

Tech Talk

Helping children learn to their full potential

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Assistive Technology
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AT Support for Early Childhood

Early Learning, AT & Play

A key to successful child achievement is active participation. In the highly formative years of early childhood, children participate in developmental learning activities primarily through play. Most children can access the world of play because toys are often designed to be multi-sensory and accessible. For children with disabilities, though, play may be limited. Assistive technology (AT) can provide these children with opportunities to learn and interact with their environments in ways they might not otherwise be able to do. Using AT, children with disabilities can often learn the same things their nondisabled peers learn, but in a different way. AT can be used to assist preschoolers in:

- Engaging in play, literacy, and art activities;
- Moving independently about their environments;
- Communicating wants and needs;
- Socially interacting with others, sharing and turn taking;
- Improving attention span and self-confidence;
- Participating in family, school, and community routines; and
- Using classroom tools/materials.

A common use of assistive technology with young children is the adaptation of toys. Battery-operated toys can be adapted with switches that limit the amount of physical movement required for operation. Switches can be used to turn toys off/on, move riding toys and access computers/tablets.

AT & Motor Skills

Young children who have difficulty with large and fine motor skills can engage

in play with adaptive equipment. A typical scooter used as an assistive support can allow a student with limited mobility to explore the environment. A child who cannot sit independently can be placed in the center of a social group with adapted seating. Large, triable or finger crayons that are easy to grasp can make coloring fun for children who struggle to hold traditional crayons. Frustration with building trains or towers can be reduced with magnetic blocks!

AT & Communication Skills

AT for communication skills is particularly important for young children since much of what they learn is through interacting with others. Emerging communicators can point to photos on a picture board to make choices, press a button on a voice output device to give a pre-recorded message, and follow visual schedules. Communication applications on devices or iPads can teach language structure and give nonverbal children active voices.

AT & Literacy

Interaction with books is critical for children, and not just for language development! Studies have shown that children, who are exposed to books at an early age, learn better in school. They learn by handling books, looking at the pictures and turning pages. For children who can't turn pages on their own, page fluffers (separators), book holders, and digital books are available.

All children deserve the chance to play, have fun and learn. AT can help!

To learn more about how your child might benefit from AT tools that support writing, contact your child's IEP team leader.

Using AT at Home



Page Fluffers

Popsicle sticks, clips or soft Velcro separate pages for easy turning.



Large Grip Crayons

BIG crayons help a child who has difficulty holding a regular crayon.



Switches provide play access to children with physical disabilities.

Switch Adaptation for Battery-Operated Toy

Parent Question

My child doesn't talk (or can't be understood) and is starting to get frustrated. What can I do to help?

Providing additional ways for your child to communicate can help reduce frustration while s/he is still learning to talk. This can include encouragement to try the word(s) again, use different words, show you what the words mean or to give you a clue.

If simple clarification isn't effective, augmentative communication (AAC) may be needed (i.e. AAC systems: Picture Exchange Communication System, sign language, speech generating device, gestures). Research indicates that AAC does not inhibit the development of spoken language (Schlosser & Wendt, 2008). AAC allows many young children, to become communicators even when they unable to speak clearly. In addition, AAC can help children develop expressive language skills.

Schlosser & Wendt (2008). *Effects of AAC Intervention on Speech Production in Children with Autism: A Systematic Review* American Journal of Speech-Language Pathology, 17(3), 212-230

Apps for Young Children

Learning Games/Activities:

- Tiny Taps (Tiny Tap, Ltd.)
- Injini Child Development Game Suite (NCSOFT) [iOS]
- Nighty Night! HD (Fox and Sheep, GmbH)
- Peg & Cat Big Gig (PBS Kids)
- Preschool Learning Games Kids (CFC, sro) [Android]

Language and Literacy:

- Puppet Pals (Polished Play, LLC)
- ABC Videos by StoryBots (JibJab Media, Inc.) [iOS]
- AlphaTots Alphabet (Spinlight Studio)
- I Hear Ewe (Claireware Software) [iOS]
- Signed Stories (ITV Broadcasting Limited) [iOS]

Communication:

- GoTalk Now (Attainment Co.) [iOS]
- SoundingBoard (AbleNet) [iOS]
- Verbal Me (fishdog.net) [iOS]
- JabTalk (JabStone, LLC) Android
- BitsBoard (Innovative Investments Limited)

Switch Activities:

- Chooselt! Maker 3 (Inclusive Tech)
- Switch Trainer (LIFetool Solutions)

Parent Question

How much screen time is too much for my young child?

Dr; Dimitri Christakis (2014) reports that caregivers should always ask themselves what their child would be doing were it not for the often freely available touchscreen. After evaluating seven features of traditional toys, touch-screen devices and television, he concludes that the judicious use of interactive media is acceptable for children younger than the age of two years. When asked how long children two years and under should be allowed to use interactive media, he concludes that the time should not be more than children typically interact with traditional toys, 30 minutes to an hour per day.

A wide variety of toys allow a child to engage in manipulation, exploration, interaction, movement and imagination. No one toy provides all of the stimulation a child needs. Interactive media can be one of the many sources of exciting play for your child.

D. Christakis, *Interactive Media Use at Younger Than the Age of 2 Years: Time to Rethink the American Academy of Pediatrics Guideline?* JAMA, May, 2014

General Resources

- Tots'nTech
<http://tnt.asu.edu>
- Tots'n'Tech Newsletters
<http://tnt.asu.edu/home/news>
- A Positive Behavioral Development Strategy for Students with Autism or Behavioral Predispositions (Green Irene)
<http://www.redandgreenchoices.com/>
- Zones of Regulation (Leah Kuypers)
<http://www.zonesofregulation.com>
- Augmentative and Alternative Communication Connecting Young Kids (YAACK)
<http://aac.uni.edu/yaack/>

- Alliance for Technology Access
<http://www.ataccess.org/resources/wcp/endpoint.html>
- Effective Practices in Early Intervention- Center for Parent Information and Resources: AT for Little Ones
<http://www.parentcenterhub.org/repository/effectivepractices-ei/#AT>
- Early Childhood and Assistive Technology on Pinterest
<https://www.pinterest.com/bgilor/mini/early-childhood-assistive-technology/>

App Resources

- Best Preschool Apps:
<https://www.common SenseMedia.org/lists/best-preschool-apps>
- Best Early Childhood Apps on Pinterest:
<https://www.pinterest.com/appolearning/best-early-childhood-apps>
- Best Apps for Kids:
<http://bestappsforkids.com/category/apps-for-education/early-learning-apps/>
- AAC Apps List
<http://www.janefarrall.com/aac-apps-list/>
- HelpKidsLearn iPad and Android Apps [switch accessible]
<http://www.helpkidzlearn.com/apps>