



It Takes a City

DC Does it Best!

Learning My Way with Assistive Technology

Assistive technology (AT) has great potential in providing access for all learners. When assistive technology is appropriately integrated into the classroom, students with disabilities are provided with multiple means to access the general curriculum and complete the same school work and activities as their peers.



Training Agenda

- Assistive Technology Overview**
- AT Consideration - The SETT Framework**
- Assistive Technology in the Classroom**
- Demonstrations and Discussion**



Course Objectives

At the end of this training participants will:

- Have a basic knowledge of assistive technology and the ways it can reduce barriers and increase student independence and achievement
- Learn about the various assistive technology devices and services that can be utilized in the classroom



What is Assistive Technology?

Devices:

“Any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities”

(AT Act of 1998, as amended)

Services:

"Any services that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device“

(AT Act of 1998, as amended)



Types of AT Devices (Hardware and Software)

- Vision, Hearing, Speech Communication Aids
- Mobility Aids / Seating and Positioning
- Learning, cognition, and developmental
- Environmental Control Systems
- Aids to Daily Living
- Vehicle modification and transportation
- Recreation, sports, leisure



Levels of AT

- Low:** Inexpensive, easily made, easy to learn, readily available, easy to replace/maintain
- Mid:** May cost more, require some training, have special design, often need power source
- High:** Higher cost, need specific training to learn, often customized



AT Services

Consists of a comprehensive **process** of evaluations, strategies, and follow-up provided to the consumer and related to his/her adaptive equipment

A **successful** technology intervention **depends** on the provision of appropriate AT services



AT Services May Include:

- Identification / Information
- Referral
- Assessment
- Recommendations
- Device Trial
- Procurement /Fabrication
- Implementation
- Training
- Maintenance
- Repair (as needed)
- Follow-up
- Evaluation of Effectiveness



It Takes a Team!

- The Student
- Family Member/Guardian
- Educational Coordinators
- The IEP Team
- Teachers
- Speech Language Pathologist
- Occupational Therapist
- Physical Therapist
- Audiologist
- Assistive Technology Specialist
- Social worker/Counselors
- Medical Specialists
- Assistive Technology Supplier



It Takes a Team



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The SETT Framework

Student

Environment

Tasks

Tools



SETT - The Questions

The Student

- What does the student need to do? (main areas of concern)
- What are his/her special needs?
- What are the student's current abilities

The Environment

- What are the instructional and physical arrangements?
- What materials and equipment are currently available?
- What supports are available?



SETT

The Tasks

- What activities must the student perform to meet identified goals?
- What is everyone else doing?
- How might the student's special needs be accommodated without changing the critical elements of the task or goal?

The Tools

- What low, mid and high tech options should be considered based on the student, tasks and environments?
- Will modifications be necessary?
- What strategies might be used to integrate the tools into the classroom?



AT in the Classroom

Assistive technology can be put in place to aid in the following areas:

- Computer Access
- Reading
- Written Composition
- Learning/Studying/Organizing
- Communication
- Vision
- Hearing
- Mobility



Computer Access

Student's Difficulty or Need:

- Cannot access a desktop computer in its standard form
- Better gross motor than fine motor dexterity

Possible Solutions:

- Switches
- Voice recognition software
- Alternate keyboards
- Alternative pointing devices
- Keyguards



AT for Alternative Computer Access



Vertical Mouse



Alternative Keyboard



Switch Access



Foot Mouse



iPad Switch Controller



Reading Comprehension

Student's Difficulty or Need:

- Trouble understanding what is read or difficulty paying attention to the assigned reading
- Slow reading rate; poor tracking skills
- Poor phonetic awareness

Possible Solutions:

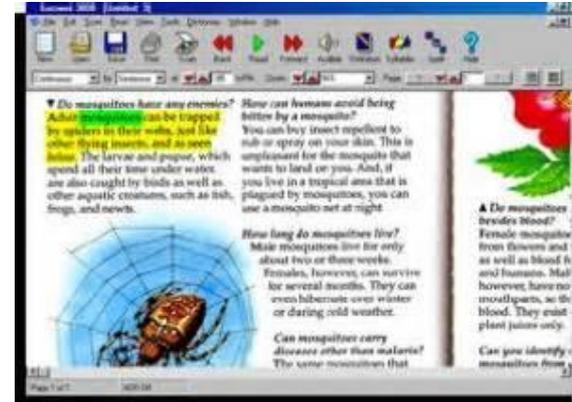
- Word prediction software/apps
- Multisensory reading programs
- Electronic books with voice output software/apps



AT for Reading Comprehension



Word Prediction



Multisensory Reading Programs/Apps



**Talking Books, E-Readers, iPad
Bookshare.org**



Talking Dictionary



Written Composition

Student's Difficulty or Need:

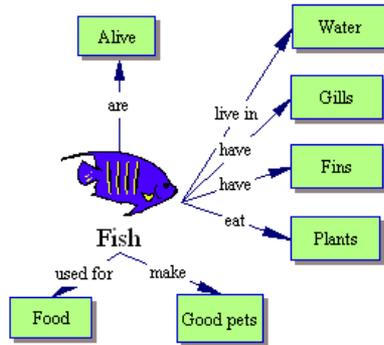
- Student has difficulty composing written work

Possible Solutions:

- Word prediction software/apps
- Multisensory reading programs
- Visual mapping software apps
- Voice recognition software/apps
- Spelling/grammar checkers
- Electronic dictionaries



AT for Written Composition



**Visual/Mind Mapping
Software/Apps**



Voice Recognition Software/Apps



Portable Notetalker/Word Processor







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Speech Communication

Student's Difficulty or Need:

- Student demonstrates delayed receptive and/or expressive language skills
- Speech is not intelligible or student is non-verbal

Possible Solutions:

- Augmentative and alternative communication devices (AAC)
- Voice output devices with real or digitized speech
- Picture communication board/cards
- Eye gaze board/frame



AT for Speech Communication



Communication Board (low tech)



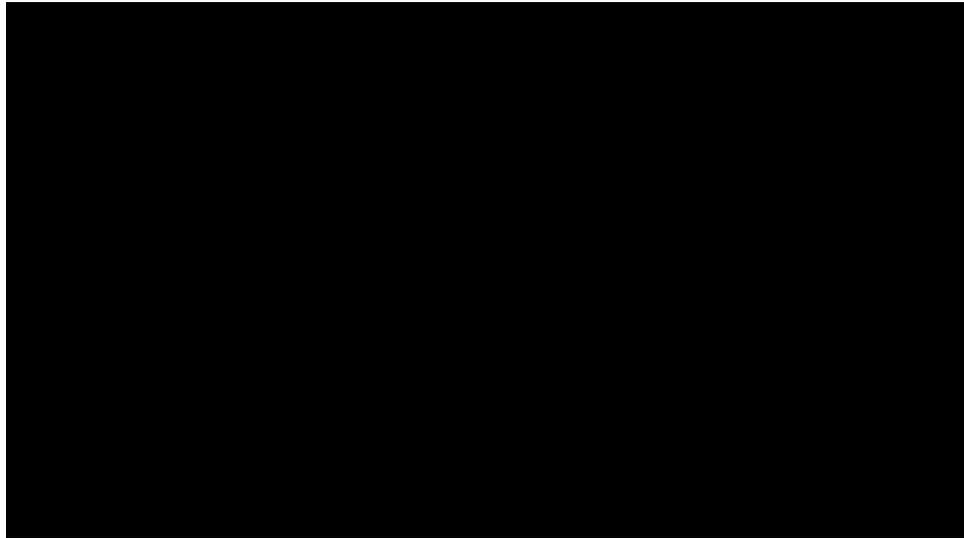
Speech-Generating Device (high-tech)



Speech Communication App
(mid-tech)



AT for Speech Communication



Vision

Student's Difficulty or Need

- Student has demonstrated or documented visual impairments; low vision, blind

Possible Solutions:

- Standard magnifiers
- Screen magnification programs
- Large print documents; books
- Electronic magnifiers; handheld, portable, desktop
- Screen reading software
- Optical character recognition
- Braille notetakers
- Electronic books



AT for Low Vision and Blind



Screen Magnification



Screen Reader



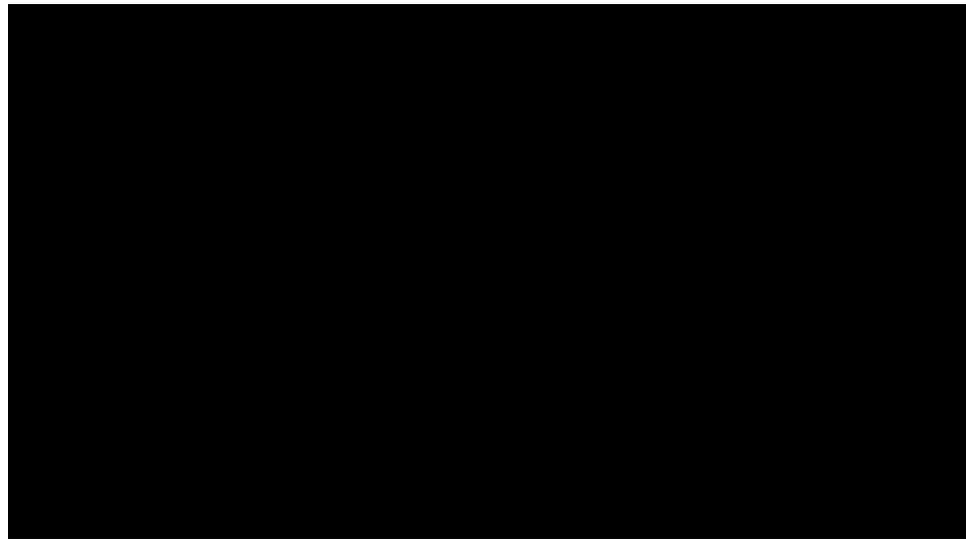
Electronic Magnifier



Braille Notetaker



AT for Low Vision and Blind



Hearing

Student's Difficulty or Need:

- Student has demonstrated or documented hearing impairment; hard of hearing, deaf

Possible Solutions:

- Hearing aids; loop system
- Electronic amplification systems
- Signaling devices
- Closed captioning
- Computer-aided transcription
- Sign-language interpreter



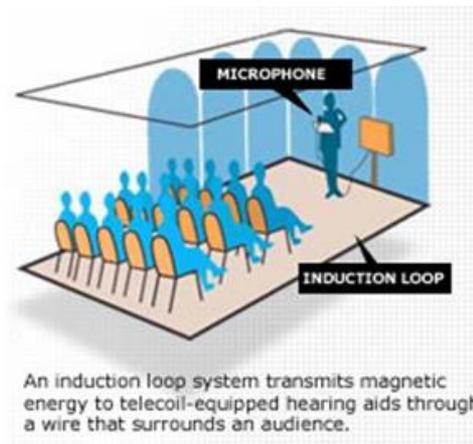
AT for Deaf and Hard of Hearing



Amplification System



Video Sign Interpreting

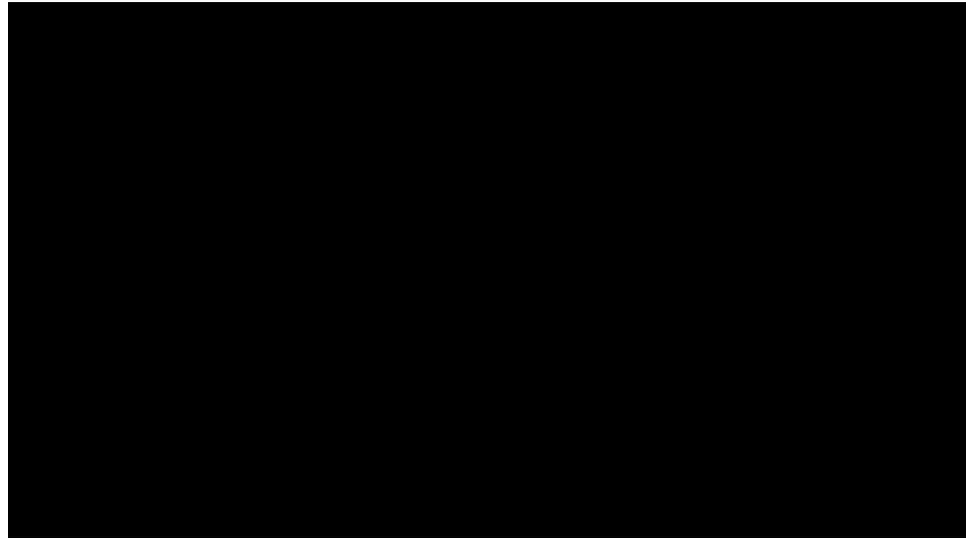


Loop System

Used with Hearing Aids



AT for Deaf and Hard of Hearing



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Mobility

Student's Difficulty or Need

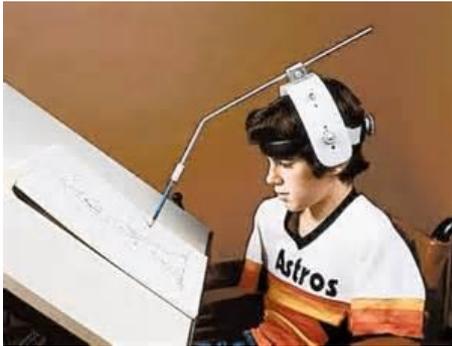
- Limited gross motor control
Limited or poor use of arms, hands
- Limited muscle strength
- Poor range of motion, stability
- Poor posture and body alignment

Possible Solutions:

- Customized seating and positioning
- Flexible equipment in positioning of monitors, keyboards, table tops
- Alternate input devices such as voice recognition program, headpointer, track pad



AT for Mobility



Head pointer



Adaptive Stander



Wheelchair Mounting for iPad



AT Rocks!



Services Provided by the: **Assistive Technology Program for the District of Columbia**

District of Columbia Assistive Technology Resource Center

Offers an opportunity to learn about various assistive technology devices, try them out and discuss their use

District of Columbia Disability Equipment Recycling Program (DC Shares)

Recycles new and used durable medical equipment, Assistive Technology devices and computers to people with disabilities

Assistive Technology Device Loan Program

Provides an opportunity to tryout Assistive Technology devices before it is purchased or borrowed for other short-term needs

Assistive Technology Financial Loan Program

Provides financial loans to purchase assistive technology that enhances independence and options towards overcoming barriers in the home, community, in school or at work.

Outreach - Provides training sessions, technical assistance and public awareness to expand awareness about the benefits of Assistive Technology devices and services.

Administered by the Rehabilitation Services Administration of DC Department on Disability Services and University Legal Services. Funded by the Administration for Community Living at the Department of Health and Human Services.



Additional Resources

The SETT Framework

<http://www.ldonline.org/article/6399>

Family Center on Technology and Disability

<http://www.fctd.info/>

Center for Parent Information and Resources (formally NICHCY)

<http://www.parentcenterhub.org/nichcy-gone/>

Center for Implementing Technology in Education

<http://www.cited.org/index.aspx>

Assistive Technology in the Classroom

<http://atto.buffalo.edu/registered/ATBasics/Foundation/intro/index.php/>

Wisconsin Assistive Technology Initiative

<http://www.wati.org/>

Office of Special Education Programs

<http://www.ed.gov/about/offices/list/osers/osep/index.html>



Additional Resources

Power Talk: automatically speaks any presentation or slide show running in Microsoft PowerPoint for Windows.

<http://fullmeasure.co.uk/powertalk/>

SpeakCell: Use Text-to-Speech Commands in MS Office Excel 2003 and 2007.

<http://office.microsoft.com/en-us/excel-help/i-don-t-see-commands-for-converting-text-to-speech-HA010222327.aspx>

Enable TTS - MS Office 2010: Enable text-to-speech in MS Word 2010, Outlook 2010, PowerPoint 2010 and Ms Excel 2010

<http://office.microsoft.com/en-ca/onenote-help/using-the-speak-text-to-speech-feature-HA102066711.aspx>

Readplease: reads text via Windows clipboard from any program.

<http://www.readplease.com/>

NaturalReader: it can convert any written text such as MS Word, webpage, PDF, and e-mail into speech. Commercial versions support MP3.

<http://www.naturalreaders.com/index.htm>

