the significance of skills development in individuals with autism spectrum disorder and strategies on how an instructor and/or family member can teach and maintain these skills. Individuals with autism spectrum disorder have difficulty interacting with others, communicating, and behavior deficits, such as personal interests and activities. Due to the common dislike of human contact or personal interaction among people with autism spectrum disorder, the use of simple machines and technology can be invaluable in teaching a variety skills.

Introduction

Autism spectrum disorder (ASD), is a developmental disability that causes difficulties in social interactions, communication, and pursuing leisure activities (Sirin & Tekin-Iftar, 2016, p. 2653). The development and maintenance of social, language and leisure skills can improve the quality of life for individuals with ASD. It is important to begin lessons on these skills at a young age and to continue the maintenance of these skills throughout a person's life. Instructors must collaborate with the parents and exercise patience when working with an individual. It is also important to understand that social, language and leisure skills are just as important as academic abilities. Skills could be lost and will have to be retaught if maintenance does not occur even when school is not in session (Pears, Kim, Fisher, & Yoerger, 2016, p. 25). Research has shown that there are several different methods instructors can use to increase the development and maintenance of social, language and leisure skills among special needs student populations. Instructors should not only apply the following methods in their classrooms, but also cooperate with parents to continue skill practice in the home.

Social Skills

Cooperation and common goals are important when starting any new curriculum, project, or training program. These can be difficult to reach between parents and children. If children want to learn something different than what their parents or peers want them to learn, then the conflict can inhibit training and long term learning. Rankin, Weber, Kang, and Lerner found that parents rated the importance of social skills higher than what their children with ASD reported, especially parents of males rated social skills, specifically self-control, higher than parents of females with ASD (2016, p. 280-281). Overall, parents rated self-control as most important and cooperation as least important. This contradicts what the children reported as the most important social skills, which were cooperation and empathy. Parents and children should have the same expectations and goals to build an effective social skills enhancement program.

Use of Role Play and Feedback
Human and non-human conversation practice can be effective in preventing the extinction of learned social behaviors. For example, the use of social skill cartoon characters is effective in making a social skills curriculum more engaging and fun for the student (Muller, Cannon, Kornblum, Clark, & Powers, 2016, p. 3-4). Another non-human interaction role play option is the use of computer simulations of conversations. Participants feel more comfortable telling narratives in computer-based interactions than in unfamiliar human interactions (Tanaka, Sakriani, Graham, Toda, Negoro, Iwasaka, & Nakamura, 2016, p. 22). Considering this, social skills programs that pair students with strangers may be more effective if students begin training on a computer before transitioning to human interactions. Human-to-human role play most closely resembles real life situations and are important to incorporate into training. Bergstrom, Najdowski, Alvarado, and Tarbox taught participants with ASD socially appropriate lies, for example in situations when participants receive undesirable gifts, with complete effectiveness after acting out this situation several times (2016, p. 408-409).

Feedback can be reviewing video tapes of participants' performance, alerting them when they give an inappropriate response, or providing information on conversation topics. The main challenge to students' conversation is the lack of knowledge on conversation topics (Muller et al., 2016, p. 14). Due to the complexities of conversation, teaching individuals with ASD how to respond to commentary only can hinder social abilities (Peters & Thompson, 2015, p. 561). Shireman, Lerman, and Hillman used behavior modeling and feedback to teach child and adult participants with ASD how to interact and build rapport with each other successfully (2016, p. 521). Peters and Thompson not only used verbal feedback but also scaffolding to teach students how to gauge and gain partner interest with high initial and long term success rates (2016, p. 550).

Intrinsic and Extrinsic Motivation
If individuals are not motivated to initiate a conversation, then a conversation will not happen. Since researchers are not constantly in a participant's life to give reinforcements, intrinsic motivation is what will promote social skills. Building intrinsic motivation as well as providing extrinsic motivation to learn target prosocial behaviors increases rate, retention, and outside application of learned behaviors in elementary aged students (Muller et al., 2016, p. 13). Script fading can be effective in increasing self-motivated interactions between elementary students with ASD during play (Wichnick-Gillis, Vener, & Poulson, 2016, p. 7-8). By removing external prompts for social interactions, the student's actions must then come from their desire to

participate in those interactions. An effective school-setting social skills curriculum should aim to help students grasp abstract concepts, find intrinsic motivation, and generalize skills to outside class times (Muller et al., 2016, p. 14). In Wichnick-Gillis, Vener, and Poulson's curriculum, spontaneous peer interactions did effectively increase after script fading began which may reflect an increase in intrinsic motivation to converse (2016, p. 8).

Conversely, Kasari and her colleagues used a myriad of rewards to increase extrinsic motivation for one group while intrinsic motivation was the only reinforcement tool in the second group for learning the social lessons. Results showed that students in the extrinsic motivation group enacted more prosocial behaviors with their peers outside of the lessons than the intrinsic motivation group (Kasari et al., 2016, p. 173-176). Similarly, Muller et al. reported that extrinsic motivation was important for immediate learning of social skills (2016, p. 14). While extrinsic motivational factors resulted in an increase in frequency of prosocial behaviors, these studies do not report on the long term effectiveness of this approach.

Language Skills
Instructors who teach students with significant disabilities strive to see their students interact with stimuli in their environment confidently and independently (Schaefer & Andzik, 2016, p. 211). Special education instructors will often have classes with a variety of students varying on their level of disability. It is necessary for the instructor to strategically incorporate lessons that will accompany a range of disability characteristics and learning styles (Flores, Schweck, & Hinton, 2016, p. 3).

Language Learning Tools
Children with developmental disabilities may have trouble communicating their wants and needs, but the development of communication aids can bridge this gap as the child strengthens their language skills. Augmentative and alternative communication, or "switches," can be used to assist in developing language skills in individuals with significant disabilities. Through the use of training, students can use body movement to press switches that will, in turn, activate more complex outcomes. For example, a switch could indicate a color choice for an art project, or activate a sound of applause whenever a student is congratulating another. In order to help the student develop the skills and movements necessary to use the switch, it is important to create small benchmarks along the way to break up the learning process (Schaefer & Andzik, 2016, p. 211).

A second tool that can be used in the classroom to aid in language learning is Language Builder, which focuses on developing listener responding skills. Listener responding refers to the response that an individual gives to a speaker to match the behavior of the speaker. For example, when the speaker says "clap your hands," the appropriate response of the listener would be to clap their hands. One of the characteristics of ASD is often a deficit in listener responding skills. Language Builder is an application that guides students through levels to develop response skills and language acquisition (Lorah & Karnes, 2016, p. 263-264). Language Builder operates through adjustment to tailor the listening cues to the user, by making them more or less salient, which makes the application beneficial to users with various levels of disability. Studies evaluating this application have found that the majority of the users see a significant increase in

academic engagement and listener responding skills (Cumming & Rodriguez, 2013, p. 51; Lorah & Karnes, 2016, p. 263).

Language Proficiency Programs
Developing language skills is a complex task that often involves instructors or caregivers teaching targeted skills. Upon diagnosis of ASD, it is important to quickly begin enhancing social communication skills and language deficits (Curiel, Sainato, & Goldstein, 2016, p. 96). Direct Instruction (DI) is an explicit instructional program for students who may require a more intensive language intervention. This program has been shown to be effective for preschoolers and children in kindergarten with language deficits by increasing the complexity and difficulty of the lessons in increments. To ensure proper implementation of the curriculum, instructors are provided with scripts, as well as encouraged to give immediate feedback in a structured format (Flores, Schweck, & Hinton, 2016, p. 3). Language for Learning, a program within DI explicitly designed to increase language proficiency, was implemented in a rural preschool setting to examine its effects on students with ASD and developmental delays. Evaluation of this program based on the implementation of the curriculum in addition to routine instruction resulted in all students displaying a significant increase in language abilities (Flores, Schweck, & Hinton, 2016, p. 9).

For children with developmental disabilities or delays, the summer break between school years can often result in a dramatic decrease in skill acquisition. Summer intervention programs can be beneficial in maintaining and increasing the skills necessary for the following academic year (Pears, Kim, Fisher, & Yoerger, 2016, p. 25). The Kids in Transition to School Program is summer intervention program designed to significantly increase language proficiency in young children with developmental disabilities and delays who are leaving preschool and beginning kindergarten. Although the primary focus of the program is to increase language and literacy skills, it also assists in developing other abilities to facilitate the transition to kindergarten (Pears et al., 2016, p. 15).

Leisure Skills
Leisure time can be associated with people developing positive attitudes and can greatly improve the psychological wellness of a person. However, society does not value leisure as highly as academic and social skills for people who suffer from developmental disabilities and delays. Instruction and maintenance of leisure skills can lead to a higher quality of life. Leisure skills can come in many different forms, such as outdoor recreation programs, sports programs, social play activities and personal interest activities.

Young children with ASD should be introduced to social and solitary play during their outdoor time because these skills help children develop communication and socialization skills with their peers and overall improve their psychological wellbeing (Dorsh et al, 2016, p.155). Introducing games that transition from teacher-mediated to independent play is the best way to teach students how to interact in an unstructured playful environment. It is important for the instructor to continue to observe the children and maintain proper social play skills after the start of allowing the children to play by themselves (Martin et al, 2015, p. 257).

As the children grow and continue their progress through school, physical education and sports activities are introduced as a new form of leisure. Along with sports, outdoor recreation activities can be introduced to children, young adults and adults with ASD. It's very important to introduce these activities to all age groups because the longer someone has lived with ASD, the less likely they will be to go out and enjoy recreational activities. This could be due to overprotection and sheltering by family members or the feeling of being unwanted in society (Dorsch et al, 2016, p. 156). Some skills that can be developed through physical education are motor skills and compensation mechanisms (Kurkova & Nemcek, 2016, p. 222). In regards to outdoor recreation activities, instructors should encourage a sense of community and try to instill a sense of agency (Dorsch et al, 2016, p. 161). This method of instruction builds self-confidence and relationships between the peers, teachers, and students with disabilities or delays.

A changing environment can be disruptive to certain behavioral issues for those with ASD in which they become overwhelmed by a changing situation, complicating the attempts to teach leisure activities. One way to develop personal interest activity skills for students who experience this stress from a changing environment is through video prompting or instructional videos (Cannella-Malone et al, 2015, p. 464). The video remains consistent while an instructor may further explain or clarify a step to complete the task. When there is an instructor assisting the person involved in a personal interest activity, such as painting one's nails, it is key to provide positive feedback so that the person does not become overwhelmed by the instructional video showing a difficult task (Smith et al, 2016, p. 1205). Cannella-Malone indicated that participants who interacted with an instructional video achieved the steps of the skill being taught and, with continued maintenance, retained that skill (2015, p. 469).

Conclusion

Cooperation and motivation between the instructors, parents, and the person diagnosed with autism spectrum disorder is imperative for efficient skills acquisition and retention. Social, language, and leisure skill development allows people to express themselves and interact with others. There are different methods available to instructors to best enhance these skills, such as computer simulated interaction, role playing and constructive feedback. For example, computer simulations of human conversations build confidence in students who are overwhelmed by human-to-human interactions. In language skills, the combined use of communication switches and language development programs like Language Builder can reduce the stress of communication on people with extreme language skill deficiencies. Building leisure skills refers to creating personal interests and hobbies among developmentally disadvantaged students. Sports and recreation are the most effective activities to use when building interest in leisure. Instructors can help students and patients maintain these skills by encouraging practice outside of the classroom, program, or activity.

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