Including Children with Autism in Inclusive Preschools: Strategies that Work

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The last 20 years have been an unprecedented time for parents and professionals working with young children with autism. We have benefited from more effective interventions and information about people with autism as well as from a trend towards more inclusive and normalized educational experiences for all young children with disabilities (Bailey & McWilliams, 1990). As a society we have had more opportunities to learn from adults with autism (Grandin & Scariano, 1986; Williams, 1992) and from parents of children with autism (Maurice, 1993). Researchers have learned more about effective interventions (e.g., Harris & Handleman, 1994; Koegel & Koegel, 1995; Lovaas, 1987), and children with autism are being included in child care, recreational, and educational
programs more frequently. Many questions remain, however, about how to best provide effective services to such children in inclusive early childhood settings.

This paper will describe how children with autism and other developmental disabilities are included in the Alice H. Hayden Preschool at the University of Washington's Experimental Education Unit (EEU). The preschool provides a comprehensive early childhood program for approximately 150 children from birth through age 6 and their families.

Each preschool classroom has 15 children, nine who qualify for special education services and six who are typically developing. All classrooms have multi-age groupings and serve children with a wide range of abilities, from severe disabilities to mild language delay to giftedness. Approximately 30 percent of the children with disabilities have autism or pervasive developmental disorder.

**Instructional and Curricular Philosophy**

Our goal is to provide classroom activities that promote dynamic interactions between children and the environment, in a family-focused and developmental-behavioral approach to instruction and curriculum (Allen & Schwartz, 1996). We work collaboratively with families to identify priorities, develop educational objectives, and evaluate program outcome. To translate this philosophy into practice we plan classroom activities that promote high levels of engagement and provide multiple opportunities to apply systematic instruction to achieve educational goals (Bricker & Cripe, 1992). The classroom activities and instructional strategies are not only developmentally appropriate (Bredekamp, 1987), which means they are individually and chronologically age appropriate; they also adhere to recommended practices for young children with disabilities, which means they are effective and systematic (Carta, Schwartz, Atwater, & McConnell, 1991; DEC Task Force, 1993). These concepts are illustrated below.

We will describe five strategies that we consider central to providing educational services for young children with autism in inclusive settings, illustrating how each strategy has been applied to individual children. The strategies, identified in collaboration with the preschool's teaching staff, indicate major "tricks of the trade" for helping
children with autism achieve important outcomes such as acquiring skills, developing relationships, and participating as full members of the class (Billingsley, Gallucci, Peck, Schwartz, & Staub, 1996).

**Strategies to Promote Inclusion**

**Teach Communicative and Social Competence**

Without communication and social interactions between children, an "inclusive program" is likely to provide little more than parallel instruction. When children with autism learn how to initiate spontaneous communications within natural social contexts, and to respond appropriately to the communications of others, they can begin to appropriately control their environment and develop positive relationships with others. Therefore, teaching communicative and social competence is a very high priority in our inclusive preschool.

Children with autism who do not have functional verbal skills need to acquire an effective communication mode; we use the Picture Exchange Communication System (PECS, Bondy, 1996; Bondy & Frost, 1994) to help them acquire these skills. PECS teaches children to communicate with pictures and symbols, focusing on initiations, which precludes dependence on question-asking by others (e.g., "What do you want? Show me what you want"). The program also systematically teaches persistence, a skill that we observe students using in many communicative and social interactions. Most of our students with autism have quickly acquired functional communication skills through PECS. The rapid rate of skill development allows children to communicate in understandable and acceptable ways about things that are important to them while they are acquiring functional speech skills (Bondy, 1996). It is noteworthy that we have seen no evidence that the use of such a system retards the development of speech; in fact, Bondy (1996) reports that, "the majority of children who learn to use PECS begin to speak (some in complete sentences) within about a year after they start PECS training" (p. 325).

We also consider imitation to be an important
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dimension of relating to others and a critical tool in learning from others. Many children with autism do not know how to imitate others (Romanczyk, Lockshin, & Navalta, 1994). Therefore, we provide systematic training in imitation skills to students who do not yet imitate adults or their peers, by embedding the training in the preschool curriculum and in activities throughout the day such as small group, opening circle, gym, outdoor play, and free choice. Outcomes of such training have included not only increases in imitation skills, but increased and improved social interactions (Garfinkle & Schwartz, 1996a).

Concurrent with direct training of communication and imitation skills, we plan opportunities for students with autism to interact directly with their typically developing peers. For example, at opening circle, we begin with a desirable toy such as bubbles and then support all children to share the toy directly with others instead of having the material go from child to teacher to child. In order to improve both the quality and duration of such interactions, we teach children to interpret the behavioral/communicative cues of others (e.g., gestures, vocal approximations). We also teach children using PECS to make exchanges with peers (Garfinkle & Schwartz, 1996). In this way, children become familiar with the variety of ways in which peers with and without disabilities deliver their messages and make social contact.

**Example:** Mark, a young boy with autism, is sitting at the art center with several of his classmates. He is using PECS to request materials he needs to complete his art project. His favorite painting utensil is Dot Art paints. He looks around and sees that Mary, who is typically developing and new to the class, has the Dot Art by her. He builds the sentence, "I want Dot Art paint," with his symbols and extends his sentence strip toward her. Ben, who has been in Mark's class for the past year, sees that Mark is trying to communicate with Mary, but Mary is intent on her painting and does not notice. Ben turns to Mary and says, "Mary, Mark is talking to you. Take the sentence from him and see what he wants." Mary looks up and reaches for Brain’s
Using Instructional Strategies That Maintain the Natural Flow of Classroom Activities

Rather than isolating children with autism from typical preschool activities and from their peers in order to provide individualized instruction, we emphasize teaching within the context of developmentally appropriate activities and routines. We draw peers into the instructional situation where possible. This approach requires us to use a variety of naturalistic teaching procedures including mend-model procedures, time delay, incidental teaching, and interrupted routines and behavior chains (for discussions of such procedures, see Noonan & McCormick [1993] and Wolery, Ault, & Doyle, [1992]). These strategies fit particularly well into a preschool setting because they are designed to be embedded in ongoing activities that are interesting to the students. As noted by Noonan and McCormick (1993), all share several characteristics:

1. Teaching occurs in the natural environment.

2. Individual teaching interactions are typically very brief and distributed or spaced over a period of hours or days.

3. Instructional interactions are typically child initiated.

4. Instruction uses natural consequences (i.e., objects and events are highly salient and desired by the child) (pp. 238-239).

In applying each technique, we use scaffolding -- different types of cues or prompts to ensure that children receive the necessary amount of support. We take care, however, to provide only what help is required so that children do not exert counter control (e.g., tantrums or aggression) or become dependent on prompts.

Example: One of Jacob’s IEP objectives is to learn to match similar objects. During small
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Group time his class is making collages with a variety of art materials. Before the activity began, Jacob's teacher placed on his collage five shapes that are different colors. Before Jacob can begin to choose preferred art materials for his collage, his teacher gives him five corresponding color shapes for Jacob to match. Jacob's teacher provides the appropriate level of prompts for him to complete the matching task successfully and as independently as possible. Then he finishes his collage alongside his classmates.

**Teach and Provide Opportunities for Independence**

While interdependence is appropriate and normal in human relationships, we also expect children to learn increasingly independent behavior as they get older. Independence during classroom routines continues to be a major expectation for students beginning kindergarten (Hairs, Fowler, Schwartz, Kottwitz, & Rosenkoetter, 1987), which is why we provide so many opportunities for, and actively teach, independent behavior.

Several practices have contributed substantially to the ability of our students with autism to perform independently and exert control over their environment. First, we give children choices wherever possible and teach choice making when necessary. Second, we give some children picture schedules that indicate the sequence of daily activities and, often, the sequence of events within activities. We also use kitchen timers to indicate the duration of activities. The visual and auditory cues provided by the schedules and timers have proven invaluable in easing transitions between activities, increasing engagement, improving play skills, and providing structure for trying new activities and materials. Over time, the schedules can be faded as desired. Third, the school day is filled with routines. That is, many activities occur every day and are conducted, at least initially, the same way and in the same sequence from day to day. Such routines include, for example, hanging-up coats and backpacks in cubbies, the activities at opening circle (e.g., fingerplays, calendar, selecting helpers, songs), cleaning up, and preparing
to go home. Such routines increase the predictability of events, provide opportunities for practicing imitation, and let typically developing children see children with autism as participating members of the class. In order to help children develop tolerance for change, variation can be introduced in small steps once the routines become well known. Fourth, because it is extremely easy to overlook nonverbal children, we make a special effort to give all children frequent chances to respond to teacher initiations, and we teach appropriate responses as necessary. Finally, we maintain high expectations for all children. As two of our teachers told us, "We celebrate small victories and immediately 'up the ante,' all the while believing that the child has the ability to reach the next objective. We don't say, 'He can't'; instead we say, 'How can we help him to...?'"

Another strategy we use to promote independence is giving children the freedom to participate in classroom activities and interact with their peers across the day. Although many children with autism need the support of close adult supervision and instruction, we are careful to ensure that adults do not become "velcro aides" (Ferguson, 1995). The role of adult support is to facilitate independence, interaction, and learning, rather than interfere with it. The classroom staff give children the freedom to explore and learn and the support to succeed in interactions with materials and peers.

**Example:** It is choice time in Jonathan's classroom. He has been having a hard day. Transitions are always challenging for Jonathan, but today there has been more crying and mild self-injury than we have seen in 6 weeks. As the teacher announces that everyone can make their first choice, Jonathan walks over to the wall and looks at a schedule that has his name on it. The schedule has six picture/symbols on it. All the pictures are of activity centers that are open during free choice. The first two pictures are of centers in which Jonathan is developing his play skills, the third is Jonathan's favorite -- the computer center. The next two are less preferred areas, and the last picture is "Jonathan's choice," which means that Jonathan can pick any activity
that he wants. Although Jonathan is still engaging in low levels of crying, he looks at the schedule, touches the first picture, sets a kitchen timer that is next to the schedule, and walks to center. As he engages in this routine, he calms down and is quiet. He plays in the center with other children until the timer goes off, then he walks back to his schedule, takes off the first picture and puts it in the "finished pocket" at the bottom of the schedule, and starts the routine over again, looking at the second picture.

**Proactively and systematically build a classroom community that includes all children**

Young children learn by doing -- this is axiomatic in early childhood education. In our program, everyone has a chance to learn because everyone participates. We never question if a child "is ready" to participate or is ready to be in a busy preschool classroom with typically developing children. Rather, we ask what supports and accommodations a child will need to be successful. We view classrooms as learning communities where everyone can make a valuable contribution and where everyone has something to learn.

Translating the ideal of fully participatory learning communities into practice is a challenge (Gibbs, 1994). We need to plan activities that will engage children with a large range of diverse abilities. Our goal is to plan classroom activities that the child with the most significant disabilities can engage in independently and that are challenging to the typically developing children. Activities must have multiple components, be open-ended, and support a variety of responses. Our school day is a mix of child-directed and teacher-directed activities. Recognizing that many children with autism may need more instructional support during traditional child-directed activities (e.g., free choice), we view these as both child directed and teacher supported; the teacher support/instruction helps children participate in meaningful classroom activities thereby facilitating class membership.

Group activities are an important part of creating a
classroom community. Our classrooms have at least one daily large-group activity and one small-group activity in which all children participate. They begin as short activities and get longer across the school year. Large-group activities include opening circle, songs, stories, and acting out plays. Small group activities include cooperative games, art projects, and pre-academic activities. They all address the strengths of children with autism by using preferred materials and activities to teach new behaviors and skills. All group activities include children with diverse abilities and allow every child to have a turn and play a role. For example, during some small-group activities every child, including children with autism, is in charge of handing out material. This responsibility puts the children with autism on an equal footing with others in the group and teaches them to be receptive communicative partners and to interact with peers as they request materials.

**Example:** It is "Show and Share" day at school today and Oliver, a 5 year old with autism, is ready. In his lap he has a special toy that his grandmother gave him and some note cards that his teacher prepared with have cues written in words and symbols. When the teacher calls on him, Oliver walks to the front of the circle. He holds up his toy, looks at the note cards, then looks at his classmates, and follows the established routine of telling them two things about his item. Then he looks at his teacher and says "Any questions?" After calling on classmates and answering two questions he returns to his seat in the circle, puts his toy and note card behind him. This note card was prepared by his teacher with cues to support Oliver's participation as an audience member. Now it is the turn of Anthony, a typically developing boy. After telling the class two things about the stuffed toy he is holding, he asks "Any questions?" Oliver looks at the card in front of him, raises his hand, and looks at Anthony. Anthony calls on Oliver and Oliver asks, "Where did you get it?" Anthony answers the question, calls on another classmate, and Show and Share time continues.
**Promote Generalization and Maintenance of Skills**

Unless skills are demonstrated across a variety of nontraining situations, and maintained across time, children will have limited ability to participate meaningfully in a range of activities that characterize inclusive environments. Instruction in any skill, therefore, includes strategies to promote generalization and maintenance. Particularly important strategies are:

1. **Targeting skills for instruction that will be useful in each child's life.** This means targeting skills a given child needs in nontraining situations and those that are typically enjoyed by children of the same chronological age. Such useful skills will be practiced across many persons and in many situations over time, which is so important for promoting generalization and maintenance. Further, when skills are useful, they often achieve a naturally reinforcing outcome, reducing the need for artificial reinforcers in new situations or across time.

2. **Using instructional prompts judiciously and fading them rapidly.** We use the least directive and intrusive prompt that will ensure successful skill performance and then fade that prompt as quickly as we can without disrupting performance. We want to reduce the probability that children (who may demonstrate stimulus overselectivity) become hooked on adult assistance and direction.

3. **Using naturally distributed trials.** This simply means that not all instruction is formally scheduled; we capitalize on the opportunities to teach that arise within natural school routines and activities. In addition to promoting skill acquisition by increasing the opportunities for instruction, teaching when skills would normally be performed can improve generalization "by providing a contextual sequence that duplicates the occasions in which the skill should naturally occur after instruction ceases" (Billingsley, Liberty, & White, 1994, p. 90).
4. **Using common materials for instruction.**
   Teaching with materials that are frequently found in preschools, child care settings, and the homes of young children promotes generalization. We also design opportunities for children to practice with similar materials across many settings in the classroom; for instance, materials used for a structured teaching activity during small group are also available in one of the centers during free choice. Materials are rotated systematically: there are always some familiar and some new materials so that children learn to demonstrate new behaviors with many materials.

**Example:** Joey, a young boy with autism, has had difficulty engaging in pretend play. In order to promote the development of these skills, Joey's teacher provides systematic instruction of pretend play sequences during small-group time. The teacher has prepared a simple play script with pictures and words to teach him a play sequence. Joey's teacher instructs him by modeling the play sequence, following the pictures in the script book, and reciting the corresponding language. Joey takes a turn and the teacher assists him. During this systematic instruction at small group, she uses the same play materials that are available in the dramatic play center this week. Later that day during free play Joey enters the dramatic play area, sees the familiar pretend-play props from small group, and his picture script book. He begins following the sequence without any assistance from an adult. Next week the teacher will use a similar play script with a different set of materials.

**Conclusions**

Children with autism have always been among the most difficult to include effectively in educational, recreational, and community settings. We have shared some effective strategies that we use at the University of Washington to include children with autism in a developmentally appropriate preschool program. Successfully embedding effective instructional strategies into preschool routines and
supporting children with autism in this environment have taught us two important lessons.

First, we learned to view children holistically: our young students with autism constantly show us their strengths and skills. Our staff has learned to work with them and their families to develop individual programs that address the children's needs and to build upon their strengths.

Second, we have learned to view the outcomes of inclusion and effective instruction broadly. Although developing, implementing, and evaluating discrete IEP objectives is important, we encourage our staff to look beyond children's learning and generalizing of discrete skills to understand how these skills affect the children across settings throughout the day. We want to know how the skills that we are addressing impact the child's and family's life style. We use the outcome framework described by Billingsley and colleagues (1996) as a guide for this process. Is the child is participating as a member in class and in other settings where she spends time? Is he developing successful relationships with peers? Is she acquiring and using those skills that will help her be more independent? Mindful of these two lessons, and the strategies described earlier, we have developed a preschool program that effectively supports children with autism in integrated classrooms.

References


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