AT & SETC: An Overview

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Topics for Today

- This session will provide an overview of various assistive technologies to consider when planning for students with special needs. We will cover:
- AAC,
- alternate computer access,
- adaptive software,
- adaptive switches, and
- basic environmental control.

AT Mantra

For most of us...
For some of us...

Assistive Technology (AT):

Special Needs Student

Disability Related Barriers

Meaningful Curriculum Learning Experience

Assistive Technology Defined

Assistive technology is used by individuals with disabilities to enable themselves to perform functions that otherwise would be challenging to impossible.
Assistive technology can include such things as:
Mobility devices such as walkers and wheelchairs
Adaptive switches and accessories
Computer access such as an adapted keyboard or mouse
TTY or video telephone for those who are deaf
Speech generating devices
Software or hardware for alternative access to print
Environmental control

IDEA Definition of AT

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 the functional capabilities of children with disabilities.

Further clarified "device" = instructional technology tool that has been identified as educationally necessary & documented in IEP

IDEA AT Definition (cont.)

Assistive Technology Service:
Any service that directly assists a child with a disability in the selection, acquisition, and use of an assistive technology device.

AT Services further defined

- The evaluation of the needs of a child with a disability, including a functional evaluation of the child in the child's customary environment;
- Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by children with disabilities;
- Selecting, designing, fitting, customizing, adapting, applying, retaining, repairing, or replacing assistive technology devices;
- Coordinating and use other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;

AT Services ...

- Training or technical assistance for a child with a disability or, if appropriate, that child's family; and
- Training or technical assistance for professionals (including individuals or rehabilitation services), employers, or other individuals who provide services to employ, or are otherwise substantially involved in the major life functions of children with disabilities.

- http://www.gpat.org/Georgia-Project-for-Assistive-Technology/Pages/Assistive-Technology-Definition.aspx#Device

Areas defined in IDEA

- Academic and Learning Aids
- Aids for Daily Living
- Assistive Listening Devices & Environmental Aids
- Augmentative Communication
- Computer Access & Instruction
- Environmental Controls
- Mobility Aids
- Prevocational and Vocational Aids
- Recreation and Leisure Aids
- Seating and Positioning
- Visual Aids

Special Education Technology Center (SETC)

- Funded through the Office of the Superintendent of Public Instruction (OSPI) with IDEA $
- One of five Statewide Needs Projects
- Serves all 296 school districts in WA State
- Longest running project - started 1989
- Main office at Central Washington University
- Satellite offices at Skyline Elementary in Tacoma and at ESD 101 in Spokane

SETC Services

Lending Library

Technology Consultations

Professional Development

Dissemination of AT Information

The SETC is the only AT resource center in the State of Washington that focuses specifically on AT implementation in K-12 classrooms

Categories of AT Products

- AAC (Augmentative and Alternative Communication)
- Adaptive switches
- Environmental control
- Alternate computer input
- Pre-academic & Academic support software

SETC does not design adaptations or lend devices for mobility, positioning, vision or hearing.

AT = Tools for Tasks

For our discussion today, we will focus on:
- Augmentative Communication
- Tools for Academic support
- Alternative Access
- Environmental Control

Low Tech to High Tech

Augmentative Communication

Augmentative and alternative **communication** (AAC) is an umbrella term that encompasses the **communication** methods used to supplement or replace speech or writing for those with impairments in the production or comprehension of spoken or written language.

http://en.wikipedia.org/wiki/Augmentative_and_alternative_communication

Who uses AAC?

"~~Nonverbal~~"

Complex Communication Needs

- Verbal Apraxia
- Dysarthria
- Other neurologic conditions
- Secondary to Autism
- May hear the term "functionally nonverbal" – words spoken do not match intended message

AAC Systems

Low Tech to High Tech
More than choices
Language System vs. Supplemental materials

Paper-based AAC systems

Activity Specific Communication Board

PECS – Picture Exchange System

P.O.D.D. –Pragmatic Organization Dynamic Display

Speech Generating Devices
How They Work

•Speech output may be digitized (digitally recorded) or synthesized (electronically generated).
•The user selects or creates a message to be spoken by direct selection, scanning or text entry.
•Message duration ranges from a single word to a page or more of text.
•Higher end devices can be programmed by the user.

Recorded (Digital) devices

Single message
Multiple messages
Multiple Levels
Dynamic Display

Synthesized Speech Dynamic Display

Dedicated Devices

PRC (Accent)   Dynavox (T10)   Nova Chat   Tobii ATI

Synthesized Speech Dynamic Display

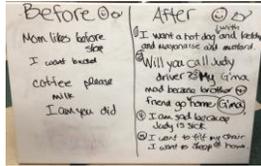Tablet App-based Devices

GoTalk   Sonoflex   Proloquo2Go   TouchChat HD W/WordPower

ACCESS

- Multi-Disciplinary assessment
- Direct Selection
  - Touch
  - Keyguard
  - Mouse & Joystick
  - Head mouse
  - Eye gaze
- Scanning
  - Automatic scanning (single switch?)
  - Step Scanning (2 switch)
  - https://www.youtube.com/watch?v=dB5OWdLXPd8

Selecting the best system for an individual = Feature Match

Begin with the student needs, not device capabilities

Must match access method to physical needs

Need to identify communication system that will maximize student's language development

Need to consider use of AAC system for academics

How SETC can help…

Help with selection of AAC supports through:
- Loan of equipment
- Webinars
- Phone consultation (free)
- Video or in-person consultation (fee)

Can discuss issues such as…
Physical access mode?
Vocabulary capability?
Vocabulary organization?
Feedback required?
Portability?
Environmental issues?

Tools for Academic Support

Pre-academic Supports

Language building
Play
Cause – Effect learning
Exploration
Switch, Mouse & Keyboard training

Reading: High Incidence

Accessible Instructional Materials (AIM)
- Bookshare.org
- Learning Ally (formerly Books for the Blind and Dyslexic)
- Accessible Books Collection
- Start-to-Finish series (Don Johnston Inc.)
- Read Outloud (Don Johnston Inc.)
- Text-to-speech software

Reading – Low Incidence

- Talking books (Powerpoint, Intellitools and Clicker)
- Literacy Starters (Don Johnston Inc)
- Adapted Books
- News-2-You
- Tarheel Reader (online) www.tarheelreader.org

Writing – High Incidence

- Slant boards and pencil grips. Specialized paper.
- Recorders
- Supports built into word processors (e.g. spelling, grammar, executive summaries)
- Mobile devices used for typing

Writing – High Incidence

- Text-to-Speech (Kurzweil, WYNN, WOL, Clicker)
- Word Prediction (Kurzweil, WYNN, CoWriter, Clicker 6)
- Speech Recognition
- Inspiration, Draft-Builder/Solo (Don Johnston, Inc.)
- Chrome Apps and Extensions

Writing – Low Incidence

- Multi-media supported writing software (e.g. Intellitools and Clicker)
- Tools that allow for whole word or symbol + word writing
- Alternative Keyboards, joystick
- "Alternative Pencils"
- Keyguards
- Switch access + computer switch interface
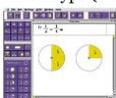- Eye gaze

Math

Large Key Calculators
Talking Calculators

MathPad & MathPad Plus (IntelliTools)
Classroom Suite (IntelliTools)
Geometer's Sketchpad (Key Curriculum Press)
MathType (Design Science)

Study Skills/Organizational

High Incidence
- Planners, schedules, timers, reminders
- Research tools
- Note Taking Tools (e.g. recording pens)

Low Incidence
- Visual Timers
- Picture Schedules
- Schedule apps

Alternative Access

AAC system
Computer access

Often requires a special "interface"

Computers
Mobile devices

Direct Selection
    Touch screen
    Joy Stick/Adapted Mouse
    Head Mouse
    Eye Gaze
Switch Access
    Single switch auto scan
    Step Scanning

Environmental Control

- In schools, tend to be simple
    control of lights
    control of appliances
    control of music and other media

The Process of Consideration

IDEA
    Evaluation
    IEP
How extensive is Consideration?
Who is a part of Consideration?

I need to think of assistive technology......

http://www.qiat.org/docs/1%20QIs%20for%20Consideration.pdf
http://www.joyzabala.com/uploads/Zabala_SETT_Scaffold_Consideration.pdf

A bit about AT Evaluations

A Team Approach
● Multidisciplinary
● A level of expertise
Collaborative
SETT Framework

http://www.joyzabala.com/uploads/Zabala_SETT_Scaffold_Data_Gathering.pdf

Thank you for your important work!

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