

## **Assistive Technology**

In General, any technology that enables someone to do something they otherwise couldn't, can be termed as "Assistive Technology", facilitating access and achieving previously unreachable goals. Individuals challenged by a disability can benefit from technology in many facets of their personal life; education, employment, recreation and social. AT can help individuals increase their independence, build self confidence and self esteem, improve the quality of life, and break barriers when providing the tools for possible employment and educational opportunities.

### **AT Legislation**

Congress has passed several important laws that have the potential, when enforced, to greatly improve the civil rights of people with disabilities. Among many other benefits, the following pieces of legislation provide access to assistive and conventional technologies for individuals with disabilities in certain situations. The mandates are:

- Individuals with Disabilities Education Act of 1990 and 1998 (P.L. 101-476 and P.L. 105-17)
- Americans with Disabilities Act (P.L. 101-336)
- Assistive Technology Act of 1998 (P.L. 105-394) and the Technology-Related Assistance for Individuals with Disabilities Act of 1988 (P.L. 100-407), which was also amended in 1994 (P.L. 103-218) and is commonly referred to as the "Tech Act."
- Rehabilitation Act of 1973 as amended in 1992 and 1998 (P.L. 102-569 and P.L. 105-166)
- Telecommunications Act of 1996 -Section 255 (P.L. 104-104)

### **An Assistive Technology Device Is...**

The IDEA defines an 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 functional capabilities of individuals with disabilities. [20 U.S.C. Chapter 33, Section 1401 (25)].

### **An Assistive Technology Service Is...**

The legal definition of an assistive technology service as it appears in the Individuals with Disabilities Education Act (IDEA, P.L. 105-17) is: . . . any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device [20 U.S.C. Chapter 33, Section 1401 (25)].

### **High Tech vs. Low Tech**

A range of assistive technology devices are available. Some are relatively "low technology" and inexpensive. For example, a pencil grip is an assistive technology device that may be used by a student with a physical disability to improve handwritten communication through increasing the student's grasp of and control over his or her pencil. An adapted cup with enlarged handles may be used by a student who has difficulty holding a standard cup. Other devices are more "high technology" tools and are often more expensive. An example of a "high technology" tool is an augmentative communication device in which students type in messages on a communication display and they are spoken aloud.

**Examples:**



Pencil Grips, Various Vendors



Vantage Plus (AAC Device), Prentke Romich

**Assistive Technology Categories:**

Assistive technology devices are available in a variety of categories to address functional capabilities of students with disabilities. These categories include but are not limited to:

*Academic and Learning Aids:* Electronic and non-electronic aids such as calculators, spell checkers, portable word processors, and computer-based software solutions that are used by a student who has difficulty achieving in his or her educational curriculum

*Aids for Daily Living:* Self-help aids for use in activities such as eating, bathing, cooking, dressing, toileting, and home maintenance

*Assistive Listening Devices and Environmental Aids:* Electronic and non-electronic aids such as amplification devices, closed captioning systems, and environmental alert systems that assist a student who is hard of hearing or deaf with accessing information that is typically presented through an auditory modality

*Augmentative Communication:* Electronic and non-electronic devices and software solutions that provide a means for expressive and receptive communication for students with limited speech and language

*Computer Access and Instruction:* Input and output devices, alternative access aids, modified or alternative keyboards, switches, special software, and other devices and software solutions that enable a student with a disability to use the classroom computer

*Environmental Control:* Electronic and non-electronic aids such as switches, environmental control units, and adapted appliances that are used by a student with a physical disability to increase his or her independence across all areas of the curriculum

*Mobility Aids:* Electronic and non-electronic aids such as wheelchairs (manual and electronic), walkers, scooters that are used to increase personal mobility

*Pre-vocational and Vocational Aids:* Electronic and non-electronic aids such as picture-based task analysis sheets, adapted knobs, and adapted timers and watches that are used to assist a student in completing pre-vocational and vocational tasks

*Recreation and Leisure Aids:* Electronic and non-electronic aids such as adapted books, switch adapted toys, and leisure computer-based software applications that are used by a student with a disability to increase his or participation and independence in recreation and leisure activities

*Seating and Positioning:* Adaptive seating systems and positioning devices that provide students with optimal positioning to enhance participation and access to the curriculum

*Visual Aids:* Electronic and non-electronic aids such as magnifiers, talking calculators, Braille writers, adapted tape players, screen reading software applications for the computer, and Braille note-taking devices that assist a student with a visual impairment or blindness to access and produce information that is typically present in a visual (print) modality (*Adapted from the Assistive Technology Guidelines for Kentucky Schools, Kentucky Department of Education*)

A particular student with a disability may require assistive technology solutions from one or more of the above categories. For example, a student with a severe intellectual disability may use an augmentative communication device to supplement his or her communication skills, adaptive switch toys to participate in leisure activities, and an adapted keyboard for accessing the software applications on the classroom computer.

The above listed categories of assistive technology devices are not disability specific. For example, a student with a learning disability who has difficulty focusing on the teacher's lecture in class due to processing difficulties may require an assistive listening device to amplify the teacher's voice in a classroom. Students with various types of disabilities use adapted tape recorders originally developed for visually impaired and blind children to access audio-taped reading materials.

The need for assistive technology devices is determined by the student's IEP committee. Typically, assistive technology solutions are identified through consideration of assistive technology or through an assistive technology assessment. Once an assistive technology device has been determined educationally necessary, the student's IEP team should document the required device(s) in the IEP.

### **Organizations:**

#### **Alliance for Technology Access**

Website: [www.ataccess.org](http://www.ataccess.org)

Email: [ATAinfo@ATAccess.org](mailto:ATAinfo@ATAccess.org)

Phone: 707-778-3011

#### **Center for Applied Special Technology (CAST)**

Website: [www.cast.org](http://www.cast.org)

Email: [cast@cast.org](mailto:cast@cast.org)

Phone: (978) 531-8555

### **Family Center on Technology & Disability**

Website: [www.fctd.info](http://www.fctd.info)

Email: [fctd@aed.org](mailto:fctd@aed.org)

Phone: 202-884-8068

### **RESNA**

Website: [www.resna.org](http://www.resna.org)

Email: [info@resna.org](mailto:info@resna.org)

Phone: (703) 524-6686

### **Technical Assistance Alliance for Parent Centers - National Office**

Website: [www.taalliance.org](http://www.taalliance.org)

Email: [alliance@taalliance.org](mailto:alliance@taalliance.org)

Phone: 952-838-9000 or 1-888-248-0822

### **Websites with helpful AT Information**

#### **Ability Hub**

The purpose of this website is to help you find information on adaptive equipment and alternative methods available for accessing computers. Searching the Internet for accurate information on Assistive Technology is much like "*looking for a needle in a haystack*". This website attempts to reduced the size of the *haystack* and bring you the information in an organized fashion.

[www.abilityhub.com](http://www.abilityhub.com)

#### **ABLEDATA**

ABLEDATA's website contains a searchable database of information on more than 30,000 assistive technology products. The database contains detailed descriptions of each product, including price and vendor contact information.

<http://www.abledata.com>

#### **Association of State Technology Act Programs**

The Association of Assistive Technology Act Programs (ATAP) is a national, member-based organization, comprised of state Assistive Technology Act Programs funded under the Assistive Technology Act (AT Act).

ATAP was established in 1997 to provide support to state AT Program members to enhance the effectiveness of AT Programs on the state and local level, and promote the national network of AT Programs. ATAP facilitates the coordination of state AT Programs nationally and provides technical assistance and support to its members. ATAP represents the needs and interests of the state AT Programs and is the national voice of the AT Programs.

[www.ataporg.org/stateatprojects.asp](http://www.ataporg.org/stateatprojects.asp)

#### **Assistivetech.net**

The Assistivetech.net website offers a wide variety of assistive technology and disability-related information, including a searchable AT database that is designed to help you target solutions, determine costs, and link to vendors that sell products. Target

audiences include people with disabilities, family members, service providers, educators, and employers.

[www.assistivetech.net](http://www.assistivetech.net)

### **AT Online Training Project**

Developed by the University of Buffalo's Center for Technology, this website provides AT-related information under the following headings: Assistive Technology Basics; Tutorials; Assistive Technology Decision Making; and Resources. Website content is aimed at parents, caregivers and teachers who are beginning their introduction to technology use by children with special needs.

<http://www.atto.buffalo.edu>

### **Georgia Project for Assistive Technology (GPAT)**

GPAT has developed numerous resources to assist educators and families in providing assistive technology services to students with disabilities. These resources are organized by various process topics. They include narrative documents, PowerPoint presentations, forms, on-line videos, and web links.

[www.gpat.org](http://www.gpat.org)

### **Technology Vendors:**

#### **Ablenet**

*Augmentative Communication,  
Environmental Control, Recreation and  
Leisure Aids*

[www.ablenetinc.com](http://www.ablenetinc.com)

(800) 322-0956

(800) 832-8697

#### **Freedom Scientific**

*Visual Aids, Academic and Learning Aids*

[www.freedomscientific.com](http://www.freedomscientific.com)

(800) 444-4443

#### **Don Johnston, Inc.**

*Academic and Learning Aids, Computer  
Access*

[www.donjohnston.com](http://www.donjohnston.com)

(800) 999-4660

#### **Inclusive TLC**

*Academic and Learning Aids, Computer  
Access*

[www.inclusivetlc.com](http://www.inclusivetlc.com)

(800) 462-0930

#### **Edmark/Riverdeep**

*Academic and Learning Aids, Computer  
Access*

[www.riverdeep.com](http://www.riverdeep.com)

(415) 659-2000

#### **InfoGrip**

*Computer Access*

[www.infogrip.com](http://www.infogrip.com)

(800) 397-0921

#### **Enable Mart**

*Computer Access, Visual Aids, Academic  
and Learning Aids*

[www.enablemart.com](http://www.enablemart.com)

(888) 640-1999

#### **Inspiration**

*Academic and Learning Aids*

[www.inspiration.com](http://www.inspiration.com)

(800) 877-4292

#### **Enabling Devices**

*Computer Access, Recreation and Leisure  
Aids*

[www.enablingdevices.com](http://www.enablingdevices.com)

#### **Intellitools, Inc.**

*Computer Access, Academic and  
Learning Aids*

[www.intellitools.com](http://www.intellitools.com)

(800) 899-6687

**Kurzweil Educational Systems**  
*Academic and Learning Aids, Visual Aids*  
[www.kurzweiledu.com](http://www.kurzweiledu.com)  
(800) 894-5374

**Marblesoft**  
*Academic and Learning Aids*  
[www.marblesoft.com](http://www.marblesoft.com)  
(763) 755-1402

**Onion Mountain Technology**  
*Low Tech Items, Academic and Learning Aids*  
[www.onionmountaintech.com](http://www.onionmountaintech.com)  
(860) 693-2683

**RJ Cooper**  
*Computer Access, Academic and Learning Aids*  
[www.rjcooper.com](http://www.rjcooper.com)  
(800) RJCooper

**Simtech Publications**  
*Academic and Learning Aids*  
[www.hsj.com](http://www.hsj.com)  
866-485-1052

**TextHelp**  
*Academic and Learning Aids*  
[www.texthelp.com](http://www.texthelp.com)  
(888) 248-0652

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*References- The information above was obtained in part from the following websites:*

Alliance for Technology Access  
[www.ataccess.org](http://www.ataccess.org)

Family Center on Technology and Disability  
<http://www.fctd.info/>

Georgia Project for Assistive Technology  
<http://www.gpat.org>



Touch Window, by Edmark



IntelliKeys Keyboard, by  
Intellitools