

## **AT Products Benefit People with Autism**

by John Williams

Software developed by assistive technology manufacturers teaches language, cognitive, academic, social, and life skills to individuals with autism spectrum disorders (ASD).

Autism is classified by the World Health Organization as a developmental disability that results from a disorder of the human central nervous system. The causes, symptoms, etiology, treatment, and other issues are controversial. However, scientists think that genes and the environment can cause autism.

Autism manifests itself before the age of three years and lasts a lifetime. ASD are four times more likely to occur in boys than in girls. The Center for Disease Control's Autism and Developmental Disabilities Monitoring (ADDM) Network released data in 2007 that found about 1 in 150 8-year-old children in multiple areas of the United States has ASD.

According to the World Health Organization's International Classification of Diseases, autism is diagnosed on the basis of a group of three behavioral impairments or dysfunctions: (1) impaired social interaction, (2) impaired communication and (3) restricted and repetitive interests and activities.

Note behaviors of individuals with autism are: does not respond to his/her name, language skills are slow to develop or speech is delayed, throws intense or violent tantrums, has odd movement patterns, is overly active, uncooperative, or resistant, doesn't know how to play with toys, has poor eye contact, gets "stuck" doing the same things over and over and can't move on to other things. Prefers playing alone, lives in their own world, shows unusual attachments to toys, objects, or schedules (i.e., always holding a string or having to put socks on before pants), spends a lot of time lining things up or putting things in a certain order and, unconcerned about dangers around themselves.

"Teaching autistic children is challenging to every teacher, but thank goodness companies such as TeachTown (<http://www.teachtown.com>) and Laureate Learning Systems (<http://www.laureatelearning.com>) and others exist," a New England special education teacher said. She adds, "They know what they are doing when they develop programs for students with ASD."

Do consumers hold similar opinions?

"My 14-year-old step son has been using vocabulary and concept development software for three years, and it has made a tremendous positive difference in his behavior," said Frank Carswell.

His son, Michael, said he can express himself because of the ASD software he uses. Michael uses his program daily at home and during school.

Laureate Learning Systems, for example, has multiple levels of Autistic programs developed for cause and effect training, early vocabulary development, emerging syntax and syntax master,

expressive language, auditory awareness, discrimination and processing, following directions, vocabulary and concept development.

The TeachTown program maximizes the child's motivation using:

1. Self-Adjusting Program: Introduces skills using errorless teaching and gradually adds distracters or fades distracters as the child progresses.
2. Cognitive: Develops cognitive skills such as attention, memory, and categorization and teaches early academics including early reading and math.
3. Social-Emotional: Teaches the child to attend to relevant social features such as paying attention to eyes, emotion identification, face processing, and being a good friend.
4. Independence: Increases awareness of self and community by teaching the child how to care for themselves, and about other people in the community.

It takes years and collaboration with multiple organizations to develop software for people with ASD. According to Christina Whalen, PhD, BCBA Founder, Chief Science Officer - TeachTown, Inc., "The software is developed in consultation with reputable scientific advisory boards including many well-known autism experts who assist in the scientific design and theoretical and clinical implication of our development and training decisions. In addition, schools or school districts work very closely with development and training ideas."

In developing programs evidence-based practices from Applied Behavior Analysis and development models of intervention are used.

The collaboration is necessary to address the diverse challenges autism presents to ASD programmers.

"Autistic individuals are such a diverse, interesting group that is literally impossible to develop a program that will meet the needs of everyone with autism," said Mary Sweig Wilson, Ph.D., President, Laureate Learning Systems, Inc.

Therefore, developers are aggressive in securing feedback from customers and respond to that feedback with training, support materials, and new development.

Developing research-based software for persons with autism is expensive because developing such specific programs requires intensive research and experts in the field of autism to ensure that the teaching approaches are scientifically grounded. Programs can cost from hundreds to thousands of dollars.

Mrs. Sandra Haggard has two autistic children under the age of 10. Her cousin Elizabeth has an eight-year-old autistic son. The women researched the web for information on programs to help their autistic offspring. They discovered:

Animated Speech Corp. ([http://www.animatedspeech.com/Story/story\\_team.html](http://www.animatedspeech.com/Story/story_team.html) ), Headsprout (<http://www.headsprout.com>), Scientific Learning Corp. (<http://www.scilearn.com>), Accelerations Educational Software (<http://www.dtrainer.com/jos/nd>), and Autism Coach (<http://www.autismcoach.com>).

They purchased the programs they believed addressed their children's needs. Both women have seen positive attitudinal changes in their children's behaviors since they began using the programs. "Our children are better behaved and more motivated now that they have this access," said Mrs. Haggard. Elizabeth seconds that opinion.

Still both mothers are cautiously optimistic about the futures of their children and the benefits ASD software will yield. As their children grow older they see a more complex technological world, and they wonder if the technology can be developed to meet their needs. Also, one of Mrs. Haggard's sons has a physical disability and has difficulty using a standard keyboard. She was delighted to learn that ASD programs support mouse, touch screen, double switch, and single switch input devices that help facilitate a wide range of student abilities.