

Assistive Technology to Meet K–12 Student Needs

The Individuals with Disabilities Education Act Amendments of 1997 defines *assistive technology device* as "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability" (IDEA, 1997, 20, USC, Ch. 33, Sec. 1401 [25] US). The level of guidance and support necessary for each student in the classroom may vary greatly; the student may need anything from physical, verbal, or visual prompts to high-technology devices and services. "No" technology and "low" technology devices do not require electronic equipment and may need only a simple accommodation, are usually readily available, and are cost effective; "high" technology requires a high-maintenance electronic system and, hence, is more costly (Purcell & Grant, 2002).

This table introduces the most common assistive technology devices to regular classroom teachers so that they can ensure that all students in the classroom have an equal and inclusive opportunity to participate in and benefit from the learning process. For additional information regarding specific disabilities or addressing specific content areas, such as mathematics, reading, writing, and others, refer to the *Assistive Technology Consideration Quick Wheel* (AT Quick Wheel) at the [Council for Exceptional Children's IDEA Practices](#) Web site.

The information in the table below is neither prescriptive nor inclusive of a wide range of assistive technology equipment available. For a database source of information on assistive technology, visit <http://www.abledata.com>

Assistive Technology for Vision: Aids students who are blind or have low vision.

- Eyeglasses
- Large-print books
- Books on tape
- Magnifying glass
- Slate and Braille stylus
- Stencil
- Tape recorder
- Cassettes
- Stereo headphones
- Lighting contrasts
- Adapted paper (e.g., raised surfaces, highlighted lines, various colors, sizes)
- Pen lights
- Calculator with large keys or large display
- Talking calculators
- Self-sticking notes (such as Post-It[®] notes)
- Highlighters
- Color-blind aides
- Braille writer (to take notes, store information, print in various formats)

- Braille translation software (translates inputted text that can be Brailled)
- Braille printer
- Computer with speech output or feedback
- Operating system special-accessibility options (screen enlargement, adjustment of keyboard, sound, display, mouse)
- Closed-circuit television
- Computer-screen magnifiers
- Letter- or word-magnification software
- Glare-reduction screens
- Talking electronic dictionary, thesaurus, spell checker
- Video magnifiers
- Voice-output screen-reading software
- Voice amplification or voice projector
- Screen readers

Assistive Technology for Communication: Aids students who have difficulty in communicating effectively (i.e., they are unintelligible, have no or very little verbal skills, or have limited language proficiency).

- Pictures, photographs, objects
- Communication boards
- Communication books
- Eye-gaze or eye-pointing systems
- Simple voice-output devices
- Word cards or word manipulatives
- Word window
- Writing guides
- Voice-output devices with levels
- Voice output with icon sequencing
- Communication software (allows for communication boards and visual displays)
- Augmentative communication devices (visual display, printed or speech output)
- Dedicated augmentative communication system
- Text-to-voice and voice-to-text software
- Talking word processing with writing support
- Word prediction, abbreviation, or expansion options to reduce keystrokes
- Software that allows communication via pictures and symbols
- Head-pointing devices
- Touch screens

- Translating devices: voice language (e.g., English) to output different voice language (e.g., Spanish)
- Electronic and software dictionaries

Assistive Technology for Access: Aids students who have difficulties in accessing communication, learning tools, or engaging in classroom or home activities.

- Adapted common tools (e.g., big pencils)
- A roller-ball (or tracker-ball) pointing device with a separate button for clicking
- Adapted handles (e.g., pencil grips)
- Scotch™ tape to hold paper in place, Velcro™, slant borders
- Adapted book-page turners or fluffers
- Adapted paper (different sizes)
- Built-up stylus
- T-bar to assist with typing
- Switches
- Head pointers
- Joysticks
- Adapted mouse
- Typewriter
- A mouth stick to press keys on the keyboard
- Foot pedals or hardware switches instead of a mouse to operate a technology device
- Arm support
- Slant board
- Tilt board
- Book holders
- Key guards
- Onscreen keyboards
- Touch-sensitive colored lights
- Voice input or output devices
- Voice-recognition software (turns the spoken word into the typed word)
- Eye-controlled computer-input devices
- Computer-access modification software or hardware
- Touch window
- Portable word processor
- Word-completion utilities
- Adaptive switches (primary mouse)
- Alternative keyboards (e.g., keyboards with easy access, touch keyboards)
- Keyboards with accessibility options to input or encode text

Assistive Technology for Hearing: Aids students who are deaf or hard-of-hearing.

- Hearing aids
- Signaling devices
- Vibrotactile switch
- Pictures, photographs, objects
- Communication boards
- Assistive listening devices (e.g., amplified phone system)
- Phonic ear
- Headphones (to keep the listener focused, adjust sound, etc.)
- FM amplification systems (e.g., auditory trainer)
- TDD/TTY for phone service
- Closed-captioning television
- Real-time captioning
- CD-based (text)books, electronic books
- Audio-voice amplification device for teachers
- Telecaption decoders
- Vibrotactile systems

Assistive Technology for Learning and Studying: Aids students with high-incidence disabilities (learning, behavior, or cognitive disabilities) to increase, maintain, or improve their functional capabilities.

- Highlighting tape
- Post-It notes
- Picture schedule
- Written schedule
- Social stories
- Written or picture-supported directions
- Aids to help find materials (e.g., color tabs)
- Editing devices: correction fluid (such as Liquid Paper™ or White Out™) correction tape, correction pen, highlight tape
- Sentence windows
- Graphic organizers to visually help in developing and structuring ideas
- Single-word scanners (reading pens) or hand held scanners
- Portable word processors
- Talking word processors
- Hand held computers
- Voice-recognition products
- Software for organizing ideas and studying
- Electronic organizers or reminders

- Word-prediction software (assists in spelling and sentence construction)
- Multimedia software for production of ideas (e.g., PowerPoint®)
- Talking electronic device or software to pronounce challenging words
- Graphic organizer software
- Software for concept development, manipulation of objects, math computations
- Portable word processor to keyboard instead of write
- Closed-captioning television
- Text-reading software
- Tactile or voice-output measuring devices

Resources

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