

# Back to basics: working with young children with autism in inclusive classrooms

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**Young children with autism benefit from various adaptations made to an early childhood classroom. This article includes modifications for both teacher-directed and child-initiated activities. Adaptations are given for the classroom environment, daily schedule, sensory needs, transitions and general teaching strategies. The techniques described are especially important when working with young children with autism, but are also helpful for all young children. The information provided is gained from several years of experience working with young children with autism in schools, homes and childcare.**

**Key words:** autism, inclusion, adaptations.

Children diagnosed with autism spectrum disorder (ASD) display a range of specific characteristics such as: (a) impairments in communication and interactions with others; (b) restricted, repetitive and stereotyped behaviours, interests and activities; (c) delays in either 'social interaction, language as used in social communication, or symbolic or imaginative play' with onset before the age of three (American Psychiatric Association, 2000, p. 71). These characteristics can be manifested in the classroom, causing the child to have difficulties relating socially, making transitions, managing changes in their routine and identifying and processing information from their environments (Helfin and Alaimo, 2007; Barnhill *et al.*, 2011). These characteristics require a skilled teacher to modify the classroom environment and instructional strategies to support children with autism.

In the past decade, the United States has experienced an increase in children with autism from one in 150 in 2000 to one in 88 in 2008 (CDC, 2012). This increase in children diagnosed with autism has resulted in a major concern for education professionals. A shortage of personnel certified and trained to teach these children currently exists (Barnhill *et al.*, 2011).

Currently, there are several therapies and teaching strategies that families and professionals are using to work with

children with autism. Some of these strategies include the Relationship-Based/Floor-Time Model (Weider *et al.*, 2008), applied behaviour analysis techniques including Lovaas' approach (Lovaas, 1987; McEachin *et al.*, 1993; Makrygianni and Reed, 2010), as well as Treatment and Education of Autistic and related Handicapped Children (TEACCH; Mesibov *et al.*, 2004). Researchers (Rogers and Vismara, 2008; Dardennes *et al.*, 2011) provided an extensive list of therapies and a review of the research to support these therapies.

Young children with autism can be included in the general education classroom with typically developing peers. Classroom modifications and teaching strategies are necessary to facilitate success. Well-defined teaching approaches that focus on the children's strengths by using multiple modalities (auditory, visual, tactile) maximise learning and attention. By applying specific techniques, young children are better able to function in a classroom environment.

The following strategies were developed over a period of years of working with young children with autism in inclusive settings. The techniques are a compilation of those experiences as well as recommended practices. The strategies described are valuable for working with typically developing young children who exhibit a range of abilities, but are especially critical for a child with autism.

## Classroom modifications

Two of the most critical aspects of the classroom when working with a child with autism are the materials and arrangement of the environment. The physical space is organised in order to communicate expectations of play behaviours clearly to the children. The classroom environment includes the physical space, the materials in the room and arrangement of materials and displays on the walls.

## Post classroom rules

Classroom rules are posted and referred to regularly by the teachers to the children. By displaying expectations, children and teachers are able to refer back to them throughout the day. Multiple opportunities to understand the rules

facilitate children's comprehension of expectations. For young children, the rules are posted using pictures rather than written words.

### ***Label classroom centre***

Teachers utilise both pictures and words to label visually each centre within the classroom and materials within the centres. A classroom that is clearly labelled with identifying pictures facilitates the child's understanding of the purpose of each area. The written word on objects helps the child learn to recognise letters and sounds. The child is given the opportunity to communicate by requesting or refusing to play in a particular centre in the classroom through the use of words, matching pictures or sign language. For example, the teacher asks the child if he or she wants to play with the blocks (use picture or sign *blocks*) or puzzles (use picture or sign *puzzles*). With repetition and practice the child will select the centre of choice. Once the child has made a decision, walking the child to the centre and ensuring engagement is helpful initially.

### ***Quiet areas***

Some children with autism need to take a break from the classroom routine or activities and the establishing of quiet areas in the classroom is imperative. Young children may be unable to request a break or find an acceptable way to escape a situation. By creating a quiet, comfortable area in the room, children learn to go to the appropriate location when a break is needed. Initially, adults may need to suggest that the child goes to the quiet area, but eventually the child learns to self-regulate and go to the quiet area without adult prompting. The child can take a book or manipulative toy into the quiet centre.

### ***Sensory triggers***

Sometimes sensory stimuli (e.g., noise level, temperature, smells, tactile and visual stimuli) will cause a negative behavioural response from young children with autism. Some distractions are not controllable (e.g., temperature changes from outside to inside) but others are (e.g., noise level in the reading centre). Through classroom observations and information from parents, teachers learn about anxiety-provoking conditions for the child. Then, the teacher better understands the cause of certain behaviours and either removes the stimuli or predicts the child's need for assistance during certain times throughout the day.

### ***One-on-one centres***

Some centres in the classroom should be designed for individual children or one child and a peer partner. Examples of centres that allow one on one with a peer or teacher are

computer centre, science centre, reading centre and a manipulative centre that includes puzzles or small blocks. Teachers and peers may need to model the use of materials or give specific directions about ways to utilise materials. As a child becomes more proficient, the teacher fades the use of prompts and encourages the child to work more independently. New skills can be taught and emerging skills can be practised within a centre.

### ***Well-organised workspace***

Some children with autism have difficulty functioning in work or play areas that are cluttered or poorly structured. Well-organised centres allow the young child to understand the expectations in that area. Not only should the centres be organised, but also the area should be clearly physically outlined. Borders can be created by using bookshelves, rugs and tables to define space. A clearly marked centre decreases stress levels for the child and allows him or her to focus greater attention on the activity. Extraneous stimuli are blocked out when borders are used to establish spaces.

### ***Transitions***

Frequently, young children with autism need physical cues to understand expected behaviours. A potentially problematic transition is preparing to leave the classroom. If children are expected to line up, the teacher can mark the area with coloured tape, bookshelves or another tangible cue. The young child can better understand the concept of lining up and is less likely to have difficulty with waiting if the teacher provides a visual or physical cue.

### ***Predictable daily schedule and routines***

Teachers have the responsibility of creating a schedule for children in the classroom. A daily schedule needs to exist to provide both routine and structure to the day. The schedule needs to include a balance of both teacher-directed and child-initiated activities, yet be flexible enough to meet each child's needs. Predictable daily routines will ease the anxiety level of the child because he or she will know what will happen next. Display a picture schedule at the children's eye level using actual photographs or authentic pictures of the events that occur during the day such as the outside environment, circle time and snack time. Put the pictures in sequential order and refer to them during transitions so that children are aware of the next event. Other ways to depict schedules are through words or sign language, depending on the individual child's communication system.

### ***Advanced notice of changes to schedule***

By alerting the child to any change in the typical routine before the change occurs, the child is able to process the

information and, therefore, better prepare for any change. The child will have more time to accept the change if alerted in advance, rather than learning about the change at the exact time it occurs. The teacher uses the communication system of the child to convey the information. For example, if the child requires pictures to understand concepts, the teacher uses pictures. A classroom field trip to the zoo would require the teacher to show the child pictures of the zoo and/or animals at the zoo that the child would recognise.

### ***Use simple visuals to practise non-planned events***

Teachers can use a photo-based format or computer software to create a social story to communicate with young children with autism about behavioural expectations related to unplanned events (e.g., fire drills, tornado drills). It is recommended that the teacher use this visual to practise behaviour at regular intervals. Performance of behavioural expectations during non-routine events can be easier to manage for the young child with autism when practised, making the event more familiar. For example, if a short written story of expected behaviour and procedures for a fire drill is discussed periodically and practised, then, when an actual fire drill occurs, the child will have an understanding of what to do in that situation.

### ***Choice making***

Teachers should integrate choice-making opportunities for the child throughout the school day. By designing learning environments to provide multiple learning opportunities, teachers can provide children with choice-making opportunities. Choice making is highly motivating, fostering children's independence as they take more control of their activities. Choices can be given to children by allowing them to decide which centre to go to and what materials to use while in the centre.

### ***Include sensory materials***

The theory of sensory integration is credited to Ayres (1979). The sensory systems are auditory, tactile (touch), visual, vestibular (movement) and proprioceptive (information from muscles and joints). Research literature suggests that children with sensory-seeking behaviours need sensory input at regular intervals to be able to focus on learning tasks. Teachers should consider children's sensory needs, as well as their sensory aversions, when planning their learning environment. Sensory materials should be incorporated into the classroom and children should be allowed free access to them on an as-needed basis. With careful consideration of all of these systems for the child with autism, all children and adults can have a productive day.

### ***Modify self-stimulatory behaviours***

Frequently, children with autism engage in self-stimulatory or repetitive behaviours. Self-stimulatory behaviours can be

defined as any behaviour that appears non-purposeful and repetitive, and may include rocking, twirling, spinning, arm or hand flapping, tapping and squinting (American Psychiatric Association, 2000). Self-stimulatory behaviours are sometimes believed to be a child's attempt to calm and modulate his or her arousal level during times of general over-arousal (King and Grandin, 1990; Helfin and Alaimo, 2007; Mays *et al.*, 2011). Self-stimulatory behaviours can, in excess, interfere with learning. Several options are available to reduce these behaviours, one of which is to include an age-appropriate replacement behaviour. For example, if a child generally utilises visual self-stimulatory behaviours, provide a pinwheel in one of the centres for the child. If the child is constantly putting items in the mouth for exploration purposes, provide different textured foods for the child to experience throughout the school day. A teacher should redirect a child from the self-stimulatory behaviour into a positive, desirable play situation.

### ***Multi-sensory approach***

Once a child's aversion to stimuli is determined, incorporate a multi-sensory approach to activities. Materials and activities that include more than one sense may elevate the children's interest level and facilitate additional learning. When singing songs use picture cues or objects for actual items in the song and incorporate signs to correspond with the words and movements to correspond with the words.

### ***Transitions***

In most early childhood classrooms, several transitions occur throughout the day. Teachers should incorporate into their daily routine techniques to move the children from one activity to another. With careful planning, children and adults can transition smoothly from one activity to the next with little disruption to the day. Young children with autism need to have time to prepare for the end of one activity and the start of another. By giving children a warning that the current activity is ending, the child with autism will have time to prepare for and process the next activity. Two minutes prior to the transition time, the teacher quietly, verbally tells the children that the activity will be over soon. She follows up with a statement indicating what the next activity will be. She accompanies that statement with a picture symbol or sign language that conveys the next activity to the child with autism. Additional ways of communicating change used by teachers are blinking the lights or singing a clean-up song. Teachers should approach the child with autism and give him or her another signal, just before the transition is made. Multiple signals allow the young child with autism to process the change. Engaging children with a familiar activity while waiting in line or moving to another setting facilitates a smooth transition. A child with autism is less distracted by other stimuli when occupied with singing a song, performing a finger play or making simple body movements. For example, the children

can be encouraged to walk on their toes like a dancer, fly like an aeroplane or sing the lunch song as they move from the classroom to the lunch room.

### **Use object cues**

Tangible objects can be used as a visual representation for an activity. A concrete object for the child to carry facilitates the child's genuine understanding of the next activity. Then, he or she will be less likely to be agitated or upset about the change. For example, if the class is going to lunch, the child can carry his or her lunch or milk carton. If the class is going outside, the child can carry a ball during the walk to the outside area.

### **Provide multi-sensory cues**

A timer can be used as a visual/auditory cue for the child to limit the amount of time allotted for an activity. Because children with autism have a tendency to repeat a highly desirable activity or use the same materials many times, the teacher must monitor the amount of time that a child is engaged in a specific activity. For example, a child who wants constantly to use the computer can be taught to set the timer for 15 minutes. With practice, the child will understand that when the timer goes off, he or she must move to another activity. The child's ability to monitor his or her own behaviour independently is facilitated and the teacher is able to set limits on the types of activity the child can spend time doing.

## **Teaching tips**

When working with young children with autism, some general principles are applied. Each child with autism is different, but they generally share some of the same learning characteristics such as: (1) children with autism tend to be visual learners; (2) materials need to be clearly organised for children with autism; and (3) children with autism learn best when sensory stimuli are kept to a minimum. These principles should be utilised for children with autism, but also benefit all young children.

### **Present work in an organised manner**

Pre-reading and pre-writing skills are taught when children's work is organised from a left-to-right, top-to-bottom system. The repetition of this pattern allows the child to understand the expectations better and thereby learn the task more easily. Play materials that encourage left-to-right and/or top-to-bottom assist the child with early learning skills. In particular, early literacy skills depend on the child's competence to master this system.

### **Use multiple modes of communication**

Children with autism often understand communication intent best when teachers use more than talking to convey a message. A multi-sensory approach to communication includes telling the message (auditory) while simultaneously using pictures or written words (visual) to aid in the child's comprehension. Another communication modality is sign language. Sign language uses visual as well as tactile senses to convey the message and is accompanied by words that match the signs. Communication attempts are better understood by the child with autism when more than one modality is used.

### **Incorporate highly motivating materials**

Children are motivated to learn when teachers provide materials that are interesting and fun for the children. Motivation can be attained for a specific task or activity when an item or toy that the child finds interesting is embedded in the activity. The task may be as simple as matching pictures of a favourite cartoon character or using preferred objects to master a counting game. A child with autism who is motivated is more likely to initiate a task and engage in the activity for longer periods of time.

### **Premack Principle**

The Premack Principle (Premack, 1959) promises access to a highly motivating activity contingent on an assigned task: *'If you do your maths work, then you can play with blocks'*. Initially, the child is asked to complete the teacher's desired activity for a very short period of time and is then allowed to engage in his or her desired activity. Once the routine is established, the teacher gradually increases his or her expectations before allowing access to the child's desired activity. The Premack Principle can be applied in many different settings and activities. Some examples include: circle time (the child sits in the circle briefly at first and is then allowed to leave the circle to look at books); snack or lunch time (the child is expected to take a very small bite of a less preferred food, then he or she is allowed to eat a desirable food); centre time (the child is expected briefly to work/play with a teacher-chosen activity before he or she can move to a more desirable centre in the classroom).

### **Use photographs**

Real-life, concrete experiences allow the child with autism to have meaningful activities and easier recall of events. Language experiences are more relevant and richer when a child has familiarity with the topic. To teach the concept of sequencing, teachers can laminate photos of recent events enjoyed by the class and label the back of each picture with the corresponding number in the sequence of each event. The children and teachers can use these real-life activities to



discuss the details of the events and then children can self-check the sequence by using the numbers on the back of each picture. Many concepts within the classroom can be taught by using pictures of actual people, materials and events and are more meaningful for the child with autism.

### **Follow the child's lead**

Children with autism are more likely to interact with adults and other children if the child selects the activities and materials. Talk to family members and observe the child's play; note the materials and activities that the child chooses. Capitalise on the child's preferences by using the preferred objects and activities to interact with the child. For example, turn taking can be practised using materials chosen by the child. During this time together, skills that are difficult to master such as communication and social interaction can be encouraged through words, gestures, signs, symbols and pictures along with the child's preferred materials.

### **Enjoy yourself**

Children with autism are children *first*. Take the time to get to know the children in your classroom and individualise the environment using the above-mentioned strategies. A prepared classroom creates a more relaxed learning environment, which makes teaching more enjoyable. When a child is having fun, he or she is more likely to continue working on a task.

## **Summary**

All children are unique and each child creates challenges for teachers. However, children with autism have specific behaviours and learning needs that demand specific responses from teachers. The amount and quality of learning gained by children with autism is greatly impacted by the activities, materials and interactions within the classroom. Specific techniques applied on a consistent, daily basis will enhance learning and promote positive behaviours of children with autism in inclusive environments. With careful planning and consideration by the teacher, a young child with autism can have a successful school experience.

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