# ASSISTIVE TECHNOLOGY GLOSSARY

It is important for parents to understand the "language" of assistive technology so they can be informed advocates for their child's technology needs. The following glossary of terms can help parents learn about the kinds of assistive technologies that are currently available and how they can be used.

## ABBREVIATION EXPANSION SOFTWARE:

Abbreviation expansion software is used to help individuals become more efficient writers. This software will automatically expand words or phrases based on pre-programmed commands that have been entered by the user. An example of an abbreviation used is first and last initials will be expanded into a name. The abbreviation expansion software allows the user to minimize the number of keystrokes necessary to produce a written piece. It is often combined with word prediction programs or specialized keyboard assistance programs.

## ACCESSIBILITY FEATURES:

Accessibility features are various options that exist within products that allow a user to adjust the settings to their personal needs. Products can come with various accessibility features that can adjust to the individual's visual, mobility, hearing, language, and learning needs. Accessibility features allow individuals with disabilities to use products that may not otherwise be useful. They also serve as a piece of assistive technology because adjustments are being made to help the individual.

## ACCESS UTILITY:

An access utility is a software program that modifies a standard keyboard to simplify operation of the keyboard, replace the mouse, substitute visual cues for sound signals or add sound cues to keystrokes. Many basic modifications can be made through software that already exists on your computer. Altering font size, color contrast, and adding or modifying audio alerts can all be done without purchasing additional software. "Sticky keys" are another very useful modification tool that can be made using existing software. Sticky keys allow an individual to type one key at a time, sequentially, and experience the same results as holding down multiple keys simultaneously. For example, instead of holding down CTRL-ALT-DELETE at the same time, the individual can select each key, one at a time.

## ACCOMMODATIONS:

In the context of education, an accommodation is a change in the format or presentation of educational materials so that a student with a disability can complete the same assignment as other students. Accommodations can also include changes in setting, timing, scheduling, and/or response mechanisms. Students who receive accommodations may be allowed to: listen to audio versions of textbooks, record classroom lessons, use calculators, submit a drawn picture of key concepts rather than a written report, and work with a "study buddy" or note taker. There are dozens of accommodations that can change a student's experience from frustration to success if teachers, aides, and parents are creative.

## ACTIVITIES OF DAILY LIVING:

Frequently used in national surveys as a way to measure self-care activities, ADLs include basic tasks such as eating, bathing, dressing, toileting, getting in and out of a chair or bed, and getting around at home. National surveys also measure another level of self-care – Instrumental Activities of Daily of Living (IADLs) – which include household chores, meal preparation, business activities, shopping, telephone use and mobility outside the home.

## ADAPTIVE TECHNOLOGIES:

Adaptive technologies are a type of assistive technology that includes customized systems that help individuals move, communicate, and control their environments. Adaptive technologies are designed specifically for persons with disabilities and include augmentative and alternative communication devices, powered wheelchairs, and environmental control systems.

## AIDS FOR DAILY LIVING:


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Another category of assistive technology, these self-help aids help people with disabilities eat, bathe, cook and dress. A "low tech" example would be a fingernail brush with two suction cups attached to the bottom that could stick onto a flat surface in the bathroom. Such an ADL would allow a child with limited mobility to clean her nails without having to grip the brush. There are also "high tech" ADLS, many of which contain computerized components.


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## ALTERNATIVE ACCESS/INPUT DEVICE:


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An alternative access/input device allows individuals to control their computers using tools other than a standard keyboard or pointing device. Examples include alternative keyboards, electronic pointing devices, sip-and-puff systems, wands and sticks, joysticks, and trackballs.


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## ALTERNATIVE KEYBOARD:


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Alternative keyboards may be different from standard keyboards in size, shape, layout, or function. They offer individuals with special needs greater efficiency, control, and comfort. For example, a traditional QWERTY keyboard may be confusing to a child with a developmental disability and can be replaced with a keyboard that lists letters A-Z in big, bold letters and doesn't contain a lot of "extra" keys. This makes focusing on spelling and typing words a lot easier.

## AMBULATION AIDS:

These devices help people walk upright and include canes, crutches, and walkers.

## ARCHITECTURAL ADAPTATIONS:

Architectural adaptations are physical changes in the home, school, workplace, or other area. Adaptations that remove or reduce physical barriers include ramps, lifts, lighting, altered counter top heights and widened door frames.

## ARTICULATED FOREARM SUPPORT:

An articulated forearm support follows the user's movements and drastically reduces the muscle work involved in sustained keying or mouse use.

## ASSESSMENT:

An assessment is a formal process of gathering information about a child's strengths, weaknesses and needs in order to plan his educational services. File and portfolio reviews, tests, and observations may be used to get information on cognitive, social, emotional, and functional abilities. An assistive technology assessment is designed to identify appropriate AT devices and services. The most useful assessments are generally those conducted within an individual's "customary environment" rather than in an unfamiliar testing site. (See Ecological Vocational Assessment and Functional Vocational Assessment, which are related specifically to employment.)


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## ASSISTIVE TECHNOLOGY DEVICE:


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An assistive technology (AT) device includes any item, piece of equipment, or product system that is used to increase, maintain, or improve the functioning of individuals with disabilities. It may be purchased commercially off the shelf, modified, or customized. The term does not include a medical device that is surgically implanted, or the replacement of such a device. AT devices range from low tech, such as a magnifying glass to high tech, such as a computer that responds to touch and allows a child to communicate more effectively.

## ASSISTIVE TECHNOLOGY SERVICE:

An assistive technology service is one that directly assists in the selection, buying, designing, fitting, customizing, maintaining, repairing, replacing, and coordinating of assistive technology devices. It also includes the training of students, teachers, therapists and family members on the use and maintenance of the device.


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## AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (AAC) SYSTEM:

An AAC system is one that increases or improves the communication abilities of individuals with receptive or expressive communication impairments. The system can include sign language, graphical symbol systems, synthesized speech, dedicated communication devices, and computer applications. AAC technology spans a wide range of products, from low-tech picture boards to high-tech speech recognition programs.

## AUXILARY AIDS AND SERVICES:

Under the Americans With Disabilities Act, professionals and organizations must communicate as effectively with people with disabilities as they do with others. Auxiliary aids and services assist in this

effort. Auxiliary aids may include taped texts, interpreters or other effective methods of making materials usually delivered orally available to students with hearing impairments; readers in libraries for students with visual impairments; classroom equipment adapted for use by students with manual impairments; and other similar services and actions.


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## BRAILLE:

This raised dot printed language is used by many people with visual impairments. Each raised dot arrangement represents a letter or word combination. A great deal of information about Braille is available through the National Federation for the Blind at http://www.nfb.org/nfb/Braille_Initiative.asp.


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## BRAILLE DISPLAY:

A Braille display is a tactile device consisting of a row of special "soft" cells. A soft cell has 6 or 8 pins made of metal or nylon; the pins are controlled electronically and move up and down to display characters as they appear on the display of a computer or Braille note taker. A number of cells are placed next to each other to form a soft or refreshable Braille line. As the pins of each cell pop up and down, they form a line of Braille text that can be read by touch.

## BRAILLE EMBOSSERS AND TRANSLATORS:

Braille embosser transfers computer-generated text into embossed Braille output. Translation programs convert text that has been either scanned or typed into Braille that can be printed on the embosser.

## CAPTIONING:

This is a text transcript of the audio portion of multimedia products, such as movies and television programs. Captioning is synchronized with the visual events taking place on screen. In addition to its usefulness for those with hearing impairments, it has been shown to be helpful to students with a range of visual and auditory processing problems. It has also been shown to enhance learning for those without disabilities.

## COMMUNITY PARTICIPATION:

Community participation is a functional goal for most individuals with disabilities. To accomplish this goal, young people are encouraged to be interested in, and are taught how to engage in community-based activities. Assistive technology devices can be very helpful in facilitating community participation. You should not be afraid to ask others to help adapt appropriate environments; the Americans with Disabilities Act is on your side!

## DESCRIPTIVE VIDEOS:

Descriptive videos are those that have been enhanced with narration that describes the visual elements of action, characters, locations, costumes and sets without interfering with the production's dialogue or sound effects. They allow individuals with blindness or other vision impairments to enjoy a video in greater depth.

## DIGITIZED SPEECH:

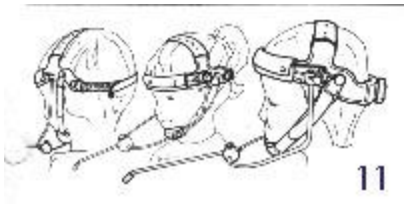
Digitized Speech is speech that has been digitally recorded for later play-back. As it is a recording, the quality is good and easy to understand. Digitized speech may be used in CD-Roms for talking stories, in encyclopedias, and in software packages where teachers and students are able to record sounds, words and sentences themselves. Digitized speech has a finite, predetermined vocabulary and so does not offer full access to mainstream software.

## DURABLE MEDICAL EQUIPMENT (DME):

Durable Medical Equipment (DME) is any piece of equipment that is used to serve a medical purpose, can withstand repeated use, and is appropriate for use in the home. It is expected to last for a substantial period of time. Durable medical equipment can include devices, controls, or appliances specified in an individual's plan for medical care. The equipment is used to help increase the individual's ability to perform various activities of daily living or to communicate with the community in which they live. DME can include items necessary for life support, supplementary supplies and equipment necessary for the proper functioning of such items.

## ECOLOGICAL VOCATIONAL ASSESSMENT:

Also known as a situational assessment, this specially-focused professional evaluation looks at particular employment tasks and job sites to determine whether the person with disabilities can perform necessary tasks and, if so, with what accommodations and other supports. It evaluates the degree to which the demands of a job and the skills of an individual are a good match.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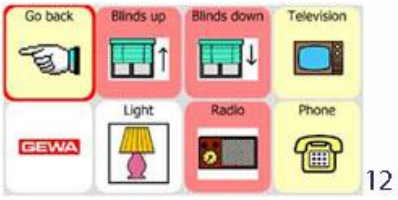
## ELECTRONIC POINTING DEVICES:

These devices allow an individual to control the curser on a computer screen (or other computerized device) using ultrasound, an infrared beam, eye movements, nerve signals, or brain waves. When used with an on-screen keyboard, electronic pointing devices also allow the user to enter text and data.

## ENVIRONMENTAL CONTROL UNIT (ECU):



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ECUs enable individuals to control electronic devices in their environment through a variety of alternative access methods, such as switch or voice access. ECUs can control lights, televisions, telephones, music players, door openers, security systems, and kitchen appliances. These systems are also referred to as Electronic Aids to Daily Living (EADL).

## EYE GAZE BOARD:


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An eye gaze board is a clear Plexiglas board that is used as a simple communication device. Pictures are mounted at strategic areas on the board and the user communicates by looking at a selected picture.

## EVALUATION:

Evaluation is both a product and a process. An evaluation is the result of assessment activities in which a team of professionals (e.g., teachers, counselors, and/or service providers) determine whether a child is eligible for early intervention services (birth to three), whether the child has a disability, and what special education and other services s/he might need.

## FUNCTIONAL VOCATIONAL ASSESSMENT:

This is an assessment of a person's ability and desire to do a job by observing his or her performance on various tasks in a variety of job settings. This type of assessment should record not only the ease or difficulty with which a person is able to complete particular tasks, but also affective information – whether the person appears relaxed and happy while doing the job or unduly stressed and agitated during or after completing the tasks. A functional assessment might also include an individual's ability to get to and from a job and their ability to get along with co-workers.

## INDEPENDENT LIVING CENTERS (ILCS):

Also known as Centers for Independent Living (CILs), ILCs are typically non-residential, community organizations that advocate for people with disabilities. The centers promote full access to housing, transportation, employment, recreation, and other support services.

## INFRARED SENDER/RECEIVER:

This is a device commonly found in an environmental control unit (ECU). An infrared signal is sent to the control unit, which in turn sends a signal to the appliance. These are usually small and portable and vary in size and shape. They can be used in different areas of a room, but the remote must be aimed at the control box, with nothing in its path.

## JOYSTICKS:

A joystick may be used as an alternate input device. Joysticks that can be plugged into the computer's mouse port can control the cursor on the screen. Other joysticks plug into game ports and depend on software that is designed to accept joystick control.


## KEYBOARD ADDITIONS:


A variety of accessories have been designed to make keyboards more accessible to people with disabilities. **Keyguards** are hard plastic covers with holes for each key. Someone with an unsteady finger or using a pointing device can avoid striking the wrong key by using a keyguard. **Moisture guards** are thin sheets of plastic that protect keyboards from spills and saliva**. Alternative labels** add visual clarity or tactile information to the keys.

## KEYBOARD EMULATOR:

A keyboard emulator is a device that is connected to or resides in a computer and imitates the computer's keyboard in function and performance.

## MOBILITY AND TRANSPORTATION AIDS:

This category of AT includes products that help mobility-impaired persons move within their environment and give them independence in personal transportation. Products include standing or walking aids, transfer aids, stair lifts, walkers, scooters, wheelchairs and three-wheeled chairs, adapted bikes and tricycles, car seats or beds, stretchers, ramps, strollers, adapted driving controls, vehicle conversions, patient and wheelchair lifts and carriers.

## ONSCREEN KEYBOARD:

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Onscreen keyboards are software-generated images of a standard or modified keyboard placed on the computer screen. The keys are selected by a mouse, touch screen, trackball, joystick, switch, or electronic pointing device.

## OPTICAL CHARACTER RECOGNITION AND SCANNERS:

Optical character recognition (OCR) software works with a scanner to convert images from a printed page into a standard computer file. With OCR software, the resulting computer file can be edited. Pictures and photographs do not require OCR software to be manipulated.

## PERSONAL ASSISTANCE SERVICES (PAS):

Personal assistance services help people with disabilities complete daily tasks needed for successful participation in school, work, and community living. They include, but are not limited to, dressing, eating, personal hygiene, shopping, and home/office organization.

## POINTING AND TYPING AIDS:


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A pointing or typing aid is typically a wand or stick used to strike keys on the keyboard. They are most commonly worn on the head, held in the mouth, strapped to the chin, or held in the hand.

## PORTABLE WORD PROCESSOR:

Portable Word Processors are often lightweight and inexpensive devices that can be easily taken from place to place. The device provides access to word processing without a computer. Some portable word processor products also include various organization features such as those in a personal digital assistant (PDA). Text can also be downloaded from the device to a computer or to a printer for saving and printing.

## PROSTHETIC AND ORTHOTICS:

Prosthetic and orthotics include replacement, substitution or augmentation of missing or malfunctioning body parts with artificial limbs or other orthotic aids. This includes splints, braces, foot orthosis, helmets, restraints, and supports.

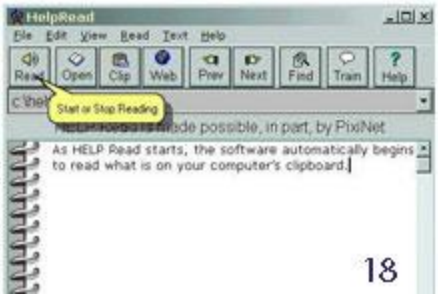
## RELATED SERVICES:

Related services are any additional support services that a child needs in order to benefit from his or her education. Such services include, but are not limited to: school-related transportation, medical evaluation, parent counseling and training, developmental and corrective services such as speech pathology, psychological services, physical and occupational therapy, and recreation. Interpreters, while not specifically on the list, must be provided by the school system if needed for a child to benefit from education services.

## SCREEN ENLARGEMENT PROGRAMS:

Screen enlargement programs magnify a section of a computer screen, increasing visibility for users with limited vision. Most programs have variable magnification levels and some offer text-to-speech options.

## SCREEN READER:




A screen reader is a software program that uses synthesized speech to "speak" graphics and text aloud. This type of program is used by people with limited vision or blindness or with a print disability, such as dyslexia.

## SEATING AND POSITIONING AIDS:

Seating and positioning aids offer modifications to wheelchairs or other seating systems. They provide greater body stability, upright posture or reduction of pressure on the skin surface. Equipment includes wheelchair cushions, trunk/head supports, modular seating, and seating lifts.

## SPEECH RECOGNITION PROGRAMS:

These software applications convert words that are spoken aloud to text. Speech recognition is designed to respond to a wide range of voices, without prior "training" of the software. Voice or speaker recognition, on the other hand, involves the training of a device to recognize a specific individual's voice. Both speech and voice recognition programs may be used to create written documents without the use of a keyboard, to control specially adapted equipment, and to operate telephone, cell phone and PDA (personal digital assistant) applications.

## SWITCHES AND SWITCH SOFTWARE:

Switches offer an alternative method of providing input to a computer when it is not possible to use a standard keyboard or mouse. Switches come in various sizes, shapes, methods of activation and placement options. Some software programs have been developed specifically for use with a switch and can employ on-screen scanning. With on-screen scanning, the computer highlights the options available to the user, who then selects the desired action. When a visual or auditory prompt indicates a specific keyboard or mouse function, the user activates the switch and the desired function occurs. Other programs have built-in options for switch use.

## SUPPORTED EMPLOYMENT:

According to the U.S. Department of Labor, "Supported employment facilitates competitive work in integrated work settings for individuals with the most severe disabilities (i.e. psychiatric, mental retardation, learning disabilities, traumatic brain injury) for whom competitive employment has not traditionally occurred, and who, because of the nature and severity of their disability, need ongoing support services in order to perform their job. Supported employment provides assistance such as job coaches, transportation, assistive technology, specialized job training, and individually tailored supervision."

## TALKING WORD PROCESSORS:

Talking word processors are software programs that provide audio feedback as the student writes. As each letter is typed and each word is written, the device will "speak" it aloud. Many of these inexpensive writing programs also incorporate powerful tools for reading. Students with learning disabilities often find that having written material read aloud helps them to better edit, understand and organize their projects. These programs may offer other accommodations as well, such as enlarging text size and changing the color of text and graphics.

## TECHNICAL ASSISTANCE:

Technical assistance is a set of informational, educational, and related services intended to help an individual or organization build capacity and/or achieve goals.

## TEXT TO SPEECH PROGRAMS:

This software converts written text, including Word documents, Web pages, PDF files, and emails into audio files that play on a computer, CD-ROM player, MP3 device, IPOD or other digital audio playback equipment. Developed for individuals with low vision or blindness, text to speech technology has improved greatly, with natural sounding voices, greater conversion speed, and improved ease of use.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## TOUCH SCREENS:

A touch screen is a device placed on or built into the computer monitor that allows direct activation of the computer, or selection of a program, through a touch on the screen.

## TRANSITION SERVICES:

Transition services are a coordinated, results-oriented set of activities – based on the strengths, interests, and needs of a child with a disability – that help the student move from a K-12 school setting to other postsecondary environments, including postsecondary education, vocational training, integrated employment, adult services, independent living, or community participation. Transition services can include instruction, occupational and speech/language therapy, guided community experience, development of employment and other adult living objectives and, when appropriate, the acquisition of daily living skills and functional vocational evaluation.

## TTD OR TTY:

This is a telecommunications device for the deaf. TTY/TTD is a device with a keyboard that sends and receives typed messages over a telephone line.


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## UNIVERSAL DESIGN:

This is an approach to the design of products and environments that is aimed at making them accessible to all people, both those with and without disabilities. Examples of universally designed environments include buildings with ramps, curb cuts, automatic doors, widened doorways, and door handles (rather than knobs).

## UNIVERSAL DESIGN FOR LEARNING (UDL):

Universal Design for Learning is the design of instructional materials and activities that make learning goals achievable by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, organize, engage, and remember. UDL is achievable via flexible curricular materials and activities that provide alternatives for students with differing abilities. These alternatives are built into the instructional design and operating systems of the educational materials; they are not added on after-the-fact.


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## VIDEO PHONE:

A video phone has a screen that permits users to conduct real-time audio and visual conversations. It is useful for those who use sign language to communicate and for individuals who do not have access to medical and diagnostic personnel. Increasingly assessments, including assistive technology assessments, are being conducted at a distance using video phone technology.

## VOCAL OUTPUT COMMUNICATION DEVICE:


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A Voice Output Communication Aid (VOCA) is an electronic device that generates spoken language for individuals who are unable to use natural speech to express their needs and to communicate with others during a conversation. These devices are intended solely for communication purposes.

## VOCATIONAL ASSESSMENT:

There are two types of vocational assessment: functional and ecological. A functional vocational assessment is an evaluation of a person's ability and desire to do a job by observing her performance on various tasks in a variety of job settings. An ecological vocational assessment focuses on particular employment tasks within a designated job site to determine whether the person with disabilities can perform those specific tasks and if so, with what accommodations and supports.

## VOICE RECOGNITION:

Different types of voice recognition systems (also called speech recognition) are available. Voice recognition allows the user to speak to the computer, instead of using a keyboard or mouse, to input data or control computer functions. Voice recognition systems can be used to create text documents such as letters or email, to browse the Internet, and to navigate among applications and menus.

## WEB ACCESSIBILITY:

Universal accessibility to the World Wide Web means that all people, regardless of their physical or developmental abilities, have access to Web-based information and services. Making Web pages accessible is accomplished by designing them to work with adaptive technologies, such as screen readers. It also means making color, font size, and page design decisions that make it possible for the widest range of individuals to access the information.

## WORD PREDICTION PROGRAMS:

Word prediction programs allow the user to select a desired word from an on-screen list located in a prediction window. The computer-generated list predicts words based on the first or second letter(s) typed by the user. The word may then be selected from the list and inserted into the text by typing a number, clicking the mouse, or scanning with a switch.

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