The power of assistive technology

What does research tell us about how different types of assistive technology affect the language and literacy development of young children with disabilities?

Just how effective are speech-generating devices and computer applications—assistive technology—that are designed to improve the language and literacy behavior of young children with disabilities?

This question was addressed by researchers from the Center for Early Literacy Learning (CELL), who evaluated 19 assistive technology studies that included 687 child participants ranging from typically developing children to those with severe and profound disabilities and delays.

While the term "assistive technology" includes devices ranging from the simple to the very complex—from adapted spoons to sophisticated power wheelchairs—the CELL research synthesis focused on material and equipment specifically designed to affect literacy and language abilities. Speech-generating devices in the studies included but were not limited to Tech/Speak, DynaVox, Minispeak, VOCA, and MiniMo. A variety of computer software with interfaces for promoting language and/or literacy were also included in the studies.

The research findings showed that both speech-generating and computer technology were effective in improving young children's communication and literacy-related outcomes. They were similarly effective for children with differing types and severities of disability. Unfortunately, parents and practitioners often fail to use assistive technology with young children, especially infants and toddlers, despite its proven effectiveness. In other studies, CELL researchers have found that this is due,

to some degree, on failure to use appropriate adult training methods to promote early use of assistive technology.

In a report of the CELL research synthesis on assistive technology, the authors recommend the Tots 'n Tech Research Institute (www.tnt.asu.edu) as one of the best resources for information and ideas on using assistive technology with young children with disabilities.

Acting on the Evidence

Download free, two-page *CELLpractices* guides in versions for parents or practitioners at www.earlyliteracylearning.org

Staff of CELL have created a number of practice guides especially for parents and early childhood practitioners to encourage putting this research evidence to use in home, community, and classroom settings. All of the two-page practice guides listed below are available for free download on the CELL project web site: **www.earlyliteracylearning.org**. At this web address you can also find interactive posters called *CELLpops* and multimedia practice guides such as videos that illustrate practices supported by this research.

Infants:
Making Noise Is a Lot of Fun
Picture This
Mark My Word

Toddlers:
Look Who's Talking
All . . . Write
Speaking Without Words

Preschoolers:
It's Story Time
Sounds Good To Me
Talk to Me