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A Different Mind: Developing Museum Programs for Children with Autism

Elise A. Freed-Brown

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By

Elise Freed-Brown

Dr. Susan K. Leshnoff, Advisor

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Abstract

Museums are in a position to provide educational programs for children with autism. *A Different Mind: Developing Museum Programs for Children with Autism* addresses the unique challenges that children with Autism Spectrum Disorders (ASDs) may face in an informal learning environment. The purpose of this thesis is to present an overview of programs that can include children with ASDs.

Model case studies are included: "CreateAbility" at the Museum of Modern Art, New York City; "Discoveries" at the Metropolitan Museum of Art, New York City; and "Saturday Morning Stripes" at the Children's Museum of the Arts, New York City. This thesis also discusses museum program around the country that include children with autism. With an understanding of educational techniques that help children with autism, museum professionals can implement successful programs for this population.

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Introduction

Currently, much attention is devoted to autism or autism spectrum disorders (ASDs). Though scientists discovered this disability over fifty years ago, the public is only just starting to understand what autism is, what it does to people, and how many people are affected. Although more information is available than ever before, autism is still largely misunderstood. As a result, individuals with ASDs and their families often feel stigmatized. Through specified programs, museums can alleviate concerns of the autism community by welcoming them and providing for them a safe place to learn and play.

People with ASDs recognize that they function differently than non-autistic individuals. Donna Williams, a writer with autism, explains:

> For the first three years I had moved freely within "my world" observed incomprehensibly by "the world" which moved around me. Progressively Donna was seen in smaller and smaller snapshots until there was no longer any freedom to be a self within the grasp of "the world" (In Osborne, 2003, p. 411)

As a child, Williams was not aware that others found her behavior odd, but understood as she became older that her behavior was affecting her interactions with others and felt pressure to change. Some children with autism are also painfully aware of the opinions of others. In a study conducted on children with Asperger's Syndrome, a young boy named Dylan said "that he is constantly teased and bullied at school and that he has no friends" (Manjiviona, 2005, p. 78). Although Dylan could not understand why other children would not play with him, the adults in his life could deduce that it was because of his "strange" behavior.

Besides an apparent lack of social acceptance, individuals with autism are often excluded from recreational educational activities. Individuals with autism think

differently from those without, and so activities that are appropriate for non-autistic individuals may be frustrating for those with autism. Jean-Paul Bovee (2000), a professional with autism, writes:

> Education should be equal for all, and appropriate for all, but it must be chosen individually. If adaptations and supports are needed so that children with autism can learn, make them. If methods or materials need to be provided so that children with autism can succeed, provide them. (p. 250)

Museums as public institutions are meant to be open to everyone. While museums have made terrific strides in accommodating those with physical disabilities, developmental disabilities can be overlooked. This paper will explain what is autism and the common behaviors of those with ASDs; review educational strategies used to change problematic behaviors; and provide case studies of museums that have implemented programs for children with ASDs. The exemplary institutions included in this thesis are: The Museum of Modern Art, New York City; The Metropolitan Museum of Art, New York City; and the Children's Museum of the Arts, New York City. Using this information, the author will provide suggestions that museums can use for programs in which children with autism can participate.

Because children who have positive museum experiences become visitors as adults, this paper will focus on programs for children (ages 5-17) with autism.

Chapter 1

Explaining Autism

What is Autism?

Autism is a pervasive developmental disorder that falls into the category of autism spectrum disorders (ASDs). When speaking of autism, most are referring to Autistic Disorder (AD), or classic autism. Other ASDs include Asperger Syndrome (AS) and Pervasive Developmental Disorder – Not Otherwise Specified (PDD-NOS). Although these are all ASDs, they are distinct disorders with their own symptoms and diagnostic criteria.

Autistic Disorder. The *Diagnostic and Statistical Manual, Fourth Edition, Text Revision* ([DSM-IV-TR], American Psychiatric Association [APA], 2000) lists the following as diagnostic criteria for AD:

A. A total of six (or more) items from (1), (2), and (3), with at least two from (1) and one each from (2) and (3):
   (1) qualitative impairment in social interaction, as manifested by at least two of the following:
      (a) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
      (b) failure to develop peer relationships appropriate to developmental level
      (c) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest)
      (d) lack of social or emotional reciprocity
   (2) qualitative impairments in communication as manifested by at least one of the following:
      (a) delay in, or total lack of, development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)
      (b) in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
      (c) stereotyped and repetitive use of language or idiosyncratic language

(d) lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

(3) restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:

(a) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

(b) apparently inflexible adherence to specific, nonfunctional routines or rituals

(c) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)

(d) persistent preoccupation with parts of objects

B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years: (1) social interaction, (2) language as used in social communication, or (3) symbolic or imaginative play.

C. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder. (p. 75)

Because AD is a spectrum disorder with a broad array of symptoms, AD manifests in each individual differently (Frith, 2003).

Most children with AD are also diagnosed with Mental Retardation, which can range from mild to profound (APA, 2000). However, AD itself is not an intellectual disability. Uta Frith and Simon Baron-Cohen conceptualized the "theory of mind," which asserts that people with autism do not consider the mental states of others. Because people with AD have trouble understanding what other people are thinking, social interactions are very difficult. They do not pick up on social cues that other children seem to instinctually understand. Often, children with AD have no desire for social interaction, and so they are not motivated to commingle the way other children are. Because there is no desire for social interaction, they may feel that there is no need to learn how to interact (Frith, 2003). People with AD may have an intellectual handicap, but they also have a different way of thinking. Though their way of thinking may not change, they can learn to compensate for any socially awkward behaviors over time. Compensation can be

taught through intervention and therapy, or individuals with AD may learn compensatory behavior on their own, especially during adolescence when individuals with AD typically become acutely aware of their own social isolation (APA, 2000; Frith, 2003).

Individuals with AD may have unusual responses to sensory stimuli. The APA (2000) lists the following possibilities: "a high threshold for pain, oversensitivity to sounds or being touched, exaggerated reactions to light or odors, fascination with certain stimuli" (p. 72). Though these symptoms are fairly common in individuals with AD, unusual sensory responses are not necessary for diagnosis (APA, 2000; Frith, 2003).

People with AD may display a number of behavioral symptoms, including hyperactivity, short attention span, impulsivity, aggressiveness, self-injurious behaviors, and temper tantrums (APA, 2000). The *International Classification of Diseases, 10th Version* ([ICD-10], World Health Organization [WHO], 2007) also lists phobias and sleeping and eating disturbances as common problems. Over time people with AD can learn to compensate for or eliminate problematic behaviors (Frith, 2003). Individuals with AD may even become more interested in social interaction as they get older (APA, 2000). Because AD is a developmental disability, it changes at each stage of development. Frith (2003) explains:

> Since [AD] is a disorder that affects all of mental development, symptoms will necessarily look different at different ages. Certain features do not become apparent until later; others disappear with time. In fact the changes can be dramatic. Autism affects development, and in turn, development affects autism (p. 1).

It is possible for individuals with AD to develop certain talents, such as the ability to read written materials beyond one's reading level with minimal understanding of what it means (e.g., hyperlexia) or the ability to quickly calculate dates (e.g., calendar

calculation) (APA, 2000). Not everyone develops skills like these, however, and it is important to remember that not all people with AD are savants.

Asperger Syndrome. AS shares many symptoms with AD, but there are a few key distinctions. The following is the diagnostic criteria for AS according to the DSM-IV-TR (APA, 2000):

A. Qualitative impairment in social interaction, as manifested by at least two of the following:
   (1) marked impairment in the use of multiple, nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
   (2) failure to develop peer relationships appropriate to developmental level
   (3) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)
   (4) lack of social or emotional reciprocity
B. Restricted repetitive and stereotyped patterns of behavior, interests, and activities as manifested by at least one of the following:
   (1) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
   (2) apparently inflexible adherence to specific, nonfunctional routines or rituals
   (3) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
   (4) persistent preoccupation with parts of objects
C. The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning.
D. There is no clinically significant general delay in language (e.g., single words used by 2 years, communicative phrases used by age 3 years).
E. There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help sills, adaptive behavior (other than social interaction), and curiosity about the environment in childhood.
F. Criteria are not met for another specific Pervasive Developmental Disorder or Schizophrenia. (p. 84)

Unlike AD, individuals with AS display no clinically significant delays in language or cognitive development (WHO, 2007). In fact, some children with AS become incredibly verbose and develop an "adult" vocabulary at a young age (Manjiviona, 2005). Social communication, however, remains affected. Individuals with

AS may take a one-sided approach to social interaction. They may interrupt a conversation with whatever is on their minds, regardless of the topic of the ongoing conversation, or pursue a conversational topic no matter how the others' react (APA, 2000; Manjiviona, 2005). Individuals with AS may only converse in a few topics because of their limited scope of interests (APA, 2000). They may also become frustrated when they are asked to focus their attention on topics outside of their interests at school (Manjiviona, 2005).

Children with AS demonstrate behavioral symptoms as a result of difficulties with social interactions and stereotyped or repetitive behaviors. Children with AS have been known to regress or act more childlike during social interactions. They may yell for attention or throw temper tantrums if they do not get their way. They may also become obsessed with organization, insist on certain routines, or hoard objects for collection (Manjiviona, 2005). As in children with AD, AS manifests itself differently in each person and individuals with AS may learn to compensate for certain behaviors over time.

Pervasive Developmental Disorder-Not Otherwise Specified. According to the DSM-IV-TR (APA, 2000), an individual may be diagnosed with Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS) if there is noticeable impairment in the development of reciprocal social interaction associated with impairment in communication skills or with the presence of stereotyped behaviors (p. 84). This category includes Atypical Autism, which the ICD-10 claims should be diagnosed only when impairments become present after the age of three and when there is a lack of demonstrable abnormalities in one or two of the three areas required for

diagnosing autism (WHO, 2007). Individuals with PDD-NOS typically have profound Mental Retardation or impairment in receptive language (WHO, 2007).

Autism appears different in each person because it is a spectrum disorder, ranging from mild to severe. According to Fortunato (2007), children can demonstrate different combinations of behaviors that are symptomatic of autism, and they can display them to different degrees of severity. Because each individual falls in a different place on the spectrum, autism affects each person in a different way. This can be confusing to non-autistic people, who might expect people with the same disability to act in the same way. However, each person with autism, just like each person without autism, is an individual and deserves to be treated as such.

Although each ASD follows specific criteria, the author will refer to all of them under the broad term of "autism" or "ASDs," since museums that have programs for children with autism do not distinguish between individual ASDs.

What Causes Autism?

Although it is not certain exactly what causes ASDs, most studies support a genetic cause (Frith, 2003). One study of autistic families determined that in cases with identical twins, if one child has an ASD, so will the other 60-90 percent of the time. In non-identical twins, the chances that both will be affected by autism if one is affected lowers to 0-24 percent (Boyle, 2005). The much greater likelihood that identical twins, who share most of their genetic material, will both have an ASD supports a genetic cause. Boyle (2005) also found that parents who have one child with an ASD have a 2-8 percent chance of having another child with an ASD. It is common for siblings of children with autism to either have AD or AS or to have other behavioral difficulties related to autistic

behaviors (APA, 2000). Frith (2003) noted "aloofness, lack of close friendships, and rigidity" in the siblings of autistic children (p. 71). The increased chances of having multiple children with autism in some families as well as sharing symptomatic behaviors supports a genetic cause for autism.

The Centers for Disease Control and Prevention ([CDC], 2009) also accept certain biological and environmental factors as potential causes for ASD. About 10 percent of children with an ASD also have another disorder, such as Down's syndrome, fragile X syndrome, tuberous sclerosis, or other chromosomal disorders. Some prescription drugs have also been linked to ASDs, such as thalidomide, a sleeping pill prescribed outside the United States that was discovered to cause severe birth defects (in "Understanding Risk Factors and Causes," 2009). All of these factors are prenatal, and only one is preventable.

Complications during childbirth and viral infections have also been linked to autism, although Frith (2003) claims that both of these factors could have a genetic cause. Frith (2003) argues that a genetic abnormality of the fetus could lead to birth complications, and a genetic immune system dysfunction could aid a viral infection. Others still believe that vaccines cause autism, although a number of studies have refuted this claim. There is public concern about a possible link between thimerosal, a mercury-based preservative, and autism in infants (CDC, "CDC Statement on Autism and Thimerosal," 2009). As a precautionary measure, thimerosal has been phased out of childhood vaccines (Hollander, 2009). Nevertheless, cases of autism are still rising.

Is Autism an Epidemic?

There is an apparent increase in the prevalence of ASDs in individuals. A recent study raised the odds of a child being born with an ASD from 1 in 150 to 1 in 110 (CDC,

"Prevalence of autism spectrum disorders," 2009). The new statistic may seem to prove that cases of autism are increasing. There are many facts about autism that have yet to be discovered, but calling it an epidemic is generally considered inaccurate. However, widening criteria for diagnosis and greater publicity are bringing more cases forward.

As the discovery of autism is relatively recent, experts are learning new things about the disability every day. The diagnostic criteria are also relatively new, and they have been expanded to include everyone on the spectrum. Because more people than ever can fit under the umbrella of Autism Spectrum Disorders, more people are necessarily being diagnosed with autism (Frith, 2003).

Another factor that increases cases of autism is autism awareness. As publicity for this disability has increased, naturally more cases were recognized and diagnoses made (Frith, 2003). Increased publicity for autism has made more information about warning signs available to parents and doctors. It is possible that the odds of being born with autism have not actually increased, but instead parents and doctors are better equipped to spot autism in a young child. Unfortunately, the concept of an autism epidemic has lead to the sentiment that autism is a disease that needs to be prevented or cured.

Autism is a disability, not a disease, and while effective treatments are available, there is no proven cure for autism (Frith, 2003). Developmental disabilities can last a lifetime, but some organizations publicly claim that a cure is possible. For example, Jenny McCarthy, a celebrity with an autistic child, founded Generation Rescue, an organization that claims, "autism is reversible," on its website (accessed 2010). Although these people are well intentioned, asserting that autism can and should be cured can give the wrong impression. Jean-Paul Bovee (2003), an MA recipient with autism, argues that

"to talk about autism as all bad all of the time, and as something to eradicate, is making a value judgment on myself and other people with autism. It is saying that we have less value" (p. 250). Besides the effect that the disease concept can have on people with autism, it is unfair to give false hope to parents that their autistic children can be "fixed."

It is important to remember that autism is blameless. There is no particular person who causes it, and it is possible for the people who have it to lead normal lives as functional adults. Early intervention has helped many people with autism compensate for their behaviors.

Chapter 2

Educational Approaches to Autism

There are many treatments that help manage harmful behaviors or overcome barriers in communication and social interaction. Prevalent educational approaches for assisting children with ASDs are reviewed in this chapter.

Though many medical treatments exist for children with ASDs, it appears that the most effective intervention is early and intensive educational support that addresses behavioral, social, and communication deficits (Dempsey & Foreman, 2001). Below are prevalent educational interventions and complimentary treatments that may guide the development and implementation of museum programs. Educational approaches for children with ASDs are divided into Behavioral Approaches, Communication Therapies, Sensory-Motor Therapies, and Eclectic Approaches.

Behaviorist Approaches

Some educators have found that a system of reinforcements has helped children with autism overcome problematic behaviors and learn productive behaviors. A series of rewards (and, at times, punishments) can be an effective way to teach children with ASDs to compensate for their disabilities.

Applied Behavior Analysis. Applied Behavior Analysis (ABA) is a popular and widely known intervention for children with ASDs. ABA uses the principles of behaviorism to eliminate problematic behaviors in children with autism. In the 1960s, O. Ivar Lovaas laid the groundwork for Applied Behavior Analysis, developing a program in which children were rewarded for correct behavior and punished for incorrect behavior (Tutt, Powell & Thornton, 2006). Since then, the "Lovaas approach" has undergone

decades of development, refining techniques and eliminating questionable practices. Today, it is possible to be trained as an ABA specialist with certification at the bachelor's and master's degree levels. ABA has received much attention from both the popular media and research communities (Callahan, Shukla-Mehta, Magee, & Wie, 2010)

ABA assumes that the behavioral problems of people with ASDs have a neurological base and that they may change in controlled environments. Rather than a holistic view of the child, ABA focuses on specific behaviors that are either to be encouraged or quashed (Tutt, Powell & Thornton, 2006). Treatment focuses on both simple (e.g., maintaining eye contact) and complex responses (e.g., social interaction) and breaks them down into small steps. Each step is taught by an instructor or caregiver, using cues to prompt a response. The correct response to a prompt is rewarded, while an incorrect response is punished. This method has been used to teach a number of skills, such as communication and academic skills, while mitigating aggressive and self-stimulatory behavior (Dempsey & Foreman, 2001).

ABA has been found most effective when implemented at a very young age – before 2-years-old, when possible (Tutt, Powell & Thornton, 2006). Weiss and Delmolino (2006) note that enrollment in regular education classes is far more likely if intervention begins before the age of 5. The treatment is also intensive, requiring 30-40 hours a week (Tutt, Powell & Thornton, 2006). ABA requires a well-planned program, including individualized instruction, structured learning experiences, low student-teacher ratio, and family involvement (Dempsey & Foreman, 2001). Though it can be difficult and costly, ABA has been implemented with measurable success.

ABA has received some criticism in a number of areas. Some have called the use of certain aversives, such as mild slapping and verbal reprimands, inhumane. It is possible that reinforcing techniques may be physically or psychologically damaging to the child (Dempsey and Foreman, 2001). The use of aversive stimuli and "overcorrection," however, has decreased in recent years, with positive behavior supports taking their place (Wolery, Barton & Hine, 2005, p. 21-22).

Another criticism is that the demands of ABA prevent the child from developing his/her own individual personality. Lovaas did not design his behavioral approach specifically for children with autism, and so he was not concerned about why children with ASDs act the way they do (Tutt, Powell & Thornton, 2006). Some experts have tried to fix this problem by integrating other therapies. One literature review noted a suggested ABA curriculum that included play, imitation of others, and adaptive behavior in a social setting. Research on these topics is slim, but inclusion of these items in ABA could lead to a program that allows children to be individuals (Wolery, Barton & Hine, 2005).

Though there are many reports of success with ABA, there is no explanation for why some children improve dramatically while others do not. Some suggest that the effects of ABA may not be long term, or that improvements disappear once ABA is no longer practiced (Dempsey & Foreman, 2001; Tutt, Powell & Thornton, 2006). Because every child with autism learns differently, these questions may go unanswered.

TEACCH. TEACCH (Treatment and Education of Autistic and related Communication handicapped CHildren) is, like ABA, popular and well known. It is a program highly requested by educators, parents, and service providers (Callahan et al., 2010). Originated by Eric Schopler and colleagues, TEACCH has been developed at the

University of North Carolina over the last 30 years. It uses a behaviorist approach to foster communication and self-care skills, but it is flexible enough to allow incidental learning in addition to structured teaching (Dempsey & Foreman, 2001; Tutt, Powell & Thornton, 2006).

The goal of TEACCH is to help students feel more comfortable in an inclusive setting. For example, a classroom teacher may give a child with autism an individual workspace to eliminate distractions that can overwhelm the child. Each student is regularly assessed as an individual, allowing for personal development that may not be possible with ABA. At the same time, group identity is encouraged during collaborative activities (Tutt, Powell & Thornton, 2006). Possibly because TEACCH is designed for a classroom setting, teachers with an integrated class often prefer components of the TEACCH method as opposed to ABA (Callahan et al., 2010).

One of the defining features of TEACCH is an individual workspace kept free of distractions and other children. This allows the child to have a structured but adaptable environment. The workspace is a place for the child to do individual activities. The child is directed away from the space for group activities, creating boundaries for the child and creating a sense of routine. TEACCH also allows for augmentative/alternative communication (AAC), which are objects and techniques that assist with expressive and functional communication (e.g., PECS or sign language) (Mirenda & Iacono, 2009). Visual materials like picture schedules, which depict the days events in easily identifiable graphics, may also be included in TEACCH. Like other programs, TEACCH relies on collaboration between parents and professionals to continue the intervention at home (Dempsey and Foreman, 2001; Tutt, Powell & Thornton, 2006; Panerai et al., 2009).

One study by Panerai, Ferrante, and Caputo (1997) showed significant improvement in adaptive behavior; perception, motor, and cognitive performances; and self-help skills over a 12-month period in children and adolescents with autism. This study, however, did not have a control group, and the potential benefits of TEACCH are not guaranteed (in Dempsey & Foreman, 2001). As mentioned earlier, the differences in each individual with autism make it difficult to demonstrate efficacy; however, just because efficacy has not been proven does not mean the program will not work.

Communication Therapies

Communication deficits can be a difficult hurdle for children with autism and their instructors/caregivers. Delay in language development is one of the diagnostic criteria for individuals with Autistic Disorder (AD) (APA, 2000) and it is estimated that 50% of children with autism will remain functionally mute in adulthood (Tincani, 2004). All of the techniques discussed below are considered to be complementary treatments, which always are used in addition to other treatments and therapies (Kurtz, 2008). Two are also identified as alternative/augmentative communication (AAC), which are tools or techniques that help a child develop functional and expressive communication (Mirenda, & Iaconi, 2009).

Picture Exchange Communication System. Picture Exchange Communication System (PECS) is an AAC developed by Andy Bondy and Lori Frost to improve communication skills in young children. Since many children with autism prefer to learn through visual media, PECS uses a series of pictures to aid communication between a child with ASD and the instructor/caregiver.

PECS is a process of teaching the child to request items and initiate communication. First, the child is taught to show the instructor a picture of a desired item, such as a favorite piece of candy, and the instructor responds immediately by rewarding the child with a piece of candy. Then, the picture is placed out of reach and the instructor moves away from the child, teaching the child to seek both the picture and the instructor and to be persistent while communicating. Eventually, children are taught to distinguish between pictures of similar objects (e.g., pick the favorite piece of candy among pictures of similar pieces of candy) and to form sentences with pictures (Kurtz, 2008). By replacing speech with picture symbols, non-verbal children can learn to request items and initiate conversation (Tincani, 2004).

PECS uses easily recognizable symbols to teach children with ASDs communication skills, such as requesting and spontaneous communication. Spontaneity can be particularly difficult for children with ASDs who depend strongly on routine and rely on others to prompt their activities (APA, 2000). PECS specifically requires that the instructor/caregiver wait for the child to put a picture into the instructor/caregiver's hand, so that the child may initiate communication rather than relying on others (Preston & Carter, 2009). PECS has been demonstrated to increase functional requesting, but sign language may be more helpful in promoting speech production (Preston & Carter, 2009). Faster rates of acquisition and better generalization of new objects or images are also reported with PECS (Spencer, Peterson & Gillam, 2008).

Studies have shown that many children trained with PECS gain independent use of the system and, although PECS teaches non-verbal communication, some children even acquire functional speech (Kurtz, 2008; Tincani, 2004). Studies on the effects of

PECS on speech production are largely inconclusive, making the development of functional speech questionable (Preston & Carter, 2009; Spencer, Peterson & Gillam, 2008).

One benefit of PECS is that the only prerequisite skill is that the child can indicate what he/she wants. Eye contact, imitation, the ability to sit quietly, picture discrimination, or the ability to follow verbal prompts are not necessary for the early program stages (Preston & Carter, 2009; Tincani, 2004). Almost any child is capable of using PECS. PECS can also be easily integrated into other therapy programs (e.g., TEACCH, which relies on AACs to augment communication). More research is being done on the use of three-dimensional tangible symbols, which may be of better help to children with visual disabilities. They may also provide a more enriching sensory experience for children with ASDs (Preston & Carter, 2009).

Sign Language. Sign language is another AAC commonly used to mitigate communication deficits. Sign language is the use of gesture to represent words, and it may be used alone, or combined with verbalizations to make signed speech. Some children with autism prefer signed speech, while others have trouble associating auditory and visual symbols, and prefer only to sign (Kurtz, 2008). Children may learn to request specific items or engage in conversation by signing. As mentioned earlier, sign language may be more effective than PECS at promoting speech production, and there are some reports of children spontaneously developing speech soon after they learn to sign. Sign language has also been known to increase initiation in communication, eye contact, and vocalization (Kurtz, 2008; Spencer, Peterson & Gillam, 2008; Ticani, 2004).

A necessary prerequisite for sign language is that children have the ability to imitate movements with their hands, so it may not be appropriate for all children. For those who have these prerequisite skills, however, studies have demonstrated that sign language may be more appropriate than PECS (Spencer, Peterson & Gillam, 2008; Ticani, 2004).

Music Therapy. Music therapy is regarded as a complementary treatment meant to supplement another therapy program. It is distinct from music education, which increases the students' musical knowledge, skills, and appreciation of music. Music therapy, on the other hand, achieves non-musical goals (Dempsey & Foreman, 2001). Music therapy is a child-centered approach, in which one child improvises music with a licensed therapist. The goal of music therapy is to improve communication and social skills (Wigram & Gold, 2006).

Improvisational music requires creative reciprocity, flexibility, and nonverbal communication, imitating mother-infant communication (Kim, Wigram, & Gold, 2008). This mother-infant relationship is typically lacking for a child with autism, who is unable to communicate in this intimate way. Wigram and Gold (2006) noted, "music created spontaneously and creatively through structured and flexible improvization [sic] attracts the attention and provokes engagement in children with ASD," encouraging them to focus when it can be difficult (p. 536). Making music also encourages self-expression, giving the child a sense of self as well as a creative outlet (Wigram and Gold, 2006; Osborne, 2003). In some cases of children with autism, music therapy has bolstered language, and emotional, cognitive, and motor development, including eye contact,

reciprocity, motivation towards social interaction, and play. (Dempsey & Foreman, 2001; Kim, Wigram & Gold, 2008; Wigram and Gold, 2006).

Art Therapy. Art therapy utilizes art materials and the creative process to diagnose disorders and to help children express thoughts and feelings that may be difficult to share. In the creation of visual arts, children are taught to recognize their emotions and to express them to others (Osborne, 2003). Art therapy may also be used as an assessment tool. Therapists may examine the children's drawings to find any clues about a child's wants or needs (Kurtz, 2008). Art therapy is especially valuable for children with communication deficits, who need a non-verbal outlet to communicate their feelings. According to Kurtz (2008), art therapy may be particularly appealing for children with ASDs because they "often possess a natural talent for the arts" (p. 49).

Research has indicated a connection between art therapy and increased communication, increased social interaction, and improved motor function. Evans and Dubowski (2001) found that art therapy facilitated reciprocal movement, gesture, and response, which are comparable to the communication between mother and infant before speech develops (in Osborne, 2003). The art therapist and child can also develop a communicative bond, since the therapist can use the child's work to recognize any unmet needs in the child (Kurtz, 2008). In terms of social interaction, the act of making art helps children define themselves to the outside world, and therefore teaches the child that there is an external world to learn about (Osborne, 2003). This is a necessary prerequisite for social interaction that often eludes children with autism, who often have trouble understanding anything outside of their own mental states (Frith, 2003). An art therapist can advance a child from creating individual works of art to creating collaborative art

projects with a group, increasing social interaction (Gabriels, 2003). Art therapy also lets children with ASDs practice motor functions and imitations through activities like cutting, gluing, or drawing. Practicing these tasks improves motor skills (Gabriels, 2003).

Sensory-Motor Therapies

Sensory-motor therapy (SMT) assumes that people with autism may be over- or under-aroused by environmental stimuli. Consequently, these individuals have difficulty perceiving certain objects, which negatively impacts development and learning (Dempsey & Foreman, 2001). Indeed, a reported 42 to 88% of older children with autism display unusual sensory responses, such as hypo- or hypersensitivity, perceptual distortions, and paradoxical responses to sensory stimuli. Repetitive movements and restricted focus are believed to help children cope with hypo- or hypersensitivity (Baranek, 2002; Iarocci & McDonald, 2006). SMT relies on the assumption that there are many sensory and motor pathways that can be utilized in learning. If some pathways are damaged, others may be used (Dempsey & Foreman, 2001). The following are treatments that may assist children with ASDs and difficulties with sensory perception.

Sensory Integration Therapy. Sensory integration therapy (SI) is based on the theories that Jean Ayres, a psychologist and occupational therapist, introduced in the 1970s. Ayres believes that in a typically developing child, sensory integration is a developmental process by which the central nervous system organizes sensations from the environment so that the child can learn appropriate responses to those sensations. This process helps the child learn and regulate behavior. Difficulties in sensory integration may lead to communication and behavioral problems common in children with autism (Kurtz, 2008).

SI uses scaffolding to facilitate progressively more sophisticated motor responses to sensory stimuli (Baranek, 2002). In scaffolding, the instructor/caregiver provides support for a child learning a new activity, and then gradually removes support as the child learns to perform the activity alone. By encouraging sensory experiences, the child may improve sensory processing, either by developing better sensory modulation as related to attention and behavior control, or by integrating sensory information to form better perceptions (Gabriels, 2003). SI sessions may occur twice a week for a period of six months, though the intensity of the program varies from child to child. Usually, the lessons take the form of play interactions rather than behavioral strategies or drills. Techniques used in SI may be simple changes, such as eliminating distractions from a child's learning environment or letting the child fidget with a toy to promote attention. SI may lead to better perception of objects through the senses and may improve academic skills, social interaction, and independent functioning (Baranek, 2002; Kurtz, 2003).

Floor Time. Floor Time, the informal name for D.I.R. (the developmental-individual-difference, relationship-based model), was developed by Stanley Greenspan as a therapeutic model for children with a variety of disabilities (Stacey, 2003). Some children with ASDs display motor dysfunctions including low muscle tone, repetitive motor movements, and dyspraxia (e.g., lack of motor planning and coordination) (Baranek, 2002). Greenspan realized that some difficulties with motor function could be the result of dysfunctional sensory perception. For example, hypersensitivity may cause children to shy away from sensory experiences. His solution was to create a relationship between parents/caregivers and the child that emphasizes play and excitement.

Parents/caregivers must engage the child's attention and challenge cognition and motor functioning at a higher level than that child normally would (Stacey, 2003).

Like ABA, this is a very intensive intervention, requiring 30-40 hours per week and going on potentially for years. However, once a child overcomes sensory dysfunction, they may also demonstrate improved behaviors and increased social interaction (Stacey, 2003).

Physical Exercise. Physical exercise is elemental to child's health, but, unfortunately, is not usually a regular activity for children with autism. Menear, Smith, and Lanier (2006), physical education teachers who work with children with autism, noticed the following deficits in their students:

> In general, the students with autism with whom we work have poor eye-hand coordination, trouble combining multiple motor skills into one elementary motor task, apparently poor perceptual motor skills, a range of sensory integration issues, and difficulties with balance in general and with structured balance related physical activities (p. 20).

According to Gabriels (2003), children may improve motor dysfunctions by practicing certain activities, and they may overcome sensory integration issues by becoming exposed to different sensory experiences. If children are encouraged to exercise on a regular basis, they may overcome some of the difficulties listed above. In addition to improved motor coordination, group exercise teaches children to cooperate and coordinate with others, which is key to developing social interaction and communication (Kurtz, 2003). Mental health benefits, including high self-esteem, positive behavior, and increased happiness, have been linked to physical exercise in typically developing children, and may reasonably extend to children with ASDs (Pan & Frey, 2006)

Although physical exercise has some benefits, it may have limited effectiveness in mitigating some problematic behavior. Exercise releases endorphins, neurotransmitters that mitigate anxiety, hyperactivity, aggression, and wakefulness at night (Baranek, 2002; Kurtz, 2003; Tutt, Powell & Thornton, 2006). Exercise has been shown to modulate self-stimulating or problematic behaviors in some children with ASDs; however, these results are short-lived. The longest effects lasted about 1 to 1½ hours. Though many curricula for children with autism do not include exercise, some research has recommended 15 minutes of exercise per day (Baranek, 2002).

Eclectic Treatments

In addition to comprehensive treatments, there are eclectic treatments that use general guidelines and borrow components from other interventions. For example, the National Autistic Society developed the "SPELL" approach, with guidelines as follows:

- Structure, so that the child is able to predict events and anxiety is reduced. The environment is modified to support learning and communication.
- Positive approaches and expectations, which enhance self-esteem and build on the strengths of the pupil with autism.
- Empathy, whereby the teacher tries to see the world from the child's viewpoint, and devises an individualized learning program based on how that child thinks and learns.
- Low arousal, where a clear, calm and clutter-free environment encourages the pupil to learn; the approach is non-confrontational and both physical education and relaxation techniques are seen as important in helping to promote an orderly atmosphere.
- Links refer to links with parents, other professionals and the community at large. The National Curriculum is followed to maximize opportunities for inclusion in mainstream schools. (Tutt, Powell & Thornton, 2006, p. 77-8)

The only criticism of eclectic approaches like SPELL is that they may not take into account the psychological needs of autistic children. An ad hoc approach may not be best for children who need routine and structure in order to change behaviors and improve cognition (Tutt, Powell & Thornton, 2006). It has been demonstrated, however, that

children with ASDs have a variety of deficits and talents. Just like typically developing children, children with ASDs have individual needs and respond positively to different approaches.

Chapter 3

Survey of Museum Programs for Children with Autism

In response to the growing demands of the autism community, museums all over the United States have implemented programs for children with ASDs. The museums discussed have their own methods for including children with autism in their programs, including the use of special equipment and tools, separate tours, sensory-based art activities, and providing special hours just for families of children with ASDs. All the institutions below have in common that they listened to the needs of children with autism and their families and provided for them to the best of their abilities.

The Chicago Children's Museum reaches out to children with disabilities by providing resources and materials that help families manage the museum on their own. Play for All is designed for children with various physical and developmental disabilities, and they have a number of tools to help children of all abilities navigate the museum. For children with ASD, they provide a storybook guide that explains the rules and exhibits in the museum with pictures and simple language. This is available online or at the admissions desk. They also have pocket rule cards, which have pictures of exhibits with rules printed on them. These can serve as a quick reference for caregivers, as well as a way to visually present a schedule for children with ASD to give them a sense of routine. Sound reducing headphones can help children who are sensitive to noise, and U-Cuff lets caregivers help children participate in activities that require fine motor abilities. The Chicago Children's Museum website also has tips for visiting families, such as taking breaks or not trying to see everything in one day (Hench, 2009).

The DuPage Children's Museum of Naperville, Illinois attempts to make their monthly program, Third Thursdays, more exclusive for children with disabilities by deliberately scheduling their program during quiet times when few visitors are in the museum. This provides a safe environment for families of children with ASD, who can socialize with other families and navigate the museum without judgment. During this time, families of children with disabilities can enter the museum for free and interact with exhibits that foster language development, social skills, and purposeful play. Photo books for children who prefer visual cues and augmentative communication devices are also available. Also, a Community Access Network coordinator provides information about disabilities, community resources, and parent support groups for visitors (Rodhegier, 2010; DuPage Children's Museum, 2008).

Other museums have established programs exclusively for children with autism. Central Wisconsin Children's Museum in Stevens Point hosts Autism Night every first Monday of the month (Central Wisconsin Children's Museum, n.d.) and the Garden State Discovery Museum in Cherry Hill, New Jersey has Open Arms on certain Sundays (Garden State Discovery Museum, n.d.; Grzyboski, 2007). Although special activities are not usually provided, hosting an exclusive night for families with ASD provides a safe environment for these children to explore exhibits at their own pace. Autism Night and Open Arms are free drop-in programs, making them affordable and flexible. Holding exclusive programs for children with autism is catching on. The Children's Museum of New Hampshire in Dover launched a similar program to Autism Night and Open Arms called Exploring Our Way in March 2010 ("Trust funds new program," 2009; Children's Museum of New Hampshire, n.d.).

A summer camp run by the Creative Discovery Museum of Chattanooga, Tennessee. Friend's Discovery Summer Camp pairs a child, age five to eleven, who has an ASD with a non-autistic child who volunteers to be part of the program. Together, the pair plays and has fun, increasing the social skills of the child with ASD. A student from the University of Tennessee, or "Big Buddy," supervises each pair, giving them the flexibility to explore the museum in a safe way. The summer camp is a half-day, to keep it from being overwhelming, and the last four days to keep from interfering deeply with the child's routine. The program is offered every summer and is in its eleventh year (Creative Discovery Museum, 2010).

The following program incorporated an alternative treatment into a museum setting. Sands Point Preserve of Sands Point, New York is an extensive historic site. It contains the Hempstead House and Falaise, two homes of belonging to the Guggenheim's, as well as six nature trails. In December 2008, Sand's Point Preserve hosted an event called Hooves for the Holidays, a hippotherapy program for children with special needs. This program was hosted for children with any disability, and children with ASDs were welcome. In hippotherapy, a child is placed on a horse in a way that produces a desired change in posture, breathing, muscle tone, or fine motor control. The horse is then slowly guided around a track. The rhythmic movements and warmth of the horse are conducive to improving the child's motor control (Kurtz, 2008). Hollander (2009) explains that the movement in hippotherapy has the same effect as a deep pressure massage, raising the levels of oxytocin, which relaxes the rider. Sand's Point Preserve teamed up with Hooves for Hope, a year-round hippotherapy program, to provide this service on the estate grounds (Hogan, 2009). This may be an idea for historic sites and

gardens that have the space for this program or an inspiration for museums to try alternative methods for reaching children with ASD.

Chapter 4

Case Studies of Museum Programs for Children with Autism

This chapter discusses case studies of three museum programs for children with autism: "CreateAbility" at the Museum of Modern Art, New York City; "Discoveries" at the Metropolitan Museum of Art, New York City; and "Saturday Morning Stripes" at the Children's Museum of the Arts, New York City. Each institution has its own strategies for educating children with ASDs and helping them feel comfortable in a museum setting. None of the programs mentioned vary greatly from a program for a non-autistic child in terms of content or presentation. Each institution simply employs specific strategies to make the programs more accessible for children with ASDs and their families.

Museum of Modern Art: CreateAbility

CreateAbility, a program for children ages 5-17 with developmental or learning disabilities and their families, runs monthly at the Museum of Modern Art (MoMA). Children with autism are welcome to participate in this program. CreateAbility consists of a thematic gallery tour and a related, hands-on art activity. These tours and activities change weekly. The art activities emphasize diverse materials to create new sensory experiences and to keep it interesting for the participants. According to Kirsten Schroeder, the Coordinator of Community and Access, the purpose of CreateAbility is to create a safe museum environment where everyone feels welcome and comfortable. She hopes that participating families will have fun at the museum, and that children with disabilities will feel empowered by the ability to explore art and different materials (Schroeder, 2010).

CreateAbility was created with the help of staff from the Metropolitan Museum of Art in December 2005. Inspired by their program, Discoveries, MoMA collaborated with the Met to create a two-part program. Participants would first attend a program at the Met and then complete the second part at MoMA. MoMA also recruited art therapy students from the School of Visual Arts to help create the art activities. Now, MoMA runs programs for children and adults independently. Currently, the museum is collaborating with the Jewish Museum in New York City to help them create a program for adults with disabilities (Schroeder, 2010).

Observation of CreateAbility, Step by Step: Material and Process, February 28, 2010. The program observed was called Step by Step: Material and Process, and the theme for the week was how people make art and what they use to make it.

Step by Step started with sign-in. Participants received color-coded nametags, which placed them in either the red or the gold group. In each group, the children's ages ranged from about 7 to 17. The children's disabilities ran from mild to moderate in each group. After an explanation of the day's activities, the teachers lead the children and their families into the galleries. The author followed Amanda, who had been teaching CreateAbility for 3 years.

Amanda led the group into the gallery, which was crowded on a Sunday morning. Though the crowds could have been a distraction for some of the participants, the group managed to stay together and the children seemed comfortable. Many of the children are regulars, and they are probably used to the crowds. Once in the gallery, Amanda asked the group, "What are materials?" The children responded with tools: paint brushes, pencils, and markers were a few of the answers. Then the guide asked, "What is

process?" providing the answer that process is the way things are made. After a reminder of the rules ("What can we do? What can't we do?"), the group looked at some objects.

Most of the time, the group stayed with a planned set of objects. The first stop was Meret Oppenheim's *Object* (1936), a fur-covered teacup, saucer and spoon. Amanda asked the group what it was and what it was made out of. Then the questions got more abstract. Amanda asked, "Why would someone make a fur teacup?" encouraging them to imagine unfamiliar circumstances, which can be difficult for some children with ASDs. She also asked them to make facial expressions matching how they would feel if they drank out of the cup. Activities like this help develop imagination and get in touch with emotions.

At times, Amanda would break from the regular tour if a child saw something interesting. For example, one child wanted to look at some sculptures, so the group stopped. Since the sculptures were geometric, Amanda saw an opportunity to talk about shapes. At different points in the tour, some of the children and their parents would wander and look at different objects, but they never wandered too far.

There was a break in the tour at Marcel Duchamp's *Bicycle Wheel* (1951). The object is one of Duchamp's Readymades, a series of found objects or pieces constructed from found objects. After briefly discussing the object, Amanda passed out sticky boards and paper cutouts of familiar objects (scissors, light bulbs, etc.). They were instructed to make their own "Readymade." Putting together the project helps the children develop visual skills, as they are thinking of how to put together familiar objects to look like something else. After they put together their pictures, the children took turns talking about their pictures. Allowing children to create and present their own art gives them a

sense of self and an opportunity to express themselves creatively to others (Osborne, 2003).

After the tour, both groups met back in the downstairs lobby of the education building, which was set up for the art activity. The children were given boxes and access to a variety of materials, such as feathers, shells, fabric, corks, and paper. They were instructed to use the materials to tell a story in their box. This project gave children the opportunity to be creative and express themselves. Parents helped the children put their boxes together, and siblings were given a box of their own. The staff facilitated, asking the children about their projects, providing more materials, and helping with the hot glue gun. After the activity, the children had a chance to talk about their boxes, and each child received a round of applause. According to Ormrod (2008), receiving praise for completing an activity, such as speaking in front of a group and expressing one's self, increases a child's sense of self-efficacy and gives them the confidence to try that activity again. The CreateAbility staff encouraged the children further by putting their work on display for the month of March. They also had an exhibition opening so that the students could celebrate their success.

The Metropolitan Museum of Art: Discoveries

Like the Museum of Modern Art, the Metropolitan Museum of Art has a program for children ages 6-17 with any developmental or learning disabilities, in addition to one for adults. The Met runs Discoveries every couple of weeks on Sunday for two hours. The program is a thematic tour followed by a related art activity.

Discoveries was created in the late 1980's with the help of a government grant. According to Deborah Jaffe, the Access Coordinator, "The Met has a long history of

access and family programs. This was seen as another way of creating access" (2010). The goals of Discoveries are to provide access to museum collections and experiences with making art, and for stigmatized families to have a positive museum experience. Jaffe notes that many of the participants in Discoveries are regular visitors, and some have even been attending since the late 1980s. The Discoveries staff has been making an effort to recruit others through school outreach and mailings (Jaffe, 2010).

Observation of Discoveries, Fun and Games, March 7, 2010. Like CreateAbility, the theme of the Discoveries program changes each time. The program observed is called Fun and Games, and it focused on patterns, like those found on a game board.

Program participants met in the studio. All of the children and adults introduced themselves. The ages range from about 6-15, and their disabilities range from mild to moderate. A couple of families included siblings of a disabled child.

One of the educators, Pamela Lawton, introduced the theme of the program. Pamela asked the students, "What is a pattern?" One of the children explained, "Red, white, red, white." Pamela noted a few children who were wearing patterns in their clothes, and explained that they would look at patterns in art today. After discussing museums rules, the children and their parents were split into two groups, and they went into the galleries. The author followed Pamela along with an assisting volunteer.

On the way to the modern art galleries, the children seemed very excited. A few of them asked questions and made a lot of comments. Although there were a lot of crowds, the group stayed together and the children were calm. The crowds dissipated once the group moved into the modern art galleries.

Pamela sat the group in front of Stuart Davis' *Semé* (1953). She asked the children what they saw in the painting, prompting discussion about shapes, colors, and numbers. Pamela asked the children if they could find patterns, and she asked them to count shapes, letters, and numbers to see if it qualified as a pattern. When one child identified two shapes as a pattern, she explained that there needed to be more shapes for it to be a pattern. While they were talking about the painting, Pamela would draw some of the patterns and shapes on a piece of paper to help the children focus on one part of the painting. As reasoned by Bondy and Frost, who developed PECS, children with ASDs tend to learn better with visual aids (Kurtz, 2008).

At this point, Pamela included a lesson in abstract art and texture. She asked guiding questions: "Does this look like a person?" "Which one looks bumpier and thicker?" After explaining these concepts, Pamela gave the children and adults paper and colored pencils so that they could "sketch something they like" from the painting. The idea was to make a pattern out of something that they saw in the picture. The teachers drew their own pictures along with the children. Pamela showed the students how to create certain effects using colored pencils, such as blending colors or creating different textures. Although there is a theme for this activity, children were allowed to draw freely and experiment with the materials. The other group comes into the same space at this point, adding to the noise, but the children in Pamela's group focused on the project at hand. They were excited about the activity and they want to finish their projects. After time is up, everyone gets to show their picture to the rest of the group.

Next, the group sat in front of Charles Sheeler's *Americana* (1931), which is in the same gallery space. Pamela asked the children to compare this painting to *Semé*,

noting the colors and the difference between realistic and abstract art. Pamela continued to ask guiding questions to help the children look at the art. *Americana* features a backgammon board, which gives Pamela a chance to talk about patterns. The volunteer had a side conversation with one of the students, who had a lot of questions.

Pamela asked the children to add to their pictures based on what they saw in *Americana*. The teachers gave advice and directions, using their own projects as examples ("You should add lots of colors. I'm going to add some yellow to mine."). After the children add to the pictures, they showed them to the group again. After that, the group went back to the studio.

For the art activity, the children and parents created board games. Everyone received a rectangular piece of cardboard that was split in the middle so that it could fold. They were provided with different materials, such as paper, fabrics, pastels, and colored pencils. Pamela suggested that they make a grid out of tape, to emulate a real board game, and then decorate however they like. A couple of the teachers made their own, and they also offered suggestions and encouragement to the children. There was only 15 minutes to work, and not everyone finished. Children were allowed to take extra materials so that they could finish at home. All families were also given a free pass to come back to the museum, assuring them that they are always welcome.

Children's Museum of the Arts: Saturday Morning Stripes

Saturday Morning Stripes is a weekly program for children with ASDs and their families. Stripes was a collaborative effort between the staff at the Children's Museum of the Arts (CMA) and local parents of autistic children. In 2006, SoHo resident Liz Kurtzman, mother of 8-year-old Peter, who has an ASD, and 10-year-old Lucy, who does

not, asked the museum to create a program that both or her children would enjoy (Scheer, 2010). The result was Saturday Morning Stripes, which combines free art making with scheduled activities. The goal of Stripes is to use visual art making, creative performance, and imaginative play to help develop social interaction, communication skills, dexterity, and self-expression. Stripes also strives to create a non-threatening community where children with and without ASDs can thrive.

Observation of Saturday Morning Stripes, March 13, 2010. Stripes started at 10:30 am, an hour and a half before the museum opens. The first thirty minutes were devoted to free play. There was no formal sign-in process, but children and adults were given name tags. Families trickled in slowly, and six to eight families participated in the program. Children's ages ranged from about 5-15, and their disabilities ranged from very mild to moderate.

During free play, art stations involving clay, flubber, pastels, sand, chalkboards, Leggos, salto, and a collaborative painting were open, and participants could pick and choose. Rapoport (2010) explained that free play allows the children to break their routines and provides a creative outlet. Children enjoyed interacting with different materials, which provided unique sensory experiences and allowed them to express themselves creatively. Parents facilitated the activities, and some educators were planted at stations where they could help the children make art. For example, an educator, who specializes in clay animation, sat at the clay station to help participants invent and create characters.

Thirty minutes later, it was time to start a group art activity. To get everyone's attention, the resident music instructor and Early Childhood Coordinator, Tom Burnett,

drummed on a table and clapped, creating loud rhythms. Children and parents joined in. It has been demonstrated that improvisational music therapy helps develop spontaneous self-expression, emotional communication and social interaction in children with autism (Kim, Wigram, & Gold, 2008). This brief rhythm game, besides focusing everyone's attention, may have additional benefits.

After everyone sat down, two educators explained the art project. The tables were covered with large, white sheets of paper. Everyone received paints and unusual painting tools, such as plastic flowers, toy cars, and pieces of corrugated cardboard. These items created textures that are difficult to recreate with a paintbrush. Activities like these encourage children to describe something new and to express themselves through art. Although the entire group participated in the art project, families mostly worked alongside each other and did not interact.

The art project changes weekly in Stripes. Rachel Rapoport, Director of On-Site Programming and manager of Stripes, explained that they used to do collaborative projects that they would build on every week, but they discovered that the adults found this more interesting than the children. Now, the projects are centered on sensory experience and free expression. For example, in a previous activity they mixed spices with water to create paints. The staff has found that activities that focus on the senses are more engaging for children with ASDs (Rapoport, 2010).

After thirty minutes, an educator rang a bell to signal the next activity. Everyone moved downstairs for yoga and drumming. The children sat in a circle, and some of the parents sat on the floor or in chairs positioned around the circle. First, Tom had them do some simple yoga poses. One of the children, "Yogi Hugo," also led the group in a few

yoga poses. Then, the other children took turns making up their own poses, which included some free dance. After each child shared a pose, Tom led the group in performing each pose in a sequence. This was another opportunity to encourage the children to express themselves freely.

After yoga, the group played more rhythm games. First, Tom had everyone take deep breathes, and then they sang a do-re-mi scale. After the warm up, they played some clapping games, creating rhythms and counting. Then, they moved on to drums. Occasionally, Tom cued the children to play "whatever we like," providing them an opportunity for free expression. When Tom wanted them to stop drumming, he instructed the children to put their hands in the air or on top of their heads so that they would not touch the drums. Children took turns making up their own rhythms, and some children danced to the beat. Children were encouraged to perform and received praise for doing so, giving children the confidence to pursue activities on their own (Ormrod, 2008, p. 138). After drumming and dancing, the families took a break and had snack time. Popcorn and juice were provided.

Rapoport and parents notice improvements in the ways their children interact with others since starting the program (Rapoport, 2010; Scheer, 2010). Rapoport also comments that Stripes gives children with ASDs an opportunity to explore their talents and display them, such as "Yogi Hugo:" "They get to see what makes them special" (2010). Many of the participating families are regular visitors, but CMA constantly tries to expand its audience. Although Stripes was originally created for entire families, Rapoport notices a drop in participation by siblings (2010). In fact, no siblings attended

the program that the author observed. The CMA staff, however, advertises Stripes as a family program, and siblings are always welcome (Scheer, 2010).

Chapter 5

Practices for Museums Implementing Programs for Children with Autism

Based on the author's extensive research, the following may be considered good practices for museums that wish to implement programs for children with autism. Techniques used in the educational approaches discussed in Chapter 2 guide these suggestsions.

Set Realistic Goals

When planning a museum program, it is tempting to aim for concrete behavioral changes in the children who participate. Seeking concrete changes may be especially desirable if the museum is applying for grants to fund the program. This, however, may not be a realistic goal. Museums may not be appropriate places to integrate treatments that require long-term, intensive care, such as Applied Behavior Analysis or Floor Time. Neither is it appropriate to claim that the museum program is a source of therapy when there are no therapists staffed. All of the programs observed in Chapter 4 were only meant to provide a safe and positive environment for children with autism and their families. This is a realistic goal and one that families appreciate. Other educational goals, such as increasing appreciation of the arts, are also appropriate.

Just because a museum cannot promise an improvement in behavior does not mean that it will not happen. In all three programs observed in Chapter 4, staff noted that children became calmer and more attentive during their continued participation in museum activities (Jaffe, 2010; Rapoport, 2010; Schroeder, 2010). Pamela, an educator from the Metropolitan Museum of Art, told the story of a boy, who was hyperactive and would leave the museum building if not closely supervised. His behavior improved

greatly during his participation in Discoveries. He became more focused and could more easily follow directions. Although Pamela believes that the treatment he received at home was the greatest factor in his improvement, the mother insists that his participation in Discoveries caused the change (Lawton, 2010). Participation in the arts may bring about positive changes in behavior, by increasing certain cognitive functions, such as adapting, making choices, and anticipating outcomes of certain actions (Osborne, 2003).

Consult the Experts

The above museums collected the advice of professionals, experts, and parents in order to create their programs, and they have met considerable success. The Children's Museum of the Art consulted local families to create Stripes (Rapoport, 2010). The Museum of Modern Art based CreateAbility on the Metropolitan Museum of Art's Discoveries (Schroeder, 2010). It is invaluable to consult with people who know about autism and its treatments to create a successful program.

It may be possible to create partnerships that are beneficial to a program for children with autism. Sands Point Preserve was able to host a hippotherapy program for a day through a partnership with Hooves for Hope (Hogan, 2009). Working directly with people in the autism community can greatly enrich programs, benefiting both the museum and participating children.

Keep Groups Small

Many of the treatments discussed in Chapter 2 base their success on an individualized, child-centered program (e.g., Applied Behavior Analysis, Treatment and Education of Autistic and related Communication-handicapped CHildren, Floor Time). Smaller groups can give an educator more one-on-one time with each participant,

creating a more personal relationship and better allowing the educator to help the student when necessary. At times when the educator is unavailable, the accompanying parent or aid can assist the child. Smaller groups can make the children feel more comfortable in the museum.

Create a Routine

Insistence upon routines is common in many children with ASDs (APA, 2000; Manjiviona, 2005), and in some cases it is best to encourage a child with autism to break routines. However, some structure is necessary for the child to feel comfortable in the museum. All of the observed programs implemented a routine (e.g., a thematic tour followed by a related art activity) and while the activities would change, the layout of the program never did. Saturday Morning Stripes at the Children's Museum of the Arts would open up stations in the museum, and Amanda at the Museum of Modern Art would allow families to wander on their own. This gives the children control over the activities. Without structure, a child may become overwhelmed.

Although all of the programs observed implemented a specific schedule, they also had elements of their program that changed. For example, the Museum of Modern Art's CreateAbility and The Metropolitan Museum of Art's Discoveries would change the theme and the art activity for each program. A familiar structure is still present for the child with autism (e.g., tour followed by activity), but there is something new about each program, so the child does not rely too heavily on a routine.

Schedule the Program for Quiet Hours

Following the example of the Children's Museum of the Arts, it may be wise to host the program before the museum opens or at a time when it is not so busy. Many

experts advocate a distraction-free environment when educating children with autism (Baranek, 2002; Callahan et al., 2010). Children with autism, who typically have sensory dysfunction, may have difficulty ignoring the noise of the crowd to focus on the educator (Frith, 2003). Other children might find crowds to be a disturbing sensory experience, causing them to throw tantrums or have a meltdown. Meeting during quiet hours or in empty places in the museum can help an educator avoid these situations.

Having a program during quiet hours helps the children feel comfortable and makes it easier for them to adjust to a new space. Rapoport (2010) noted that children who participate in Stripes, which begins before the museum opens, often stay all day because they feel comfortable in the museum despite the crowds. A lack of crowds is also comforting to parents, who feel that they are often stigmatized for having a child with a disability (Grzyboski, 2007).

A crowded museum may not ruin a program, though. The Metropolitan Museum of Art and the Museum of Modern Art were both crowded on the mornings when their tours were running, and the children did not seem bothered, nor were they excessively distracted. It is possible that regular visitors had grown accustomed to the crowds.

Plan a Variety of Activities

Keeping in mind the short attention span typical of a child with autism, it is necessary to have a number of hands-on, sensory activities available. The museums observed used a number of art activities that focused on process and sensory experiences.

Although some of the projects mentioned were focused on an end product (e.g., the story box and the board game), the children were never criticized for their work or told to do it a different way. The point is not to increase artistic ability, but to encourage

creativity and self-expression (Gabriels, 2003). A project that emphasizes process gives the child control, making the experience more valuable and interesting (Osborne, 2003).

As mentioned, Rapoport (2010) has noticed that children tend to be more interested in a sensory experience than a collaborative project. Children with ASDs may be drawn to certain sensory experiences, which can be used to the museum's advantage. If the child enjoys a certain sensory experience, such as dripping paint or tearing paper, an art project that incorporates this experience will be more interesting to the child (Gabriels, 2003). New sensory activities may help children mitigate sensory dysfunction, which is common in children with ASDs (Baranek, 2002). The more sensory experiences they have, the better they can adapt to new experiences.

As mentioned earlier, activities that incorporate movement (e.g., yoga and dance) or motor activities (e.g., using scissors) help children increase motor functioning (Gabriels, 2003). Though fine arts that require fine motor movements are helpful, it may be beneficial to expand programming to include whole-body movement, like the Children's Museum of the Arts' (CMA) yoga activity.

Changing projects also helps to break routine, which may decrease reliance on routine in the future. The CMA's Stripes program uses a variety of methods of artistic expression, including music, movement, and visual arts, allowing the children to express themselves creatively and discover special skills.

Be Clear and Direct

Communication impairments are common in children with autism. Children with AD have delays in speech development, while children with AS tend to take speech very literally and have difficulty following instructions (APA, 2000). Therefore, it is important

that most communication be purposeful and direct. Visual materials may be used to illustrate points in a nonverbal way (e.g., drawing out parts of a painting). Otherwise, simple language and instruction are best.

In the programs observed by the author, all of the participating children had adequate speech, rendering augmentative/alternative communication (AAC) unnecessary. If additional communication devices are needed, they may be coordinated in advance by request or they may be left to the parent or aid of the child. The ability to provide AAC to encourage communication depends on the resources of the museum. Although a proper AAC may not be used, the use of visual aids is helpful to illustrate points. For example, at the Metropolitan Museum of Art, Pamela drew a section of a painting on a sheet of paper to focus attention to one part of the painting.

Praise and Encourage

The point of these programs is for the child and his/her family to have positive experiences. Children should receive positive feedback for participating in museum activities. Praise gives children a sense of self-worth and the confidence to be self-expressive (Ormrod, 2008). If the child feels confident and has fun doing the art projects, then the child will feel inclined to come back to the museum and participate again. The families will also feel confident that the museum is a safe environment for the child and that they are welcome.

It is also important to give everyone praise, not only those who struggle more. Frith (2003) claims, "Sometimes a pat on the back is needed. A person with autism with many compensatory skills tends to get less sympathy than the one who is totally mute and

aloof" (p. 222). Though some children with autism need less help than others, everyone likes to be told that they are doing well.

Remember that Everyone Has a Tough Time Sometimes

As mentioned, certain behavioral problems are common in children with autism. They could have temper tantrums, yell for attention, or "act the clown" in uncomfortable social situations (Manjiviona, 2005). Sometimes, even a child who has learned to compensate for the disability can slip into these old behaviors: "A simple setback, a preoccupation, a slight illness, a change of routine, can upset even well-rehearsed social interactions" (Frith, 2003, p. 221). If this happens, the parent or aid should see to the child. They will know the child best and can mitigate the situation. But it may be helpful to have an area where the child can cool down, as in the Garden State Discovery Museum (Grzyboski, 2007). It is also important to assure the parents or aids that they will not face judgment if their children act out. Museums are supposed to be a safe place for everyone, and that means creating a judgment free zone.

Conclusion

As public institutions, museums have the responsibility to extend their programs to people of all abilities. In many instances, the autism community has felt stigmatized by the public, and it is up to museum professionals to make them feel welcome in their institutions.

Although it takes careful planning and serious commitment to create programs for children with autism, it is doable. Programs for children with ASDs do not differ greatly from programs for non-autistic children. To make the programs accessible to children with autism, museums employ certain educational strategies to help the children connect to the activity or the objects. Simple changes, such as providing sensory activities or holding a program when the museum is less crowded, can allow children with ASDs and their families to have enriching educational experiences in a place where they may have previously felt unwelcome. As a result, families feel more comfortable bringing their children to a public place, a new community is fostered within the museum, and children with ASDs have an outlet for self-expression that may lead to behavioral improvements. The benefits of museum programs for children with autism to the autism community are significant and well worth it.

Artworks Cited

Meret Oppenheim
Object, 1936
Fur-lined teacup, saucer, and spoon
Cup: 4 3/8" in diameter
Saucer: 9 3/8" in diameter
Spoon: 8" long
Overall height: 2 7/8"
Museum of Modern Art, New York City

Marcel Duchamp
Bicycle Wheel, 1951 (third version after lost original of 1913)
Metal wheel mounted on painted wood stool
51 x 25 x 16 1/2"
Museum of Modern Art, New York City

Stuart Davis
Semé, 1953
Oil on canvas
52 x 40"
Metropolitan Museum of Art, New York City

Charles Sheeler
Americana, 1931
Oil on canvas
48 x 36"
Metropolitan Museum of Art, New York City

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