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MANAGING BEHAVIOR BY MANAGING THE CLASSROOM:

MAKING LEARNING ACCESSIBLE FOR DEAF AND HARD OF HEARING STUDENTS WITH

autism spectrum disorders

By Christen A. Szymanski

The prevalence of Autism Spectrum Disorders (ASD)—a group of developmental disabilities that cause severe problems with socialization, behavior, and communication—continues to grow. In 2008, the year that *Odyssey* focused on autism, the estimated prevalence of ASD for hearing children was 1 in 150 (CDC, 2007), while today estimates suggest rates as high as 1 in 91 (Kogan et al., 2009). This increase has also been observed in children who are deaf or hard of hearing (Szymanski, Brice, Lam, & Hotto, 2012), with numbers growing from 1 in 81 (GRI, 2008) to 1 in 59 (GRI, 2010). However, in contrast to the surge in research, resources, and information available for hearing children with ASD, information to help parents, educators, and professionals working with children who are deaf or hard of hearing and have ASD continues to be scarce and often nonexistent.

While ASD is considered the same as autism under the Individuals with Disabilities Education Act, it can actually be any of the following: autism, Asperger's syndrome, or Pervasive Developmental Disorder Not Otherwise Specified. ASD is considered a developmental disability that impacts a child and his or her family throughout their lives. Like children with autism, children with ASD struggle in their ability to socialize and interact with others, express themselves or communicate effectively, and regulate behaviors or emotional reactions. Despite common characteristics across the autism spectrum, no two children or adults with autism or ASD are alike.

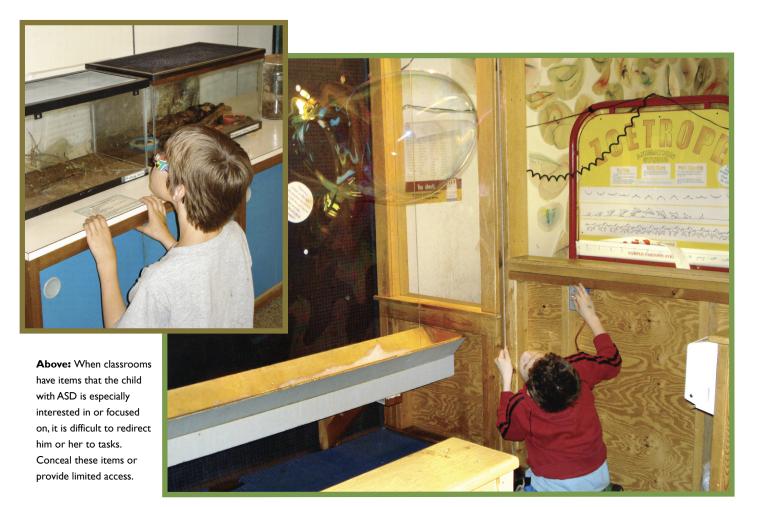
Currently, there is no cure for ASD. However, with the right interventions children and adults do exhibit gains and can make marked improvements. The controversy about the cause of ASD continues and is still being debated. What is certain is that vaccines *do not* cause autism (DeStefano, 2007); instead research continues to implicate genetics.

Challenging Behaviors Lead to Challenges in Learning

At times, children with ASD display challenging behaviors. Challenging behaviors can include temper tantrums, screaming, refusing to participate in activities, and, occasionally, aggression towards others or a tendency towards self-injury. When these behaviors begin, it is crucial that schools immediately respond by conducting a Functional Behavioral Assessment (FBA). An FBA by a trained professional allows for an understanding of what may be causal in the child's

Photos courtesy of Christen A. Szymanski





behavior as well as ideas on how to eliminate that cause before behaviors escalate.

The following strategies and interventions have been effective in designing a classroom environment that allows children with ASD to be successful. Many of these strategies correlate with a reduction of challenging and problem behaviors.

Minimizing Complex Language

Children with ASD face significant struggles with understanding and using language to communicate (Hurdy et al., 2010). This challenge is likely further exacerbated when the child is deaf or hard of hearing because like other deaf or hard of hearing children, children with hearing loss who have ASD may have limited exposure to language due to age of diagnosis of hearing loss, access

to use and understanding of spoken or signed language, and consistency of language use between home and school (Szymanski & Brice, 2008; Szymanski, Brice, Lam, & Hotto, 2012).

Language in the classroom is a way for teachers and staff to communicate activities, excitement, changes in routines, upcoming events, expectations, and consequences. Children with ASD often cannot access this information (Moreno & O'Neal, 1997) because they struggle both to pick up on those cues and to know when they have missed them. To minimize the effect of deficits in receptive language, teachers are encouraged to try to convey the most information possible using the fewest words possible. Brief statements (e.g., "Sit here.") are more effective than lengthy ones (e.g., "I would like you to please sit over here."). Brief statements reduce the amount of receptive language

skills the child with ASD needs to understand. Using a combination of minimal language and pictures, gestures, and other cues may improve the child's ability to follow and act on instructions and expectations. Here are some tips for keeping language simple:

- Be brief.
- Be concrete.
- Be consistent with word choice and phrases. Use the same sign or gesture often.
- Be direct. Use a gesture to indicate
 where you want the child to sit or
 stand. Don't say, "Find a seat."
 Instead, say, "Sit here" and point to
 the location. Children with ASD
 often struggle to comprehend
 language and to understand which
 seat they should find.
- Use visual support. Combine complex tasks with pictures,





gestures, and body language. When telling a child, "Give me the ball," add a gesture that shows him or her how to hand it to you, or hold out your hand and wait for the ball.

Making the Classroom Visually Accessible

While research suggests that children with autism and ASD are visual learners (Dunn Buron & Wolfberg, 2008) research also shows that children with ASD are very easily distracted (Happe, Booth, Charlton, & Hughes, 2006). Classrooms that are most efficient for children with ASD are those that combine visual cues, e.g., schedules, class rules, while minimizing visual distracters, e.g., extra word charts, ABC strips, pictures, computers, toys (Smith, 2012; Rogers & Dawson, 2010; Lord & McGee, 2001). When classrooms have too many visuals, children with ASD may become overwhelmed, and they may fixate on these items rather than on instructional materials; they may not be able to focus on important tasks.

Research also shows that children with autism struggle to remember information that is not of interest to them (Williams, 1995). For example, a child with autism may know the Metro

train schedule but may not know his or her phone number. This can lead to significant challenges in school with remembering classroom rules, meeting expectations, understanding how to complete tasks, and essentially knowing how to be a student. This information, so basic to classmates, may not be important to a child with ASD. To minimize this deficit, teachers are encouraged to incorporate both spoken and signed expectations as well as visual information whenever possible.

Teachers who post rules and expectations and review them frequently are most likely to succeed (Smith, 2012; Dunn Buron & Wolfberg, 2008; Loring & Hamilton, 2011). Visual reminders or posters that are helpful include those focused on classroom rules, job charts, schedules, and classroom expectations. Having this information visually accessible allows a teacher to refer a child to a visual reminder rather than rely on a child's weak receptive language skills (Loring & Hamilton, 2011).

Tips for Making the Classroom Accessible

 Conceal toys, materials, and other items of high interest (e.g., blocks, computers, puzzles) to eliminate

- distractions and potentially challenging behaviors.
- Keep visual reminders and postings available and easy to reference.
 Combine pictures and words where appropriate. Keep things clear and concise.
- Utilize all communication modalities (e.g., signed language; spoken language; pictures; gestures, including pointing).
- Post rules and expectations.
 Children cannot argue with a posting on a wall, but they can argue with you.
- Keep classrooms organized, with areas clearly labeled and designated for specific items. Use pictures and words to label important areas. Areas that are off limits (e.g., the teacher's desk) should be clearly labeled "No students."
- Use 5-point scales or other similar scales to help visually present expectations for behavior and emotions (Dunn Buron, 2003).
 Visually presenting expectations eliminates receptive language challenges.

Establishing Routines

Learning how to be a student may be a challenge for students with ASD. Students without ASD incorporate communication from their teacher and peers as well as the subtle cues of the classroom seemingly naturally (Moreno & O'Neal, 1997). Children with ASD often do not have these skills and may exhibit challenging behaviors until they learn how to be students.

This learning often occurs by establishing frequent routines during the school day (Kashinath, Woods, & Goldstein, 2006; Smith, 2012; Marks et al., 2003). When children with ASD have a routine that they know and have mastered, frustrations from trying to understand their environment (e.g., language or cues from the teacher) may be minimized and challenging behaviors



reduced. Research also shows that when routines are learned in one setting they can be generalized to other settings, so learning table manners at school results in using table manners at home (Kashinath, Woods, & Goldstein, 2006). Routines essential in classrooms may include a structured morning arrival, calendar or circle time, lining up, lunch time, recess, group work, and packing



up to go home (Marks et al., 2003; Smith 2012). It is important to keep in mind that routines should not turn into rituals, which can often be negative for children with autism (Smith, 2012; Lord & McGee, 2001).

Routines reduce stress and anxiety and enable students to feel as if they are in control (Dunn Buron & Wolfberg, 2008; Kashinath, Woods, & Goldstein, 2006). Without routines throughout the day, students with ASD are likely to face failure and, like others facing failure, get upset—and being upset can result in challenging classroom behaviors.

Tips for Establishing Routines

- Whenever possible, routines should be the same for all children in the classroom
- Individualize routines, but keep expectations the same.
- Make sure all pertinent adults including substitute teachers and staff members—are aware of classroom routines.
- Minimize changes. When changes to routines occur, children with autism often display challenging behaviors.
- Begin with establishing small routines (e.g., lining up) and work towards larger routines (e.g., calendar time).
- When possible, establish routines at school that are similar to those at home (e.g., meal times).
- Encourage independence. Avoid overhelping the child complete tasks that are developmentally appropriate.
 Instead, reward the child when he or she completes tasks.
- Ensure routines are developmentally appropriate and take into account the child's strengths and weaknesses.

Individualized Schedules

Like routines, schedules allow the child to understand the cues of school that he or she misses; schedules can lead to improved behavior, generalization of skills, and feelings of competence (Smith, 2012; Lord & McGee, 2001; Bryan & Gast, 2000; Mesibov, Browder, & Kirkland, 2002). Schedules should outline the day for the child and include all critical activities (e.g., arriving, snack time, circle time, play time, nap time, group work). Schedules should be individualized for each child and take into account his or her strengths and weaknesses (Bryan & Gast, 2000). Generalizability in understanding schedules may occur best when using pictures that accurately represent an activity or item, but the image should

be non-specific. For example, when some children with ASD see pictures of SunChips $^{\mathbb{B}}$ or M&M's $^{\mathbb{B}}$ to represent snack time, they may become upset if snack time does not include these items. For these children, more generalized pictures such as those found on image programs (e.g., Boardmaker®) might be appropriate. Research shows that when children are prompted to check their schedule often and are responsible for removing or checking off activities as they complete them, they are more likely to internalize the schedule and become independent in using it as well as master skills (Mesibov, Browder, & Kirkland, 2002; Bryan & Gast, 2000). Additionally, the use of schedules may assist students in learning the conceptual understandings of start and finish, first and then, and next and last. If students cannot manage an all-day schedule, a briefer version, such as one that shows first and then (see www.autismspeaks.org/docs/sciencedocs/atn/vi sual_supports.pdf), can be used.

Tips for Individualized Schedules

- Do not be overly specific (e.g., do not state "PE with Mr. Jon" because one day Mr. Jon will be absent and Ms. Dani will be the teacher, and this could create confusion and ultimately disruptive behavior).
- Do not force younger children to adhere to schedules with strict time lines (e.g., circle time at 9:30 a.m.) as elementary classrooms often do not adhere to strict time schedules.
- Do not use developmentally inappropriate schedules. Schedules should reflect the children's abilities. An evolution from picture schedules, to words and pictures, to words only, and ultimately to use of an agenda book would be a logical progression for children.
- Do not allow children to rearrange their schedules (e.g., put a preferred activity before a less favored activity) without permission.





Left: A reinforcement board allows a child to work towards a bigger goal (e.g., a walk, swing, access to a favorite toy) by requiring mini-goals. Stickers allow a visual representation for the child to know when he or she is getting close to a reward.

rewards, and intensive data collection. Applied Behavioral Analysis has been shown to improve socialization, behavior, academics, language, and communication skills in children with ASD at home and in the classroom.

Ask if you need supplies, we'll get

Be positive about your's and other

Be creative and HAVE FUN!

1 Try your best)

Many hearing children with ASD, even when educated in classrooms for only those with ASD, may need one-to-one aids to help with curriculum instruction, manage behaviors, and provide the intensive support needed

intensive support needed during the day.

While we may not have a large body

of research on deaf and hard of hearing children with ASD, we do have several effective interventions and strategies to address classroom behavioral challenges based on research with hearing children with ASD (Smith, 2012, Lord & McGee, 2001; Dunn Buron & Wolfberg, 2008). We have anecdotal evidence that a few deaf children using similar strategies have experienced success as well. When we interpret and use existing knowledge and combine that with our expertise in educating children with hearing loss, we begin to provide the best educational environment for children who are deaf or hard of hearing with ASD.

Individualized Instruction

• Do keep schedules in

• Do prompt children to

during the day.

them.

the same location and be

sure to update them daily.

check their schedules often

• Do allow portability for schedules

clip board or using Velcro to post

when necessary by placing them on a

Decisions about curriculum interventions and design for children with hearing loss and ASD are just emerging. We are faced with a lack of trained professionals and accessible resources, making any model selection a question of the ability to implement the intervention or curriculum successfully as well as the basic question of whether the intervention is appropriate. Until we have those trained professionals, we are left in a constant cycle of wondering if what we are doing is correct.

Research, however, is clear that when children with ASD are educated in classrooms that rely heavily on group work or on their ability to internalize the cues of the classroom, they do not progress academically and may exhibit challenging behavior. Currently, the only evidence-based practice for children with ASD is Applied Behavioral Analysis, the strategy of combining structured learning with structured

Classroom Strategies

- Towards the end of all activities, give five- and one-minute warnings that they will soon be finished, especially if the activity is something the child enjoys (Dunn Buron & Wolfberg, 2008).
- Keep routines consistent for the child, minimize changes, and make sure all teachers and staff members are aware of the routine.

- Consider having a Change Board (a designated place in the classroom to post upcoming changes to the schedule) in the classroom for older students. This board should be updated by the teacher, and the child should be prompted to look at the changes for the day. If problem behaviors occur, the teacher can clearly state that the changes were on the board.
- Post schedules and expectations to reduce power struggles.
- Provide a space in the classroom that is completely free of all stimuli.
 Children with ASD are easily overwhelmed and may need time without any external distractions to calm themselves.
- Communicate daily with parents. Tell
 the parents about their child's
 challenges and successes in school.
 Facilitate the parent communicating
 events that may impact their child's
 school performance (e.g., lack of sleep,
 change in diet, new medication).
- Incorporate rewards throughout the day for positive behaviors. Have options available and allow the child to pick. Monitor access to items that are overly reinforcing and could lead to challenges when removed. Seek feedback from parents about new interests, and make those interests work in the classroom.
- Keep track of data related to any challenging behaviors whenever possible. Be explicit when documenting what occurred before the behavior (antecedent), during the behavior (exactly what the child did), and after the behavior (consequence).
- Use a three-step prompting sequence when making demands. Tell the child, show the child, and then assist the child in completing a task. Provide rewards when the child independently completes a task.



References

Bryan, L., & Gast, D. (2000). Teaching on-task and on-schedule behaviors to high functioning children with autism via picture activity schedules. *Journal of Autism and Developmental Disorders*, 30, 553-567.

Centers for Disease Control and Prevention. (2007, February 9). Prevalence of Autism Spectrum Disorder—Autism and developmental disabilities monitoring network, 14 sites, United States, 2002. Morbidity and Mortality Weekly Report Surveillance Summaries, 56, 12-27.

DeStefano, F. (2007, December). Vaccines and autism: Evidence does not support a causal association. *Clinical Pharmacology & Therapeutics*, 82, 756-759.

Dunn Buron, K. (2003). The incredible 5-point scale: Assisting students with autism spectrum disorders in understanding social interactions and controlling their emotional response. Shawnee Mission, KS: Autism Asperger Publishing Company.

Dunn Buron, K., & Wolfberg, P. J. (Eds.). (2008). Learners on the autism spectrum: Preparing highly qualified educators. Shawnee Mission, KS: Autism Asperger Publishing Company.

Gallaudet Research Institute. (2008). Regional and national summary report of data from the 2007-2008 Annual Survey of Deaf and Hard of Hearing Children and Youth. Washington, DC: Author, Gallaudet University.

Gallaudet Research Institute. (2010). Regional and national summary report of data from the 2009-2010 Annual Survey of Deaf and Hard of Hearing Children and Youth. Washington, DC: Author, Gallaudet University.

Happe, F., Booth, R., Charlton, R., & Hughes, C. (2006). Executive function deficits in Autism Spectrum Disorders and attention deficit hyperactivity disorder: Examining profiles across domains and ages. *Brain and Cognition*, 61(1), 25-39.

Hurdy, K., Leadbitter, K., Temple, K., Klonims, V., McConachie, H., Aldred C., et al. (2010). Preschoolers with autism show greater impairments with receptive compared with expressive language abilities. *International Journal of Language Communication Disorders*, 45(6), 681-690.

Kashinath, S., Woods, J., & Goldstein, H. (2006). Enhancing generalized teaching strategy use in daily routines by parents of children with autism. *Journal for Speech, Language and Hearing Research*, 49, 466-485.

Kogan, M. D., Blumberg, S., Schieve, L., Boyle, C., Perrin, J., Ghandour, R., et al. (2009). Prevalence of parent-reported diagnosis of Autism Spectrum Disorder among children in the US, 2007. *Pediatrics* 124(4), 1-8.

Lord, C., & McGee, J. P. (2001). *Educating children with autism*. Washington, DC: National Academy Press.

Loring, W., & Hamilton (2011). Visual supports and autism spectrum disorders. Available from Autism Speaks website, www.autismspeaks.org/docs/sciencedocs/atn/visual_supports.pdf

Marks, S., Shaw-Hegwer, J., Schrader, C., Longaker, T., Peters, I, Powers, F., et al. (2003). Instructional management tips for teachers of students with Autism Spectrum Disorder. *Teaching Exceptional Children, 35*, 50-55. Available from Casenex website, www.casenex.com/casenex/cec Readings/instructionalManagementTips.pdf

Mesibov, G., Browder, D., & Kirkland, C. (2002). Using individualized schedules as a component of positive behavior support for students with developmental disabilities. *Journal of Positive Behavior Interventions*, 25, 58-72.

Moreno, S., & O'Neal, C. (1997). Tips for teaching high-functioning people with autism. In Indiana Resource Center for Autism, *Sourcebook for autism* (pp. 105-106). Bloomington, IN: Center for the Study of Autism, Indiana University.

Rogers, S., & Dawson, G. (2010). Early start Denver model for young children with autism: Promoting language, learning & engagement. New York: The Guilford Press

Szymanski, C., & Brice, P. (2008). When autism and deafness coexist in children: What we know now. *Odyssey*, 9(1), 10-15.

Szymanski, C., Brice, P., Lam, K., & Hotto, S. (2012, January 31). Deaf children with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders*. doi: 10.1007/s10803-012-1452-9

Volmer, L. (1995). Best practices in working with students with autism. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology* (3rd ed., pp. 1031-1038). New York: Wiley & Sons.

Williams, K. (1995). Understanding the student with Asperger syndrome: Guidelines for teachers. *Focus on Autistic Behavior*, 10(2), 9-16.

Resources

Magyar, C. (2011). Developing and evaluating educational programs for students with disabilities. New York: Springer.

Smith, T. (2012). Making inclusion work for students with Autism Spectrum Disorders: An evidence-based guide. New York: The Guilford Press.

A "Must Have" for All Schools

Autism Speaks 100 Day Kit (for teachers and educators). Available from the Autism Speaks website, www.autismspeaks. org/family-services/tool-kits/school-community-tool-kit

