Structured Teaching Strategies: A Series

Article 2: Visual Schedules in the School Setting

Contributed by Kara Hume, Ph.D.

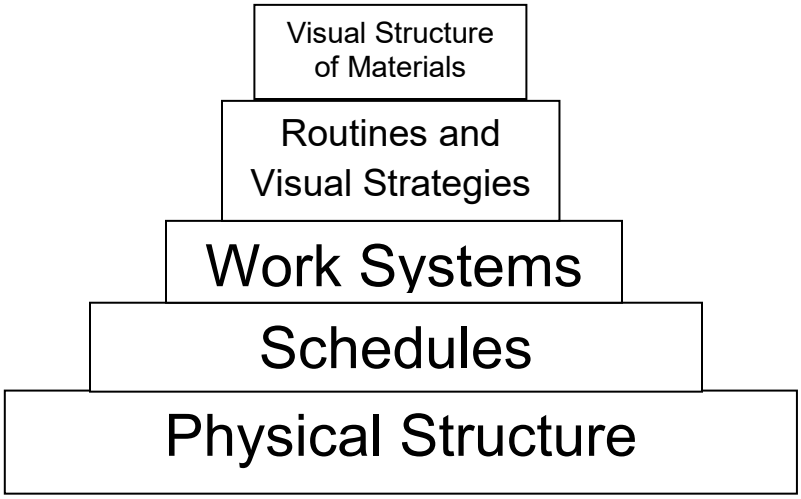
This series of four articles can be used as a set or separately depending on the needs of the staff/students. Each article will review the rationale for the use of structured teaching, as well provide as a brief description of the TEACCH model.

Structured Teaching Overview

Structured Teaching is a set of teaching techniques developed by Division TEACCH (Training and Education of Autistic and related Communication- handicapped Children), a state-wide program serving individuals with autism spectrum disorders (ASD) in North Carolina. Division TEACCH is a comprehensive treatment model that serves individuals with autism across the lifespan. Along with the structured teaching strategies, the model emphasizes an extensive understanding of autism, partnering with families, individualized assessment when developing and implementing strategies, and the development of skills across curriculum areas (with attention to the development of communication and social skills). Structured teaching strategies can be implemented across settings and across curriculum area, as they serve as a vehicle to teach skills, and/or as a framework for a classroom setting.

These teaching strategies are based on an understanding of how autism impacts the thinking, learning, and behavior of an individual with ASD. Differences in auditory processing, imitation, motivation, and organization can hinder the educational success of students with ASD, as most traditional teaching strategies rely heavily on verbal instructions, demonstration, social reinforcement, and sequencing chunks of information or directives. Structured Teaching strategies, however, capitalize on the strengths of students with ASD. These include providing predictable and meaningful routines through the use of structure, adding visual/structural supports to classroom instruction and activities to increase engagement and independence, and clearly organizing classroom spaces and teaching materials to reduce anxiety and increase appropriate behavior.

There are five elements of Structured Teaching that build on one another, and all emphasize the importance of predictability and flexible routines in the classroom setting. Division TEACCH developed a visual to illustrate the Structured Teaching components—the Structured Teaching pyramid:



This article will describe the schedule component of the Structured Teaching pyramid.

What is a Visual Schedule?

A visual schedule communicates the sequence of upcoming activities or events through the use of objects, photographs, icons, words, or a combination of tangible supports. A visual schedule tells a student WHERE he/she should be and WHEN he/she should be there. Visual schedules are designed to match the individual needs of a student, and may vary in length and form.

Why do I use a Visual Schedule with Students with ASD?

Visual schedules enhance receptive language and assist in providing meaning to students. Years of research has indicated that students with autism have a number of strengths, including visuospatial skills and sustained attention (Quill, 1997). Though students with ASD may have difficulty attending to and processing lengthy verbal requests, such as directives on where to go in the classroom or when an activity will begin, research has shown that students are able to attend to visual information more successfully (Garretson, Fein, & Waterhouse, 1990). If an adult provides verbal information on the upcoming sequence of events, students with ASD may have difficulty with the rapid comprehension required and the fleeting nature of verbal language. If a student forgets the information, there is no concrete system for the student to refer to. Visual schedules assist with comprehension, providing another channel for learning, and are easily accessible should a student need to be reminded of the day's events.

Visual schedules also help students with ASD in becoming independent of adult prompts and cues (Mesibov, Shea, & Schopler, 2005). Teaching students with autism to follow visual schedules, rather than being moved around the classroom or through activities by staff members, increases the likelihood that students will become independent of adult delivered prompts. Recent research confirms that shifting from verbal prompts to visual prompts can increase student independence and engagement, as well as decrease the need for adult supports (Green, 2001). Though students may continue to rely on the visual stimulus to direct them to appropriate locations, it is not unlike my colleague (or most of us) who needed her calendar to help her stay organized and punctual.

Visual schedules are also an important tool in reducing anxiety in students with ASD, while teaching flexibility. Students with autism may feel anxious if the expectations are not understood or if predictable routines are not in place. A visual schedule provides a clear external structure for the school day, and may be physiologically calming for students. Though activities should

vary throughout the day and week, the routine of using a visual schedule can provide safety and predictability. Classroom staff is responsible for varying the sequence of events regularly (i.e. math is first on Mondays, Wednesdays, and Fridays and reading is first on Tuesdays and Thursdays) while ensuring that the visual schedule is used consistently to provide information to students. Ultimately, the visual schedule can teach students that a change in the sequence of activities is acceptable because the routine of using the visual schedule is consistent and reliable.

How Do I Implement Visual Schedules?

The first step in using visual schedules with students is to design the format of the schedule based on the individual needs of the student. Teachers may consider the comprehension level, attention span, sequencing abilities and other skills a student demonstrates. Division TEACCH identified five areas to consider when designing visual schedules for students (Cox & Boswell, 1999).

1. Form of representation: Consider what form of information would consistently be most meaningful to the student. Staff may determine that objects, photos, icon drawings, or words (or a combination of forms) are most easily understood by the student. For example, with a concrete learner, using Lego blocks to represent the play area may be most meaningful, while a photo of the play area may be appropriate for some students, and an icon representation of the play area may be meaningful for others. It is important to select a form that would be understood by the student on his/her worst day (i.e. with a substitute teacher, when the bus is late, when recess is cancelled), as often a student's comprehension skills may be compromised in times of stress or anxiety.

Figure 1

Object represents play area.

Figure 2

Photo represents play area.

Figure 3

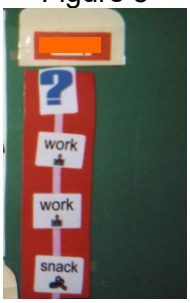
Icon represents play area.

2. Length of schedule and presentation format: After determining how the information will be represented, staff must consider how much information will be presented to the student at one time. Some students may be most successful with one piece of information visible at a time, while others are able to be successful with a short sequence of activities or up to a full day of information presented at a time. It is important to assess the student's ability to sequence information, the anxiety level of the student (presenting too little or too much information may cause a student to worry), and the student's ability to handle changes in the information presented (if a full day of information is presented it is more likely that unforeseeable changes will occur). Once length is determined, the classroom team must decide how to present the information to the student—1 piece at a time, in a left-to-right or top-to-bottom format, or using multiple rows of information.

Figure 4

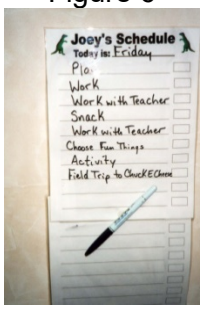
Length: 1 activity displayed at a time.

Figure 5



Length: 4 activities displayed at a time, top-to-bottom presentation.

Figure 6



Length: Half-day schedule, top-to bottom presentation.

3. Way of manipulating the schedule: The next step is determining how the student will move the schedule materials throughout the day. If the student is using objects to depict where to go, staff may decide that the "schedule objects" will be used in the activity (i.e. student will play with the Legos after arriving in the play area). Staff may also decide that students will carry the schedule item and match it to an identical item (object, photo, icon, word card) upon arriving at the assigned destination. Carrying schedule items to the location can often assist students in remembering where they are headed without additional adult reminders (i.e. asking students "Where are you supposed to be?"), and provides reinforcement for the student when they match the item to the corresponding container. If students no longer need to carry schedule information with them to a location, students may mark off the activity when it is finished.

Figure 7

Students carry their schedule cards to the designated location and match them to a corresponding pocket when they arrive.

Figure 8

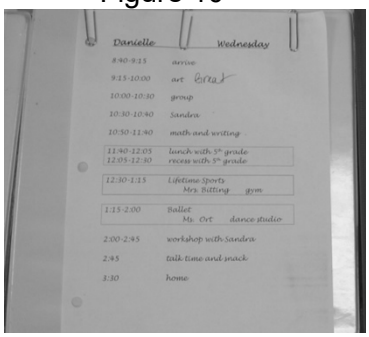
Students mark off the activity on their schedule when it is finished.

4. Location of the schedule: When initially teaching a student how to use a schedule, staff may decide to bring the schedule information to the student. As students become familiar with the schedule, and understand where to go, schedules may be posted in a central location in the classroom, such as a table, shelf, wall, or desk. When it is time to transition, students can go to this central and neutral location (a "transition area") to get their schedule information. Or, if students are independent in their schedule usage they may begin to carry a portable schedule with them from activity to activity. The visual schedule may be placed in a binder or on a clipboard that students move with them throughout the day.

Figure 9

Schedules are posted in a central location in the classroom.

Figure 10



Schedule is clipped to a folder the student carries with her.

5. <u>Initiation of use of the schedule:</u> Finally, staff needs to determine how a student will know when it is time to check his/her schedule. Initially staff may bring schedule information to the student at the culmination of an activity, however most students will eventually go to a transition area when cued. Visual cues are often most effective to signal to students that a transition is occurring and that information about an upcoming activity can be found on their schedules. Staff may decide to use a card with the student's name on it or a favorite picture as the cue. When students are given this cue, they may carry it to their schedule, place it in a matching pocket or container, and then refer to the next activity on the visual schedule. Using this cue consistently is an excellent tool in helping students know when to transition, and when to remain in an activity or location. The use of a visual cue also reduces dependency on adult prompts during transitions.

Figure 11

Orange cards with student's name on it serve as visual cues to let student know when to access visual schedule. When student is given card, she knows it is time to check her schedule.

What Do I Do Next?

After matching the design of the visual schedule to the student's strengths and needs and making all of the schedule materials, staff then need to begin to teach the student how to use the schedule. Students must be explicitly taught how to manipulate the materials, where the designated locations are, and how and when to transition throughout the day. When teaching a student to use the schedule, it is most effective to minimize adult delivered prompts (Green, 2001). Prompt the student from behind so the schedule materials are in the student's visual field, instead of the adult, and plan to fade the prompts as quickly as possible. Use only relevant language, identifying the location where the student is going (i.e. "Play area" instead of "Come on, Steve, we're going over to the play area. I think you are going to love it!"). This promotes student independence, as a primary goal of schedule use is independent movement throughout the classroom and school building when appropriate.
Once a student has mastered independent usage of the visual schedule, staff can decide how to continue to improve the student's skills. Staff may decide to change the form of the schedule from pictures to words if the student has become a fluent reader, or may decide to increase the length of the schedule from part-day to full-day. It is important for everyone to remember, however, that a more complex visual schedule is not necessarily "better". The goal is independent usage, so the types and forms of schedules used may vary widely in one classroom.

References

Cox, R. & Boswell, S. (1999). Checklist for the individualization of visual schedules. TEACCH Level 1 Seminar.

Garretson, H., Fein, D., & Waterhouse, L. (1990). Sustained attention in children with autism. *Journal of Autism and Developmental Disorders, 20,* 101-114.

Green, G. (2001). Behavior analytic instruction for learners with autism: Advances in stimulus control technology. *Focus on Autism and Other Developmental Disabilities***,** *16*, 72-85.

Mesibov, G., Shea, V., & Schopler, E. (2005). *The TEACCH approach to autism spectrum disorders.* New York: Plenum Press.

Quill, K. (1997). Instructional considerations for young children with autism: The rationale for visually cued instruction. *Journal of Autism and Developmental Disorders, 27*, 697-714.

Credit to Division TEACCH for several photos.

2011