

Instructional Management Tips for Teachers of Students With Autism Spectrum Disorder (ASD)

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Given the increased identification of children with autism spectrum disorder (ASD), more educators are becoming familiar with this rather perplexing disability. If your class includes a student or students with ASD, you may need useful and practical strategies for meeting the educational needs of your students (see box, “What Does the Literature Say?”). Further, although more and more writers focus on the challenges these students present to schools, we believe educators could particularly benefit from knowledge of specific instructional strategies for accommodating students with ASD in general education settings.

This article highlights some instructional management tips derived from our collective experiences as educational and behavioral consultants. These ideas come from the field and represent a small set of emerging practices that we believe can be useful for educators. The tips provided in this article are derived from our particular work with students diagnosed with Asperger’s syndrome, which is a special classification within ASD. These students, in particular, are increasingly included in general education classrooms, with teachers who often feel ill equipped to meet their learning and behavioral needs. In addition, special educators serving in consulting roles for these teachers need tips that they can provide to classroom teachers.

Here, we discuss promising strategies sometimes called *antecedent manage-*

ment strategies. These tips can help teachers create a positive and responsive classroom setting. In such an environment, educators may *maximize* learning and *minimize* students’ challenging behavior. Unfortunately, many educational interventions focus on attempts to address consequences for behaviors (i.e., *contingency management strategies*). Although these types of interventions may be effective for many students, we have found that students with ASD *require* educational interventions that address antecedents, or situations that give rise to a problem behavior.

Instructional Management Strategies

The strategies presented here are a compilation of specific strategies that we have found helpful with some students with ASD—as well as with other students—and we do not mean to imply that the needs of this student population are all the same. In fact, based on our experiences, we recognize that what works for one student may not work for another; and students with ASD have their own individual personalities that we need to take into consideration. Nevertheless, in the past 10 years, we have observed that students with ASD have many common learning needs.

Given the challenges presented by these learning characteristics, we chose to focus on instructional management tips that we believe support teachers in modifying *how*, not *what*, they teach.

Most students with ASD are capable of accessing the instructional content, if you use accommodations to promote the learning of all students.

Lesson Preparation

One major challenge for students with ASD is making sense of the lesson format and routine, which can often signal what you as the teacher view as relevant for meeting instructional objectives. Because these students need concrete and specific structures, you will need to carefully plan and set up the lesson. Because many students find it difficult to learn incidentally, you should present the content in a controlled fashion. Do this by thinking about key ideas and then structuring the lesson to minimize ambiguity. The following are some ideas that can help you set up the lesson ahead of time.

Highlight Most Important Concepts. Students with ASD can become easily overwhelmed with all the information you present. Think about ways to highlight what is important to know, because students with ASD do not easily pick out the most important information (see Table 1).

Establish Alternate Modes for Completing Assignments. Students with ASD can become overwhelmed with complex and multiple-step assignments. In addition, writing can be difficult, because of students’ poor fine-motor skills. Thus, you should think about alternative modes by which a student

What Does the Literature Say About Students with ASD?

In 1997, the Centers for Disease Control and Prevention estimated that autistic spectrum disorder (ASD) could be present in as many as 1 person out of every 500, or about 500,000 individuals in the United States (cited in Dunlap & Bunton-Pierce, 1999). The term *ASD* is used to encompass the wide range of disabilities that share many of the fundamental characteristics of autism. Whereas autism is associated with many distinctive characteristics, ASD recognizes that individuals with autism will display their own combination of symptoms in differing degrees of severity. Other than the classic diagnosis of autism, ASD includes pervasive developmental disorder, Rett's syndrome, childhood disintegrative disorder, and Asperger's syndrome (Lord & McGee, 2001; National Institute of Child Health and Human Development, 2000).

The learning characteristics of students with ASD include the following:

- A tendency to be easily confused by ambiguous assignments that may have multiple components (Jackal, 1996).
- Difficulty with not knowing what concepts are important to attend to (Moreno & O'Neal, 1997).
- Difficulty with processing high amounts of auditory information (Grandin, 2001; Klin & Volkmar, 2000).
- A tendency to be distracted during whole-class and individualized group work due to narrow interest areas that may interfere with motivation to attend to the teacher or specific lesson (Williams, 1995).
- A tendency to be easily frustrated due to an intense desire for "perfection" (Klin, 1996).
- Difficulty with following classroom routines and "cues" provided in the classroom (Moreno & O'Neal, 1997; Thompson, 1997).
- Difficulty with classroom activity transitions.

can demonstrate what he or she has learned. If the task is complex with multiple components, break the assignment down into clear and manageable pieces so that the student can be successful. Again, clearly specify your expectations for what the completed assignment should entail, such as the length of a writing assignment. Many students with ASD are perfectionists, and they can become highly frustrated and anxious when faced with producing material that they do not understand or that they feel is below standard (see Table 2).

Prepare the Student

Students with ASD will find it easier to participate in classroom routines and activities when they have had the opportunity to prepare. Sometimes referred to as *priming* activities, such strategies can be used to prepare students for new activities or concepts. Whereas homework can be beneficial as an *extension* activity for many students, for students with ASD, it might be better as a *preteaching* activity (see Table 3).

Maximize Comprehension and Content Retention

In planning for instruction, you should recognize that students with ASD tend to be visual learners who can make sense of instructional content when you present it in an organized, visual structure. For example, you could provide an outline before the lesson so that the student is able to record additional subideas under each of the major headings. Outlines can help the student prepare for a test, or be used as a guide for writing assignments.

Because many students with ASD are visual learners, use graphic organizers to depict relationships for key ideas.

Graphic and Visual Organizers. Graphic organizers can effectively depict relationships for key ideas. Although you may ask your students to construct such graphic maps or organizers, students with ASD benefit more from having one *already developed* for them. By visually representing the information, these students can call on their strong abilities to visualize information (Table 4).

Mnemonic Devices. Learning strategies, such as those developed by Deshler and colleagues at the University of Kansas Center for Research on Learning (Boudah & O'Neill, 1999), provide the systematic and concrete steps that are highly beneficial for students with ASD. Learning strategies often include mnemonic aids, such as "SCORE," "DISSECT," or "RAP," where each letter stands for a step in the strategy (Kline, Deshler, & Schumaker, 1992). Students can easily remember these strategies because the steps are linked by the acronym that serves as the mnemonic. You can help students use these strategies for many tasks, such as when reading for content, when deciphering vocabulary words, or when taking a test. These types of strategies appeal to the way many students with ASD learn

Table 1. Tips for Highlighting the Most Important Concepts

<i>Instructional Management Tips</i>	<i>Example in Practice</i>
Highlight critical information on a page.	Write everything that the student needs to know on a flash card. This can also be used to make studying for tests more manageable.
Preteach important concepts within a lesson.	Send home a summary sheet which emphasizes the important information contained in the next day's (or week's) lesson.
Provide detailed and clear instructions for classroom assignments.	Write out a step-by-step list of instructions that are sequential for the student. Show a completed model so the student knows what the completed assignment should look like.

Table 2. Tips for Providing Alternate Modes for Completing Assignments

<i>Instructional Management Tips</i>	<i>Example in Practice</i>
Reduce requirements for written output.	Have student make a list of adjectives or vocabulary words, as opposed to writing assignment that has students use those vocabulary words in an essay or story. Allow student to use class notes from a peer.
Allow alternatives to written assignments.	Give the option of audio- or videotaping the assignment. Provide other means for demonstrating content understanding, such as allowing the student to construct a physical replica of the ideas (i.e., models).
When writing is necessary, allow student to use portable keyboarding device.	Allow student to use the computer to take notes or complete an assignment. Require that some part of the assignment be written, but that other, more detailed parts can be audiotaped. Permit dictation of assignment to an assistant or peer.

exhibit intentionally defiant behavior when faced with tasks that they do not find particularly interesting. Indeed, some students with ASD will not complete an assignment simply because an adult has told them to do so.

Increase Time on Task. In our experience, it is often best to minimize adult interactions during the times that the student is off task. Instead, we have found that effective strategies minimize teacher verbal prompts to stay on task. Setting up alternative “cueing” systems for bringing the student back to the task can be challenging, but planning ahead can help you avoid unnecessary power struggles that further increase time away from the task (see Table 6).

Maximize Attending During Whole-Class Instruction. Whole-class instruction can be particularly challenging for students with ASD, both because of the

Table 3. Tips for Preparing the Student

<i>Instructional Management Tips</i>	<i>Example in Practice</i>
Work with parents to help prepare the student.	Give the parents an outline of upcoming curriculum topics or a book that will be presented to the class. Suggest background material, such as a video of a book that will be read, or other videos on the upcoming topic, which can be reviewed by the student. This will prepare the student for unfamiliar content and future classroom activities.
Prepare the student for upcoming themes and subject areas.	Have the students read up on a future content area at home so they have a basic understanding of what will be presented in a lesson. Provide the student with an extra set of texts for home to prevent forgetting needed academic materials.

(see Table 5). (For specific ideas, refer to the Strategic Instruction Model Web site at <http://www.ku-crl.org>.)

Increase Participation and Attention

Students with ASD may find it challenging to pay attention to classroom instruction, particularly when the content is not related to their particular area of interest. This is a typical characteristic of many students with ASD and is

often a source of frustration for their teachers. Because many students with ASD can demonstrate high levels of intelligence, you may misinterpret their lack of attention as intentional defiance. Further, these students may actually

high amounts of auditory information and potential disinterest in the content. Creative strategies that increase the student’s interest, as well as those that increase accountability for attending, are key to increasing the student’s atten-

Table 4. Tips for Using Graphic and Visual Organizers

<i>Instructional Management Tips</i>	<i>Example in Practice</i>
Provide visual depictions of key ideas.	Give the student a table with major headings, such as key facts, key events, and key people to fill in relevant pieces of information while reading or listening to a lecture. Construct graphic depictions that highlight the key ideas and relationship of ideas, such as a family tree of characters in a story. Use a timeline for conveying key chronological ideas.

Clearly specify your expectations for what the completed assignment should entail.

Table 5. Tips for Using Mnemonic Devices

<i>Instructional Management Tips</i>	<i>Example in Practice</i>
Help the student to visualize information.	Have the student practice visualization of events in the text including key words and their definition and where in the text this information can be found (or seen).
Make rhythms or sayings to help the student remember a fact or idea.	The expression, "Plan your work, and work your plan" can be used to encourage the use of organizational strategies. "H-O-M-E-S" represents the first letters of the Great Lakes (Huron, Ontario, Michigan, Erie, and Superior. "Every Good Boy Deserves Fudge" represents the E-G-B-D-F notes on a musical scale. The phrase, "In 1492 Columbus sailed the ocean blue" can be used as a rhythm to remember a history fact.

tion during whole-class instruction (see Table 7).

Prepare for Instructional and Classroom Transitions

One area of concern is addressing difficulties students with ASD experience with transitioning from one activity to the next. Classroom activities rarely follow a sequence whereby a task is fully completed before moving on to the next activity. Often an activity will need to be completed at a later point. For students with ASD, this can be highly confusing and disconcerting, because their characteristic rigid thinking may make it difficult to put away something that is not complete to the level that they feel is appropriate. Again, providing the student with a visual and concrete structure can help to ease these kinds of transitions (see Table 8).

Setting the Stage

The following principles are key to setting up a positive instructional environ-

ment that can prevent frustration for students with ASD:

- Provide concrete and specific information and expectations.
- Prepare the student ahead of time.
- Use visual representations to the maximum extent possible.
- Accept alternatives for completing classroom assignments and demonstrating what has been learned.

These strategies, called antecedent management strategies, may help teachers create a positive and responsive classroom setting.

Final Thoughts

As you review the tips presented in this article, we hope it becomes salient how these instructional management tips have the potential to benefit many students. In fact, without coming to this conclusion, it may appear as though these tips can be extremely time-consuming if designed to only meet the needs of a small subgroup of students. We would encourage teachers to think about antecedent strategies for all their students.

References

- Boudah, D. J., & O'Neill, K. J. (1999). *Learning strategies*. ERIC/OSEP Digest E577. Reston, VA: ERIC Clearinghouse on Disabilities and Gifted Education. (ERIC Document Reproduction Services No. ED 433 669)
- Dunlap, G., & Bunton-Pierce, M. (1999). *Autism and autism spectrum disorder (ASD)*. ERIC Digest #E583. Reston, VA: ERIC Clearinghouse on Disabilities and Gifted Education. (ERIC Document Reproduction Services No. ED 436 068)
- Grandin, T. (2001). *Teaching tips for children and adults with autism* (rev. version).

Table 6. Tips for Increasing Time On Task

<i>Instructional Management Tips</i>	<i>Example in Practice</i>
Provide a visual way to monitor what is being completed and what needs to be completed.	Use white boards to write down directions or instructions. As the student finishes with each direction they can cross it off the board. Use "work baskets" to indicate how much work is required and when it is completed (e.g., when the basket is empty).
Provide a variety of quick nonverbal cues to help the student get focused on the assignment.	If the student is not attending to the task at hand, walk by and touch the student's paper to nonverbally prompt the student to continue working. Or, stroll by periodically, reminding the student that someone is there to help if needed, rather than pointing out that the student is not working. Provide a secret signal between you and the student (e.g., tugging on your ear) to help cue attending behaviors.

Table 7. Tips for Maximizing Attending During Whole-Class Instruction

<i>Instructional Management Tips</i>	<i>Example in Practice</i>
Embed additional activities within the lesson to increase the student's interest and motivation for listening to the class lecture.	Develop a list of words that might be said during a lecture. Give the student a marker and a list of those words. Every time a word from the list is spoken during the lecture the student should highlight the word they hear. This information can then be graphed. This provides the student with an alternative and potentially interesting reason for listening to the teacher, since students with ASD often enjoy taking
Minimize extraneous distractions.	Seat the student up in front of the classroom and in a position of least distraction. Offer earplugs to help block noise.
Relate the material to the student's pre-occupations	For a student excited by dates, have him or her answer questions about what date a given event occurred.
Provide the student with visual material that allows him or her to follow along when the teacher is speaking.	When reading a book aloud to the class, give the student a copy of the book so he or she can read and follow along. This provides the student with visual material, rather than having to rely solely on information auditorially, which is extremely difficult for students with ASD.

Accessed 12/18/02. [Available at: www.autism.org/temple/tips.html]

Jackal, S. (1996). *Asperger's syndrome—Educational management issues*. (ERIC Document Reproduction Services No. ED 422 687) Accessed 12/18/02 [Available at: <http://members.ozemail.com.au/~prussia/asperger/teach.htm>]

Klin, A. (1996). *Asperger syndrome: Toward an understanding of the condition and improvement of service provision*. Paper presented at the Learning Disabilities Association International Conference, Dallas, TX.*

Klin, A., & Volkmar, F. (2000). Asperger syndrome: Treatment and intervention. Some guidelines for parents. In A. Klin, F. Volkmar, & S. Sparrow (Eds.), *Asperger syndrome* (pp. 340-366). New York: Guilford Press.

Kline, F. M., Deshler, D. D., & Schumaker, J. B. (1992). Implementing learning strategy instruction in class settings: A research perspective. In M. Pressley, K. Harris, & J. T. Guthrie (Eds.), *Promoting academic competence and literacy in school* (pp. 361-406). San Diego, CA: Academic Press.

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

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.

National Institute of Child Health and Human Development. (2000). *What is autism?* Accessed 12/18/02 [Available at: <http://www.nichd.nih.gov/publications/pubs/autism1.htm>]

Thompson, S. (1997). *The source for nonverbal learning disorders*. East Moline, IL: LinguiSystems.*

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

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TEACHING Exceptional Children, Vol. 35, No. 4, pp. 50-55.

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Table 8. Tips for Preparing for Instructional and Classroom Transitions

<i>Instructional Management Tips</i>	<i>Example in Practice</i>
Provide specific and concrete beginning and end points, even with activities that may continue over several days or class periods.	Make colored plastic clips with the days of the week written on them. When recess starts, or it is time to move on to the next activity, place one of the plastic clips that says "Monday" on it at the point where the student stopped.
Prepare the student for daily or weekly activities.	Prepare a picture or written schedule for daily or weekly activities.