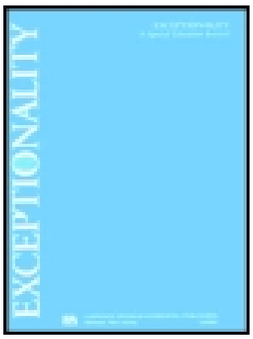

EXCEPTIONALITY

Routledge
Taylor & Francis Group

ISSN: 0936-2835 (Print) 1532-7035 (Online) Journal homepage: https://www.tandfonline.com/loi/hexc20

Classroom Structuring Methods and Strategies for Children and Youth with Autism Spectrum Disorders

Jennifer B. Ganz

To cite this article: Jennifer B. Ganz (2007) Classroom Structuring Methods and Strategies for Children and Youth with Autism Spectrum Disorders, EXCEPTIONALITY, 15:4, 249-260, DOI: 10.1080/09362830701655816

To link to this article: https://doi.org/10.1080/09362830701655816

Published online: 05 Dec 2007.

Submit your article to this journal

Article views: 6332

View related articles

Citing articles: 5 View citing articles

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=hexc20

EXCEPTIONALITY, *15*(4), 249–260
Copyright © 2007, Lawrence Erlbaum Associates, Inc.

Classroom Structuring Methods and Strategies for Children and Youth with Autism Spectrum Disorders

Jennifer B. Ganz
University of Texas at San Antonio

Autism experts and individuals with high-functioning autism contend that many individuals with autism spectrum disorders (ASDs) respond most favorably to information that is presented visually. Accordingly, strategies capitalizing on this visual preference have received significant recent attention in both ASD research and practitioner-related literature. This article provides a review of visually based strategies for organizing classrooms for children and youth with ASD. Classroom structuring methods, visual schedules, and visually based organizational strategies are described and discussed. For each of the above, a justification, a brief review of the research literature, implementation guidelines, recommendations for effective use, and suggested resources for practitioners are provided. Tables and figures that provide examples of methods are also provided.

Many, although not all, individuals with autism spectrum disorders (ASDs) are referred to as visual learners (Earles, Carlson, & Bock, 1998; Earles-Vollrath, Cook, & Ganz, 2006). High-functioning adults with ASD have reported that they learn more easily via pictures and written words compared to auditory means. Liane Holliday Willey (1999), an adult with Asperger syndrome, noted that she "require[s] grand elaborations, well calculated metaphors and strong visual images to understand language" (p. 79). Temple Grandin (Grandin & Scariano, 1986), an adult with autism, remarked that she "didn't even talk until [she] was three and a half years old" (p. 8) and that "memories play like a movie on the big screen of [her] mind" (p. 15).

Visually based interventions are recommended for individuals with ASD because it is thought that visual processing is a relative strength for many of these individuals (Schopler, Mesibov, & Hearsey, 1995). Thus, visuals decrease students' reliance on areas of deficit, including auditory processing, memory, and communication. Further,

Correspondence should be addressed to Jennifer Ganz, Department of ILT, COEHD, University of Texas at San Antonio, One UTSA Circle, San Antonio, TX 78249. E-mail: Jennifer.ganz@utsa.edu

visual strategies are thought to increase student independence and decrease dependence on adult prompts, cues, and correction.

The purpose of this article is to (1) briefly describe the research support and justification for visual organization of classrooms and programs, visual schedules, and individual work tasks; (2) detail the components and step involved in each; (3) provide graphics illustrating each; and (4) provide tables listing recommended materials and resources.

VISUALLY ORGANIZED CLASSROOMS AND PROGRAMS

Research Support for Visually Organized Classrooms and Programs

Research has demonstrated that visually based programs—the structured teaching approach of Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) programs in particular—are often effective in individuals with ASD. Van Bourgondien, Reichle, and Schopler (2003) found that compared to another residential program for adults with significant disabilities, a teaching-based program with visual components was found to have better structure; residents made greater improvements in independence on vocational and self-help tasks; behavior strategies were more positive and reinforcing; and family members were more satisfied with the program. Panerai, Ferrante, and Zingale (2002) compared a TEACCH-based program to an integrated classroom approach and found the structured teaching-based program resulted in significant improvements in the areas of imitation, perception, gross motor skills, hand-eye coordination, and cognitive performance, while the integrated approach only resulted in significant improvements in hand-eye coordination. Ozonoff and Cathcart (1998) investigated the effects of a structured teaching-based home program for preschool children with ASD compared to no treatment and found significant improvements among the structured teaching participants in the areas of imitation, fine motor, gross motor, and cognitive performance. Clearly, visually organized programs may be useful for individuals with ASD in a variety of skill areas and for individuals at a variety of ages and developmental stages.

Guidelines for Visually Organizing Classrooms

Schopler et al. (1995) recommend organizing classrooms for visual clarity, which they refer to as "physical organization." These suggestions may also apply to work, home, and recreational environments. Areas should be designated for specific learning tasks and the classroom should be arranged such that activities are clearly identified in a visual manner (Schopler et al., 1995; Scheuermann & Webber, 2002). A list of possible learning areas is provided in Table 1. It is also suggested that the classroom's learning areas have visually clear boundaries (Heflin & Alaimo, 2007; Schopler et al., 1995). For example, teachers may use tape on the floor, shelving, and rugs to clarify areas in

TABLE 1
Recommended Classroom Learning Areas for Preschool, Elementary, and Secondary Classrooms

Preschool	*Elementary*	*Secondary*
• Art	• One-to-one lessons	• One-to-one lessons
• Books/listening	• Independent work	• Independent work
• Gross motor	• Group activities	• Group activities
• One-to-one lessons	• Prevocational skills	• Vocational skills
• Independent work	• Self-help/hygiene	• Self-help/hygiene
• Free choice/play	• Leisure	• Leisure
• Group activities (circle time, snack, social skills)		
• Toileting/hygiene		

Note. Summarized from Schopler, Mesibov, and Hearsey (1995).

which certain tasks take place and that students are expected to remain in those areas while engaging in those tasks. Furthermore, elements of the classroom should promote attention to task. Such elements include using room dividers, clearing desks and tables of unnecessary materials, and covering windows to prevent distractions. Scheuermann and Webber (2002) recommended that one-on-one instruction and independent work areas should be located in areas of the room that are visually secluded from the rest of the room, particularly when working with students who are easily distracted or noncompliant. Additionally, irrelevant visual materials such as posters or letters of the alphabet may distract students with ASD from required tasks and should be eliminated (Schopler et al., 1995). Finally, it is recommended that work areas be contiguous to or near shelving so that required materials are within easy reach. Figure 1 provides an example of a visually organized secondary classroom.

Recommendations for Classroom Structuring

The following are recommendations related to visually organizing classrooms.

- Design each student's work area with his or her needs in mind. Some students will need more concrete visual cues and boundaries and more structure than others. Scheuermann and Webber (2002) recommended color coding or labeling with names or pictures for each students' materials.
- Separate independent work and one-to-one work areas based on variable teacher expectations. Only mastered tasks should be given in independent work areas and students should be taught that they should work there without adult intervention.
- When a student has difficulty with distractions or understanding barriers, consider reorganizing the environment. Teachers often arrange their classrooms prior to students' attendance and find it difficult to rearrange their rooms, even though doing so may be a simple solution to off-task behavior problems.

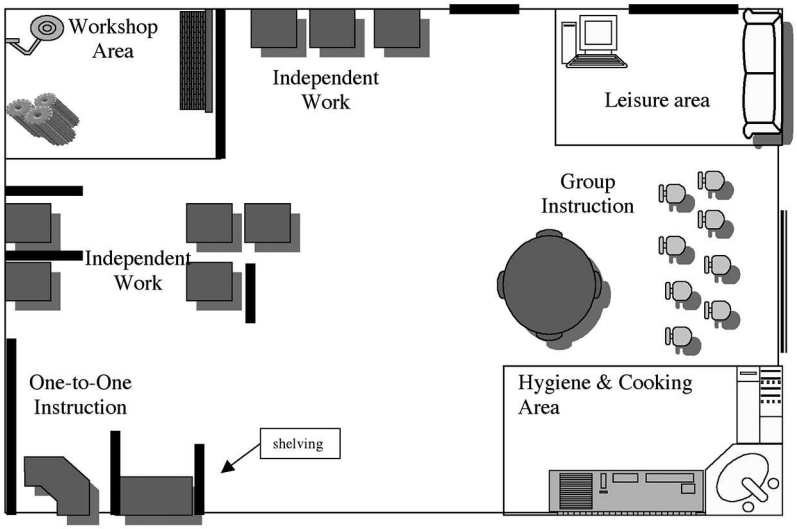

FIGURE 1 Visually organized secondary classroom.

- Reorganize each student's independent work area as the students become more capable. Keep in mind what a typical general education classroom looks like and aim to work toward creating a similar arrangement over time as the student becomes more capable of working independently. This may include decreasing barriers such as shelving or dividers, moving the student closer to peers, and requiring the student to travel across the room for materials. If the student has difficulty staying on-task as a result of a change, be prepared to take a step back.

VISUAL SCHEDULES

Justification for Visual Schedules

Visual schedules are recommended to ameliorate a number of deficits common among individuals with ASD such as auditory processing, language use and understanding, organization, understanding time concepts, and memory (Schopler et al., 1995). Schedules take advantage of strengths typical of children with ASD such as visual processing and understanding. Visual supports also provide concrete, stationary instructions, illustrate for students what preferred events will occur and when, and increase independent task engagement (Earles-Vollrath et al., 2006). Schedules tell students (1) what activities can be anticipated, (2) when the activities will occur, and (3) the order of activities (Schopler et al., 1995). Schedules may also be used to provide information regarding unusual activities or a change in typically occurring events and to help students cue themselves when they get distracted (Hodgdon, 1995).

Research Support for Visual Schedules

Several studies have found visual schedules to be valuable tools for use with individuals with ASD. Bryan and Gast (2000) implemented activity schedules with four elementary-aged children with autism, and Massey and Wheeler (2000) implemented them with a four-year-old with autism, resulting in increased time-on-task with scheduled tasks. Krantz, MacDuff, and McClannahan (1993) trained parents to use visual schedules in their homes with three elementary-aged boys with autism, producing decreased inappropriate behavior and increased on-task behavior and social initiations. MacDuff, Krantz, and McClannahan (1993) implemented photographic schedules with four boys with autism aged 9 to 14 and found that the use of schedules increased the amount of time the boys spent on-task. Dettmer, Simpson, Myles, and Ganz (2000) used visual schedules and other visual cues with two early elementary-aged boys with autism to successfully decrease response latency when the children were given directions from an adult; the procedure also led to a reduction in the number of adult prompts. Kimball, Kinney, Taylor, and Stromer (2004) taught a preschooler with autism to follow an activity schedule enhanced with video sequences to initiate play with peers. Similarly, Dauphin, Kinney, and Stromer (2006) used activity schedules combined with video to teach a three-year-old with ASD to perform a variety of sociodramatic play sequences and scripts. In most cases, gains were maintained over time and often generalized to novel activities. To be sure, visual schedules are a promising practice when used to address time-on-task problems, increase independence, assist learners to understand play sequences, curb disruptive behaviors, and increase communication skills.

Components of and Recommendations for Implementing Visual Schedules

Schopler et al. (1995) make a number of recommendations regarding the use of student schedules. Teachers can indicate which schedule belongs to each student (1) through the use of color coding (e.g., a student's schedule, work area, and materials would be a single color, specific to that student), (2) placing a particular symbol by the student's schedule (e.g., one student's possessions are labeled with boats, another's with fish), (3) putting the student's picture next to his or her schedule, or (4) by name-labeling for students who are able to recognize their names in print. Schedules may be left to right or top to bottom and should be individualized according to each student's needs and communication and reading abilities. Some students may be able to comprehend and follow schedules that encompass an entire day's events, while others can only comprehend one or two scheduled events at a time.

Schedules should be individualized according to each student's reading level and understanding of abstract concepts (Hodgdon, 1995; Schopler et al., 1995). A student who cannot read and who uses little speech may require schedules created from full-sized or miniature objects to represent activities throughout the day (e.g., ball represents outside time, crayon represents independent work time). Another student may understand more abstract concepts and use photographs or line drawing paired

with written words to represent daily activities. A student who is a fluent reader may be able to follow a schedule composed of written words without pictures. Eventually, older students may use schedules incorporated into daily planners or personal data assistants (PDAs). In some cases, students may be able to assist in writing or constructing their own daily schedules (Earles-Vollrath et al., 2006). Figure 2 provides examples of a variety of schedules.

Visual schedules should be individualized according to where they are located. Wherever they are placed, schedules should be accessible throughout the day. Short schedules for distinct segments of the day may be located in the areas where they need to be utilized. For example, a visual support system specifying the steps connected to a toileting sequence might be located in the class bathroom. Schedules for students who experience difficulties remembering objects or items that are out-of-view should be placed in an area where they are in view of the students the majority of the time. Schedules may be permanently affixed or may be portable. Permanent schedules may be placed in a central transition area (Schopler et al., 1995), such as near a student's classroom work area, on the student's desk, or on a shelf or nearby wall. Portable schedules may be more useful for students who spend part of the day in general education and part of the day in a special education classroom, or in middle or high school when students may transfer from classroom to classroom throughout the day. A portable schedule may be written as a list and carried in a folder or binder, incorporated into a daily planner or PDA, or may be made of a series of photographs

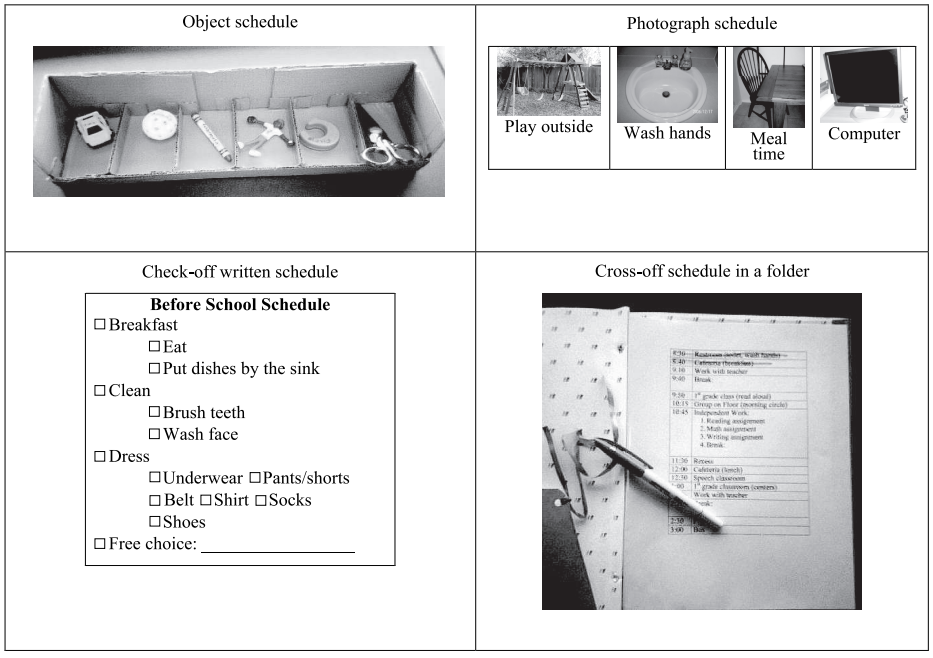

FIGURE 2 Examples of visual schedule.

in the photo sleeves of a wallet, pages in a binder or folder, or clipped together with a loose-leaf ring.

Schedule-following routines must be explicitly taught to the students who use schedules (Hodgdon, 1995). Schedules may be used in a variety of ways.

- Take off and put in: First, pictures or phrases may be laminated and attached with Velcro® to schedule strips or folders. The pictures/phrases may either be removed and placed in a "finished" pocket as events are completed, or may correspond to places in the classroom where students walk to and place the pictures/phrases into pockets with corresponding pictures.
- Cross off/check off: Written or picture schedules may be laminated or placed in plastic sleeves so activities may be crossed or checked off as they are completed.
- Pointer: An arrow may be placed on the schedule with Velcro(r) and moved from activity to activity as each one is completed. Furthermore, students may be taught to follow schedules independently, using a timer or clock as a signal, or may be taught to respond to a verbal cue such as, "finished with _____; now it's time for _____," or, "check your schedule." Whenever possible, students should be taught to independently follow their schedules to more closely approximate expectations in general education classrooms and job sites.

Recommendations for Using Schedules in the Classroom

The following are suggestions to keep in mind when using visual schedules.

- Over-teach the student how to follow the schedule initially. Some students take longer than others to learn to use schedules. In particular, young students and students with cognitive impairments may need prompts for up to two weeks before they are able to follow their schedules independently. It is better to provide more assertive prompts initially than to allow students to repeatedly use their schedules incorrectly.
- Physical prompts and gestures may be easier to fade than verbal prompts. Visual schedules are intended to be followed independently. If an adult verbally cues the student (e.g., "pick up the picture," "put it in the pocket"), the student may interpret those cues as part of the expected routine. It is better to stand behind a student and physically prompt him or her until he or she is able to use the schedule independently than to incorporate a verbal cue that may be difficult to later fade.
- Use a "natural" signal to indicate it's time to check the schedule versus telling the child to "check your schedule." It may be more natural to teach a child to automatically refer to his or her schedule when given a variety of verbal cues, such as those he or she might hear in a general education classroom or work setting such as, "time's up" or "we're finished." Other examples of more natural cues include teaching a student to use a clock or set a timer as a cue to independently check his or her schedule.

- If the student does not quickly learn to independently use his or her schedule, try one of the following adaptations. (1) Shorten the schedule to contain only one or two pictures or phrases at a time. The teacher may increase the length of the schedule after the student masters the ability to use a shortened schedule independently. (2) Make the pictures larger or use larger objects. Larger items may help the student focus on the schedule. (3) Switch from abstract to more concrete representations (e.g., a student whose schedule is in written words may not be able to read fluently enough to follow a written schedule even if he or she is able to read individual words and thus needs to initially use a line drawing or photograph schedule). (4) To the extent that individual learners are able, change the schedule frequently. Children with ASD may have difficulty with change; however, visual schedules are a way to help them understand changes in routine. If a child's schedule is always the same, it will be difficult for him or her to adjust when special events occur, such as school assemblies or field trips. If the teacher frequently makes slight changes to the schedule, the student will learn to follow the schedule rather than the typical routine.

VISUALLY ORGANIZED INDIVIDUAL WORK TASKS

Justification for the Use of Visually Organized Work Tasks

Schopler et al. (1995) recommended designing tasks in a visually clear manner. By doing so, teachers provide students with ASD with instructions regarding the skills required to complete a task, how much the student needs to do to complete the task, and a visual representation of what outcome is associated with a task. Thus, students with ASD are able to perform tasks without direct instruction from adults, promoting independence that they will need to function in adult jobs (TEACCH, 1996).

Components of Visually Organized Work Tasks

TEACCH (1996) specifies three components of visually organized tasks: (1) instructions, (2) organization, and (3) clarity. Instructions provide information for students regarding how to complete the task. Instructions may be apparent to students in four ways. In some cases, the materials connected to an activity define the task. That is, it is apparent from looking at the materials what and how to complete the task. The second type of instructions include a variety of "jigs" (TEACCH, 1996). Jigs assist students by showing, visually, where materials should be placed to complete a task. Types of jigs include cut-out jigs (e.g., shapes of each necessary item are cut out of a material such as cardboard or foam so the students can place the items in the cut-outs while they complete the task), picture jigs (e.g., photographs or drawings illustrating what steps must be completed), or repetitive jigs (jigs that are used more than once). Written instructions are the third type of instruction used when visually organizing tasks. These are used for students who have some reading skills and are comprised of lists of steps students may check or cross-off upon completion of each step. Finally, samples of finished products may be provided for students to refer to as they work on tasks.

Organization of tasks refers to the simplification of tasks so that only necessary materials are present (TEACCH, 1996). Items may be divided and placed into individual containers or larger containers and sectioned areas may be used. Some tasks, particularly for beginning learners, may be self-contained. That is, all of the materials needed to complete a task are in one container that may be easily transported. This allows students to easily identify needed materials, providing fewer opportunities for distraction and off-task behaviors that might occur if a student is required to leave his or her work area to retrieve materials. In some cases, a student may collect necessary materials, possibly when given written directions, particularly for older or higher-functioning individuals with ASD who are less distractible.

Finally, clarity refers to emphasizing important aspects of tasks (TEACCH, 1996). One way to provide clarity is to limit the materials on the child's desk or working area to only the most necessary items. For students who tend to grab fistfuls of materials, clarity might involve separating loose materials to encourage students to select one item at a time. Clarity may involve highlighting important details with color (e.g., outlining the slot to put a coin in with a bright color), pictures (e.g., a picture label of an elephant to show a student where to place each miniature elephant), numbers, or words for children who can read. Additionally, teachers can separate different types of task-related pieces into different containers so students can easily select each object needed to complete a task. Figure 3 provides examples of a variety of visually organized tasks.

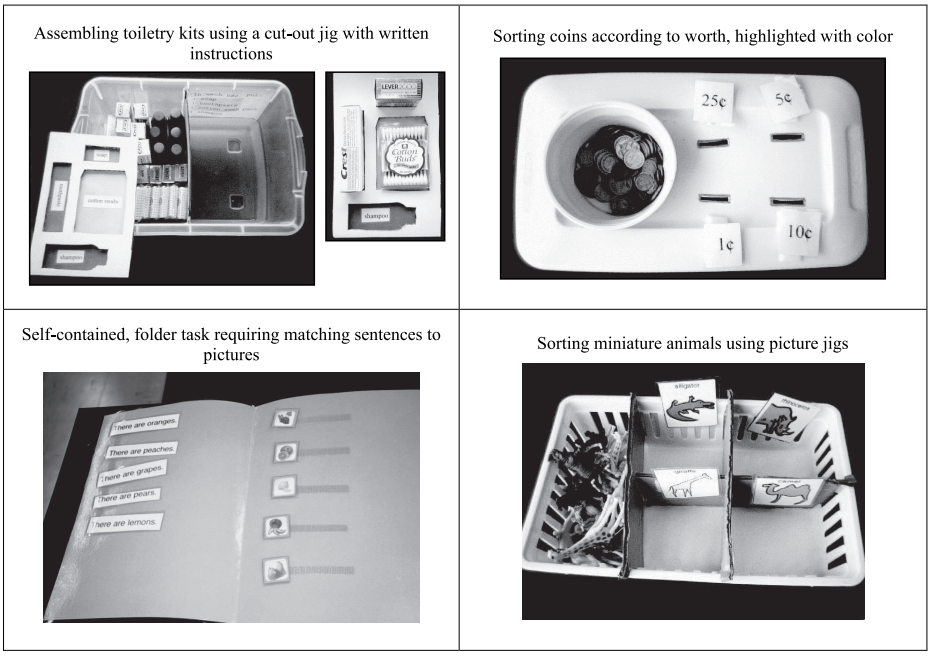

FIGURE 3 Examples of visually organized tasks.

Recommendations for Using Visually Organized Tasks

The following suggestions may make implementing visually oriented tasks easier.

- Do not take the tasks apart in front of the students. Some students may become upset if they see their work taken apart.
- Base task objectives for each child on his or her individualized education plan, state or local curriculum appropriate to his or her grade or ability level, and special interests that may motivate reluctant workers to engage in tasks.
- Tasks placed in "independent work" areas should be previously mastered. If students make numerous errors when completing a task independently, this job should be removed from the child's independent work and the task should be taught in an appropriately designated area.
- Create typed lists of classroom tasks, make a copy for each student, and date each task when mastery is achieved. This will assist the teacher and classroom assistants, as well as substitutes, in determining, at a glance, which tasks are appropriate to place in individual students' independent work areas.
- Put masking tape on the back of each task and write the initials of each child who has mastered that task. This will reduce errors easily made in busy classrooms.
- Design matching and sorting tasks in a way that allows the instructional staff to change the placements of pieces to ensure that students pay attention to the directions instead of focusing on placement of objects when repeating tasks.
- Design tasks in a way that makes it easy to tell if the student completed the task correctly by looking at it after it is finished. Further, do not teach students to "undo" their work (e.g., take apart and put away a puzzle before you have checked his or her work) prior to teachers checking it for correction.

CONCLUSION

Environmental and visual structuring methods for use with individuals with ASD have recently been shown to have research support (e.g., Bryan & Gast, 2000; Dauphin et al., 2006; Dettmer et al., 2000; Kimball et al., 2004; Massey & Wheeler, 2000; Panerai et al., 2002; Van Bourgondien et al., 2003). That these methods have also been recommended by high-functioning adults with ASD and experts in the field is further support for their utility (Grandin & Scariano,1986). Yet, there is much to be learned about these tools, and thus the field needs further research on the use of visual strategies and related structuring strategies. Such methods have the potential for increasing independent functioning among students with ASD and decreasing the effects of deficits associated with ASD.

Fortunately, there are ever-increasing resources for assisting educators and parents design and implement structured environments. Table 2 provides a list of resources for practitioners.

TABLE 2
Recommended Resources: Websites and Books

Online Resources

Autism Society of North Carolina (ASNC) website: http://www.autismsociety-nc.org
The bookstore for ASNC includes over 600 titles relating to autism spectrum disorders.

Blue Ridge Bags website: http://www.blueridgebagsandmore.com/index.html
Folder tasks available for purchase.

Division TEACCH website: http://www.teacch.com
Provides information on TEACCH.

Shoeboxtasks® website: http://www.shoeboxtasks.com/index.html
Visually organized manipulative/three-dimensional tasks available for purchase.

Tasks Galore Publishing, Inc. website: http://www.tasksgalore.com/index.html
Books providing suggestions for creating visually organized tasks available for purchase.

Books and Chapters

Earles-Vollrath, T. L., Cook, K. T., & Ganz, J. B. (2006). *How to develop and implement visual supports*. Austin, TX: Pro-Ed. This book provides instructions for how to create and recommendations for implementation of a variety of visual strategies, including visual schedules and many others.

Eckenrode, L., Fennell, P., & Hearsey, K. (2003). *Tasks galore*. Raleigh, NC: Tasks Galore Publishers. Book that provides photographs of school readiness, fine motor, reading, math, and play tasks for young students or early learners.

Eckenrode, L., Fennell, P., & Hearsey, K. (2004). *Tasks galore for the real world*. Raleigh, NC: Tasks Galore Publishers. Book that provides photographs of vocational and self-help tasks for older individuals.

Eckenrode, L., Fennell, P., & Hearsey, K. (2005). *Tasks galore making groups meaningful*. Raleigh, NC: Tasks Galore Publishers. Book that provides photographs with suggestions of how to structure group activities in the classroom and at home.

Hodgdon, L. A. (1995). *Visual strategies for improving communication: Vol. 1: Practicle supports for school and home*. Troy, MI: QuirkRoberts Publishing. Book that provides a variety of instructions and examples of how to implement visual strategies.

Savner, J. L., & Myles, B. S. (2000). *Making visual supports work in the home and community: Strategies for individuals with autism and Asperger syndrome*. Shawnee Mission, KS: Autism Asperger Publishing Company. Book that provides directions for how to use visual strategies and examples.

Schopler, E., Mesibov, G. B., & Hearsey, K. (1995). Structured teaching in the TEACCH system. In E. Schopler & G. B. Mesibov (Eds.), *Learning and cognition in autism* (pp. 243–267). New York: Plenum. Chapter that describes components of structured teaching, according to the TEACCH model.

TEACCH. (1996). *Visually structured tasks: Independent activities for students with autism and other visual learners*. Chapel Hill, NC: Division TEACCH. Book that provides instructions for how to make visually structured tasks following the TEACCH method and photographs of tasks.

REFERENCES

Bryan, L. C., & and Gast, D. L. (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.

Dauphin, M., Kinney, E. M., and Stromer, R. (2006). Using video-enhanced activity schedules and matrix training to teach sociodramatic play to a child with autism. *Journal of Positive Behavior Interventions, 6,* 238–250.

Dettmer, S., Simpson, R. L., Myles, B. S., and Ganz, J. B. (2000). The use of visual supports to facilitate transitions of students with autism. *Focus on Autism and Other Developmental Disabilities, 15,* 163–169.

Earles, T. L., Carlson, J. K., & Bock, S. J. (1998). Instructional strategies to facilitates successful learning outcomesfor students with autism. In R. L. Simpson & B. S. Myles (Eds.), *Educating children and youth with autism: Strategies for effective practice*. Austin, TX: Pro-Ed.

Earles-Vollrath, T. L., Cook, K. T., & Ganz, J. B., (2006). *How to develop and implement visual supports*. Austin, TX: Pro-Ed.

Grandin, T., & Scariano, M. M. (1986). *Emergence: Labeled Autistic.* New York: Warner Books.

Heflin, L. J., & Alaimo, D. F. (2007). *Students with autism spectrum disorders: Effective instructional practices*. Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

Hodgdon, L. A. (1995). *Visual strategies for improving communication: Vol. 1: Practicle supports for school and home*. Troy, MI: QuirkRoberts Publishing.

Kimball, J. W., Kinney, E. M., Taylor, B. A., & Stromer, R. (2004). Video enhanced activity schedules for children with autism: A promising package for teaching social skills. *Education and Treatment of Children, 27,* 280–298.

Krantz, P. J., MacDuff, M. T., & McClannahan, L. E. (1993). Programming participation in family activities for children with autism: Parents' use of photographic activity schedules. *Journal of Applied Behavior Analysis, 26,* 137–138.

MacDuff, G. S., Krantz, P. J., & McClannahan, L. E. (1993). Teaching children with autism to use photographic activity schedules: Maintenance and generalization of complex response chains. *Journal of Applied Behavior Analysis, 26,* 89–97.

Massey, N. G., & Wheeler, J. J. (2000). Acquisition and generalization of activity schedules and their effects of task engagement in a young child with autism in an inclusive pre-school classroom. *Education and Training in Mental Retardation and Developmental Disabilities, 35,* 326–335.

Ozonoff, S., & Cathcart, K. (1998). Effectiveness of a home program intervention for young children with autism. *Journal of Autism and Developmental Disorders, 28,* 25–32.

Panerai, S., Ferrante, L., & Zingale, M. (2002). Benefits of the Treatment and Education of Autistic and Communication Handicapped Children (TEACCH) programme as compared with a non-specific approach. *Journal of Intellectual Disability Research, 46,* 318–327.

Schopler, E., Mesibov, G. B., & Hearsey, K. (1995). Structured teaching in the TEACCH system. In E. Schopler & G. B. Mesibov (Eds.), *Learning and cognition in autism* (pp. 243–267). New York: Plenum.

Scheuermann, B., & Webber, J. (2002). *Autism: Teaching does make a difference.* Belmont, CA: Wadsworth Group.

TEACCH. (1996). *Visually structured tasks: Independent activities for students with autism and other visual learners*. Chapel Hill, NC: Division TEACCH.

Van Bourgondien, M. E., Reichle, N. C., & Schopler, E. (2003). Effects of a model treatment approach on adults with autism. *Journal of Autism and Developmental Disorders, 33,* 131–140.

Willey, L. H. (1999). *Pretending to be normal: Living with Asperger's syndrome.* London: Jessica Kingsley Publishers.