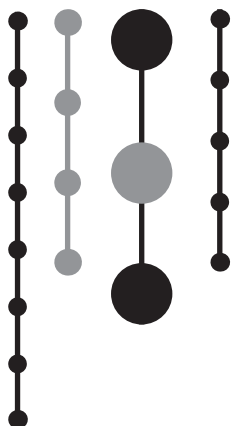


Contents

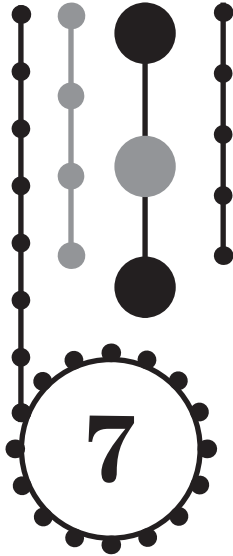
About the Downloadable Material.....	vii
About the Authors	ix
Acknowledgments.....	xi
Introduction	xiii
1 Autism and Early Intervention.....	1
2 Supporting Parents from Suspicions to Diagnosis to Services	9
3 Principles of Behavior and Teaching Strategies.....	19
4 Model for Addressing the Core Deficits of Autism	31
5 Building Skills to Support Regulation.....	39
6 Building Skills to Support Making Sense of Self, Others, and the Environment.....	53
7 Building Skills to Support Flexibility.....	77
8 Building Skills to Support Social Communication	85
9 Daily Routines and Common Challenges	107
References.....	113
Index.....	123



About the Authors

Merle J. Crawford, M.S., OTR/L, BCBA, CIMI, is an occupational therapist who has a private practice in central Pennsylvania. She has a bachelor of science degree in special education and elementary education and a master's degree in occupational therapy. In addition, Ms. Crawford has graduate certificates in applied behavior analysis and autism. She has extensive training in relationship-based interventions and is a Board Certified Behavior Analyst and a Certified Infant Massage Instructor. Ms. Crawford works primarily with infants and toddlers in early intervention, integrating strategies from her varied training when coaching families and working with young children.

Barbara Weber, M.S., CCC-SLP, BCBA, is a speech-language pathologist who has a private practice in central Pennsylvania. She received her bachelor of science degree and master's degree in communication disorders. Ms. Weber has a graduate certificate in applied behavior analysis. She holds the Certificate of Clinical Competence from the American Speech-Language-Hearing Association and is a Board Certified Behavior Analyst. She has worked with children and adults with a variety of disabilities for more than 30 years in school, clinic, and home settings. Ms. Weber works with infants and toddlers as her primary clinical focus and concentrates on collaborative processes to help families integrate routines-based intervention.



Building Skills to Support Flexibility

The ability to adapt to changes and to accommodate and assimilate across people, experiences, and routines supports regulated responses to typical changes that occur on a daily basis. Infants and toddlers must adapt to changes as they interact with multiple caregivers, as they participate in routines, and as their bodies change and skills develop. In addition, cognitive flexibility develops, which requires shifting attention, responding, holding information in the mind, and inhibiting other distractions and other responses in order to attain a goal. These processes make it possible for children to make predictions and act upon their world (Forssman, 2012).

It is well documented that individuals with ASD have trouble adapting to demands of the environment, show rigid behavior, hold on to previous behavior patterns, have restricted and repetitive behaviors, have a strong preference for consistency, and show difficulty in adapting to changing plans or alterations of their routine in daily life (D’Cruz et al., 2013; Kanner, 1943). Criteria listed in the *DSM-5* include “restricted and repetitive patterns of behavior,” and examples cited include items related to Flexibility, including “insistence on sameness,” “inflexible adherence to routines,” “ritualized patterns of verbal or nonverbal behavior,” and “highly restricted, fixated interests that are abnormal in intensity or focus” (APA, 2013, p. 50).

Theories regarding the causes of inflexibility in ASD are varied and include challenges with sensory processing as well as difficulties understanding others’ intents. The latter has been associated with anxiety in individuals with ASD and termed *intolerance of uncertainty*. Some believe restricted and repetitive behaviors are strategies used to make life predictable (Boulter, Freeston, South, & Rodgers, 2014). Cognitive flexibility, the ability to shift actions and thoughts to meet the demands of situations, has been noted to be impaired in most individuals with ASD. Though not considered to be a core deficit, cognitive inflexibility explains difficulties with transitions and changes in routines (Leung & Zakzanis, 2014).

EI providers are frequently asked to help parents and other caregivers with a child’s behavioral challenges regarding a lack of Flexibility. A lack of Flexibility can affect any or all daily routines, including a child’s insistence on the same clothing, foods, schedule, route to the park, television shows, or others’ responses in specific situations. A mother who has multiple children with autism was asked to reflect back on what she wished she had learned when her children were in EI, and she responded,

Flexibility is the key. I think they need to try to combat the flexibility early. I know parents of children in kindergarten who STILL take their kids to Taco Bell each afternoon

before dropping them off or else the child melts down. I mean these routines RULE the family, RULE the household. If you know the child likes something like going the “long” way in the neighborhood, you need to work on going the short way. I think if we let the children become too embedded in routines and inflexibility it carries on forever and leads to meltdowns, behaviors, parents walking on eggshells, etc. Flexibility should be a goal, like if the child only plays with red Legos make them play with blue during your session. Teach parents how to deal with the inflexible child and help to change it. I think rigidity of thought plays so much into things. I mean look they become rigid on being first and winning as well. (Personal communication, June 17, 2014)

Temple Grandin, a well-known author and college professor who is on the autism spectrum, agrees:

How can common sense be taught? I think it starts with teaching flexibility at a young age. Structure is good for children with autism, but sometimes plans can, and need to be, changed. When I was little, my nanny made my sister and me do a variety of activities. This variety prevented rigid behavior patterns from forming. I became more accustomed to changes in our daily or weekly routines and learned that I could still manage when change occurred. (Grandin, 2002)

How to Incorporate into Routines: Some children with ASD are quite flexible, whereas others are not. In addition, some children are quite adaptable in some situations but inflexible in others. The following strategies are ideas for incorporating changes into routines that can be implemented gradually and playfully to aid in promoting Flexibility for children who tend to be rigid. Implementing too many changes at once would likely overwhelm both the child and the caregiver. These suggestions are ideas to introduce at a pace that is comfortable for the child and the family. If challenging behaviors occur when implementing these strategies, a careful analysis is needed to determine the causes and solutions.



Bath Time

When convenient and practical, have bath time at a different time of day or in a different bathroom. Vary the order in which the child is washed. Give the child a choice whereby both choices are different from the usual routine. For example, if the child’s face is usually washed first, ask him or her, “Do you want to wash your hands or your ears first?” Use a variety of colors of towels and washcloths. Use a variety of language, not only to increase Flexibility, but also to build vocabulary. For example, use the verbs *wash* and *clean* interchangeably.



Bedtime

Give the child a choice of two books to read, two songs to sing, or two prayers to say that are both a change from the routine. Vary the closure when leaving the room (e.g., “Night-night,” “Sleep tight,” “See you in the morning”).



Book Time

When looking at books, sometimes talk about the pictures and sometimes read the text. Vary the questions asked about the pictures or the story. Because many children with autism have difficulty responding to language presented in novel ways due to challenges related to how they process language, vary how questions are asked. For example, for children who know animals and animal sounds, ask “What does the cow say?” as well as “Which one says ‘moo?’”



Community Outings

Vary the route when going for walks. Sometimes take a stroller or wagon and sometimes have the child walk. Distract the child—before he or she has time to resist—by looking for flowers, numbers on the mailbox, or other items of interest to the child. When driving to familiar places, vary the route. If safe and practical, sometimes change the location of the child's safety seat in the car. For example, on occasion, he or she can sit next to a different sibling or on the opposite side of the car. If the child watches movies while riding in the car, vary the selection and at times have movie-free excursions. Similarly, vary songs sung and types of music played. If multiple adults or older children go to the grocery store, it is important that the same person is not always the one pushing the cart. For stores that have multiple types of carts (e.g., those that resemble cars as well as typical grocery carts), vary the type of cart in which the child rides.



Diapering and Dressing

Vary where the child's diaper is changed and where the child is dressed. Vary the order in which clothes are put on and taken off.



Grooming and Hygiene

When it is time to replace items such as toothbrushes, toothpaste, and soap, choose different flavors, scents, colors, and other relevant attributes. On occasion, change the timing of the routine or the setting of the routine.



Household Activities

Modeling Flexibility during household chores can help demonstrate that changes in routines are acceptable.



Mealtime/Snack Time

Because difficulties with eating are common in children with autism and because these challenges create a great deal of stress for families, this topic is presented in detail later in this chapter.



Playtime

Encourage using toys in new ways. If the child always builds a block tower, make a train of blocks. If the child feeds a stuffed bear with a spoon, model feeding the bear with a fork. Play with balls by rolling, kicking, throwing to a person, and knocking over water bottles. When singing songs that have multiple verses, such as "The Wheels on the Bus," vary the order in which the verses are sung.

Tips and Hints to Support Flexibility in Routines

If a child exhibits a lack of Flexibility in object use, expand the child's repertoire by finding a more acceptable substitute. For example, if the child spins, play Ring Around the Rosy or provide a toy such as a Sit 'n Spin. If the child drops items to watch them fall, provide toys

and activities that have a strong visual component, such as one in which a ball or figure rolls down a ramp.

To help children make transitions, use preferred items to help them want to move to another activity. For example, to help a child get out of the bathtub, hold a favorite toy just outside the tub so that he or she will be more likely to want to get out. Similarly, leave a favorite toy in the car to help a child leave the playground. Focus on what the child will do next rather than on what the child is leaving. For example, say "Let's go get your bunny—he's waiting for you in the car" rather than "It is time to go home."

Saying good-bye often helps children make a transition. For example, when a child does not want to leave the toy area in the store, say "Bye toys—see you next time." Many children learn this strategy and spontaneously and calmly say good-bye to objects and situations.

Give a warning a short time before the transition occurs. The warning should be as concrete as possible, such as "One more time down the slide, then we'll go get your cup," as opposed to an abstract warning that contains a time concept the child does not understand, such as "We are leaving in 3 minutes." It is important that the warning be adhered to even if the child is having a tantrum so the tantrum does not lead to good things happening, which will likely increase tantrum behavior.

When moving from one activity to another, distract the child by making the transition fun, such as by counting steps, saying the alphabet, singing a song, or jumping the child from one place to the next.

If a child perseverates on numbers and letters or has other fixations that interfere with interaction or participation in routines, it is often helpful to begin using the child's interest as a starting point and then expand slowly. For example, Bella did not use any words but began to name letters while watching her alphabet video. Her parents noticed she could name letters in books and on her blocks, though they had not taught her to do so. She did not name pictures or point to named pictures. Her EI provider began by using Bella's interest in letters to teach her to point to named pictures. During sessions, Bella's mother would tell Bella to touch a letter and then would take her finger to help Bella point. After a few sessions, Bella could point to named letters without prompts. The next step was to use pictures from the video to teach Bella to point to pictures. The provider found pictures similar to those presented with each letter in the video, and she showed Bella's mother how to gradually introduce pointing to pictures during their routine of pointing to letters. After several weeks, Bella was able to point to the named pictures from her video. Her mother then began to introduce pointing to named pictures in Bella's books.

As discussed in Chapter 3, teaching for generalization is necessary for functional skill development and because children with autism often focus on irrelevant stimuli, which can result not only in a lack of generalization but also in impaired learning. Often children with autism appear quite rigid, wanting to do something the way they did it the first and subsequent times. Embedding variety into daily routines can be helpful in fostering Flexibility. Conversely, however, there are times when Flexibility is not the priority in a specific routine, such as when introducing a new skill when inconsistencies would be confusing.

Some children are rigid about others' roles. For example, Alexa had a tantrum if her father came in her room in the morning to get her out of her crib and if he pushed the grocery cart, though she was calm when her mother performed these routines. Her parents compared notes and could not determine any discernible differences in their techniques that would lead them to believe the issues were sensory related. Some parents are comfortable with the method of ignoring the tantrums; others prefer an approach they think is less

- stressful that involves gradually getting the child accustomed to changes. Alexa’s parents preferred the more gentle approach and decided that her father would get her out of the crib and hand her to her mother. Over time, Alexa’s mother moved farther and farther from the crib until she was no longer in the room. Similarly, in the grocery store, her father pushed Alexa in the cart while counting to 10 very quickly and then her mother took over. Gradually, her father counted more slowly, and Alexa became accustomed to him pushing the cart.

Inflexibility Related to Eating

Inflexibility at mealtime is a particularly challenging routine that necessitates a more in-depth discussion and more explicit strategies. The following vignettes illustrate commonly observed scenarios.

Jessica ate pureed fruits from pouches but refused to eat when her mother poured the food from the pouch into the bowl. Her mother knew she liked the food, so she touched the food to her daughter’s lips. Jessica screamed, spit it out, screamed “Yuck,” and fussed for 5 minutes despite her routine of eating the same food from the pouch several times a week without any aversive reactions. Mohammed ate his cereal from a green bowl every day. One day his mother did not get a chance to wash it, so she put the cereal in a blue bowl that was identical in size and material, and Mohammed threw it across the room. Eliza ate French fries from a particular fast-food restaurant but not the ones her mother cooked at home. When her mother put the homemade ones in the restaurant package, Eliza picked up a fry, turned it to examine each of its sides, smelled it, and left the table. Dominica was playing with her favorite doll. Her teacher told the class that it was time for snack. Dominica looked to see what food was being placed on the table and continued to play with her doll even after her teacher called her three times.

It is well documented in the literature that food selectivity is commonly found in young children, and children with autism often have more pronounced selectivity (Kerwin, Eicher, & Gelsing, 2005; Schmitt, Heiss, & Campbell, 2008; Schreck, Williams, & Smith, 2004; Williams, Hendy, & Knecht, 2008). Ahearn, Castine, Nault, and Green (2001) theorized that selective eating may be a “manifestation of the restricted interests and activities” seen in autism (p. 510). Food selectivity can be related to taste, texture, or smell, but in the authors’ experience, food selectivity in toddlers and preschoolers is often related to the children’s preference for visual sameness. Once rigid behaviors occur, it is often challenging to change routines. Resistance to making a transition to the table may be another challenge related to mealtime. For some children, transitions are difficult because they do not know what is coming next, often due to language comprehension challenges. Other children, like Dominica, resist changing from a preferred activity to a less preferred activity, referred to by some as an issue of competing reinforcers.

Tips and Hints for Inflexibility Related to Eating

- If a child has significant feeding challenges and the child’s health and nutrition are affected, it is important that medical issues be ruled out before these strategies are implemented. In addition, if an EI provider finds that these strategies are ineffective, he or she may want to further evaluate to ensure that the function (or functions) of the behavior has been determined. Children who have significant eating issues often need help from professionals (e.g., behavior analysts, occupational therapists, speech-language pathologists) who have expertise in feeding disorders.

On occasion, change the location of the child's highchair, booster seat, or chair. Playfully give the child a choice of two new options, for example "Let's be silly today. You can move your chair next to Mommy or next to your brother!"

Playtime can be used to expose picky eaters to new foods in a setting that is often less stressful than mealtime or snack time. Instead of finger painting with paints, use ketchup, mustard, pudding, or other foods the child may like. For children who do not like to touch sticky substances, provide a cotton swab, a coffee stirrer, a craft stick, or other safe item to serve as a "paintbrush." Playfully model making dots and circles and then lick your finger or the paintbrush without telling the child to do so. If other children who follow directions well are part of the activity, have them lick their fingers or paintbrushes and praise them. For another activity, provide dry cereal for sensory play involving scooping, filling, and dumping, and add an appropriate new food type such as a new type of dry cereal the child does not yet eat, or blueberries, or perhaps cooked peas. At first, have the goal that the child will touch the new food. Model scooping, pouring, and picking up the new food and placing it into a cup or bowl. Later, enthusiastically taste the new food without telling the child to do so, and encourage any peers or siblings who are participating to taste the new food, enthusiastically praising them when they take a taste. Similarly, provide new food to make shapes, figures, numbers, or letters that the child enjoys. For example, use dry cereal to make a face and then playfully eat the nose, then an eye. Ask the child if he or she wants to eat a nose. If the child does so, move to a different type of preferred food and repeat the activity. When this is successful, try the activity with a new food.

During mealtime and snack time, change the presentation of foods that are in the child's repertoire. For example, if the child eats sandwiches, cut them in various shapes and sizes. Vary the color and size of the plates and bowls. Change one property at a time to move to new foods. For example, if the child eats only pink yogurt from the container, present the same yogurt in a different container or a different yogurt in the pink yogurt's container. Once the new presentation is well accepted, move to another small change, such as a different brand's pink yogurt in an accepted dish and then later in a novel dish. If the child eats fish-shaped crackers, present different flavors of them. Slightly vary the temperatures of food and drinks. If the milk is typically warmed for 30 seconds, warm for 28 seconds one time and for 31 seconds the next time.

Involve the child in cooking and meal preparation by having him or her tear lettuce, stir cold foods, pour, and participate in similar safe activities. Playfully taste the foods and express delight without telling the child to taste the food. If the child tastes the food, praise him or her. Often when a child is allowed to experiment on his or her own at times other than mealtime, he or she will be more likely to taste a food. When the child is seated at the table or in his or her booster seat, perhaps while the meal is being prepared, present some food items to put in and out of containers or sort. Having a few pieces of a preferred food and a few pieces of a new food that differ only slightly from the preferred food in terms of color, texture, or shape may encourage the child to taste a new food. Providing play opportunities such as these when the child is hungry can be beneficial.

Use successive approximations and shaping to help move the child from accepting a new food on his or her plate or tray to eating the new food. For children who follow directions well, first present one or two small pieces of the new food on the child's plate or tray. If the child becomes upset, allow him or her to hand the food back to you or put it in a bowl. This is an important step for children who are resistant to touching a new food item. Provide several opportunities to do this until the child readily touches the food. Once the child accepts touching the food, work on having him or her accept the food on the plate or highchair tray. Tell the child, "I'll count to 10, and then you can put it in the bowl (or give it to me)." At first, count quickly, and after several opportunities to practice, count more slowly to increase the

time of acceptance. After several mealtimes with the new food presented without difficulty, use the Premack (1959) principle of “First ____, then ____,” where “first” can refer to kissing the food and “then” can refer to a special treat or the child’s opportunity to leave the table to play. Many children will not pick up the food to kiss it, so it will likely be necessary for the parent or provider to touch the child’s lips very quickly, make a kissing sound, and reward with the treat or allow the child to leave the table. If a small treat is used (e.g., a chocolate chip, a piece of cookie), multiple opportunities likely will be available during that meal. Often a child resists the first several times and then eagerly allows the item to touch his or her lips to get the treat or leave the table to play. After several meals using this strategy, change the requirement to licking the new food. Because one cannot easily help the child lick the food, the reward cannot be the opportunity to leave the table to play because if the child refuses, the adult is in the very undesirable position of strengthening the child’s refusal behaviors. Therefore, at this stage in the process, a treat, whether it be food or a special activity, must be the reward. After several successful meals, the requirement can be changed to “Take a tiny bite,” whereby, again, a treat of a food or opportunity must be used rather than the opportunity to leave the table. If the child refuses either at the licking stage or the taking a bite stage, he or she does not get the reward. It is important that the provider or parent not cajole the child into licking or taking a bite, as often this results in the child getting a lot of attention for refusing. Conversely, however, it is very important that the provider or caregiver enthusiastically praise the desired behaviors of touching the food, kissing the food, licking the food, and especially taking bites. On occasion, some children figure out that they can put the food in their mouths, get the treat, and then spit out the food. To alleviate this, for the first several bites, reward the child when he or she puts the food in his or her mouth, but then quickly change the requirement to swallowing the food.

For children who do not follow directions well, the introduction of new foods can be accomplished successfully by using positive reinforcement. It is important to first identify several strong reinforcers (see Chapter 3). Give the child a taste of a preferred food and, as soon as the child takes a bite, reinforce the child’s acceptance of the food with a preferred item or activity (e.g., bubbles, a straw to place in an empty water bottle, a phrase from a favorite song, an enthusiastic high-five). Present a tiny bite of the new food. Reinforce the child’s acceptance of the new food with the preferred item or activity if the bite is taken. Present three bites of the preferred food and reinforce each bite eaten. Again present a tiny bite of the new or nonpreferred food. Reinforce the behavior of taking a bite if the child does so. If successful, increase the size of the nonpreferred food and alternate bites of preferred and nonpreferred. Over time, continue to increase the size of the new food until it is a typically sized bite for the child and increase the number of presentations at a given meal or snack time. Gradually fade the reinforcer by increasing the number of bites before the reinforcer is given. This technique often works best at snack time because it is quite intensive and can disrupt a family mealtime.

Ideas for Monitoring Progress: Make a list of ways the child adapted to variations in specific routines and/or the number of changes the child adapted to in specific routines.