

Assistive Technology: Breaking Down Barriers in Special Education

Special education programs offer students with cognitive problems or physical disabilities a variety of opportunities to connect with coursework. Often times, educators accomplish this additional reach by thinking outside of traditional lesson plans. Today, many are opting to use assistive technologies to meet the unique challenges of their students—a process that continues to break down barriers in special education.

What Is Assistive Technology?

From a wide lens, the term 'assistive technology' encompasses anything—whether it's a device, system, or piece of equipment—that can help a student learn, communicate, or function more effectively. The use of technology to enhance learning is an effective approach for many students, helping them with listening, math, organization, memory, reading, writing, or any other area in which they may feel challenged.

Different types of assistive technologies typically fall under one of the three umbrella categories below:

- **Adaptive computing** includes any technology that involves adaptations to digital devices specifically to accommodate disabilities. Examples include Braille keyboards for the visually impaired or USB-based large font keyboards to assist those with fine motor difficulties.
- **Augmentative communication** includes any technology designed to assist students with speech and language problems. Examples include word prediction programs, image-heavy books, or picture charts.
- **Computer technology** includes any technology that uses hardware or software to make it easier for students to read, write, or use the Internet. Examples include repetitive tutoring programs, individualized e-coursework, or multi-sensory stimulation.

Note that for students who have an Individualized Education Program (IEP), the Individuals with Disabilities Act (IDEA) requires their IEP teams to determine if assistive technologies are necessary for student success (and provide them if so).

Assistive Technology In Action

Above are *overall* types of assistive technology, but it is helpful to break down *actual applications* to truly understand the positive impact these technologies can have for students enrolled in special education courses. Assistive technology can help students work more efficiently, navigate classroom routines, and meet goals. They range from simple (audio recorders to play back sound) to complex (tablets with sophisticated communication devices and carefully chosen apps). Below are additional examples:

Timers. Timers like those found on wristwatches or cell phones may seem like simple learning aids, but they can prove useful for students struggling with pacing, time management, or task transitioning.

Reading Guides. Because the plastic strip of a reading guide highlights one line of text while blocking others, it eliminates page distractions and can assist students with poor focus or tracking issues.

Frequency Modulation (FM) Listening Systems. Combining an educator-worn microphone and student-worn receivers, FM listening systems can provide a way for those with auditory processing issues, autism spectrum disorder, hearing impairment, or even attention issues to understand and participate in classroom discussions.

Calculators. Traditional calculators may not seem that novel, but talking calculators are. These machines have built-in speech output, helping students confirm what keys they've pressed.

Writing Supports. A variety of writing supports exist, including well-known programs like spellcheck to more advanced word prediction software or speech recognition programs featured on many mobile devices.

Text-to-Speech Software. Most mobile devices like smartphones and tablets have text-to-speech software that can read aloud anything on screen. This feature can help students who struggle with reading, memory, or comprehension.

In sum, assistive technologies have the potential to improve the learning process for the students who comprise the special education system in the US—at last Census, that accounted for [12.9 percent](#) of those enrolled in K-12 classes. Given the diversity of this large population, it makes sense for educators to turn to assistive technologies because they provide effective, personalized resources for students facing a variety of challenges.