(c) highly restricted, fixated interests that are abnormal in intensity or focus" (*DSM-V* Autism Spectrum Disorder). The following is a description of the stages of play. Each stage of play will be broken up into two categories: (a) common characteristics and (b) the issues children diagnosed with autism face.

Object Manipulation

Children begin to manipulate objects by licking, feeling, banging, shaking, and turning them around. Object manipulation gives children an opportunity to learn about different objects and the environment around them. At this stage of exploratory play, there is no functional relation between the child's actions and the objects he is playing with.

CHARACTERISTICS OF OBJECT MANIPULATION IN CHILDREN WITH AUTISM Children diagnosed with autism show differences in exploratory play and object manipulation. They tend to have atypical interests as they show interest in a limited number of objects, or just one part of the object. The objects they show interest in are often played with in a repetitive manner. For instance, when an infant with autism is given a rattle to play with the infant may repeatedly spin the rattle in circles. A typically developing infant may show a variety of play behaviors when given a rattle, by first spinning the rattle and then shaking the rattle. Individuals with Autism Spectrum Disorder (ASD) have play skills that lacks novelty and flexibility (Baranek et al., 2005, pp. 21–22). Object-focused interactions in children with autism refers to the concept that all of the child's attention is given to the object he is playing with; it is not likely that the child will engage with another object or that there will be engagement with another person to join in on his play.

ISSUES FOR CHILDREN WITH AUTISM According to McDuffie, Lieberman, and Yoder (2012) "play with objects often serves as a context for language learning" (p. 399). Individuals diagnosed with ASD show difficulties disengaging their focus of attention from their objects of interest. This issue makes it less likely that the individual will engage with a variety of objects. When a typically developing child is playing with his caregivers, the caregivers tend to verbally state everything that the infant does and then imitate his actions. Through this process, language begins to develop in the child. The inability to disengage attention from an object makes it less likely that a child with autism will play with a variety of objects. McDuffie et al. (2010) states "this characteristic may make it less likely that children with ASD will attend to and engage with a variety of objects, notice attention-directing social cues, or direct communication acts toward social partners" (p. 399). When a child with autism shows limited interests in multiple stimuli, he may be less likely to benefit from the adult's verbal input therefore missing out on social and language learning opportunities.

Functional Play

Functional play has been defined as "the appropriate use of an object or the conventional association of two or more objects such as using a spoon to feed a doll or placing a teacup on a saucer" (Williams, Reddy, & Costall, 2001, p. 68). Functional play appears in children at approximately 12 months of age. At this time, functional play is simple and self-directed; children are beginning to associate actions to various objects while playing. For example, a child may in sequence brush his hair, put a toy phone up to his ear, and put a toy cup up to his mouth. This function association develops into a more elaborated type of play; children begin to play with multiple objects at a time. Children now engage other people while playing, they may tilt the toy cup up to their mouth and then their stuffed animal's mouth, and then they may hand the cup to their mother to drink. Play continues to develop to a higher level where the child is less dependent on the object being present to play.

Williams et al. (2001) describe two types of functional play: simple functional play and elaborated functional play. Simple functional play occurs when a child combines two objects that are functionally related, such as placing a teacup on a saucer or when a child uses the object in a way that shows the appropriate function, such as bringing the teacup to his mouth. Elaborated functional play occurs when the child begins using multiple objects appropriately together, showing their appropriate functions, accompanied by a gesture or vocalization; for instance, when a child uses a spoon to stir "soup" in the pot and then making slurping noises while tasting the "soup" (Williams et al., 2001, p. 71).

CHARACTERISTICS OF FUNCTIONAL PLAY IN CHILDREN WITH AUTISM As typically developing children around 12 months of age develop functional play skills, they begin to assign functions to the objects they manipulate. While playing, caregivers teach children the appropriate use of toys through language and imitation. Joint attention and imitation are important facets in developing functional play skills. Joint attention occurs when children share attention between the object and the person playing with them.

Children with ASD show repetitive and predictable functional play behaviors. Little time is spent engaging in acts of functional play. When they do engage in functional play, their time is spent engaging in the simple play acts with a single object, such as pushing a car on the ground. When compared to typically developing children, they spend less time engaging in novel functional acts while playing (Williams et al., 2001, p. 73). For instance, while playing with cars, a child with autism may line the cars up in a row or stack them on top of one another. She may sit on the carpet with one car and spin the wheels repeatedly. Or, the child may play with the cars in an appropriate manner, such as driving the car around on the carpet, but his play often looks the same in each new play routine. The child may always choose the same car, drive in the same pattern, and if he is communicating, his speech is often repetitive while playing with the cars.

ISSUES FOR CHILDREN WITH AUTISM Imitation and joint attention are areas of difficulty for children with ASD. While playing, children with autism often give all of their attention to the object they are playing with. It is difficult for the individual to maintain attention to the object while also trying to coordinate social engagement. This is a challenge when a caregiver is teaching them a novel play act. Williams et al. (2001) states "to the extent that children with autism fail to engage other people in their use of objects, or use them to guide their own dealings with objects, they are excluded from a great deal of information about how to use them in a functionally appropriate way" (p. 69). Children with autism are often in the early stages of play; without interventions, they may show difficulties in elaborating on their play to transition from self-directed play to engaging with others while playing.

Symbolic Play

Symbolic play appears between 18 and 24 months of age and continues to develop as the child grows. There are three forms of symbolic play that children engage in: substituting one object for another, such as using a banana as a telephone; attribution of false properties, like holding a bottle in a doll's hand as if the doll was holding it; and attribution of presence to imaginary objects, for instance serving invisible food on a plate (Williams et al., 2001, p. 68). Symbolic play develops into pretend play and then into social play as the child first begins to create imaginary events for objects, and finally begins to engage other individuals in his acts of play. The following is a description of (a) pretend play and (b) social play.

PRETEND PLAY Pretend play is defined as "the ability to create imaginary events, to establish alternate identities for objects, environments, and persons, including the self" (Rutherford

& Rogers, 2003, p. 289). The child begins to engage in pretense, and use his imagination to assign a role to an inanimate object. Pretend play accompanies language development and often requires both verbal and nonverbal communication. It begins to emerge in typically developing infants between the ages of 9 and 24 months. It emerges as the child starts producing functional acts, such as putting a spoon into her mouth, in a play setting. The process of a child bringing a spoon to his lips overtime is elaborated, so the child now brings a spoon to his lips and makes a slurping noise. Eventually his play will grow to the point where he begins substituting in other objects in for the spoon. Rutherford and Rogers (2003) states "pretend play often involves the construction of verbal narratives, an activity that involves complex planning, sequencing, and organization, as well as well-developed language skills" (p. 289). Pretend play begins as solitary acts of play. As the child develops, he begins to engage others in his pretend play, making a shift to social play.

SOCIAL PLAY Symbolic play shifts to social play when individuals begin to acknowledge others and engage in social interactions. Social skills develop in children as they grow from playing alone to engaging other individuals in their play (Naber et al., 2007, p. 857). Any play where children interact with each other is social play. It is structured and often includes pretend play and the use of child's imagination. Social play requires an ongoing interaction between the children playing together. Explicit communication occurs when the children engage with each other about their ongoing interactions.

CHARACTERISTICS OF SYMBOLIC PLAY IN CHILDREN WITH AUTISM Individuals with ASD show a limited interest in others, and they often prefer to play alone. They do not play with groups of children; instead, they engage in parallel play next to other children (*DSM-V*, 2013). Children with autism show limited spontaneous symbolic play and they do not often substitute one object for another. Play is often repetitive or imitated from other individuals. They do not often spontaneously engage in pretend play. Pretend play activities often require modeling and explicit instruction (Hobson, Lee, & Hobson, 2008, p. 12). When it does occur, children with ASD often engage in pretend play for shorter amounts of time than their typically developing peers. Children with ASD have poor social imitation skills and they often lack the ability to produce normal back and forth conversation (*DSM-V*, 2013). They do not often like to share objects or interests, two characteristics which are important to engage in social play.

ISSUES FOR CHILDREN WITH AUTISM Children with ASD show impairments in symbolic and pretend play (*DSM-V*, 2013). Even after explicit instruction of pretend play, it is difficult for children with ASD to generalize the skills to novel pretend play scenarios (Hobson et al., 2008, p. 12). They show difficulties in the areas of joint attention, social imitation, and social-emotional reciprocity. Difficulties engaging in joint attention become particularly challenging for children with ASD when it comes to symbolic play. Symbolic play requires that children not only know the function of an object but that they also need the awareness of the pretend identity of that same object. Dykstra, Boyd, Watson, Crais, and Baranek (2012) state "the level of symbolic play exhibited by young children is frequently shown to predict later language skills" (p. 5). Impairments in joint attention, social imitation, and social-emotional reciprocity make it challenging for children with ASD to engage in social play. Individuals with ASD show limitations in both receptive and expressive language, which negatively impacts their ability to engage others in and sustain social play (Douglas & Stirling, 2012, p. 36). To engage in pretend or social play with individuals, a child has to first signal that he wants to play pretend, articulate his ideas to his peers, and then continue with a back and forth dialogue while playing. This is a challenge to children with ASD who show language impairments, social deficits, and lack imitation and joint attention skills (see Table 10.1).

TABLE 10.1 Play Characteristics in Typically Developing Children

AGES	PRETEND PLAY	SOCIAL PLAY
1 year	• Children do not yet engage in pretend play or it is random	• Children do not yet engage in social play
2 years	• Children begin to substitute objects, that is, using a banana as a telephone • Children begin to imitate pretend play actions of others • Prefer to play alone	• Children prefer to play alone • Parallel play • Children are dependent on adult guidance
3 years	• Children begin make-believe play • They begin assigning roles in play • Children begin to engage in extended pretend play, using abstract items to represent something else, that is, they use a pile of sand to make a cake	• Parallel play • Children enjoy playing short group games that do not require rules
4 years	• Tells stories • Games begin to include places that the child has never visited before	• Children enjoy playing with other kids • Plays simple organized games such as tag • Plays simple table games requiring turn taking
5 years	• Children begin to narrate their pretend play	• Play is organized • Children begin to play and negotiate with others

Source: Johnson, S. (2013, July 8). Life Stages Inc. Retrieved from http://www.lifestagesinc.com/#/blog/4557419691/Developmental-Progression-of-Pretend-Play/6090627. Foundation: Symbolic Play. (n.d.). Retrieved April 13, 2015, from http://www.cde.ca.gov/sp/cd/re/itf09cogdevfdsym.asp. The Development of Play Age by Age. (2015, January 1). Retrieved April 13, 2015, from http://www.scholastic.com/content/collateral_resources/pdf/ECTonline/DevelopmentofPlay_AgebyAge_1112_00.pdf

TEACHING CHILDREN WITH AUTISM TO PLAY

As the opening cases in this chapter demonstrate, it is possible to teach children with autism to play. However, it has not always been a focus of intervention programs. The cases of Cooper and Rajeev illustrate that failure to focus on play can lead to frustration on the part of family members, as well as nonfunctional skill instruction for children. The case of Casey demonstrates that naturalistic instruction may be more appropriate at teaching play skills than more traditional ABA methods, particularly discrete trial training at a table (e.g., "table time"; see Boutot & Hume, 2012, for a review). The literature on play instruction is relatively scant compared to other, more heavily researched skill areas (e.g., communication and social skills); however, consensus in recent years has essentially been that (a) teaching play to children with autism is an essential part of their programming, particularly for younger children, and (b) evidence-based strategies can be used to teach this important skill. This section will briefly summarize the literature on teaching play to children with autism.

Traditional discrete trial training frequently utilizes "table time" for instruction on a variety of discrete skills for which a single behavioral response is required (e.g., "point to car" or "show me your nose"). As pointed out by Boutot and Hume (2012), however, this traditional method may not be appropriate or effective for every skill, particularly play skills or skills being taught to very young children. Young children require frequent breaks and more opportunities for play in their daily routine than older children. Further, as evidenced by the case scenario of Cooper at the opening of this chapter, requiring a very young child to sit for extended period of times and working on drill and practice may not be functional for her. The case of Cooper, though it may seem exaggerated, is actually based on numerous youngsters

known personally to one of the authors. While it appear obvious to some, the use of more naturalistic strategies with very young children may be more appropriate.

According to a meta-analysis conducted by Lang et al. (2009), the most commonly used intervention for teaching both functional and symbolic play is modeling. Modeling involves demonstrating to the child what behaviors or behavioral chains to do and assisting the child in replicating this model. For children who are able to attend to and imitate a model, modeling can be an effective strategy for a variety of skills (Charlop & Milstein, 1989). Further, modeling can be used during naturally occurring play opportunities. Systematic prompting paired with contingent reinforcement of a target behavior was the second most commonly used intervention according to a review by Lang et al. (2009) to teach both functional and symbolic play skills. Though frequently criticized for lack of generalization, the use of contingent reinforcement, for play skills in particular, has been shown to produce long-term positive effects, including the development of intrinsic reinforcement following initial use (Nuzzolo-Gomez et al., 2002, as cited in Lang et al., 2009). Milieu teaching is another commonly used teaching strategy for functional and symbolic play skills (Lang et al., 2009). Milieu teaching is a naturalistic strategy that focuses on instruction in the natural environment, with naturally occurring reinforcers and materials, and follows the child's lead. Milieu teaching combined with modeling, prompting, and contingent reinforcement was used by Kasari, Freeman, and Paparella (2006) to teach play skills to children aged 3 to 4 years, compared to a control group and a group with a different targeted skill (joint attention). Results suggest that the package of milieu teaching, modeling, prompting, and reinforcement produced significant increases in play skills over the other groups. The results of this study, combined with other research in the last decade, suggest that a naturalistic method of teaching, combined with systematic instruction of specific skills, may be effective for improving play skills of young children with autism.

ADAPTING PLAY MATERIALS

The difficulties individuals with ASD have in demonstrating play skills, as described previously, can be influenced by the play environment, as well as the play materials. Research indicates that adaptations to the physical space in which children with ASD play, as well as to the materials used during play experiences, can support increased engagement with play materials (Hume & Odom, 2007), increased social interaction during play activities (Murdock & Hobbs, 2011), improved affect (Baker, Koegel, & Koegel, 1998), and reduction of stereotypic behavior (Bennett, Reichow, & Wolery, 2011). Modifications to the play space, including limiting play materials and environmental distractions, are recommended to support the play skills of individuals with ASD and will be discussed below. In addition, modifications to the play materials, including the incorporation of high-interest items and the use of visual instructions and visual organization are highlighted as strategies proven to improve the play skills and play-related outcomes for individuals with ASD.

Adapting Play Environment

The use of an organized intervention setting when working and playing with individuals with disabilities, including those with ASD, is a widely recommended and long-studied practice (Bailey & Wolrey, 1984; Norquist & Twardoz, 1990; Sandall, Hemmeter, Smith, & McLean, 2005). An environment that provides functional cues about the activities that will occur in each space as well as the behavioral expectations for those activities is more likely to promote and sustain student engagement (Norquist & Twardoz, 1990). The literature suggests that an organized environment is key for individuals with ASD, as several learning characteristics of individuals with ASD, including distractibility and difficulty in processing environmental stimuli (Siegel, 1999), can be supported through a carefully arranged intervention space. A number of interventions designed for individuals with ASD provide recommendations for

organizing the environment when teaching play skills. Project ImPACT, a parent training program for families with young children on the autism spectrum, recommends setting up a defined play space with physical and visual boundaries to limit distractions and to keep the individual with ASD close during play activities (Ingersoll & Dvortcsak, 2010, 2011). In school, clinic, and home settings, consider furniture placement to make smaller, more intimate spaces that are more manageable and understandable for individuals on the spectrum, which can assist in helping individuals with ASD become more organized, calm, and engaged during play activities (Hume, Turner-Brown, & Boyd, 2013; Ingersoll & Dvortcsak, 2010; Mesibov, Shea, & Schopler, 2005). Supporting research indicates that when school staff rearranged low furniture and materials, which served as physical and visual boundaries for an adolescent with ASD, there was a marked increase in appropriate classroom behavior (Hirasaw, Fujiwara, & Yamane, 2009).

Project ImPACT also recommends limiting distractions when teaching playing skills, encouraging the individual with ASD to increase attention to the other person/people and play materials, rather than attending to other sights and sounds in the environment, such as the television (Ingersoll & Dvortcsak, 2010). Similarly, Family Implemented TEACCH for Toddlers (FITT), an application of structured teaching strategies with very young children, recommends limiting the number of toys visible/available to individuals with ASD when playing together, as providing fewer options will allow for greater attention and focus (Hume et al., 2013). In homes, clinics, or school settings, this may include covering or putting away play materials when not in use, using a screen or divider to limit visibility when teaching or practicing play skills, rotating play materials, and/or minimizing the number of play materials in the setting. Early Start Denver Model, a proven intervention designed to teach a broad range of skills to young children with ASD, recommends having just one toy in front of the individual with ASD to help the child focus on the skill being taught (Rogers, Dawson, & Vismara, 2012). Research indicates that providing these visual boundaries for students (i.e., covering materials with sheets that are not being accessed or attended to during instructional periods) can reduce self-stimulatory behavior and increase on-task behavior (Duker & Rasing, 1989), thus supporting the development and demonstration of play skills.

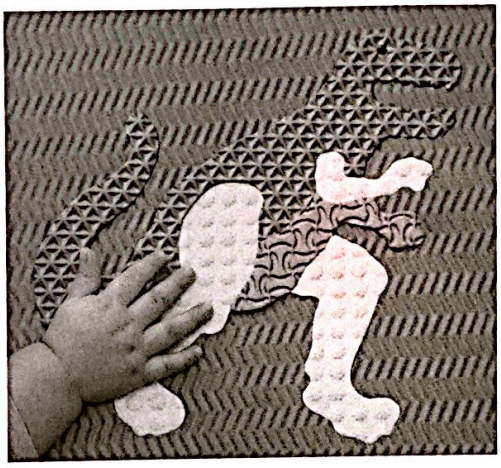
Adapting Play Materials

Beyond adapting the environment in which individuals with ASD learn and practice play skills, adaptations to the play materials have proven to impact the duration of engagement during play activities (Bennett et al., 2011; Hume & Odom, 2007), the complexity of play sequences (Murdock & Hobbs, 2011), affect during play activities (Baker et al., 1998), and appropriate use of play materials (Blum-Dimaya, Reeve, Reeve, & Hoch, 2010). Several adaptations have been examined in the literature and described in intervention manuals, including: (a) adapting play activities to reflect the interests of individual with ASD, (b) adding visual instructions such as photos to play activities, and (c) visually organizing play materials. Each of these will be described and reviewed below.

INCORPORATING INTERESTS Play skills of individuals with ASD may be skewed by restricted interests that can limit opportunities to interact with a wide variety of play materials and with various play partners who may not share the same interest (Jung & Sainato, 2013). Individuals with ASD may be most motivated by idiosyncratic objects, topics, or themes, such as maps, trains, letters/numbers, or specific television shows or characters (Baker, 2000), which often do not lend themselves to typical play activities. Research and practice indicate that incorporating idiosyncratic interests into more traditional play materials and activities can be a successful strategy to encourage individuals with ASD to engage with a broader array of play materials and to engage in interactive play activities (Baker 2010; Baker et al., 1998; Hume

et al., 2013). For example, Baker (2000) adapted three Bingo games for individuals with ASD to incorporate their special interests (e.g., using numbers from a number line, using scenes from a favorite movie) in an effort to increase engagement during play activities and social interaction with siblings. Results indicate that the adaptation resulted in increased engagement, social interaction, and positive affect, and a number of the results maintained when games that did not include special interests were introduced (Baker, 2000). Similarly, Baker et al. (1998) incorporated the special interests of three individuals with ASD into gross motor play activities at recess. Games of "follow-the-leader", tag, and "Simon-Says" were adapted to include idiosyncratic interests related to maps, Disney characters, and movie themes, and the adaptations again resulted in increased time engaged in play activities and increased reciprocity during play (Baker et al., 1998).

FIGURE 10.1 Incorporating Interests Into Play Activities



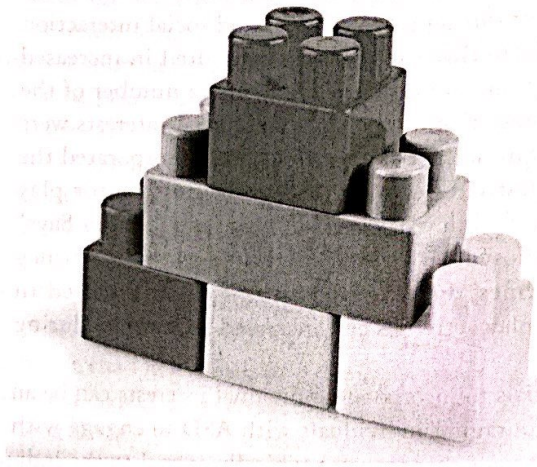
vlad_g/Fotolia

Adapting play materials to incorporate individual interests can be an important first step in encouraging individuals with ASD to engage with a variety of materials—materials that may not typically appeal to the individual or may be beyond their current repertoire of play skills (e.g., construction toys, books, toys used in functional and symbolic play such as dolls, open-ended play activities such as play dough) (Hume et al., 2013). For example, if an individual with ASD does not typically engage with Duplos/Legos, but is highly interested in characters from Sesame Street, adding pictures of favorite characters to the blocks can increase interest and motivation, and can encourage individuals to interact with novel play materials and use play materials in a functional manner (see Figure 10.1). This concept can be used across play materials and activities (e.g., gross motor activities as described above, functional and symbolic play activities) and can be used to facilitate interaction with peers or siblings who may not share the special interest, but may be drawn to the play material or activity (Baker, 1998, 2000). Additionally, some students may benefit from available apps on mobile devices or computers, with which they may already have an interest (see Box 10.1).

VISUAL INSTRUCTIONS Visual instructions help an individual with ASD to know what he is supposed to do (Mesibov, Shea, & Schopler, 2005). Visual instructions explain or depict how a play material can be used and/or the behavioral expectations for the individual using pictures, objects, or written words. They are provided before and/or during play activities to support individuals in successfully engaging in or completing activities. Visual instructions may be particularly important during play activities, as play materials require more generativity, creativity, and flexibility than other domains (e.g., academic, self-help), all noted areas of deficits for individuals with ASD (Hobson, Lee, & Hobson, 2009). Visual instructions have been used in a number of studies with individual with ASD and have proven to increase functional use of toys (Mavropoulou, Papadopoulou, & Kakana, 2011), enhance social interaction during play (Murdock & Hobbs, 2011), and support independent completion of play activities (Hume & Odom, 2007; MacDuff, Krantz, & McClannahan, 1993).

A commonly used and well-supported adaptation for play materials is the use of photos to depict of a series of steps or actions to complete during a play activity or with a specific play material (termed *activity systems*, MacDuff et al., 1993; termed *work systems*, Hume & Odom, 2007; Mesibov et al., 2005; termed *storyboard*, Rogers & Dawson, 2012). Visual instructions, such as a photo sequence, may be used to direct an individual with ASD to specific play materials in an effort to broaden the play repertoire and reduce restricted play routines, or a series of photos may be used to teach a sequenced play activity (Murdock & Hobbs, 2011; Rogers & Dawson, 2012). For example, when preparing an individual with ASD for a more complex play scene with a baby doll, staff or caregivers may take a series of photos of activities one may do with a doll (e.g., put baby in tub, wash baby, dry baby). Single photos may also be used

FIGURE 10.2 A Product Sample Provides an Example of How the Play Material Can Be Used/Constructed



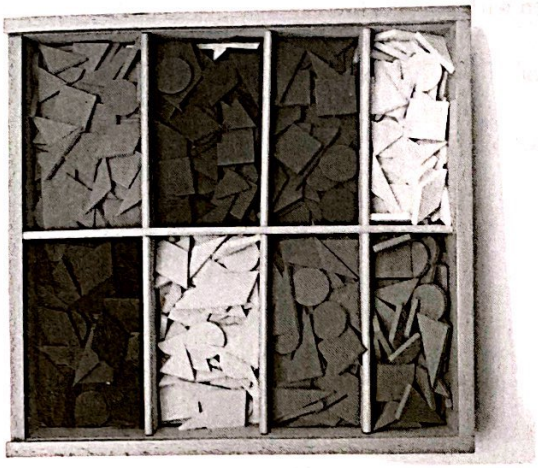
Nenov Brothers Images/Shutterstock

to provide support for individuals as they are learning functional and symbolic play routines and actions (e.g., a farm animal completes an action, such as "the pig jumps" and "the horse sleeps"). Research indicates that though play may be taught in a more rote fashion using these visual instructions, individuals with ASD are able to generalize both functional and symbolic play skills to novel materials and activities when the visual instructions are faded (Murdock & Hobbs, 2011).

Several additional types of visual instructions were provided to two elementary aged boys with ASD to increase independent activity completion during play time and were applied to play materials such as puzzles, picture matching cards, and Legos (Mavropoulou et al., 2011). These included a picture dictionary, a jig (two- or three-dimensional visual cues outlining how an activity is assembled), product sample (sample of what the task or activity will look like when completed, see Figure 10.2), and color coding, and when in use the visual instructions supported on-task behavior and a reduction in adult prompting for one student. Similarly, Bennett et al. (2011) provided visual instructions with play materials, including a photo cue to assist in puzzle completion, in their examination of engagement, task completion, and stereotypic behavior during play activities. The use of visual instructions resulted in immediate increases in engagement and dramatic decreases in stereotypic behavior Bennett et al. (2011).

VISUAL ORGANIZATION Providing additional organization to the play material or activity can prove a beneficial adaptation as well. Along with creating an organized play environment, as described above, providing organized play materials and activities can increase engagement with a broad range of play activities (Bennett et al., 2011; Hume & Odom, 2007; Mavropoulou et al., 2011). Visually organizing the activities can include stabilizing them on a tray, providing containers for extra parts and pieces, reducing the number of parts and pieces, and/or providing cues or highlighting within a play activity to emphasize its most important parts and pieces. Research indicates that minimizing extra stimulation in activities, ensuring that all needed materials for an activity are included, and providing organizational supports such as trays, containers, and necessary highlighting (i.e., outlining the shape of puzzle pieces on the puzzle board, per Bennett et al., 2011) can support the development of play skills across the developmental levels (Hume & Odom, 2007; Mavropoulou et al., 2011). In addition, intervention manuals propose visual organization when introducing play materials to individuals with ASD.

FIGURE 10.3 An Art Activity Is Visually Organized (The Activity Is Stabilized, Containers Are Used for Materials, and the Materials Are Minimized)



Mikhail Rulkov/Shutterstock

Early Start Denver Model recommends limiting the number of pieces within an activity or toy to avoid confusion and distractibility (Rogers et al., 2012). Rogers et al. recommend starting an activity with just one or two pieces when introducing play materials to help minimize confusion and distractibility. Several examples of different types of visual organization for play activities are included in Figure 10.3.

The adaptations to play environments, materials, and activities described in this chapter, though not an exhaustive review, represent some of the most frequently used intervention strategies in both research and practice (National Standards Project, 2009; Stahmer, Collings, & Palinkas, 2005). The adaptations influence motivation, a key contributor to the development and use of play skills, by incorporating individual interests and adding visual supports. These adaptations also pair a relative strength in individuals with ASD, visual detail processing (Kaldy, Kraper, Carter, & Blaser, 2011), with the noted weaknesses play skills often tax, such as creativity and flexibility, thus allowing greater participation and success during play activities.

BOX 10.1 TRENDS AND ISSUES

Play in the age of "apps"

As technology continues to become more accessible to educators and families, it is likely that more individuals with ASD will have regular access to portable devices such as the iPad and iTouch. These devices can be incredibly useful for individuals on the spectrum, as a recent publication titled *Apps for Autism* (Brady, 2011) identifies over 200 technology-based applications for download that directly relate to the needs of individuals with ASD. There are concerns, however, about the use of these technology-based tools in teaching play skills to those with ASD. Current thought indicates that while technology use has measureable benefits in teaching play, it can stimulate repetitive and isolated play for those on the spectrum (Rogers et al., 2012). When working on expanding play skills, focusing on simple toys, household objects, and pretend play toys are recommended (Rogers et al., 2012) rather than screens (e.g., TVs, movies, computers). As the field continues to evolve, researchers, families, and practitioners will need to collaborate to navigate through and respond to these concerns.