ASSISTIVE TECHNOLOGY MODULE
FOR PERSONNEL PREPARATION PROGRAMS
The U.S. Department of Education established the Center on Technology and Disability (CTD) to provide a wide range of assistive technology resources for families, teachers, service providers, advocates, researchers, teacher training programs, disability organizations, and vendors.

The CTD website – www.ctdisnstitute.org – has a resource library with more than 1,500 assistive technology-related materials; a webinar center with an active schedule of informational presentations, and extensive archive; and a learning center for those who want structured, in-depth modules.

This module has been prepared by:

Jacqueline Hess, Director
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Todd Fisk, Program Officer
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The Center on Technology and Disability is funded by the U.S. Department of Education, Office of Special Education Programs (OSEP) under award #H327F130003 – 13A.
THE IMPORTANCE OF ASSISTIVE TECHNOLOGY TO STUDENTS WITH DISABILITIES: LEVELING THE PLAYING FIELD

There are more than 6.7 million students ages 3–21 who receive special education services. That represents 13 percent of all public school students. That number does not include the additional millions with undiagnosed disabilities and/or those with diagnoses who do not receive formal special education services. It also does not include students in private schools. A small percentage of these students currently have access to assistive technology (AT). A far greater number would benefit from AT if it were available to them.

In the past, the term “assistive technology” referred to a limited range of specialized, often expensive, items that were designed to help students with relatively severe disabilities perform tasks that they could not otherwise do. In recent years, developments in technology have changed all that. Assistive technology now refers to a wide range of devices, software apps, and services that are widely available at lower cost.

If an item allows a student with disabilities to perform a task that he or she could not do otherwise, it can be considered assistive technology. That makes it subject to the laws governing public education, such as the Individuals with Disabilities Education Act (IDEA).

Whether you choose to teach in a public or private school, in a general or special education classroom, you will almost certainly have students in your class with a range of abilities and disabilities. Some of those students will have Individualized Education Plans (IEPs), some will not. Both groups, however, will benefit greatly from your knowledge of assistive technology devices and services.

The materials in this module, which your professor has chosen to share with you, will help you:

- Understand the basic concepts underlying the use of assistive technology
- Become familiar with the words and terms associated with AT
- Understand your role as a teacher in helping to identify and integrate the use of appropriate AT in your classroom
- Learn about the laws governing AT in public schools
- Participate as a knowledgeable professional in the IEP teams to which you will be assigned
- Become a role model, peer mentor, and school leader in the use of AT
- Change the lives of students with physical, sensory, cognitive, and emotional/behavioral disabilities
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www.CTD4teachers.com

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AT makes it possible for children with disabilities to take part in life’s activities. It can strengthen developmental, functional, and learning skills. Get started on your assistive technology journey by learning the basics.

CTD VIDEOS FROM THE TEACHER PERSPECTIVE
The Center on Technology and Disability, through FHI 360, has created a series of videos that we believe will be useful to you and your students as you work to strengthen their understanding of assistive technology. Each video focuses on AT use in the classroom.
AT AND THE IEP: TIPS FOR GENERAL ED TEACHERS

As a teacher, your input is invaluable to the IEP process. These tips will help ensure that your observations about the performance, strengths, and challenges of the student are documented to help the child succeed.

KEY RING OF ILLUSTRATED AT DEVICES

These key rings can be used for training and peer support to begin exploring a wide range of assistive technology tools. Examples range from low- to high-tech and span ages and types of support.

CTD WEBINARS FOR EDUCATORS

CTD webinars provide an excellent way to hear from AT experts who present at major conferences, who advise state and local education agencies, and who conduct in-service teacher training.

ASSISTIVE TECHNOLOGY GLOSSARY

It is important to understand the “language” of AT to be an informed advocate for a child’s technology needs. Learn about the kinds of assistive technologies that are available and how they can be used.
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Why Learn about Assistive Technology?

Assistive technology (AT) makes it possible for individuals with disabilities to take part in life’s activities, at home, school, work, and in the community. It strengthens developmental, functional, and learning skills. It can substitute for abilities that a person may not be able to develop. For instance, a person may not have use of her voice, but AT can allow her to communicate her thoughts, wants, and needs. No one is too young or too old to benefit from AT.

What is Assistive Technology?

Assistive technology includes a wide range of tools, from a simple, low-tech device such as a magnifying glass, to a complex, high-tech device, such as a computerized communication system. AT products can be made by hand, purchased off the shelf, or adapted from an existing product.

Assistive technology services help individuals acquire and use AT devices. They include, but are not limited to: assessment of an individual’s need for specific AT items, “trialing” of potential devices, training for all involved, maintenance of devices, and evaluation of the individual’s experience with selected items.

Sometimes an item that is not thought of as assistive technology will fall into the AT category if it permits someone to accomplish a task that he could not successfully complete otherwise. An example would be the use of a calculator in school. For some students, a calculator may provide an easier, faster way of solving a math problem. For students with certain physical and/or intellectual disabilities, the calculator may be essential to their ability to solve the same problem. For those students, the calculator becomes assistive technology and its use may be approved in an Individualized Education Program (IEP).
Meeting Challenges with Assistive Technology

Infants, toddlers, children, and young adults may use assistive technology to help them move, communicate, learn, work, and socialize. In most cases, the AT devices that a person uses will change over time, as s/he grows and develops physically, intellectually, and emotionally. This is particularly the case with young children and youth. AT appropriate for a 3-year old will rarely be suitable for a 7-year old or a 12-year old. It’s important, therefore, to regularly evaluate a child’s needs and experiences with his or her devices, services, and accommodations.

In thinking about the potential value of AT to a particular child, remember that not all disabilities are identified formally. Many children have “invisible” disabilities which may or may not have been diagnosed by a doctor or service provider. Yet these can have a powerful impact on a child’s ability to develop, learn, and socialize with peers and adults. Some of the disabilities that often fall into the “invisible” category are learning disabilities, print disabilities, auditory processing disorders, and emotional/behavioral control.

Children with both diagnosed and undiagnosed disabilities, whether visible or invisible, can benefit from appropriate assistive technology. It is more difficult, however, to acquire AT through public agencies, including school systems, without a diagnosis. For children age 0-3, a diagnosis will, in most cases, trigger the development of a Family Individualized Service Program (IFSP); for children and youth age 4-22, the development of an Individualized Education Program (IEP). Federal law—the Individuals with Disabilities Education Act (IDEA)—requires that the IEP process include consideration of a child’s need for accommodations, including assistive technology. (Please note that not all accommodations are AT. Non-AT accommodations may include additional time when taking tests, the ability to access a resource room for quiet time, the assignment of a study buddy, or the assignment of easier, modified homework.) Please refer to CTD’s infographics on the role of parents and teachers in the IEP process as it applies to assistive technology.
Choosing the Right Assistive Technology for a Child

To determine the assistive technology needs of a child, an AT assessment should be conducted. The assessment can be conducted by the child’s school, an independent agency, or an individual consultant. The assessment should take place in the child’s customary environments; most often that will be at home or at school.

It is important that the assessment address the child’s strengths as well as his or her weaknesses. The perspectives of teachers, parents and service providers are important, as well as that of the child. The discussion should include the ways in which the child communicates, what he or she likes and dislikes, and what kind of strategies and interventions might be helpful. Consider how a child’s need for AT might change depending on the environment, for example, in the classroom, on the playground, at a friend’s house, or in a public place such as a shopping mall or library. That type of input will provide clues as to what technology might work and how well the child will respond to it.

If an AT assessment is conducted as part of a student’s IEP process and it is determined that one or more AT devices and/or software would help achieve the goals identified in the IEP, then the school system is required by law to provide the AT. The school has flexibility in choosing among products that meet the student’s needs and the products may be acquired from the school system’s equipment re-use inventory, but it must provide the features identified in the AT assessment.

Examples of Assistive Technology to Consider

Examples of assistive technology that support development, communication, learning, play, and independent living include the following:

• Computer apps for tablets and phones can help infants and toddlers with developmental delays learn cause and effect and facial expressions. Used by the child with an adult, such apps provide the type of early intervention that can help narrow or even eliminate a young child’s delays.

• Many toys can be easily adapted or purchased off the shelf to be accessible by children with fine or gross motor weaknesses. These include puzzles with knobs, motion toys with big button switches, push or ride-on toys with wheels wrapped in Velcro for stability, and game pieces with handles.
• Learning materials can be similarly adapted. Adding a handle to a ruler, page “fluffers” to books, or 3-D stickers to blocks can help a child independently participate in classroom activities. Timers, task reminders, visual cues, and “first-this-then-that” software programs help students make transitions between activities. Audio versions of books are available through a number of sources, including Bookshare and community and school libraries.

• For students with learning disabilities, there is a wide range of idea organizers for help in understanding lessons and text content. They also help a student organize his or her thoughts and written assignments. A teacher might allow a student with disabilities to submit an audio or visual report instead of a written essay, using the audio recording or picture-taking functions on their cell phone or tablet computer.

• Other AT tools that are widely available through computers and mobile devices include voice recognition, screen enlargement, and font controls. These are no longer high-price accessibility tools available through specialty catalogues, but are routinely built into widely available consumer devices. With minimum effort, they can be easily customized to each individual’s needs.

• AT items that support mobility and independence include hand-held GPS (global positioning system) devices and apps that help people with visual impairments navigate city streets and use public transportation.

• Assistive technology can also help children, youth, and adults participate in recreational and community activities. Increasingly, communities are investing in accessible playgrounds so that all children can play safely. Adapted equipment allows youth to play such sports as baseball, basketball, and tennis. Accessibly designed movie theaters provide closed captioning and audio description for moviegoers with hearing and visual difficulties.

• Devices to assist a person with “activities of daily living (ADLs)”, such as cooking, dressing, and grooming, help individuals of all ages. A medication dispenser with an alarm can be set to remind a child or adult to take daily medication. Talking clocks, scales, and measuring cups help those with visual impairments. Dressing sticks and long-handled brushes encourage independence, as do reaching tools, color-coded labels, and a large variety of mobile apps that provide visual cues to the steps in an activity.
Learning More about Assistive Technology

You don’t have to become a “techie” to help an infant, child, young adult, or adult with disabilities access and use AT. Through websites, YouTube videos, and social media networks, it’s easier than ever to not only learn AT basics, but to stay on top of new technology products as they become available. Whether you’re someone with a disability, a family member, teacher, service provider, or any concerned individual, you simply need a willingness to invest time to learn and a belief that AT can make the seemingly impossible, possible. There are many organizations that provide AT information and training to consumers, families, and educators, such as parent training and information centers, state assistive technology programs, disability-specific organizations, and rehabilitation centers. If possible, you should visit an AT center that provides demonstrations and workshops and that may loan devices for users to try.
Product References

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1. **The Writing Claw Small Grip**
   https://www.staples.com/The-Pencil-Grip-TPG-21112-Small-Writing-Claw-Small-Size/product_139133
3. **Positioning & Therapy Wedges**
   https://www.especialneeds.com/shop/special-needs-seating-positioning/positioning-aids/positioning-therapy-wedges.html
7. **Big Blu Kinderboard Large Key Keyboard**
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   https://www.amazon.com/Ableware-Scooper-Bowl-Plate-Suction/dp/B00THPGM9M?th=1
CTD VIDEOS FROM THE TEACHER PERSPECTIVE

The Center on Technology and Disability, through FHI 360, has created a series of videos that we believe will help strengthen your understanding of assistive technology. Each video focuses on AT use in the classroom and reflects the perspectives of teachers.

We've provided files for the three videos highlighted in the module on the accompanying flash drive. Many other relevant videos can be accessed via the CTD website library by selecting the video filter.

INTRO TO ASSISTIVE TECHNOLOGY

In this 5-minute video, AT expert Christopher Bugaj introduces basic AT terms and concepts. He identifies AT services, which are important but not always identified by an IEP team. Host of A.T.TIPScast, and coauthor of The Practical (and Fun) Guide to Assistive Technology in Public Schools: Building or Improving Your District’s AT Team, Chris provides advice from his experience as an AT trainer for Loudoun County Public Schools in Northern Virginia. https://www.ctdinstitute.org/library/2017-10-05/intro-assistive-technology-video

TEACHER PERSPECTIVES ON ASSISTIVE TECHNOLOGY

This upbeat video shares perspectives on assistive technology from teachers at Jemicy School in Maryland, which educates students with dyslexia and other language-based learning differences. It also includes information from Dr. Beth Poss, an experienced educator and special education administrator in Maryland. https://www.ctdinstitute.org/library/2018-12-05/perspectives-assistive-technology-part-two-teachers-video
A TEACHER’S VIEW OF ASSISTIVE TECHNOLOGY

This engaging 15-minute video, filmed on-site at a public elementary school, features teachers using a range of AT devices to support children across the ability spectrum. Each teacher provides his or her view of technology tools and the ways in which they support achievement in reading, math, science, art, and other subjects. The video illustrates AT consideration during an IEP meeting, peer coaching, and other realistic, school-based scenarios. Fully captioned, the video is available in both English and Spanish and can be viewed in shorter segments as needed.

As teachers increasingly work in inclusive classrooms, you are likely to have students with disabilities in your class. If they receive special education services, each of those students must have an annually developed Individualized Education Program (IEP). The IEP is developed by a team of professionals and a member of the child’s family. As a teacher, you will have valuable observations to contribute to the team.

Prior to an IEP meeting, give thought to your planned curriculum and your academic objectives for all of your students. Document your observations about the performance, strengths, and challenges demonstrated by the child for whom the IEP is being developed.

- Are the child’s challenges based on a physical, sensory, intellectual, or behavioral disability? Remember that a child may have multiple disabilities.
- Does the child have a previous IEP? If so, review that document before the current IEP meeting.
- Consider any communications you’ve had with the child’s parents/caregivers that might suggest successful strategies in the classroom.
- Identify the key learning goals for the child, given the nature and severity of his or her disability.
- Remember that the IEP team must consider accommodations, including assistive and instructional technology (AT/IT) tools, as part of the IEP process. This requirement is documented in the Individuals with Disabilities Education Act (IDEA).
- Keep notes before and after the IEP meeting to document the child’s weekly progress and the success of any accommodations, AT/IT tools, and classroom strategies.
- Learn about the principles of universal design for learning (UDL) to make your curriculum as inclusive as possible for all students, including those with IEPs.
- Review the IEP as often as necessary to ensure that the document remains current as the child progresses throughout the school year.

For more information about assistive technology and the IEP, visit the Center on Technology and Disability at www.ctdinstitute.org.
ASSISTIVE TECHNOLOGY KEY RING

CTD’s AT key ring cards provide illustrated examples of assistive technology devices. Examples range from low- to high-tech and span ages and types of support. We have provided print copies of the pages that you can easily reproduce and distribute.
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<tr>
<th>Fidget Toys</th>
<th>Flexible Seating</th>
<th>Visual Supports</th>
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<td>Laundry Basket Tub</td>
<td>Weighted/Compression Vests</td>
<td>Screen Magnifiers</td>
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<tr>
<td>Mobile &amp; Tablet Tech</td>
<td>3D Printed Pencil Grips</td>
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Center on Technology and Disability - Assistive Technology Key Ring
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<th><strong>Screen Magnifiers</strong></th>
<th><strong>Software Tools</strong></th>
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<tr>
<td>All young children like to move, even when in a structured learning environment. Mobile and tablet technology tools help children learn and stay calm. Specialized seating, including wiggle cushions and wobble chairs, allows children to move and interact in ways that are too challenging. Visual supports that help children learn and stay calm include screen magnifiers and high-tech visual supports. Accessibility is key, and mobile and tablet technology tools can be considered AT. These tools can be used creatively with a laundry basket, where children can use it as a visual support. Assisting technology (AT) is anything that helps children develop and learn. The items pictured on the laundry basket are examples of common items, such as laundry baskets, that can be used to help a child with a disability.</td>
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<td>Visual supports are among the most accessible AT supports. Screen magnifiers can make reading easier and more enjoyable for people who are reading. They can be set and images on a screen, allowing text to be enlarged to make it easier to read. Screen magnifiers can be integrated into common software tools.</td>
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<td>children’s motor, and behavioral challenges should be considered when selecting these and other AT supports. Fidgets and other sensory supports are designed to give children something to do, whether it is fidgeting in the classroom or playing in the playground. Fidgets, such as this Tangle, can be used to help children control their bodies and focus on their tasks.</td>
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<tr>
<td>3D printed pencil grips are customizable for individual needs. They are based on research and are accessible to children of all ages. The best AT apps are developed to help children with disabilities. The introduction of the 3D printer has opened new doors for those with the creativity to make AT items. Many makers have taken pencil grips to a new level of individuality, such as the Tangle. It is designed to help children control their bodies and focus by giving them something to do.</td>
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<td>Mobile and tablet technology tools help even the youngest of children with disabilities communicate and learn. From simple cause-and-effect apps to sophisticated communication programs, mobile technology has expanded the use of assistive technology. This technology can be used to help children learn and stay calm. The introduction of the 3D printer has opened new doors for those with the creativity to make AT items. Many makers have taken pencil grips to a new level of individuality, such as the Tangle. It is designed to help children control their bodies and focus by giving them something to do.</td>
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Pointing/Typing Aids

Ergonomic Keyboards

Speech-to-Text

Telepresence Robot

Text-to-Speech

Trackpads

Closed Captioning

Speech Command Devices

Screen Readers

Ergonomic Keyboards

Speech Command Devices

Closed Captioning

Ergonomic Keyboards
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<td>Ergonomic keyboards provide physical support of hands and wrists for easier computer use. They come in a variety of styles and should be selected based on individual needs and preferences.</td>
<td>A pointing/typing aid is typically a wand or stick that helps a user make selections or type.</td>
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<td>Proven to reduce the strain of extended keyboarding, they promote greater productivity.</td>
<td>A pointing/typing aid is specifically a wand held in the mouth or hand, and strapped to the keyboard. It might be worn on the head or on a tethers, or even on a stand.</td>
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<td>Telepresence robots like the VGo and the Double allow children with health conditions, anxiety, or anything that prevents them from going to school the opportunity to participate. The child controls the movements of the robot, with their peers via the robot. This provides them from going to school, the opportunity to participate and learn.</td>
<td>If a student has trouble reading and/or understanding written text, s/he can use a speech-to-text program to dictate text.</td>
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<td>Telepresence robots provide physical support for hands and wrists.</td>
<td>Text-to-speech software can help a wide range of students. If you watch a video in your classroom, turn on the captions.</td>
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<td>A trackpad is an effective alternative to the computer mouse for people with low motor skills. It requires minimal clicking and allows hands and wrists to remain in a relaxed position, reducing the chance of joint pain.</td>
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<td>Trackpads assist those who are blind or have low vision by identifying what is displayed on a digital screen through voice commands.</td>
<td>When using this tool, students will need to proofread carefully, as the programs do not always translate spoken words correctly.</td>
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<td>Closed captioning can help people with hearing impairments when watching videos, improving comprehension.</td>
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<th>Telepresence Robot</th>
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<tr>
<td>Telepresence robots like the VGo and the Double allow children with health conditions, anxiety, or anything that prevents them from going to school the opportunity to participate. The child controls the movements of the robot, with their peers via the robot. This provides them from going to school, the opportunity to participate and learn.</td>
<td>If a student has trouble reading and/or understanding written text, s/he can use a speech-to-text program to dictate text.</td>
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<tr>
<td>Telepresence robots provide physical support for hands and wrists.</td>
<td>Text-to-speech software can help a wide range of students. If you watch a video in your classroom, turn on the captions!</td>
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<tr>
<th>Trackpads</th>
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<tbody>
<tr>
<td>A trackpad is an effective alternative to the computer mouse for people with low motor skills. It requires minimal clicking and allows hands and wrists to remain in a relaxed position, reducing the chance of joint pain.</td>
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<tr>
<td>Trackpads assist those who are blind or have low vision by identifying what is displayed on a digital screen through voice commands.</td>
<td>Students who have difficulty writing text can use a speech-to-text program to dictate text.</td>
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Graphic Organizers

Graphic organizers provide students with a visual way to organize, categorize, and remember information. Students can use graphic organizers to outline their thoughts and notes. They can also help students plan their work and identify key points.

<table>
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<tr>
<th>Smart Watches</th>
<th>Digital Avatars</th>
<th>Virtual Reality (VR)</th>
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<tbody>
<tr>
<td>Help students with disabilities feel they are different from their peers.</td>
<td>Allow students to create avatars of people from their life, such as family members and friends.</td>
<td>VR devices allow youth with disabilities to experience a variety of otherwise inaccessible activities in a safe, virtual environment.</td>
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<tr>
<th>Digital Note-takers</th>
<th>Calculation Checkers</th>
<th>Grammar Checkers</th>
<th>Word Prediction &amp; Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide students with assistive technology.</td>
<td>Lung茨 collect data and predict outcomes.</td>
<td>Identify mistakes in syntax, helping students catch, correct, and learn from their errors.</td>
<td>Decrease errors and save time.</td>
</tr>
<tr>
<td>Bluetooth allows instructors to keep track of students and provide assistance.</td>
<td>Digital note-taking is a function of tables and phones that includes handwriting.</td>
<td>There are increasing numbers of teachers who use digital note-taking.</td>
<td>Students perform tasks such as writing, listening, and reading, and they learn from their mistakes.</td>
</tr>
<tr>
<td>Note-takers are accessible and portable, making it easy to store and access data.</td>
<td>Text-to-speech allows students to listen to their notes.</td>
<td>Teachers can create their own content, and students can choose to read it or listen to it.</td>
<td>VR devices can also help students plan baseball, gymnastics, and skateboarding.</td>
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Virtual Reality (VR)

VR devices allow youth with disabilities to experience a variety of otherwise inaccessible activities in a safe, virtual environment. That might include inaccessible activities such as baseball, gymnastics, and skateboarding. VR devices can also help students plan these activities.

Grammar Checkers

Grammar checkers identify mistakes in syntax, helping students catch, correct, and learn from their errors. If they are not built into the word processing program available to a student with disabilities, they can be identified in an IEP and purchased as an assistive technology tool.

Word Prediction & Completion

Word prediction and completion programs help students with spelling, learning or fine motor difficulties compose text with fewer keystrokes needed. These programs are also used to improve reading fluency and vocabulary development.

Digital Note-takers

Digital note-takers provide students with assistive technology. They can be used to take notes, organize information, and keep track of assignments. Students can use them to keep their busy schedules organized and stay on top of their work.
WEBINARS FOR EDUCATORS

The Center on Technology and Disability has produced more than a hundred webinars on a full range of assistive technology topics. These range from basic, introductory webinars to those that discuss specific AT devices, apps, programs, and services. Webinars have been led by AT specialists and education practitioners with a focus on AT use in the classroom.

All CTD webinars are free, having been funded by the U.S. Department of Education. The majority of the webinars have been professionally captioned and include an accompanying Powerpoint. Many provide additional downloadable handouts.

While neither the Department nor FHI 360 endorses specific products, the webinars provide criteria for selecting appropriate AT for different ages and developmental and functional needs.

In the Assistive Technology Module for Personnel Preparation programs, we’ve included a chart that identifies the topic, AT expert(s), and links to approximately half of our online events. All of CTD’s 100+ webinars can be viewed at: https://www.ctdinstitute.org/cafe.

Please take note of the following:

• CTD was funded from 2013-2018. If you view a webinar from the earlier years, there may be internal links and individual apps that no longer exist. The majority of the information will still be relevant and deemed by CTD staff to be sufficiently valuable to merit viewing.

• As happens with online events, a few of the webinars may have had minor technical problems. These generally lasted only a few minutes. If you encounter such a problem, simply skip ahead to a later spot in the recording.

• As noted above, almost all webinars have been transcribed. Visual learners, in particular, may find it useful to follow the transcription as you listen to the recording. You can also return to the transcript to search for individual words, terms, and references.

CTD webinars provide an excellent way to hear from nationally-recognized AT experts who present at major conferences, who advise state and local education agencies, and who conduct in-service teacher training. The four “most viewed” webinars are highlighted in green. This is partly based on how long they’ve been available and partly on the fact that they’re quite good! We hope you find them useful!
# SELECTED CTD WEBINAR LIST

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<thead>
<tr>
<th>Date</th>
<th>Title</th>
<th>Presenter(s)</th>
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</thead>
<tbody>
<tr>
<td>9/18/18</td>
<td><strong>CTD Answers Your Questions about AT!</strong></td>
<td>Jackie Hess</td>
</tr>
<tr>
<td></td>
<td>Topics: Basic info., relevant laws, classroom practice, AT for libraries, apps, and more.</td>
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<tr>
<td>8/7/18</td>
<td><strong>Integrating Assistive Technology into Adapted Physical Education to Achieve Healthy Outcomes</strong></td>
<td>Scott McNamara</td>
</tr>
<tr>
<td></td>
<td>Topics: Apps to help students with disabilities be active; AT devices to communicate effectively in a P.E. setting; AT for specific sports.</td>
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<tr>
<td>7/24/18</td>
<td><strong>Virtual Reality and Assistive Technology: Learn about the New New Things!</strong></td>
<td>Jacklyn Wickham</td>
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<tr>
<td></td>
<td>Topics: Current and future applications of virtual reality for use in the classroom.</td>
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<tr>
<td>5/16/18</td>
<td><strong>Assistive Technology: What It Is and How to Use it</strong></td>
<td>Elizabeth Barry Tina Hanson</td>
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<tr>
<td></td>
<td>Topics: Fundamentals of AT and how to incorporate it into a child’s life to enhance learning and creativity.</td>
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<tr>
<td>5/15/18</td>
<td><strong>I Can Read That! AT Supports for Struggling Readers</strong></td>
<td>Diana Ree-Reeder</td>
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<td></td>
<td>Topics: Built-in accessibility supports in mobile devices; a free screen reader; how to adjust settings in Google Play Books, Kindle App, and Libby/Overdrive</td>
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<tr>
<td>5/3/18</td>
<td><strong>Study Skills: Managing Focus and Attention</strong></td>
<td>Sarah Giffen-Hunter, Tara Bruss</td>
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<tr>
<td></td>
<td>Topics: Strategies for boosting focus; timers that support focus; apps to track smartphone use, and tools to manage online distractions.</td>
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<tr>
<td>4/19/18</td>
<td><strong>Assistive Technology Trends</strong></td>
<td>Kirk Behnke</td>
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<td></td>
<td>Topics: Current and future general technology application trends that could be considered assistive technology.</td>
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<tr>
<td>4/12/18</td>
<td><strong>Creative Technology for Inclusion and Engagement</strong></td>
<td>John O’Sullivan</td>
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<tr>
<td></td>
<td>Topics: Creative technology to help struggling learners better access the curriculum and engage in the learning process; inclusion of students in art, music and other subjects.</td>
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<tr>
<td>3/29/18</td>
<td><strong>AT and the IEP</strong></td>
<td>Lisa Lightner</td>
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<td></td>
<td>Topics: Family-oriented webinar; how to advocate for assistive technology devices and services to help students be successful at school.</td>
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<tr>
<td>3/22/18</td>
<td><strong>Study Skills: Multi-Sensory Learning and Review</strong></td>
<td>Sarah Giffen-Hunter, Tara Bruss</td>
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<td></td>
<td>Topics: Tools and strategies to engage students in a multisensory way - visual, auditory, vestibular (movement), or tactile (kinesthetic).</td>
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<tr>
<td>3/14/18</td>
<td><strong>AT and Apps to Support Math for Diverse Learners!</strong></td>
<td>Diana Petschauer</td>
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<td>Topics: Math apps and AT tools to support foundational and complex math skills.</td>
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<tr>
<td>2/27/18</td>
<td><strong>AT &amp; IT: Breaking Down Silos to Create Collaboration</strong></td>
<td>Rhianon Gutierrez, Mary Marcella</td>
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<td></td>
<td>Topics: Strategies/tools to help instructional technology specialists and assistive technology specialists collaborate with one another.</td>
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<td>2/22/18</td>
<td><strong>Assistive Technology (AT) Tools for Writing</strong></td>
<td>Paul Sanft, Tina Hanson</td>
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<td>Topics: AT tools to aid in writing, including Smartpens, apps, Chrome extensions, and more.</td>
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<td>2/13/18</td>
<td><strong>Innovative Strategies to Enhance Understanding and Comprehension with Assistive Technology</strong>&lt;br&gt;Topics: AT to support understanding content and reading comprehension</td>
<td>Karen Janowski</td>
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<tr>
<td>2/7/18</td>
<td><strong>Wearables as Supports for Executive Functioning and Independence</strong>&lt;br&gt;Topics: Built-in accessibility features of wearables; apps that can assist in improving executive functioning</td>
<td>Luis Perez</td>
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<tr>
<td>1/24/18</td>
<td><strong>Making &amp; Tinkering with AT: Helping Young Children “Do”</strong>&lt;br&gt;Topics: Tips for customizing ordinary items and applying DIY and Maker Movement resources to design AT supports for young child.</td>
<td>Susan Mistrett</td>
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<td>1/17/18</td>
<td><strong>Revisioning Inclusive Classroom Environments with AT</strong>&lt;br&gt;Topics: Techniques to help teachers, therapists, administrators, and aides feel confident in creating inclusive classroom activities for students.</td>
<td>Ray Heipp</td>
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<tr>
<td>12/13/17</td>
<td><strong>Use Audio &amp; Video to Engage Students and Promote UDL</strong>&lt;br&gt;Topics: Range of technology tools that support multiple means of student engagement, representation and action/expression.</td>
<td>Mike Marotta</td>
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<tr>
<td>12/7/17</td>
<td><strong>Giving Instant Feedback to Disabled Students with Technology to Create Engagement and Motivation</strong>&lt;br&gt;Topics: Use of online student response systems in the classroom; psychology of instant feedback and its positive effect on students with disabilities.</td>
<td>John O'Sullivan</td>
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<tr>
<td>12/5/17</td>
<td><strong>AAC Implementation Plans: Preparing for Successful Communication</strong>&lt;br&gt;Topics: How to develop and utilize an Augmentative and Alternative Communication Implementation Plan to support communication across activities.</td>
<td>Laura Kessel</td>
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<td>11/8/17</td>
<td><strong>Technologies and Strategies to Help Students Start, Focus, and Finish Strong</strong>&lt;br&gt;Topics: Processes and tools to help students with focus, effort, emotion, memory and action</td>
<td>Todd Hanson</td>
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<tr>
<td>10/25/17</td>
<td><strong>Feature Matching of Apps for Students with Disabilities</strong>&lt;br&gt;Topics: Tools, resources, and strategies to select apps for students with disabilities based upon desired outcomes, environments, and abilities</td>
<td>Therese Willkomm</td>
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<tr>
<td>9/19/17</td>
<td><strong>Writing Strategies for the Reluctant Writer, Including Dysgraphia</strong>&lt;br&gt;Topics: High-tech and low-tech strategies to help students who struggle with writing for various reasons, including dysgraphia</td>
<td>Regina Richards</td>
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<td>8/23/17</td>
<td><strong>Assistive Technology Tools to Meet Student Needs in the Classroom</strong>&lt;br&gt;Topics: Accessibility features available in a range of devices to support student independence in completing assignments across subject areas.</td>
<td>Sharon Plante</td>
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<td>4/5/17</td>
<td><strong>AT &amp; Apps for Students with ASD</strong>&lt;br&gt;Topics: Apps and other AT options to support students with autism, to foster engagement, inclusion, independence and academic success.</td>
<td>Diana Petschauer, Stacy Driscoll</td>
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<tr>
<td>12/13/16</td>
<td><strong>AT Assessment Tools &amp; Interventions: Tots Can Tech Too!</strong>&lt;br&gt;Topics: How to develop and conduct AT assessments and activities in early childhood classrooms and at home to make participation and learning accessible to all students.</td>
<td>Cheryl Temple, Celeste Rodrigo, Malia Waller</td>
</tr>
<tr>
<td>6/2/16</td>
<td><strong>Supporting Students with Dyslexia: Standards, Accommodations, and Strategies</strong>&lt;br&gt;Topics: Supporting students with dyslexia by providing well-researched programming that is explicit, systematic, and multi-sensory.</td>
<td>Diana Petschauer, Kelsey Hall</td>
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<td>1/20/16</td>
<td><strong>AT and App support for Executive Function: Middle School through Post-Secondary</strong>&lt;br&gt;Topics: Alternative ways to use AT to improve executive functioning for adolescents with disabilities.</td>
<td>Diana Petschauer&lt;br&gt;Stacy Driscoll</td>
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The U.S. Department of Education established the **Center on Technology and Disability (CTD)** to provide a wide range of assistive technology resources for families, teachers, service providers, advocates, researchers, teacher training programs, disability organizations, and vendors.

The CTD website – [www.ctdinsitute.org](http://www.ctdinsitute.org) – has a resource library with more than 1,000 assistive technology-related materials; a webinar center with an active schedule of informational presentations, and extensive archive; and a learning center for those who want structured, in-depth modules.
Assistive Technology Glossary

This glossary was created to help parents as they encounter various terms in the areas of special education, disabilities, and assistive technology. It is important for parents and guardians to understand the “language” of assistive technology in order to be informed advocates for their child’s technology needs.

A

Access:
The term “access” refers to the ability of any person or group to be able to have full use of a product or device, or full access to a service or environment. With full access to technology and services, people with varying abilities are able to participate successfully in school, at home, in the workplace, and in the community.

Accessibility Features:
Accessibility features are options that allow a user to adjust a technology tool’s settings to their personal needs. Common accessibility settings adjust for an individual’s visual, mobility, hearing, language, and learning needs. On electronic print materials, font size and color may be changed, along with background color. Other print materials may be produced in large font or in Braille. A computer keyboard may be set to respond to levels of touch. Software can translate difficult words into easier ones or provide definitions throughout the text.

Accessible Design:
Accessible design refers to the intentional designing of tools, services, and spaces to be accessible to everyone, with consideration given to the specific needs of those with cognitive, emotional, or physical disabilities. Examples of accessible design include a website that is compatible with text-to-speech programs or a building that is designed to be fully accessible to a person in a wheelchair.

Accessible Educational Materials (AEM):
Accessible Educational Materials (AEM) are resources used in education that are designed or adapted to be usable by everyone, including those with disabilities. AEM includes textbooks and other learning materials that are offered in alternative formats, such as audio files, large print, Braille, or digital text.
Accommodations:
In education, accommodations allow a student to complete the same assignment, test, or activity as other students, but with a change in timing, formatting, setting, scheduling, or presentation. The material is the same, but a student learns the material in a different way. An example is extended time to complete a test.

Activities of Daily Living (ADL):
Activities of Daily Living (ADL) include basic tasks such as eating, bathing, dressing, getting in and out of a chair or bed, and getting around at home and in the community. Many assistive technology devices are available to help people do a wide range of daily activities. Adapted spoons, weighted bowls, and clothing hooks are examples of low-tech AT. Electronic alerts, wireless controls of appliances, and devices that respond to voice controls are examples of high-tech AT.

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

Adult Services:
After an individual reaches the age of majority (typically 18), services provided to them are considered adult services. This is significant because the individual will transition from a K-12 school setting with IEP services to receiving services as an adult. Some students may continue in a school-based transition program until they are up to 21 years old. An individual’s assistive technology does not automatically go with them when they leave the school setting, and must be considered within the context of adult services which are governed and administered by different laws and agencies.

Age of Majority:
The age of majority is the legal age established under state law at which an individual is no longer considered a minor. In most states, this is 18, and an individual then has the right and responsibility to make their own legal choices as an adult. The parents/guardians of youth with disabilities may apply to delay this transfer of decision-making authority or to retain guardianship of their adult child.

Alternative Access/Input Devices:
Devices in this category allow individuals to control their computers using tools other than a standard keyboard or pointing device, such as a mouse. Examples include alternative keyboards, electronic pointing devices, sip-and-puff systems, wands and sticks, joysticks, and trackballs.
**Alternative Keyboards:**
Alternative keyboards are different from standard keyboards in size, shape, layout, or function. For example, the size of the letters on a traditional keyboard may be too small for someone who has a vision impairment but can be replaced with a keyboard that has color contrast and larger letters. The placement of letters may be changed for easier recall by individuals with learning disabilities.

**Ambulation Aids:**
These devices help people walk and include canes, crutches, and walkers.

**American Sign Language (ASL):**
American Sign Language (ASL) is a visual language that is communicated with hand and body movements and is used by many people who are deaf or hard of hearing.

**Americans with Disabilities Act (ADA):**
The Americans with Disabilities Act of 1990 (ADA) prohibits employers from discriminating against people with disabilities and makes such discrimination a civil rights violation. Providers of public services, schools, public buildings and public transportation services also must provide accessibility to people with disabilities.

**Android:**
Android is a mobile device operating system (OS) used in a wide range of smartphones and tablets. It is the most common mobile operating system in addition to Apple’s operating system (iOS).

**App (Application):**
The term app refers to an application, which is a program created to be used on a computer or mobile device. Apps cover a wide range of categories including learning activities, productivity tools, games, calendars, and organizational tools, many of which can serve as assistive technology.

**Architectural Adaptations:**
Architectural adaptations are physical changes made in the home, school, workplace, or other areas to make those places more accessible to people with disabilities. Adaptations that remove or reduce physical barriers include ramps, lifts, lighting, altered countertop heights, and widened door frames.
Assistive Listening Device (ALD):  
Assistive listening devices (ALDs) are used to aid individuals with hearing impairments to hear more clearly in public situations. The system can be set up to amplify the audio from televisions, radios, doorbells, and PA systems.

Assistive Technology (AT) Assessment:  
This functional evaluation focuses on an individual’s need for assistive technology to complete a specific educational, life skill, or vocational task. The evaluation should be conducted in the individual’s customary environments by a professional able to recommend a match between the features of an AT device and the individual’s strengths and weaknesses. The assessment should include input from the individual, family members, and teachers where appropriate.

Some people use the terms “assessment” and “evaluation” interchangeably, while others use “assessment” to refer to the process that takes place before an individual receives an AT device, and “evaluation” to refer to the process (and document) that identifies how well the device has worked for the individual.

Assistive Technology (AT) Device:  
An assistive technology (AT) device is anything that helps someone with a disability do something they otherwise could not do. It helps them to increase, maintain, or improve functioning. 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 pencil grip or magnifying glass to high tech, such as an iPad or electronic communication device.

Assistive Technology (AT) Evaluation: See above.

Assistive Technology (AT) Implementation:  
Assistive technology implementation refers to the ways in which selected AT will be put into use. An implementation plan may outline how and when the tool will be used, specific activities it will be used for, and potential training needs.

Assistive Technology (AT) 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.
**Audio-Assisted Reading (AAR):**
AAR is a technique used to assist or reinforce the reading of printed text with pre-recorded speech.

**Audio-Supported Reading (ASR):**
ASR is a technique used to increase reading proficiency (speed) of digital text by displaying portions of text simultaneously with synthesized speech. With a variable highlighting feature the user is able to choose the amount of text highlighted in the display (word, sentence, or paragraph).

**Augmentative and Alternative Communication (AAC) System:**
An AAC system increases or improves the communication abilities of individuals with receptive or expressive language impairments. AAC technology spans a wide range of systems or products, from low-tech to high-tech, including sign language, picture boards, synthesized and digitized speech, mobile apps, and dedicated communication devices.

**Auxiliary Aids and Services:**
Auxiliary aids and services assist professionals and organizations to communicate as effectively with people with disabilities as they do with others, which is a requirement under the Americans With Disabilities Act. These may include taped or printed texts, interpreters, or other methods of making materials equally available to everyone, including those with hearing, visual, or manual impairments.

**Avatar:**
An avatar is a graphic representation of a person or character used in a computer program or video game.
Battery Interrupter:
A battery interrupter allows a user to modify battery-operated devices for switch input. It is placed between the battery and its connection point in the battery compartment which can then be activated by pressing an attached switch.

Braille:
Braille is a raised dot printed language used by many people with visual impairments. Each raised dot arrangement represents a letter or word combination.

Braille Display:
A braille display is a tactile device consisting of a row of special soft cells covering 6 or 8 pins. The pins of each cell move up and down from electronic input and form a line of refreshable braille text that can be read by touch.

Braille Embossers and Translators:
A 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.

Braille Notetaker:
A braille notetaker is a portable device with a refreshable braille display used by people who are blind or visually impaired. This device is the primary option available for people who want to read and write electronically in braille. Typically a notetaker allows the user to read and write files in a number of formats, listen to media files, handle email, and create voice memos.

Captioning:
Captioning is a text transcript of the audio portion of multimedia products, such as movies, television programs and online videos. The captions appear on the screen and are synchronized with the visual events taking place. In addition to its usefulness for those with hearing impairments, it has been shown to be helpful to people with a range of visual and auditory processing problems, as well as those without disabilities.
Cause and Effect:
In the context of education, cause and effect is the understanding that an action causes a reaction. It is a basic concept that children need to learn early in life. Uses of assistive technology for teaching cause and effect include a switch adapted toy that moves or plays music when a child pushes a button, or an iPad game where one action causes another. For example, if a student hits a switch and it makes a sound or animation on the screen they understand that it was their press of the switch that caused it.

Chromebook:
A Chromebook is a basic, less expensive laptop that is used to connect to the internet. It does not use a Windows operating system, but runs on Google’s Chrome OS.

Cloud-based:
The term cloud-based refers to applications, services or resources that are stored in the cloud network and accessed via the internet. The cloud is a network of servers that store data that is then accessible from various platforms and devices. Common examples of cloud-based computing are Dropbox, Google Drive, and iCloud.

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 taught how to engage in community-based activities. Assistive technology devices can be an important element in facilitating community participation.

Consideration of Assistive Technology (AT):
The consideration of assistive technology is a required part of the annual IEP process under the Individuals with Disabilities Act (IDEA). Consideration is generally a thoughtful conversation during the IEP meeting about whether a student needs an AT device or service in order to meet their educational goals. The consideration process should take into account the student’s strengths, challenges, learning goals, current accommodations, and behavior.

Daily Living Aids (DLA):
Daily Living Aids are assistive technology tools that help people with disabilities to be able to do activities such as eating, bathing, cooking or dressing. These aids may be low-tech such as adapted eating utensils or a button hook for dressing, or high-tech such as a voice-activated or smart device that can assist with activities in the home.
Descriptive Videos:
Descriptive videos have been enhanced with narration for people with visual impairments. The narration describes visual elements of action, characters, and locations. Examples would include the color of clothing, the movement of characters across a room, or an item being held by a character. These descriptions are inserted into natural pauses in the program’s dialogue.

Device Agnostic:
This term refers to the ability of an application to operate across a range of devices without a need for adaptations.

Digital Talking Book (DTB):
A digital talking book is a book that is encoded with recorded audio in human speech. The audio is synchronized with the text and may be accessed by a person with disabilities to increase the quality and availability of information.

Digital Text:
Digital text is any text that can be retrieved and read by a computer or other electronic devices.

Digitized Speech:
Digitized speech, also known as recorded natural speech, is human speech that has been recorded and can be played back. This is one kind of speech that may be used in alternative and augmentative communication devices.

Do-It-Yourself (DIY):
Do-It-Yourself or DIY refers to the method of building, modifying, or repairing things without the direct aid of experts or professionals. DIY solutions can be inexpensive and easy to make, such as using a tennis ball to create a pencil grip or building a writing slant board out of a cardboard box. As 3-D printers become widely available, many in the DIY (or “Maker”) community are using them to craft creative AT devices.

Due Process Hearing:
Parents and/or guardians may request a due process hearing if they are unable to resolve differences with a school concerning the special education services, including assistive technology, being provided to their child. A due process hearing is more formal than mediation and the parties are generally represented by attorneys or advocates. An impartial hearing officer hears both sides of the dispute and issues a written decision, which may be followed by an appeal process.
**Durable Medical Equipment (DME):**
Durable Medical Equipment (DME) is any piece of equipment that is used to serve a medical purpose, lasts for a substantial period of time, and is appropriate for use in the home. DME includes devices, controls, or appliances needed for an individual's medical care, including supplementary supplies and equipment necessary for the proper functioning of such items.

**e-book:**
An e-book is an electronic book that can be accessed and read via a computer or other device. E-books serve as assistive technology when they are used by individuals who could not access their content in other formats, such as print.

**Early Intervention Services:**
Early intervention services must be provided under the Individuals with Disabilities Education Act (IDEA), which addresses the needs of infants and toddlers with disabilities, from birth to age three. A grant program provides services for identification, assessment, and assistive technology with the outcome detailed in an Individualized Family Service Plan (IFSP).

**Electronic Pointing Devices:**
These devices allow an individual to control the cursor and movements on a digital screen and include tools such as a mouse, joystick, and trackball. When used with an on-screen keyboard, electronic pointing devices allow the user to enter text and data.
**Emotional and Behavioral Disorder (EBD):**
An Emotional and Behavioral Disorder (EBD) is an emotional disability that interferes with a child’s educational performance. A child with an EBD displays emotional characteristics such as inappropriate behavior, an inability to relate to others, or pervasive mood problems. Students may be considered for special education services under the EBD category. Assistive technology that can be used to support students with EBD includes tools to help with behavioral control, understanding and expressing feelings, and managing attention.

**Environmental Control Unit (ECU):**
An ECU enables an individual to control electronic devices in their environment through alternative access methods, such as switch or voice access. ECUs can control things such as 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).

**Evaluation:**
An evaluation is a process in which a team of professionals (e.g., teachers, counselors, and/or service providers) determines whether a child is eligible for early intervention services (birth to three) due to a disability. The evaluation is necessary to determine a child’s eligibility for special education and other services.

**Every Student Succeeds Act (ESSA):**
The ESSA is federal legislation that replaced the No Child Left Behind Act in 2015. It outlines the federal government’s role in public education, including the requirement for standardized testing of students in grades 3 to 8.

**Executive Function:**
Executive function is a set of mental skills that help us to control our thinking and behavior. These skills allow us to plan, focus attention, remember instructions, manage our time, self-regulate emotions and thoughts, and complete tasks. These skills are central to doing well in school and at work. Individuals with disabilities may have weak executive function skills which can be supported with assistive technology.

**Extension: (web browser)**
An extension is an application or program that operates within a web browser. The extension offers additional features or capabilities, such as a spelling and grammar checker that operates within a browser like Google Chrome, Mozilla Firefox, or Safari.
Eye Gaze Board: 
An eye gaze board is a simple communication device with letters, numbers, or pictures mounted at strategic areas on the board. The user communicates by looking at select areas translated into words and sentences by a partner.

Eye Gaze / Eye Tracking Technology: 
Eye gaze or eye tracking technology is a way of accessing a computer or communication device by focusing the eyes on a picture or area of the screen. The technology is able to determine exactly where a user is looking and operates as an input alternative to a mouse and keyboard.

Family Educational Rights and Privacy Act (FERPA): 
FERPA is a federal law that protects the privacy of students and their educational records. Along with IDEA, it protects the rights of students that receive special education services.

Fidgets: 
Fidgets are sensory objects or toys that children or adults can use to keep their hands busy in order to aid their ability to pay attention.

Free and Appropriate Education (FAPE): 
FAPE is a requirement outlined in the IDEA law, which states that school systems must provide children with disabilities with special education services and accommodations, including AT, at no cost to the parents. The law does not say what is considered an “appropriate” education, but says that children must be taught in the most typical classroom setting possible, often referred to as the “least restrictive environment.”

Inclusion/Inclusive: 
Inclusion is the principle that people with disabilities should be able to participate in the same activities as their peers who do not have a disability. Examples of important activities to be evaluated for inclusiveness are public education, public transportation, accessing social services, having relationships, and participating in community events.
**Inclusive Employment:**
This is a category of employment in which a person with disabilities works alongside people without disabilities with no major systemic supports. Assistive technology can be an important factor in helping an individual to function in an integrated employment setting.

**Independent Living Centers (ILCs):**
Independent living centers are community organizations that offer support services and advocacy for people with disabilities to gain full access to housing, transportation, employment, recreation, and other services. The centers are also important resources for information and training on assistive technology.

**Individualized Education Program (IEP):**
Every child who receives special education and related services must have an Individualized Education Program (IEP). During the IEP planning process teachers, parents, administrators, support personnel, and students work together to improve educational outcomes for children with disabilities. The IEP process results in a document that includes information on present levels of functioning, future goals, and services to be provided. By law, the IEP process must consider the need for assistive technology to support student learning. If documented in the IEP, schools must provide the identified AT tools and services.

**Individualized Family Services Plan (IFSP):**
Like an IEP, an IFSP is a written statement about the developmental needs of an infant or toddler (birth to age three) with disabilities. The IFSP outlines developmental status, the family’s ability to support learning and development, and desired outcomes for the child. Assistive technology that can support the child’s development must be considered. The IFSP describes the services the child will receive, how these will be delivered, and how the child will transition to his next environment.
**Individualized Transition Plan (ITP):**
The ITP is the section of a student’s IEP that focuses on the issues related to the transition from high school to higher education, employment, or independent living. The ITP should identify the child’s interests, goals, current educational status, current and projected assistive technology needs, and the steps needed to help the student move from the high school setting to independent living as an adult.

**Individuals with Disabilities Education Act (IDEA):**
IDEA is federal legislation intended to ensure that all children with disabilities have access to a free appropriate public education (FAPE) with special education and related services that meet their individual needs. IDEA requires that assistive technology be considered during the development of a student’s individualized education program (IEP). If AT is determined to be necessary, the school system is responsible for providing the AT device(s) and/or service(s).

**Infrared Sender/Receiver:**
This device is commonly found in an environmental control unit (ECU). An infrared signal is sent to the control unit, which then sends a signal to the appliance. These are usually small and portable and can be used in different areas of a room.

**Integrated Employment:**
This is a category of employment in which a person with disabilities works alongside people without disabilities with no major systemic supports. Assistive technology can be an important factor in helping an individual to function in an integrated employment setting.

**Internet of Things (IoT):**
This term refers to the smart devices that are interconnected via the internet. This offers great potential for automating many daily living activities which can reduce strain for those with disabilities. One example is the Amazon Echo which operates via voice commands.

**Interoperability:**
This term refers to the ability of a technology device or computer system to connect and function with other types of systems or hardware.

**iOS:**
iOS is Apple’s operating system for mobile devices, such as the iPhone, iPad and iPod.

**iPad:**
An iPad is Apple’s touch screen tablet that is used with a wide range of apps.

**iPhone:**
An iPhone is Apple’s smartphone that operates as a cell phone, camera, mobile web browsing device, and GPS device.
Joystick:
A joystick is an alternate input device connected to a computer that controls the cursor on the screen. It offers an alternative for people with a disability that makes it difficult to use a mouse or keyboard.

Keyboard Additions:
Keyboard accessories have been designed to make keyboards more usable for people with disabilities. These include: keyguards (hard plastic covers with holes for each key), moisture guards (thin sheets of plastic that protect keyboards from spills and saliva), and alternative labels which 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.

Least Restrictive Environment (LRE):
The phrase ‘least restrictive environment’ refers to a requirement outlined in the IDEA legislation that states that, to the maximum extent possible, children with disabilities be educated with children who do not have disabilities. Removal from a general educational classroom should occur only when a student cannot be successfully taught in that setting even with assistive aids and services.

Learning Disability (LD):
A learning disability is a broad term referring to a range of learning or processing differences. The skills most often affected are reading, writing, reasoning, and math. Examples of learning disabilities and their associated areas of difficulty are dyslexia (reading), dysgraphia (writing), and dyscalculia (math). Assistive technology is an important consideration for supporting students with learning disabilities.
Learning Management System (LMS):
A learning management system is a software program that a school uses to deliver course material, track assignments, and maintain educational records. They often offer students and their parents the ability to access information online. Examples include Blackboard, Moodle, and Canvas.

Mediation:
Mediation is a process to resolve disagreements between parents and school personnel about special education or assistive technology services being provided to a child. It is provided at no cost to the family or the school district. Both parties must agree to mediation. A neutral trained mediator facilitates the meeting to help both parties resolve their disagreements. Mediation is more structured than conciliation but less formal than a due process hearing.

Mobile Device:
A mobile device is a computing device that is small enough to carry with you, often with a touchscreen and wireless access to the Internet, such as a smartphone or tablet.

Mobility and Transportation Aids:
This category of AT includes products that help mobility-impaired persons move within their environment and have independence in personal transportation. These include standing or walking aids, transfer aids, stair lifts, walkers, scooters, wheelchairs, adapted bikes, car seats or beds, stretchers, ramps, strollers, adapted driving controls, and vehicle conversions.

Modifications:
In education, modifications adjust an assignment, test, or activity in a way that changes the standard or alters the original measurement. Modifications change what a student is taught or expected to learn. Examples include a shorter reading assignment or an alternate assessment.

Mouse:
A computer mouse is a pointing device moved by the hand to navigate to items on a computer screen. The buttons on a mouse are used to click on items. A wide variety of adaptations or alternative mice have been developed to address a range of access needs.
Online Community Support:
Online community support includes websites, listservs, and other online ways for people to communicate with each other about a topic of mutual interest. An online community can offer both information and support to people who may not able to get together in person, such as people with mobility challenges or busy parents of children with special needs. Some examples include Facebook, Twitter, and blogs.

Onscreen Keyboard:
Onscreen keyboards are software-generated interactive images of a standard or modified keyboard viewed on the computer screen. The keys are selected by a mouse, touch screen, or other electronic pointing device.

Operating System (OS):
An operating system (OS) is the software that manages all the hardware and programs on a computer or mobile device. The OS provides basic device functionality to be able to manage files, install programs, run applications, and interact with the device. Examples of computer operating systems include Microsoft Windows, macOS by Apple, and Linux. The operating systems on most mobile devices are either Android or iOS.

Optical Character Recognition (OCR) and Scanners:
Optical character recognition (OCR) applications work with a scanner or device camera to convert text from a printed page into a digital text file. With OCR, the resulting digital text can be accessed for text-to-speech or edited and saved as a text document.

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. Assistive technology can play a role as a complement or alternative to the need for personal assistance services.
Pointing and Typing Aids:
A pointing or typing aid is typically a wand or stick used to make selections on a touch screen, or to strike keys on the keyboard. They are most commonly worn on the head, held in the mouth, strapped to the chin, strapped to the arm/wrist, or held in the hand.

Portable Word Processor:
A portable word processor is a lightweight, inexpensive device that can offer access to word processing with a keyboard and small screen for viewing text. This can provide a writing tool free of internet distractions. Text can be downloaded from the device to a computer or to a printer for saving and printing.

Positioning Supports:
These devices provide support for people with disabilities to be positioned in a specific way in order to engage in an activity. Examples include positioning rolls, wedges, underarm supports, or specially designed chairs.

Postsecondary Accommodations:
Postsecondary accommodations in educational settings typically include: 1) modifications to the curriculum or educational tasks in college-level coursework or vocational training, and 2) services or assistive technology tools that help a student better access course material, participate in class, and submit assignments. Postsecondary accommodations in the workplace include equipment and services that help an individual to get and keep a job. They include assistive technology, modifications to tasks, and changes to the workplace environment.

Postsecondary Education and Activities:
Postsecondary education, also called higher education, is formal education that is pursued after completing high school. Examples are vocational programs, community college, four-year college or university, and continuing education. Many colleges and universities have programs designed to support students with special physical, cognitive, and behavioral needs. Postsecondary activities include any formal or informal activities that a child with disabilities pursues after leaving high school. These may include education, employment, recreation, independent living, and community participation.

Promotion of Independence:
This principle advocates for helping people with disabilities to be as independent as possible. Assistive technology can play an important role in this.
**Prosthetics and Orthotics:**
Prosthetics and orthotics include replacement, substitution or augmentation of missing or impaired body parts with artificial limbs or other orthotic aids. This includes splints, braces, foot orthosis, and more.

**Receiving Environment:**
The receiving environment is the new setting to which a child with disabilities is transitioning. For example, if a child is going from elementary school to middle school, the middle school is the receiving environment. Planning for the child’s transition to a new environment must include a consideration of new assistive technology needs.

**Related Services:**
Within in the context of special education, related services are any additional support services that a child needs in order to benefit from his or her education. Such services include: transportation, medical evaluation, parent counseling, speech pathology, psychological services, physical and occupational therapy, and recreation.

**Scan and Read Program:**
A scan and read program is software that converts scanned documents into text that can be read aloud and edited. Often additional study tools and supports are provided in this kind of software. This software uses optical character recognition (OCR) technology.

**Scanning:**
Scanning is an electronic selection technique often used with switch access to choose an item from a group of items. The program highlights the options available to the user, who then selects the desired action or item.

**Screen Enlargement Programs:**
Screen enlargement programs magnify an electronic screen, increasing visibility for users with a visual impairment. Most programs have variable magnification levels and some offer text-to-speech options.
**Screen Reader:**
A screen reader is an application that uses synthesized speech to “speak” graphics and text aloud. This type of application is used by people with a print disability, such as blindness or low vision.

**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.

**Section 504 Plan:**
Named for Section 504 of the Rehabilitation Act, a part of civil rights law, a 504 plan is an education plan for an individual student, that is an alternative to an IEP. Section 504 regulations require a school district to provide a free appropriate public education (FAPE) to each qualified student with a disability, regardless of the nature or severity of the disability. For those students that qualify, a 504 plan outlines accommodations and modifications, including assistive technology, needed for the student to receive a free appropriate public education.

**Sensory Toys:**
Sensory toys are objects that provide tactile or visual input that helps individuals with sensory needs to feel calm, function, and self-regulate in areas such as focus, behavior, and emotion. Some sensory toys are also excellent fidgets which can improve concentration and focus in individuals with attention difficulties. Examples include water beads, squishy balls, and thinking putty.

**Sheltered Employment:**
Also known as extended employment, sheltered employment takes place in a facility that is dedicated to employing persons with disabilities who need extensive supports in order to work.

**Smart Device:**
A smart device is an electronic device that is linked to other devices or the internet through wireless systems such as Wi-Fi, Bluetooth or 4G/3G. Smart devices are used to control or monitor activities, often paired with a mobile app. Examples include smartphones, fitness trackers, biofeedback devices, home automation devices that control outlets or appliances, and voice-activated devices such as the Amazon Echo.
**Smartphone:**
A smartphone is a cell phone with many capabilities of a computer that is generally connected to other devices or networks via Wi-Fi, Bluetooth, or 4G/3G. A smartphone typically has a touchscreen, internet access, and the ability to run downloaded apps.

**Stylus:**
A stylus is a pen-shaped tool designed to be used with a touchscreen, such as with a tablet. A stylus can offer greater accuracy than using a finger.

**Summary of Performance:**
A summary of performance is an overview of a student's academic achievement and functional abilities. It includes recommendations to help the student meet his or her postsecondary goals.

**Supported Employment:**
Supported employment occurs in a typical work setting where people with severe disabilities receive individualized supports that enable them to become successful members of the workforce. These ongoing support services allow a person to perform a job with assistance that may include a job coach, transportation, assistive technology, specialized job training, or individually tailored supervision.

**Switches and Switch Software:**
Switches offer an alternative method of providing input to a device or computer when it is not possible to use a standard button, keyboard or mouse. Switches come in various sizes, shapes, and methods of activation. Examples of switches include a large button pressure switch, a lever switch, a squeeze switch, and a proximity switch. Switches can be used to control many devices including adapted toys, communication devices, and computers.

**Synthesized Speech:**
Synthesized speech, also known as computerized speech, is a computer programmed voice that attempts to simulate the human voice. There are a variety of different synthetic voice options. Synthesized speech is commonly used in text-to-speech programs, communication devices, and automated speaking systems.
**Tablet:**
A tablet refers to a tablet computer which is a mobile device with a touchscreen display. Examples include Apple’s iPad, Window Surface, and Amazon’s Kindle Fire.

**Talking Word Processors:**
Talking word processors are writing applications that provide speech feedback as a student writes. Students often find that having written material read aloud helps them to better edit and understand their writing.

**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 Expansion:**
This program feature automatically expands abbreviated words or phrases based on pre-programmed commands entered by the user. The abbreviation expansion allows the user to minimize the number of keystrokes necessary in order to write more efficiently. It can be combined with word prediction programs to aid in the writing process. For example, the key combination “AT” could become “assistive technology”.

**Text-to-Speech:**
Text-to-speech applications speak aloud digital text, including documents, web pages, PDF files, and emails. Developed for individuals with low vision or blindness, text-to-speech can also be useful for people with learning disabilities, such as dyslexia.

**Touch Screens:**
A touch screen is built into an electronic device, such as a mobile device or computer monitor, and allows direct selection and interaction through a touch or gesture on the screen.

**Trackball Mouse:**
A trackball is an alternative mouse with a sphere or ball that is rotated by the fingers to move the cursor on the screen. A trackball can have ergonomic benefits or be more accessible as it is controlled by finger movement rather than hand and arm movement.
Trackpad:
A trackpad or touchpad is an electronic pointing device with a flat area that senses touch and is used to interact with a computer screen. It is often used as an alternative to a mouse, especially on laptops.

Transition:
Generally, transition describes a process of major change from one set of circumstances to another. For children with disabilities, transitions represent an important time to consider assistive technology that may be needed in their new setting. Significant transitions occur when a child moves from early childhood settings (e.g., home or daycare) to school and, later, between school phases (e.g., middle school to high school) or from secondary school to postsecondary education, work and/or community living.

Transition Services:
In the context of an IEP, transition services help a student prepare to move from a K-12 school setting to postsecondary environments, including college, vocational training, employment, adult services, and independent living. Transition services should also include consideration of and planning for accommodations and assistive technology that may be needed at school or in the workplace.

Traumatic Brain Injury (TBI):
A traumatic brain injury occurs when a bump or blow to the head causes damage to the brain. A TBI may result in a disability with cognitive, emotional, sensory, and motor impairments.

TTY (TeleTYpe)/TDD (Telecommunications Device for the Deaf):
This is a telecommunications device for people who are deaf. TTY/TDD is a device with a keyboard that sends and receives typed messages over a telephone line.

Universal Design (UD):
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 levers (rather than knobs).
Universal Design for Learning (UDL):
Universal Design for Learning is the design of instructional materials and activities to be accessible to all individuals regardless of disabilities or learning styles. The goal of UDL is to support the learning goals of individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, organize, engage, and remember. UDL involves flexible curricular materials and activities with built-in alternatives for students with differing abilities.

USB (Universal Serial Bus):
A USB is a common interface that enables different devices to connect and share information with each other. Examples include USB ports on personal computers, peripherals such as a mouse or keyboard, and other media devices.

USB Flash Drive: (aka USB stick, thumb drive, jump drive, or USB memory)
A USB flash drive is a small portable memory device that stores files and can be accessed by inserting the device into a USB port on a computer or other device.

Video Conferencing:
Video conferencing allows multiple people to participate in a meeting with shared audio and video. This remote method of communicating with others can be helpful for people with disabilities that may not be able to physically attend a meeting.
**Video Modeling:**
Video modeling is a visual teaching method in which an individual watches a video of someone modeling a targeted behavior or skill and then imitates the behavior or skill. This method can be helpful for teaching appropriate behavior to individuals with autism spectrum disorders.

**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.

**Vocal Output Communication Aid (VOCA):**
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. As an AAC system, it is used to supplement or replace speaking for those with speech impairments.

**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 performance on various tasks in a variety of 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 or assistive technology supports.

**Vocational Rehabilitation (VR):**
Vocational rehabilitation services, sometimes referred to as “Voc Rehab,” are services provided to individuals with disabilities that help them develop the skills and motivation to find, secure and hold a job. These services are provided by publicly-funded regional vocational rehabilitation agencies. Vocational rehabilitation services help young people with disabilities to make a successful transition from high school to job training or college, employment and independent living. The consideration of ways that assistive technology can help to meet these goals should be a part of this planning process.

**Voice Banking:**
Voice banking allows a person to record a set list of sounds and phrases with their own voice, while they still have the ability to use their voice. The recording is then converted digitally to create a personal synthetic voice that can be used in speech-generating devices when they are no longer able to speak. Voice banking is typically used by someone who has been diagnosed with a condition that is known to lead to loss of speech.
Voice Recognition: (aka Speech Recognition)
Voice (or speech) recognition applications allow the user to speak to the device, such as a computer or mobile device, instead of using a keyboard to compose digital text. Some voice recognition applications also provide features to control functions on a computer or mobile device. Voice recognition systems can be used to create text documents such as letters or email, to browse the internet, and to navigate menus, and control applications. Examples include writing by dictation with Dragon Naturally Speaking and speaking commands to Siri on an iPhone.

W

Wearables:
Wearables are clothing and accessories such as watches that incorporate computer technologies that give a user feedback on their actions or allow them to interact with other technologies. Examples include Apple’s iWatch, wearable GPS trackers, and a necklace with a personal amplifier.

Web Accessibility:
Universal accessibility to the internet 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:
Word prediction applications allow the user to select a desired word from an on-screen list located in a prediction window. The application generates a list of predicted words based on the letter(s) a user enters; continuously changing the list as new letters are entered. The word may then be selected from the list and inserted into the text by typing a number, clicking the mouse, scanning with a switch, or touching the touchscreen. This feature can be beneficial for students with learning disabilities or fine motor impairments.
Photo Credits & Product References

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