



Teachers' Desk Reference: Practical Information for Pennsylvania's Teachers

Assistive Technology

As a teacher, you have the responsibility to design learning environments that are responsive to diverse student needs and to foster participation and achievement. You may have students in your class or school who need assistive technology (AT) to communicate or to help them access, participate, and/or respond to instruction within the general education classroom. This *Teachers' Desk Reference* provides an overview of what assistive technology is and how it can benefit students both in school and in their everyday lives.

What is assistive technology?

An assistive technology **device**, as defined by IDEA 2004, is *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*. Assistive technology devices range in complexity from no- or low-tech tools such as a pencil grip or a customized mouse to high-tech tools, such as specialized software or electronic voice-output communication devices. This definition does not include medical devices that are surgically implanted (such as a cochlear implant) or the replacement of any such device.

IDEA – and Pennsylvania Chapters 14 and 711 – require that teams consider assistive technology needs (also referred to as assistive devices) for every student with an Individualized Education Program (IEP).

Assistive technology, as defined by the federal law, may also be a **service** - *any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device*. AT services may include assessing a student's need for assistive technology; selecting or adapting AT devices; or coordinating AT services such as training for the student, the student's family, and educational team members.

Who uses assistive technology?

Assistive technology devices and services may be used by students with disabilities to increase access to the general curriculum and help these students make progress toward attaining their Individualized Education Program (IEP) goals. Without the use of AT, some students would not be able to access the classroom or instruction due to physical, cognitive, sensory, or learning disabilities.

A broad range of students may require AT in school to remove barriers in various settings. An individual student may need a range of AT options/tools dependent upon the tasks to access the curriculum.

Decisions about which students should use assistive technology are not made based on the

nature or severity of a student's disability. Assistive technology is not just for certain types of learners. Students may require AT devices and services to communicate, to see or hear, to read, to write or to spell, to use a computer, to turn a page, or to travel down the hall to the lunch room.

How is the need for assistive technology determined?

Determining Use of AT

IDEA – and Pennsylvania Chapters 14 and 711 – require that teams consider assistive technology needs (also referred to as assistive devices) for every student with an IEP. Not all students with disabilities will need AT to access the curriculum or work toward their IEP goals, but the team must consider AT needs as part of the IEP process.

Once it is determined that a student may need AT, a multidisciplinary team should take a systematic approach to exploring AT options for that student. The team should consider the following when exploring options for a student:

- Activities and routines of the student's day (participation demands and opportunities, including expressive communication, reading, writing, and activities of daily living).
- Academic tasks (curricular demands and local and state assessments).
- AT options that may help the student to meet the above demands.
- Data available on AT devices and services that have been tried already.

Questions for the IEP Team to Consider

Does the student need AT:

- To meaningfully participate in the general curriculum?
- To participate in academic or functional activities?
- To access print materials?
- To access auditory information?
- For written communication and/or computer access?

- For augmentative/alternative communication (AAC)?
- To participate in state and local assessments?

Does the student require AT services for:

- Evaluating AT needs?
- Purchasing, leasing, or acquiring AT devices?
- Selecting, designing, fitting, customizing, and/or adapting AT devices?
- Coordinating and using other therapies, interventions, or services with AT devices (i.e., who will charge/maintain device and provide updates)?
- Training or technical assistance for student, family, professional?

What types of assistive technology are available?

Students may require a variety of tools ranging from no- to low- to high-tech options:

- **No-tech AT** usually refers to simple, nonelectronic solutions that provide access and improve function for the students. These AT solutions may be created or purchased commercially at relatively low cost, and may include devices such as adapted spoon handles, customized pencil grips, or picture communication displays.
- **Low-tech AT** may be relatively simple or commercially available electronic devices such as single message communicators, portable word processors, and talking calculators.
- **High-tech AT** devices may include devices with specialized features for persons with disabilities (such as dedicated speech generating devices, or braille note-taker or printers), or typical computers, mobile devices, or peripherals, used with standard or specialized software or apps. The use of high-tech AT is usually combined with low-tech systems that can be used in particular situations or to provide back-up in the event of breakdown.

Any low- or high-tech items may be considered AT when their use increases or maintains the student's ability to function and participate, both socially and academically, in the school environment. See the lists below for examples.

AT for Reading/Writing

- Pencil grips or adapted pens, markers
- Talking word processors, talking calculators
- Voice-input apps/software
- E-books, audio books
- Enlarged print, Braille
- Custom keyboards

AT for Communication

- Communication displays and books, picture symbols, letter boards
- Single and multiple message voice-output devices
- Dedicated communication devices (direct selection, scanning, eye-gaze access)

AT for Physical Access

- Head stick, mouth stick, switch access
- Standard or alternative keyboards, trackballs/mice
- Electronic textbooks
- Voice controlled mobile or computer device

AT for Vision

- Hand-held magnifiers
- Slant board
- Line guide
- Software and apps with text-to-speech, voice input, magnification options, etc.
- Devices with Optical Character Recognition (OCR)
- Screen readers (e.g., JAWS, NVDA)
- Screen Magnification software (e.g., ZoomText)
- Electronic Magnifier
- Portable notetaker

- Refreshable Braille display
- Document camera
- Audiobook player
- Talking calculator

AT for Hearing

- Turn on captioning
- Use visuals to supplement auditory information
- Classroom Audio Distribution System (CADS), (e.g., sound field systems)
- Multi-Media Hubs
- Devices with Bluetooth connectivity
- Altering systems that include visual or haptic feedback

How can you find out more about assistive technology and services in Pennsylvania?

The Pennsylvania Training and Technical Assistance Network (PaTTAN) offers numerous resources for educators and families.

- **Assistive Technology Purchasing Program** (ATPP Bid) is available to provide AT device bid prices to local educational agencies (LEAs).
- **PaTTAN Short Term Loan (STL) Program** is a library of AT available to local educational agencies (LEAs) for trial and assessment. For more information, visit the PaTTAN website at <https://www.pattan.net/Short-Term-Loan/>
- **Professional Development**—Visit the PaTTAN website to find out about AT professional development opportunities and resources.
- **AT Consultants** are available to answer questions and direct school staff and families to appropriate AT resources. Each intermediate unit (IU) also has a staff member specifically trained in AT who can assist school teams.

PaTTAN East	800-441-3215
PaTTAN Central	800-360-7282
PaTTAN West	800-446-5607

Commonwealth of Pennsylvania

Josh Shapiro, Governor

