

# Assistive Technology for Students with Disabilities

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# AT Device

- “**any item, piece of equipment,** or **product system,** whether acquired commercially off the shelf, modified or customized, that is used to increase, maintain or improve functional capabilities of individuals with disabilities.”



Legislations.....

that effects people with disabilities

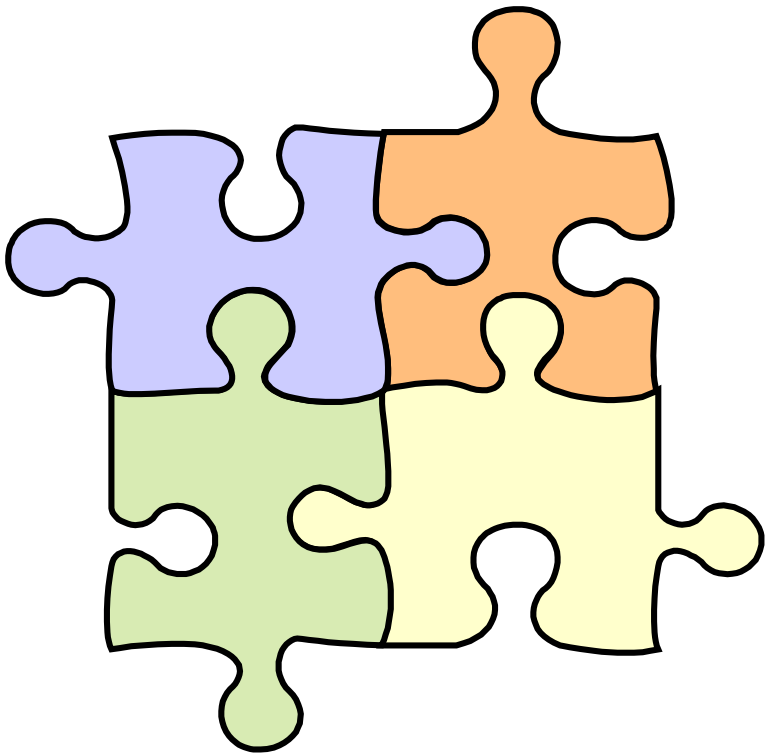
# Individuals with Disabilities Education Improvement Act (IDEIA)

- Originally passed in 1975 as the Education for All Handicapped Children Act (EHA),
- Guarantees that eligible children and youth with disabilities receive a free and appropriate public education (FAPE)
- Amended many times, most recently in 2004.
- **1997:** Mandated AT consideration for all students receiving SPED services.
- **2004:** excludes any surgically implanted medical devices or replacement of such devices.



# Assistive Technology in Action - Meet Mason

- <http://youtu.be/IcUNnnwFm4g>
- Student with visual impairment
- What kinds of technology did you see in the video?



*Types of AT*

# Range of AT options

## High Tech

- More complex
- Costly
- Requires training
- May be highly customizable.

## Low Tech

- Simple tools and adaptations.
- Often readily available.
- Inexpensive.
- Requires little training.

# Categories of AT

- Daily Living
- Communication
- Working, Learning, Playing
- Mobility
- Positioning





# Working, Learning, Playing

- Switch activated toys.
- Splints, braces, artificial limbs.
- Books on tape.
- CCTV.
- Touch window.
- Screen reading program.
- Print/Picture schedule.
- Low tech aids (index tabs).
- Software for organization of ideas and studyi

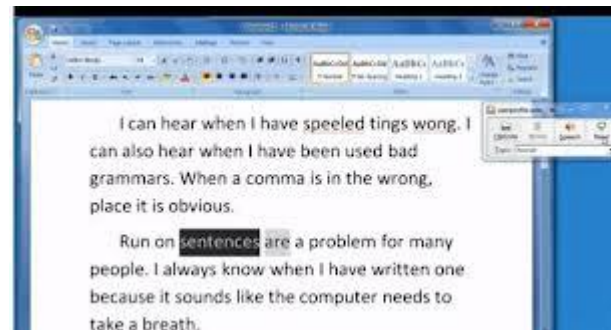


# What are some of the barriers to assistive technology implementation?

- Digital divide
  - Haves and Have -Nots
- Culture
- Consideration misunderstood
- Professionals' lack of knowledge and skills
- Failure to implement AT recommendations
- Information technology policies (e.g., inability to install software).
- Funding

# Reading

- Book adapted for page turning (page fluffers, 3 ring binders)
- Taking electronic device to pronounce challenging words.
- Scanner with talking word processor.
- Electronic books.
- Quicktionary Reading Pen.
- Talking Text Conversion Station
  - Scanner
  - Text-to-Speech Software
    - eReader



# Writing

- Inspiration
- Word Processor
  - Common: Microsoft Word, ClarisWorks.
  - Word Prediction
    - Co-Writer (Don Johnston)
  - Voice Input: ViaVoice (IBM), Dragon Dictate, Naturally Speaking.
  - Speech Output
    - Write:OutLoud.



# Daily Living Examples

- A non slip placemat
- Utensils with build-up handles
- Two handed mugs
- A variety of clocks
- Talking thermometer
- Large button telephone
- Build-up sides on plates
- Magnifier
- Bath seat
- Talking devices



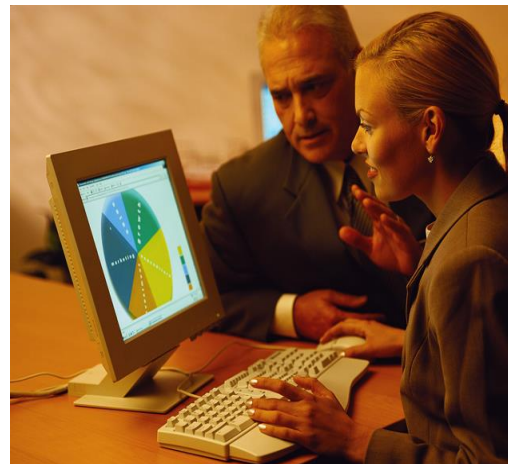
# Communication Examples

- Pictures
- Speech recognition technology
- TDD
- Hearing Aid
- Voice output communication board
- Access to computer (input, output).



# Computer access

- Key board with easy access.
- Key guard.
- Track ball
- Joy stick.
- Mouth stick/head point.
- Voice recognition software.
- Word prediction.



# Mobility aids

- Cane
- Walker
- Crutches
- Power wheelchair
- lifts





# Hearing Aids

- FM system: a wireless amplification system which uses an FM radio signal.



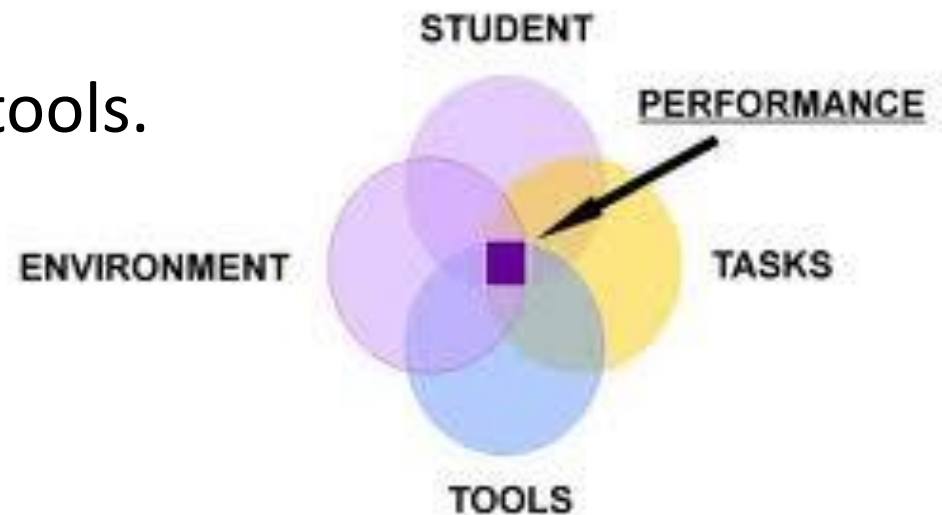
# Quality indicators for AT implementation

(Figure 13-2, p.309)

1. AT implementation according to a Collaboratively developed plan.
2. AT is integrated into curriculum and daily activities.
3. Persons across all environ. share responsibilities.
4. Persons supporting the student provide opportunities to use a variety of strategies.
5. Training for student, family, staff are an integral part.
6. AT implementation is based on data.
7. AT implementation includes management and maintenance of equipment.

# What to do to make an appropriate AT decisions?

- SETT framework (check p. 220 for further descriptions)
  - Student
  - Environment
  - Tasks
  - Assistive technology tools.



# SETT framework Introduction

- [https://www.youtube.com/watch?v=YHZ\\_shN7Sxl](https://www.youtube.com/watch?v=YHZ_shN7Sxl) (3:13)

# Student

- What is the functional area(s) of concern?
- What does the student need to be able to do that is difficult or impossible to do independently at this time?
- Special needs (related to area of concern)
- Strengths and abilities
- Present levels of achievement
- Expectations
- Evaluation information

# Environment

- What materials and equipment are available in the classroom?
- What is the physical arrangement? Are there special concerns?
- What is the instructional arrangement? Are there likely to be changes?
- What supports are available to the student?
- What resources are available to the people supporting the student?

# Tasks

- The specific things that the student needs to be able to do to reach expectations and make progress.
- The functional things that are a part of being actively involved in learning environments.
  - Communication
  - Instruction
  - Participation
  - Productivity
  - Environmental control

# Tools

- Whatever is needed by the student and others for the student to do the tasks in the environments in order to meet expectations.





- Teachers are responsible to ensure fidelity of AT implementation.
  - Know the device.
  - Teach target students.
  - Inform the other students.
  - Monitor the use of AT.

**IDEA (K-12)****ADA (College)**

Rights guaranteed by the law

Free appropriate public education (FAPE)

Prohibits discrimination on the basis of disability.

Who is covered

Every child; concept of zero reject

Students who are "otherwise qualified."

Identification and evaluation of students with disabilities

District responsible for identifying students with disabilities, evaluating them, and covering the costs

College has no such responsibility. Students must self-identify and provide appropriate documentation. If an evaluation is needed, the expense is the student's responsibility.

Determining services

Individualized education plan (IEP) developed by team  
Curriculum modifications and special programs are common

Reasonable accommodations, including auxiliary aids and services, must be requested by student.  
Academic adjustments that equalize opportunity for participation are required; substantial modifications to curriculum and lowering standards are not required.

Personal devices and services such as wheelchairs, hearing aids, and personal care attendants

Provided by district if determined to be necessary (and included in IEP)

Colleges are not required to provide these.

Role of parents

Parents must be included in decision making

College students are older than 18 and are considered adults. No parent consultation is required.

Appeals process

Right to due process as spelled out in the law

College grievance procedure and then a complaint with U.S. Department of Education's Office of Civil Rights must be filed.

Any Questions?