

Autism

Autism is a pervasive developmental disorder that can impair an individual's ability to interact socially and form relationships as well as communicate verbally and non-verbally. Children with autism may also show a preoccupation with objects or topics, a need for structure and routines, and demonstrate stereotyped behaviors that limit their participation in activities or play.

UNIQUE ATTRIBUTES OF LEARNERS

- May make limited or no eye contact
- Impairment in social interaction
- Impairment of verbal/non-verbal communication which may include echolalia (echoing or repeating language)
- May lack awareness of the others' feelings
- May seek sensory input (e.g., weighted vest)
- Can be physically aggressive or have outbursts when familiar environments or routines change
- May prefer repetitive interests and activities
- May be preoccupied with certain objects or on a single activity
- May demonstrate an absence of imaginative activity
- May engage in actions such as hand flapping, rocking, or flicking objects (stereotyped behaviors)
- May be tactile defensive
- May lick or mouth toys/objects
- May be sensitive to touch
- May not show sensitivity to pain (burns, bruises)
- May engage in self-injurious behavior, such as scratching, biting, pinching, or picking

- May demonstrate an abnormal response to external stimuli such as sound and lights
- May indicate needs by gesturing

CAUSE

Research continues to try to determine the cause of autism, but at this time it remains idiopathic (cause unknown). Like other conditions, there are likely multiple causes. Evidence from empirical research suggests that a combination of multiple genetic and environment components may cause autism. Some causes are linked to genetic disorders including Fragile X and Angelman's Syndrome. Current research is also investigating the connection between autism and the functioning and regulation of the immune system.

PLANNING FOR EDUCATIONAL PROGRAMMING

Autism can be a very challenging condition to address in the classroom, however, most professionals agree that early intervention services are critical and that structured home and school programs are beneficial. With early intervention, many individuals with autism can improve their modes of communication and socialization to live productive independent lifestyles within their community. In fact, children with autism who have IQ scores of 70 and above generally can work and live productive independent lifestyles (Gale Encyclopedia of Psychology, 2001). While the symptoms of individuals with autism can vary; most persons with autism have social, communication, motor, and sensory issues that should be attended to in their educational programming. Additionally, is also not uncommon for individuals with autism to develop epilepsy (33%) with those individuals with severe cognitive impairments and motor deficits at greatest risk (Turkington, 2006).

Individuals with autism can also live very active lifestyles. They are capable of performing a variety of physical activities. It is important to develop an active lifestyle in order to help individuals with autism address issues related to weight control, muscular endurance, muscular strength, cardiovascular endurance, self-esteem, and self-confidence.

IMPLICATIONS FOR PHYSICAL EDUCATION

- In the community, there may be a need for 1:1 supervision for the child.
- Consider using a Picture Exchange Communication System book (PECS) to allow non-verbal student choices of physical activities
- Consider using Treatment and Education of Autistic and related Communication-Handicapped Children (TEACCH) as a systematic approach to help create an environment useful to the student and establish routines between learner and adult.
- Provide an initial screening process to determine student's physical strengths and weaknesses. This will also help in writing appropriate IEP goals and objectives.
- Establish routines and smooth transitions throughout lessons.
- Modify equipment so that the student can be successful, yet challenged.
- Use balls that will promote sensory input during activities. (e.g., bumpy balls, koosch balls, bell balls,)
- Consider using video images and video feedback as children with autism often benefit greatly from visual cues.

ASSESSMENT SUGGESTIONS

STANDARIZED ASSESSMENTS

- Brockport Physical Fitness Test
- Bruininks-Oseretsky Test of Motor Proficiency

- TGMD-2
- I CAN
- Motor Activities Training Program: Special Olympics Sports Skill Program
- Ohio State University Scale of Intra Gross Motor Assessment
- FITNESSGRAM

AUTHENTIC ASSESSMENT

Authentic assessments can be used for assessing students with disabilities. Through authentic assessment, rubrics can be developed that address learning progressions with scoring criteria developed to address levels of achievement. These progressions can be used to assess all locomotor and object control skills. This type of assessment is helpful in developing programming for students with autism because it provides information specific to skill development and skill acquisition within contextual learning situations (e.g., during game play) in physical education.

TYPES OF RUBICS:

- Holistic rubrics address a skill without task analyzing. These rubrics are usually used for older students who are at the mastery level for that particular skill.
- Analytic rubrics break down a skill to meet the needs of students working to master a skill. They are usually more appropriate for younger students or individuals with developmental delays. younger population
- Individual rubrics are used to meet the individual needs of a child. They can be used to assess a student with a disability whose learning needs must be met in a small class setting. This is an excellent assessment to use to meet a child's IEP goals/objectives.

OTHER ASSESSMENT IDEAS

Motor Development Checklist: This is a progressive checklist for locomotor and object control skills where each skill is broken down from simple to most difficult. As the student performs the assigned task, the teacher observes physical movement and checks off the components of the skill that were accomplished.

RECOMMENDED ACTIVITIES

Any activity that requires vigorous activity and will improve their overall fitness levels (flexibility, cardiovascular endurance, strength, muscular endurance):

- Walking/Hiking
- Bike riding (Type of bike will depend on ability/balance levels)
- Swimming: An excellent low impact activity that can benefit students in a variety of health-related ways
- Activities that require the use of their senses:
- Many autistic children like deep pressure that helps them relax. Weighted backpacks/vest can help provide this deep pressure.
- Determine the physical activity interests of the student and incorporate those

activities, particularly those that promote vestibular, proprioceptive, and tactile stimulation.

CONTRAINDICATED ACTIVITIES

- Physical education classes held in a loud and/or bright environment and classes with too much stimuli within the environment such as physical education environments with excess equipment (Block, 2003).
- Activities that require physical contact.
- Lesson spending too much time on a single activity and not providing enough choices (Block, 2003).

EFFECTIVE TEACHING STRATEGIES

General

- Use Picture Exchange communication system (PECS)
- Use visual schedule to help child predict what will occur during the day
- Use teaching stations and/or ample visual aids during activities
- Provide ample practice time/repetitions with a high success rate.
- Show enthusiasm when teaching
- Establish predictable routines within lessons
- Keep directions short and age-appropriate (limit prompts).
- Vigorous aerobic exercises may help keep students on task
- Use selected sensory stimulation to increase attention span
- Use a consistent behavior management system
- Plan for and use smooth transitions between classes and activities
- Create a highly structured environment that is organized and predictable (e.g., warm-up, demonstration, activity, closure)
- Instruct in an environment where noise, smells, lights will not interfere with learning (e.g., have the student's elementary PE class come at the beginning of the day rather than right before or after lunch if the gymnasium doubles as the lunch room)

Preschool – Third Grade

- Use sticker chart as a reward system
- Teach students basic locomotor and object control skills
- Teach activities that develop equilibrium and stimulate the sensory-motor system
- Emphasize cardiovascular endurance activities, whole body movements
- Teach dance activities for parallel body part identification

Fourth - Sixth Grade

- Emphasize cardiovascular endurance and locomotor movements in a variety of environments
- Provide reward system that allows students the opportunity to participate in enjoyable activity
- Use a peer tutor to assist child in learning
- Teach students lead-up activities for team, individual, and cooperative activities

- Introduce low-organized games and games with simple rules

Junior High School - High School

- Introduce and teach basic leisure, recreation, sport and fitness skills that can be done individually
- Provide students with relaxation training
- Continue to provide students with cardiovascular endurance activities
- Provide information about community based organizations and program for the transition to community based physical activity programs
- Teach students lifelong activities that can be used for the rest of their lives and engage them in the process of selecting those activities
- Provide opportunities within the curriculum where individuals with autism can choose an activity that is of interest to them

POSITIVE BEHAVIOR MANAGEMENT STRATEGIES

- Set realistic goals and expectations
- Use proximity control if a problem is arising
- Increase amount of activity time, while decreasing instructional and transition periods
- Provide vigorous activities to help students remain on task
- Check for basic understanding to make sure students know expectations
- Create a positive and enthusiastic environment for everyone
- Provide a structured environment with appropriate routines
- Challenge the students to keep them motivated
- Provide a reward system for good attitudes and behavior
- Be consistent and fair with your rules and consequences
- Provide non-verbal feedback and encouragement with high 5's and cheering
- Get to know the students and show interest toward them outside of the physical education environment

RESOURCES

Websites:

- www.pecentral.org
- www.pelinks4u.org
- www.nichcy.org
- www.educationworld.com
- www.ncpad.org
- www.nimh.nih.gov
- www.autismspeaks.com
- www.dsusa.org

Journals:

- Palaestra
- JOPERD
- Adapted Physical Activity Quarterly
- Strategies (A journal for physical and sport educators)
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Books:

Auxter, D., Pyfer, J., Zittel, L. & Roth, K. (2009). Principles and methods of adapted physical education and recreation (11th ed.). Dubuque, IA: McGraw-Hill.

- Block, M. E. (2007). A teacher's guide to including students with disabilities in general
 - *physical education* (3rd ed.). Baltimore, MD: Paul H Brookes Publishing.

REFERENCES

Autism Society of America. (1996-2006). *The Voice of Autism*. Retrieved January 26, 2007 from <http://www.autism-society.org>

Huettig, C. (1999). *Use of physical activity to improve behavior of children with autism*. Retrieved February 16, 2004 from <http://www.palaestra.com/autism.html>

National Dissemination Center for Children with Disabilities. (2003). *Autism and Pervasive Developmental Disorder*. Retrieved February 11, 2004 from <http://www.nichcy.org/pubs/factshe/fs1txt.htm>

O'Conner, J., French, R., & Henderson, H. (1999). *Use of physical activity to improve behavior of children with autism*. Retrieved February 16, 2004 from <http://www.palaestra.com/autism.html>

Strickland, B. (2001). *The Gale encyclopedia of psychology* (2nd ed.). Farmington Hills, MI: Gale Group.

Turkington, C. A. (2006). Autism. In *The Gale encyclopedia of medicine* (Vol. 1, pp. 463-466). Detroit: Gale. Retrieved November 6, 2008, from Gale Virtual Reference Library database.