Everyday Technology Interventions for Children with Autism
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Have you ever forgotten your phone at home and felt lost all day without it? Most of us use our cell phones, iPads, and computers frequently throughout our day. These tools help keep us connected to our friends, co-workers and the world around us. For people with autism, these common technology tools can provide a way to communicate and learn. Using features built into what has become everyday technology can greatly enhance the learning, communication, behavior, and quality of life for those with autism.

We know from research, as well as first-person accounts from people with autism, that visual learning is often a very effective way to gain information. Temple Grandin, a successful adult with autism and author of the book *Thinking in Pictures*, describes how she learns best with symbols and pictures. Combine that thought with today's technology and you have lots of great options for providing visual supports for those who struggle with behavior, communication and learning. Children of all ages and abilities tend to be drawn to technology. In order to use it to teach skills, however, specific strategies need to be in place.

Organization/Behavior/Task Completion: Sometimes simple strategies can make the biggest changes. I've worked with many families who struggle with a child with autism who has significant problems with schedule disruptions. This could mean something as seemingly harmless as going a different route home from the store, or riding the bus instead of being taken to school by a parent. Picture or word schedules that depict the anticipated events of the day can be shown to the child with autism to help alleviate anxiety. Using the camera of mobile devices (phones, tablets, iPods), you can take photos of places/people/events to show the child in advance. Holding a device with the picture of the destination may calm the child. There are also several different visual schedule apps for Apple and Android devices. Most of these allow you to customize the schedules with your own photos and recorded voice cues. Examples include:

ChoiceWorks   First-Then   Visual Schedule Planner   Visual Scheduler

Using the video camera feature of your mobile devices is another great strategy to improve behavior and task completion. Record short 1-2 minutes of video of your child completing a desired task. Immediately before the task is to be completed, let her watch the video as a reminder of the expected behavior. For example, Maria, an 8 year old with autism, has difficulty getting on the bus to go to school. She loves to watch herself in videos. Her mother and I tell her she will "star" in a movie about the bus and video tape her waiting at the end of the driveway,

walking up the steps, going down the aisle, taking a seat, and looking out the window. Now, each morning as part of her getting ready for school routine, Maria watches the 2 minute video called, "Maria Rides the Bus." Video is also a great way to teach task completion. Maria's parents want her to start making her bed, but notice that she needs constant help and reminders. Her mom videotapes the process of making the bed while describing each simple step. Maria can watch the video on her iPad and pause it after each step until she is ready to move on. Videos also help teach social skills. Children with autism often can be anxious and uncomfortable in social situations because they don't know what is expected of them. Making friends, being a good sport, and maintaining conversations can all be depicted through video modeling. Video recording role plays of different scenarios (e.g., finding a table in the cafeteria, asking a friend over to hang out, accepting when someone else wins the game) for the student to review is another excellent technology strategy.

Communication: There have been numerous stories in the media about people who are unable to speak using iPads with special communication apps. Speech generating devices that allow those who can't speak to communicate have been available for the past 30 years. The iPad has made this technology affordable and more easily accessible. The good news is that there are over 100 communication apps available today. The bad news is that there are over 100 communication apps available today! A complete communication assessment with hands-on trials with equipment is an important part of the decision-making process. As a speech-language pathologist specializing in assistive technology, I am often asked, "What is the best communication app?" The answer is always, "It depends on the person's needs and abilities." Paul is a 5 year old with autism. He recognizes many letters, identifies colors, shapes and numbers. He is using an iPad with an app called "Lamp Words for Life" by Prentke-Romich Company. This app actually emulates a more expensive communication device and is based on the company's 30 year history in the field of assistive technology. Paul uses this device by pressing the picture symbols to make simple sentences such as "more juice," "want play," "I go," and "my turn." Mandy, a 12 year old with severe learning and communication deficits, uses an app called Sounding Board. This app lets her teachers take actual photos of people, places, and objects in her environment and record words/phrases with them for her. Mandy can tap the photo of her favorite book to "say" the phrase, "Can you read me a story?" Having an efficient, effective way to communicate can reduce negative behaviors that a nonverbal child has developed as either a coping mechanism, a means of gaining attention when needs go unmet, or acting out from frustration.

Learning: Technology can make curriculum materials at school more accessible to a student with autism who has reading and writing difficulties. Software that will "read" text to the student or uses word prediction to supply word choices when typing can be of great benefit for students who are literate. These options are also available in the iPad. For those students who are not reading, picture word processors allow them to "write with pictures."
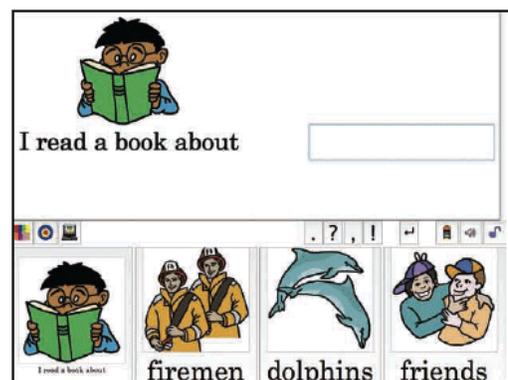
Jason, a 4th grader with autism, has severe motor planning problems and can't hold a pencil to write. Using Pixwriter (www.suncastletech.com), a picture word processor, he is able to move the mouse to click on the cells with pictures and words to "write" simple sentences. He can hear them read aloud to him through the computer. This allows him to show the teacher what he knows and complete work at school. The iPad also has hundreds of learning apps that motivate and engage students.

So, take a look around your house and inventory your everyday technology. You likely have the tools to try some of these strategies at home. Remember that the key is not the technology; it's the way that you use it to promote better behavior, communication, and learning.

For individual consultations to learn how to better use technology for your child or teen with a whole range of learning needs, including autism or Asperger's, please contact CRG.