Many educational approaches can significantly improve the quality of life of persons on the autism spectrum and their families.

WHAT IS AUTISM?

Autism is a neurological disorder that disrupts a child’s learning and socialization. Deriving its name from the Greek word for “self,” autism is often associated with children who seem self-absorbed and exhibit unusual behaviors. It is a spectrum disorder, meaning that any two people diagnosed with autism may have very different symptoms and/or characteristics. Children with the disorder range from very high-functioning (nearly indistinguishable from children who do not have autism) to profoundly impaired. Some students diagnosed with autism may have other diagnoses, such as Asperger’s Disorder or Pervasive Developmental Disorder - Not Otherwise Specified (PDD-NOS). More information about these diagnoses can be found on the website of the Autism Society at www.autism-society.org.

Autism is the third most common developmental disability, following mental retardation and cerebral palsy; it is four times more prevalent in boys than in girls. The Centers
MANY EDUCATIONAL APPROACHES CAN SIGNIFICANTLY IMPROVE THE QUALITY OF LIFE OF PERSONS ON THE AUTISM SPECTRUM AND THEIR FAMILIES.

AUTISM CHECKLIST

❑ Insistence on sameness; resists changes in routine
❑ Severe language deficits
❑ Difficulty in expressing needs; uses gestures or pointing instead of words
❑ Echolalia (repeating words or phrases in place of normal, responsive language)
❑ Laughing, crying, or showing distress for reasons not apparent to others
❑ Prefers to be alone; aloof in manner
❑ Tantrums; displays extreme distress for no apparent reason
❑ Difficulty in mixing with others
❑ May not want to be touched or may not be physically affectionate
❑ Little or no eye contact
❑ Unresponsive to standard teaching methods
❑ Sustained odd play
❑ Spins objects
❑ Inappropriate attachment to objects
❑ Apparent oversensitivity or undersensitivity to pain
❑ No real fear of dangers
❑ Noticeable physical overactivity or extreme underactivity
❑ Not responsive to verbal cues; acts as if deaf even though hearing tests in normal range
❑ Uneven gross/fine motor skills (may not kick a ball, but can stack blocks)

Please note this symptom list is not a substitute for a full-scale diagnostic assessment.

for Disease Control and Prevention now estimates that one in every 175 children born in the U.S. today will fall somewhere on the autism spectrum. It is estimated that 1,500,000 people in the U.S. today have autism.

Autism is usually diagnosed during the first three years of a child’s life. There is no medical test for autism; a diagnosis is determined by a team of professionals through observation and testing of the child, coupled with interviews with parents or guardians. This diagnostic team may include a neurologist, psychologist, developmental pediatrician, speech/language pathologist, and/or other professionals knowledgeable about autism. The team’s findings are then compared to the definitive protocol for assigning a diagnosis of autism as set forth in the DSMIV-TR (Diagnostic and Statistical Manual for Mental Disorders Fourth Edition Text Revision), published by the American Psychiatric Association. For a diagnosis to be made, a child must exhibit some symptoms in all of the three following categories, although the level of severity can vary greatly:

1. **Qualitative impairments in social interaction.**
   Students with autism may have great difficulty developing peer relationships appropriate to their developmental level. Many may have difficulties understanding social cues or rules, participating in community or leisure activities, or relating to others.

2. **Qualitative impairments in communication.**
   Students with autism may have difficulty understanding spoken language or reading “nonverbal” communications, such as facial expressions or gestures. Some speak in odd or unconventional ways.

3. **Restrictive, repetitive, and stereotyped patterns of behavior, interests, and activities.**
   Students with autism may have unusual preoccupations, odd or repetitive motor mannerisms, and/or restricted patterns of interest that are abnormal in either intensity or focus. Difficulty in processing sensory input may cause some of these children to have unusual reactions to sounds, sights, touch, or smells.
Frequently, children with ASDs exhibit uneven development in cognitive, communications, social, adaptive, and motor skills. Sometimes significant strengths in isolated skills are coupled with significant deficits in others. Like other children, they respond to their environment in positive and negative ways. Although autism may affect their range of responses and may make it more difficult to control how their body and mind react to everyday situations, people with ASDs live normal life spans and certain associated behaviors may change or disappear over time. Other disorders can coexist with autism, such as seizure disorders, mental retardation, or obsessive-compulsive disorder.

Scientists and researchers are exploring a number of theories regarding the causes of autism. Unfortunately, to date, no single cause or cure has been identified.

**WHAT AUTISM IS NOT**

Contrary to popular belief, some children and adults with autism do express affection, smile and laugh, and show a variety of other emotions, but in varying degrees. Although children with ASD are often described as being “aloof” or “self-absorbed,” many of them would like to have friends. However, the very nature of their disability makes it difficult for them to establish or maintain the basic peer relationships that ultimately develop into friendships.

- Autism is not the result of poor parenting
- Children with autism are not unruly or spoiled kids with just a behavior problem
- The vast majority of persons with autism are not savants, like the character portrayed by Dustin Hoffman in the movie *Rain Man*
- Children with autism are not without feelings and emotions

**DIFFERENCES AMONG CHILDREN WITH AUTISM**

The most notable differences among children with ASD involve their use of language to communicate. Higher functioning individuals, including those diagnosed with Asperger’s Disorder, are able to communicate quite well verbally (although sometimes they may speak or use language in odd or peculiar ways). Others talk very sparingly, and some never speak. Those without spoken language will often use a picture-based communication system or some other augmentative communication device to help in expressing themselves. The inability to communicate effectively or to understand conventional communication can become a significant barrier to a child’s ability to learn and to adapt to community settings.

Some students with ASD are quiet and passive, while others may be hyperactive and/or insistent. Most will require strict adherence to schedules and routines, although a few will accept changes without incident.

The interpretation of sensory “input can vary greatly among children with autism. They may be hypersensitive to sounds or touch, have an unusually high threshold for pain, or perhaps crave constant, deep pressure. Most will exhibit unusual behaviors, but these will differ from individual to individual. For instance, one child may do odd things with her eyes, while another child may rock his body or repeat the same words or phrases over and over.

**AUTISM AND INTELLIGENCE**

Tests of adaptability and intelligence indicate that many children with autism have some level of mental retardation. Despite this, some people with autism have average to above average intelligence. A few have superior IQs.

**INDIVIDUALS WITH DISABILITIES EDUCATION ACT**

The Individuals with Disabilities Education Act (IDEA) ensures that all children with disabilities receive a free, appropriate public education in the least restrictive environment, tailored to each child’s individual needs. This law guarantees all children, regardless of their abilities, the right to obtain educational benefits from their educational setting.

As autism affects approximately 1,500,000 individuals in the U.S., and proper implementation of this law is of utmost importance to many families and to the education community at large. For children with autism, it is particularly important to provide opportunities to learn through a variety of educational options - from typical school settings to more specialized settings.
THE INDIVIDUALIZED EDUCATION PROGRAM

No matter the level of disability, the educational program for an individual with autism must be based on the unique needs of that person. To help determine what sort of learning environment would be best for a person with autism, an Individualized Education Program (IEP) should be developed. In the IEP, a collaborative team that includes the classroom teacher, other professionals who work with the child, administrators and the child’s parents or guardians set forth the educational goals, objectives, and evaluation standards for the child. Clearly stated, measurable goals to chart the child’s progress are a vital component of the IEP, which is reviewed annually or more frequently, if necessary.

All areas of the student’s development should be addressed specifically in the IEP, including academic achievement, social and adaptive behavioral goals, and development of fine and gross motor skills. The development of communication skills (critical for students with autism) should be a vital component of the IEP. It is important for the IEP to not only address areas of need, but also to outline ways to build upon a child’s strengths in specific subjects or skills. Support services, such as occupational therapy to address the sensory needs of students with autism and speech therapy to advance the student’s ability to understand and use language, must be included in a child’s IEP when appropriate.

The IEP should also delineate any necessary adaptations to the learning environment or to school programming. Examples of adaptations to the learning environment include the physical placement of the student in the classroom, using visuals to enhance communication, or other modifications to the classroom. Examples of adaptations to the school programming include extending school days, lengthening the school year to include summer months, and/or extending education programs into the home environment.

Failure is certain when the child with the disability is placed within the regular education setting with no backup support, no specialized training of the teachers, and no education of the classmates (Gresham, 1982).

APPROACHES TO EDUCATION

The determination of an appropriate educational approach for students with autism must be based on the needs of each individual child. Careful assessment by a team of professionals in consultation with parents or guardians will help determine an appropriate educational program for each student.

Highly structured educational setting with appropriate support and accommodations tailored to individual needs. The educational program should build on the interests of the child and use visuals to accompany instruction. When necessary, it should incorporate other services, such as speech or occupational therapy, to address motor skill development and sensory integration issues.

Children with ASD may be educated in classrooms partially or fully integrated with typical peers, in specialized classrooms within the regular school, or in a specialized school for children with special needs. Higher functioning individuals may be mainstreamed (included

INTERACTING WITH CHILDREN WITH AUTISM
AT SCHOOL CAN BE A VERY ENRICHING EXPERIENCE FOR ALL INVOLVED.

IT IS VITAL TO NOTE THAT A CHILD’S ABILITY TO COMMUNICATE VERBALLY IS NOT A SOLE INDICATOR OF INTELLIGENCE.
with peers without autism) for all or a portion of their school day. Others may require placement in a special education setting to receive an appropriate education.

To be effective, any approach used should be reviewed and evaluated frequently. It also should provide a smooth transition between home, school, and community environments. Essential to an appropriate educational program is ongoing training of teachers, as well as support systems for parents and guardians to help the child to generalize learned skills to all settings.

Increasingly, children with autism are entering the school system after participating in an early intervention program. These programs vary, but most concentrate on the development of communicative, academic, social, and life skills to prepare the child for his or her school experience. The “Resources for More Information” section at the end of this booklet includes several publications on early intervention programs and other teaching methods for children with autism.

**STUDENTS WITH AUTISM IN THE REGULAR SCHOOL ENVIRONMENT**

Until IDEA mandated that all children with disabilities be educated in the “least restrictive environment,” most children with autism were educated in segregated classrooms or schools where they had little interaction with children without disabilities. Fortunately, today children with autism have more opportunities to learn side-by-side with peers who do not have autism, and they benefit greatly from daily exposure to age-appropriate social models. Classmates without disabilities also benefit from their experiences with students with ASD, developing a compassion for and an understanding of children with special needs. Their self-esteem is boosted by the positive role they take in helping a friend with autism learn.

Parents and professionals may use terms such as inclusion or mainstreaming interchangeably to describe the participation of students with autism in the regular educational environment. In some instances students with autism attend school with their age and grade peers. Some may receive all their instruction in a regular education setting with support services brought to them. Others, when it is determined appropriate to meet their individual needs, might be “pulled out” to another educational setting to participate in certain educational experiences.

Interacting with children with autism at school can be a very enriching experience for all involved. Integration of a child with autism into the school community may help address the core deficits children with ASD have in social and communication development.

**KEY ELEMENTS TO CREATE AN APPROPRIATE EDUCATIONAL ENVIRONMENT FOR STUDENTS WITH ASD**

- A teacher who sets high expectations for the child and who encourages peer interaction and mentoring as appropriate.
- Special and regular educators who collaborate in instruction and who have a sense of ownership in the process
- Individualized instruction with decisions based on careful collection and analysis of data focused on measurable goals and behaviors
- Special services are brought into the classroom to facilitate generalization and to prevent stigmatization
- A collaborative team approach -including regular and special educators, school administrators, supplemental school personnel, and parents or guardians -is employed to set goals and to evaluate progress of the IEP
- An assumption that all children can acquire skills if instruction is modified to help the child succeed
- Adapting the school environment by extending school hours or the school year and coordinating with home caregivers
20 Suggestions

to help you make learning easier for students with autism

1. Extend a welcoming environment to all students.
2. Identify and use appropriate functional communication systems across all environments consistently.
3. Develop predictable routines; use timers or bells to assist children with transitions from one activity to the next (making transitions is an area of particular difficulty for most students with autism).
4. Understand that behavior is a form of communication that can often be remedied by assessing the child’s communicative intent and making environmental changes or implementing planned behavioral interventions.
5. Use visuals to convey instructions, meanings, routines, and schedules.
6. Provide a classroom aide or paraprofessional to help the child complete tasks and to facilitate meaningful social interactions and appropriate adaptive behaviors.
7. Encourage peer mentoring.
8. Build on areas of strengths and interests. Develop skills and talents that can lead to success later in life.
9. Use creative strategies to assist the child in learning more effective social skills.
10. Provide frequent positive reinforcement. Find out from parents or guardians what type of motivators work for each child.
11. Plan for fading prompts to promote more independence.
12. Be aware of the child’s sensory needs when developing classroom activities and implementing behavioral strategies.
13. Do things with instead of for the student when she or he needs assistance. Have high expectations!
14. Allow extra time for the child to form a response to your request (many students need extra time to process the meaning of an instruction).
15. Provide an uncluttered environment without distracting noises.
16. Whenever possible, use natural lighting; standard fluorescent lighting can cause difficulties for some children with autism.
17. Consider the physical placement of the child in the classroom and how it relates to his or her unique responses to environmental stimuli.
18. Do not request information from the child when she or he is upset - allow time for coping.
19. Treat the student with autism with the same respect you would their fellow classmates.
20. Empower the student to be an active participant in all classroom and social activities.
Research indicates that exposure to peers without autism, if carefully planned and organized, may enhance social and communicative development, elevate self-esteem, and allow for opportunities to learn from positive role models in the classroom, on the playground, and in the community (Wagner, 1998).

Collaborative efforts to provide such a learning environment give teachers and school administrators the opportunity to work with professionals from other disciplines, such as speech pathology, occupational therapy, behavioral management, and special education. Teachers can play pivotal roles as creators of an accepting environment in the classroom and developers of mentoring and buddy systems to assist the child with autism.

Classmates in the regular education environment can enhance their own self-esteem, and their compassion and understanding of those who differ from the norm, by serving as peer models for behavior, communication, and socialization. Research has shown that acceptance of the child with a disability increases significantly when classmates receive information about the student with special needs and when they are given the chance to act as “peer tutors or buddies” with the full support of their teacher (Goldstein & Ferrell, 1987; Goldstein & Wiskstrom, 1986).

SPECIAL EDUCATION SETTINGS FOR STUDENTS WITH AUTISM

The more severe challenges of some children with autism may be best addressed by a special education setting that is highly structured with a low student-to-teacher ratio and ample accommodations to address core deficits.

Such accommodations may include extensive use of visual “cueing” or augmentative communication devices to address communication difficulties, as well as supportive therapies to address sensory processing impairments. Most special education curricula employ individualized behavioral interventions to help the child establish appropriate life skills.

Some special school settings provide opportunities for reverse mainstreaming. In this instance, a few children from other classes within the school are brought into the special education setting for a portion of the day. Interactions between these students and the students with autism are facilitated to promote modeling for communicative and social development. Another method used to provide age-appropriate models in the special education setting is to set up opportunities for peer tutoring. Children with autism are paired with “buddies” to help learn a particular subject or to perform a task.

Students benefit from a low teacher-student ratio. Professionals specifically trained in the unique learning styles of their students and who are proficient in accommodating the needs of each individual can help all students reach their highest potential. Many special education schools have on site special equipment and services that would not usually be found in most other schools. Also, schools for children with special needs usually employ a family support coordinator who is available to provide families with resources for additional information, services, financial assistance programs, and more. Many such coordinators also conduct monthly parent meetings to help families support one another and to share experiences. Finally, schools for children with special needs generally provide respite services, emergency care, parent/guardian home training services, and sibling services (Harris, 1994).

HOW STUDENTS WITH AUTISM LEARN

To understand how children with autism learn, one must be cognizant of the core deficits that define autism and impede the development of the fundamental prerequisite skills essential for learning. Some unique learning characteristics of students with autism may include, but are not limited to:

- Attention difficulties
- Auditory processing impairments
- The inability to generalize (easily transfer knowledge from one setting to another)
- Difficulties with learning by observation and imitation
- Troubles with task/event sequencing
- Uneven patterns of strengths and weaknesses
- Problems with organization and planning
- Difficulties with time concepts and making transitions
DIFFICULTIES WITH AUDITORY PROCESSING CAN BE OFFSET BY PROVIDING VISUAL SUPPORTS, SUCH AS PICTURES, SYMBOLS, OR WRITTEN INSTRUCTIONS.

As most students with autism do not learn in the same manner as their typical peers, modifications to the curriculum may be necessary to help a child with autism succeed (Wagner, 1998). An extensive discussion of techniques used to address the unique barriers to learning presented by students with autism is beyond the scope of this booklet. However, a brief description is offered here. For more detailed information, consult the resources section at the end of this booklet, especially Grandin (1998), Holmes (1998), Powers (1997), and Schopler and Mesibov (1995).

ADDRESSING SENSORY DIFFERENCES

Many children with autism experience sensory input in variable ways. These sensory processing difficulties can be quite an impediment to learning. Attentiveness is often improved if accommodations are made to meet a child’s sensory needs. An occupational therapist can often be an excellent source of ideas of ways to address these needs. A few suggestions are offered here.

Difficulties with auditory processing can be offset by providing visual supports, such as pictures, symbols, or written instructions. Visual stimuli—such as a picture-based communication system, picture sequencing to convey routines or rules, and the written word—can serve as permanent cues for students with autism (Hodgdon, 1995). Some students with autism are precocious readers; providing them with written instructions, schedules, routines, and/or rules can help them become successful participants in the classroom.

Children with autism may have difficulty processing the meaning of requests, whether visual or auditory. Allow for pauses to give time for a child with autism to determine an appropriate response. Some children have great difficulty processing auditory and visual stimuli simultaneously. Some children with autism have a great need for physical exercise. Often giving these children regular breaks to run, swing, or jump on a trampoline can help them become more organized and less anxious.

ADDRESSING ATTENTION DIFFICULTIES

Distractibility can be due to such things as self-stimulatory behavior or perseveration (an obsessive preoccupation with extraneous information or objects). Often distractibility can be addressed by redirection, prompting, and, at times, hand-over-hand manipulation. Careful observation of the environment from the child’s eyes can help identify distracting elements that may be easily remedied by changing the child’s seating arrangement or by removing or modifying the distraction. Allowing children with autism to have “breaks” to meet their sensory needs can often help improve attention. At the same time, it is important to provide stimulating instruction that is challenging to the student to prevent boredom that can lead to distractibility.

Addressing Social Deficits

Opportunities to help children with autism understand social norms and improve social interactions can be created in a variety of ways. Setting up “buddy systems” or “peer tutoring” arrangements that pair children without disabilities with those with autism provides opportunities to observe and model behaviors. Some leaders in the field have employed a special “kids club” to provide extracurricular opportunities. Using pictures to convey classroom rules and etiquette and assigning multi-step tasks are often very helpful. Setting up play schemes based on social situations allows children with autism to “practice” some basic life skills, such as going to the doctor, shopping, or going to school. Stories written by the educator can be used to help students identify relevant social cues, become familiar with routines and rules, and develop desired social skills. These stories can also help prepare the child for unexpected occurrences or changes in routines (Gray, 1995; Gray & Garand, 1993).

ADDRESSING BEHAVIOR ISSUES

Children with autism have great difficulty expressing their feelings in conventional ways. Sometimes their behavior is often the only way they have to communicate feelings of frustration, anger, confusion, happiness, or boredom. While not all children with autism exhibit challenging behaviors, it is not uncommon to see children become aggressive, be disruptive, or have tantrums.
ADAPTATIONS TO MAKE LEARNING EASIER FOR STUDENTS WITH ASD

To compensate for the social, communicative, and sensory impairments experienced by students with autism, modifications to the learning environment can greatly enhance an education program’s effectiveness. There are many ways to adapt activities and materials to meet the needs of the students. Such modifications should be viewed by educators as an enhancement to learning.

EDUCATIONAL OUTCOMES

Until recently, individuals with autism did not have the educational opportunities now available. As a result, many adults with autism require some assistance in their daily living. However, some adults with autism hold professional careers and live independently. Although there is no known cure for autism, we do know that early and intensive intervention with some degree of inclusion in the regular education setting throughout the school years can greatly benefit some students with autism, providing them with the foundation needed to live full and productive lives.

Temple Grandin, Ph.D., a college professor and business owner, credits her considerable accomplishments to “creative, unconventional teachers and friends” who looked beyond her autism and helped her develop her talents and interests into a successful career. She states that, “the common denominator of many successful autism treatment programs is early intensive intervention and mainstreaming with normal children” (Grandin, 1988).

RESOURCES FOR MORE INFORMATION

There are many resources for professionals to utilize for additional information on educating children with autism. Listed below are several of the books, videos, and web-sites available on this topic.


The Original Social Story Book, by Carol Gray, 1993, Future Education.

The New Social Stories, by Carol Gray, 1994, Future Education.


REFERENCES


LOOKING FOR AUTISM RESOURCES? VISIT WWW.AUTISMSOURCE.ORG

AUTISM SOCIETY

4340 East-West Highway, Suite 350
Bethesda, Maryland 20814
Phone: 301.657.0881 or
1.800.3AUTISM
Fax: 301.657.0869
Web: www.autism-society.org

If you appreciated the information contained in this publication, please consider offering support through a donation that will continue the availability of this information to others in need. Help us continue the work so vital to the autism community by making a tax-deductible donation at www.autism-society.org/donate_home.