Approximately 1 in 76 children who are deaf or hard of hearing (DHH) has autism (Gallaudet Research Institute, 2007; Szymanski & Brice, 2008). Other research reports that the incidence of autism in children with a hearing loss is greater than that found in children who do not have a hearing loss (Conn-Wesson et al., 2000; Nadol, 1993; Rutter, 2005). Although this disproportionality is recognized, there is still little research that focuses on the coexistence of hearing loss and autism (Gillberg & Streffembirg, 1993; Gordon, 1991; Jure, Rapin, & Tuchman, 1991; Malandraki & Okalidou, 2007).

Diagnosis and Characteristics of Autism and Deafness

The diagnosis of autism for children who are DHH generally occurs one year later than for children who are hearing (Mandell, Novak & Zubritsky, 2005). For example, one research study found DHH children were diagnosed with autism between the ages of 5 and 16, compared to hearing children who were diagnosed between the ages of 4 and 11.

Despite the age differences in diagnosis, DHH children often exhibit the same characteristics as hearing children with autism (Steinburg, 2008). While no two children who have autism are alike, all are affected in three areas: communication, socialization and behavior (American Psychiatric Association[APA], 2000). Understandably, these three domains are intertwined. Communication, social interaction, difficulty attending to social stimuli, atypical body movements (hand flapping or rocking), struggles in transitioning from one activity to
another, and a need for structure and predictable routines are a few of the common characteristics of children with autism (APA, 2000; Dawson, Melzoff, & Osterling, 1995).

One commonality between deafness and autism in children diagnosed with both is the difficulty with communicating and conveying wants and needs to others. “However, the cause of the difficulty in an individual who is just deaf is different from that in an individual who is autistic” (Vernon & Rhodes, 2009, p. 5). For individuals who are deaf and have autism, communication is even more of a challenge, as they will have communication difficulties of much greater severity than with either single condition alone (Rosenhall, Nordin, Sandorstrom, Ahlsen, & Gillberg, 1999). These communication difficulties make diagnosing, assessing, treating, and providing strategies to students complex for school systems (Steinburg, 2008; Szymanski & Brice, 2008).

DHH children who have autism also pose extreme challenges for families. This article presents an overview of six strategies families and service providers can use with DHH students who have autism at home and in the community. Future articles in this series will delve deeper into each of the individual strategies, providing detailed information about the strategy, how to use the strategy with your child, and different examples for modifying the strategy. Visual schedules, social stories, power cards, Picture Exchange Communication System (PECS), video modeling, and personal passports are the strategies shared in this article. These strategies were selected because of their visual nature and the aid they provide to communication.

Strategies for Home and Community

Modifying the strategies educational systems are using to fit home and community environments help to provide the consistency and structure to routines DHH students with autism
need. This also helps students with the generalization of skills from one environment or setting to another. It is important to remember that children are not going to master and incorporate the strategies independently on the first or second or perhaps not for several attempts, therefore they will need to have the intervention modeled and used repeatedly. Since the need of each child and his or her family is unique, it is important to remember that each strategy presented here can be adjusted to meet the whole family’s lifestyle.

*Visual Schedules.*

Visual Schedules use pictures or text to share the plan for the day, a section of the day, or a specific event or task (as a step by step guide). The number of activities, amount of time, pictures, or text displayed depends on the child’s individual needs. Visual Schedules may take the form of a list using pictures or text, a book with removable pieces, or even an iPad or iPhone application. Visual Schedules can also be used as a prompt to encourage children to tell about their day. One of the benefits of this strategy for DHH children with autism is that it does not rely on auditory input, so it is fully accessible for the child. The Child-Autism-Parent-Café website provides practical suggestions for families to manage daily life with children who have autism (see list of internet resources below).

*Social Stories.*

The use of social stories helps support appropriate behaviors and social skills for children with autism. This strategy is particularly popular in schools. A social story is a short simple story written from the child’s perspective. It describes the social situation, and through text and visual supports, it provides instruction on positive and appropriate social behaviors (Gray & Garand, 1993). Since most children with autism are visual learners (regardless of hearing status), social
stories haven shown to be effective. It is used for social activities such as greetings, turn-taking, and waiting. Polyxo.com provides families with resources, templates, and sample social stories (for use in different settings).

**Power Cards.**

The Power Card Strategy is a visual aid that uses the child’s interests to teach appropriate social interactions or skills, behavior, and expectations that children with autism may not learn without direct instruction (Gagnon, 2001). The first step of the power card strategy is to present a simple scenario using a person or character the child really likes. For example, if the child really loves SpongeBob, then you might have a scenario about SpongeBob waiting his turn and encouraging the child to imitate SpongeBob’s actions. The child is given a small card, the Power Card, that summarizes the steps that SpongeBob or the character outlines for being successful at the focus skill (Gagnon, 2001). This is another strategy that does not rely on auditory input. It is a visual strategy that encourages reading and promotes social skills. More information regarding the Power Card Strategy can be found on the Illinois State University website (see the internet resources below).

**Picture Exchange Communication System.**

The Picture Exchange Communication System (PECS) allows individuals with autism to use pictures to communicate. It focuses on self-initiated communicative behavior (Malandraki & Okalidou, 2007). This method of communication, though originally developed for young children, works well for people of varying ages and developmental levels (Malandraki & Oklidou, 2007). The basic idea of PECS is so that an individual has a means of communicating and interacting with others making their needs and desires known. It is a way to teach the learner
how to approach another person and exchange the picture of a desired item for the item itself. By doing this the student learns to initiate spontaneous communication within different social contexts and environments and allows them to join in cause-effect act of conversation (Malandraki & Oklidou, 2007). This communication system is concrete and does not require spoken language.

Video Modeling.

Since television is an engaging medium that does not require social interaction during learning, research suggests video modeling maybe effective for students with autism (Daneshvar, Charlop-Christy, Morris & Lancaster, 2003). Video modeling involves showing a video of an ideal scenario of a situation or behavior for the student to imitate. This strategy can be combined with other strategies to teach social, conversational, behavior, and self-help skills. Video modeling may also result in faster generalization of skills (Daneshvar, et al., 2003). The purpose, benefits, and uses of video modeling will be discussed in a later article. In addition, there are a variety of websites have pre-made videos for purchase of different situations and environments that can be purchased as a DVD or downloaded, however there are limited videos that use ASL or have captions. Families can collaborate with teachers to create their own videos working on specific skills the child needs.

Personal Communication Passports.

Personal Communication Passports provide families, service providers, and students themselves with a positive way of presenting information about sensory and communication difficulties. Personal passports are similar to regular passports in that they provide an overview of a child’s important information and his or her “travels” to the present time. The passports
contain pictures of the child and important information. For younger children, the passports can serve as a communication tool between families and service providers, and for older children and youth personal passports are a way for families to teach self-advocacy and safety skills to their children.

Conclusion

With a dual diagnosis of deafness and autism comes many challenges. A common struggle for the children and their families is communication. Finding ways to modify and use strategies at home and in the community that are similar to those being used in the classroom setting is beneficial to providing the consistency that is necessary for these children.

Future articles in the series will discuss each of these strategies in more detail. Each article will share the research supporting the strategy, provide directions on how to create and implement the strategy, show examples, and list additional resources specific to the strategy.

Internet Resources

Polyxo: http://www.polyxo.com/socialstories
Illinois State University:
http://autismspectrum.illinoisstate.edu/resources/factsheets/powercard.shtml
Personal Communication Passports: http://www.communicationpassports.org
References


