



Assistive Technology for Kids with Learning Disabilities: An Overview

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Assistive technology (AT) is available to help individuals with many types of disabilities — from cognitive problems to physical impairment. This article will focus specifically on AT for individuals with learning disabilities (LD).

The use of technology to enhance learning is an effective approach for many children. Additionally, students with LD often experience greater success when they are allowed to use their abilities (strengths) to work around their disabilities (challenges). AT tools combine the best of both of these practices.

This article will introduce parents to the role of AT in helping their children with LD. The better informed you are about AT, the greater the chances your child will experience success in school, in recreation and, eventually, at work. You will also want to learn how **to choose AT tools that are reliable** and to **select technology that is tailored to your child's individual needs, abilities, and experience**.

What is assistive technology for LD?

AT for kids with LD is defined as any device, piece of equipment or system that helps bypass, work around or compensate for an individual's specific learning deficits. Over the past decade, a number of studies have demonstrated the efficacy of AT for individuals with LD. ¹ AT doesn't cure or eliminate learning difficulties, but it can help your child reach her potential because it allows her to capitalize on her strengths and bypass areas of difficulty. For example, a student who struggles with reading but who has good listening skills might benefit from listening to audio books.

In general, AT compensates for a student's skills deficits or area(s) of disability. However, utilizing AT does not mean that a child can't also receive remedial instruction aimed at alleviating deficits (such as software designed to improve poor phonic skills). A student could use remedial reading software as well as listen to audio books. In fact, research has shown that AT can improve certain skill deficits (e.g., reading and spelling).^{2,3}

AT can increase a child's self-reliance and sense of independence. Kids who struggle in school are often overly dependent on parents, siblings, friends and teachers for help with assignments. By using AT, kids can experience success with working independently.

What types of learning problems does assistive technology address?

AT can address many types of learning difficulties. A student who has difficulty writing can compose a school report by dictating it and having it converted to text by special software. A child who struggles with math can use a hand-held calculator to keep score while playing a game with a friend. And a teenager with dyslexia may benefit from AT that will read aloud his employer's online training manual. There are AT tools to help students who struggle with:

- **Listening**
- **Math**
- **Organization and memory**
- **Reading**
- **Writing**

What kinds of assistive technology tools are available?

The term "assistive technology" has usually been applied to computer hardware and software and electronic devices. However, many AT tools are now available on the Internet. AT tools that support kids with LD include:

- **Abbreviation expanders**
- **Alternative keyboards**
- **Audio books and publications**
- **Electronic math work sheets**
- **Freeform database software**
- **Graphic organizers and outlining**
- **Information/data managers**
- **Optical character recognition**
- **Personal FM listening systems**
- **Portable word processors**
- **Proofreading programs**
- **Speech-recognition programs**
- **Speech synthesizers/screen readers**
- **Talking calculators**
- **Talking spell checkers and electronic dictionaries**
- **Variable-speed tape recorders**
- **Word-prediction programs**

Your child's profile

Here are several factors to consider when evaluating AT products for your child:

- What are her specific needs and challenges? In what academic skill areas does she struggle?
- What are her strengths? AT should utilize your child's abilities to help compensate for her disability.
- What is her interest, skill and experience in using technology? In what settings and situations will she use the AT tool? AT can help a child with LD function better at school as well as in other settings such as home, work, social gatherings and recreational events.

Other technology tools for learning

There are other forms of technology designed to help all students, including those with LD, improve their academic performance. These technologies differ somewhat from AT but are worth mentioning.

Instructional software is used to teach specific academic skills (like reading and writing) or subject matter content (such as history and science). It differs from AT in that it provides instruction rather than bypassing areas of difficulty.

Universal Design for Learning (UDL) is a philosophy that encompasses learning models, methods and products to enhance the educational experience of diverse learners (whether or not they have learning disabilities). In this approach, AT is often built into educational materials and can be customized to help students with disabilities be successful with the general curriculum.



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Endnotes

1 Multiple studies: Collins, 1990; Elkind, 1993; Elkind, Black & Murray, 1996; Higgins & Raskind, 1995; Higgins & Raskind, 1997; MacArthur, 1993, 1998; MacArthur, Schwartz, & Graham, 1991; McNaughton, Hughes & Clark, 1997; Priumus, 1990; Raskind & Higgins, 1995; Raskind, Higgins & Herman, 1997.

2 Higgins, E. L. & Raskind, M. H. (2000). Speaking to Read: The Effects of Continuous vs. Discrete Speech Recognition Systems on the Reading and Spelling of Children With Learning Disabilities. *Journal of Special Education Technology*, 15 (1), 19-30.

3 Raskind, M. H. & Higgins, E. L. (1999). Speaking to Read: The Effects of Speech Recognition Technology on the Reading and Spelling Performance of Children With Learning Disabilities. *Annals of Dyslexia*, 49, 251-281.

http://www.ldonline.org/article/Assistive_Technology_for_Kids_with_Learning_Disabilities%3A_An_Overview?theme=print

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