

Integrating Assistive Technology for Successful Curriculum Access

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Objectives

- Understand the implementation of AT as a process
- Understand relevant laws, definitions and strategies
- Describe three examples of successful curriculum integration of AT



Credentials

- Denise Fisher, Occupational Therapist
- Master of Science in Allied Health Education
- 30 plus years working in public schools in multiple states
- Worked in both in patient and out patient rehabilitation settings
- 15 years as Assistive Technology Coordinator
- Extensive experience training staff, students and parents



Why Assistive Technology (AT)?

- Who needs it?
- What do they need it for?
- What do you believe about AT?



Assistive Technology Act of 1998

- The United States Congress stated that disability is a natural part of the human experience which does not diminish an individual's right to...

Right to...

- Live independently
- Enjoy self determination
- Make choices
- Benefit from education
- Pursue meaningful careers
- Enjoy full inclusion and integration in the economic, political, social, cultural and educational mainstream of society

Definition of Assistive Technology Devices – Law Reference

- The term “assistive technology device” means 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 children with disabilities.

(From the Individuals with Disabilities Education Act (IDEA), P.L. 101-476, Section 1401 (a) (25).)

Federal Legislation is Very Broad

- The definition of assistive technology is very broad in federal legislation. Local school districts must be cautious not to limit the definition. Close consideration should be taken by all funding authorities, oversight agencies, and operating districts not to introduce inconsistencies into definitions.

Definition of Assistive Technology Services – Law Reference

The term “assistive technology service” means any service that directly assists a child with a disability in the selection, acquisition or use of an assistive technology device. Such term includes:

- Evaluation of the child
- Purchasing, leasing or otherwise providing devices
- Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing or replacing devices
- Coordinating and using therapies, intervention, services with devices
- Training or technical assistance for the child and family
- Training or technical assistance for professionals, employers, and individuals who are involved in the major life functions of the child

(From the Individuals with Disabilities Education Act (IDEA), P.L. 101-476, Section 1401 (a) (26).)

Assistive Technology

- Each public agency shall ensure that assistive technology devices or assistive technology services, or both, as those terms are defined in 300.5-300.6, are made available to a child with a disability if required as a part of the child's: (a) special education: (b) related services: or (c) supplementary aids and services.

(IDA 300.5-300.6)

The Current AT Landscape

- What does AT look like in your schools today?
- What does service delivery look like?
- What are the roles of professionals on the AT team?
- Who is responsible for the decision making process?
- How is the equipment being provided?
- How is the equipment being paid for?

DOCUMENTATION

- How are schools ensuring accountability?



- What are barriers to the implementation of AT?
- What kind of resistance is present in the school setting?

Don Johnston – The Case against AT

<https://www.youtube.com/watch?v=INs88Ki1WSo>



You have the power to change the future

Today, we recognize that technology has become a major driving force contributing to the success and quality of life for everyone.





AT is a standard in our society

- Driver assistive technology
 - Crash avoidance systems
 - Intelligent Parking assist system
 - Blind spot detection – Rear backup cameras
 - Lane departure warning system

**In an environment of mainstream technology,
how do we distinguish the need for
specialized adaptive techniques and devices?**



What is the student
unable to do that
Assistive Technology
will enable them to do?

Key components of Learning

- Reading
- Writing



What is the purpose of
Reading?



What is the Purpose of Writing?



How do we know when AT is
Needed?

When do we stop
teaching the process of
reading and writing?



Research indicates children are four times more likely to drop out of school if they are not proficient readers by the end of third grade.

- (Jamey Fitzpatrick, President and CEO, Michigan Virtual University, 2015)

Adaptive Equipment and Devices

- A hallmark of Occupational Therapy
- Removing barriers has always been the task for students with disabilities
- Augmentative communication has always been a critical element within education for non-verbal students

Augmentative and Alternative Communication (AAC)

- A hallmark of Speech Therapy
- Alternative methods of communication have always been the critical element with non-verbal children

The History of Assistive Technology

- CAST, the Center for Applied Special Technology, founded in 1984
- The emergence of AT in the public schools
- UDL was developed over the next decade

Katie:

A (Partial) User Requirements Document for an Adaptive Word Processor

William W. McMillan

Department of Computer Science
Eastern Michigan University
Ypsilanti, MI 48197

July 27, 1992

Why do we need a plan?

- Without expectations, an organized plan will not happen
- Lack of control, since parents often own devices
- Outside therapists may be programming devices
- Families may move, leaving a gap in continuity
- Staff may resist completing paperwork

How do we create a plan?

- One specialist?
- Team approach?



A Coordinated Team

- Parents/Student
- Teachers
- Special education teachers
- Occupational therapists
- Speech therapists
- Physical therapists
- Classroom aids
- Administrators

Assistive Technology Plan

Student: Bryce

Date: April 12, 2017

Birthdate: 5-11-11

Grade level: Kindergarten

Background: Bryce is a 5 year old kindergarten student in a structured classroom. He is mainstreamed into a general education kindergarten class for a part of his day.

Special education eligibility: Bryce is a student with an eligibility of Moderate Intellectual Disability (MoID).

Need for Assistive Technology: Based on the identification that his speech output significantly impairs his ability to verbally communicate, Bryce needs assistive technology to remove this educational barrier.

Current status: Bryce is using a dedicated device that he has received from an outside community resource and is brought to school by his parents. He is receiving Speech Therapy services from an outside agency, who has been coordinating goals with Bryce's school team. Bryce is using the device daily with direction from the school team.

School team members include: Parents, Structured classroom teacher, Speech Therapist, Occupational Therapist, and Paraprofessionals,

Goals to be addressed:

Greeting staff and students.

Asking for help.

Stating his needs.

Stating and preparing for transitions.

Requesting preferences.

Requesting to interact with others.

Responding to questions during class, including calendar and story time.

Selecting of colors, shapes, numbers and alphabet.

Implementation of use: Daily integration of device and technology goals will be provided by the educational team and documented using the included data sheet. For changes in the development of specific icons, staff will work with Bryce's mother or his home Speech Therapist to ensure coordination.

Documentation: Daily documentation will be completed, with overall progress towards his goals, as related to technology, provided quarterly in the IEP progress notes. Review of technology plan will occur quarterly with updated information reviewed by the educational team including Bryce's parents. Objectives will be updated as indicated by team data.

Additional information: Bryce has a strap that has been provided by his parents to ensure that the device is made available to him safely in a variety of settings. This will be used to ensure that he can access his device during mainstream classes, transitions, lunch and recess.

Technology Goals

The following areas will be introduced and presented to Bryce on a daily basis. Directives and prompting will be provided, with documentation of his engagement completed throughout his day.

1. Greeting staff and students
2. Asking for help
3. Stating his needs
4. Stating and preparing for transitions
5. Requesting preferences
6. Requesting to interact with others
7. Responding to questions during class, including story time and calendar
8. Selection of colors, shapes, numbers and alphabet.

The SETT Process

An effective method to create a
plan based on
information compiled by the child's
school team

Created by Joy Smiley Zabala

Co-Director, National Center on Accessible Educational Materials;
Director of Technical Assistance, CAST



Assessment Includes:

Student

Environment

Tasks

Tools

Key Components for Student Assessment

- Cognitive
- Physical motor skills
- Behavior

Cognition

Specific areas of academic performance

- Literacy
- Language
- Communication
- Judgment
- Problem solving

Physical Motor Skills

- Medical concerns
- Mobility/positioning
- Upper extremity function
- Execution of motor skills
- Sensory processing
- Vision/hearing concerns
- Perceptual skills
- Oculomotor skills



Behavior

- Compliance
- Direction following
- Problem solving
- Attention
- Memory



Environment

- Review of classroom settings and academic expectations
- Current IEP goals
- Identify options for accessing curriculum
- Discuss available accommodations within the classroom
- Low/high tech options

Tasks

- Identify specific task participation throughout the student's academic day
- Outline classroom expectations
- Must identify specific areas of concern preventing student from task completion

Tools

- Discuss what tools have already been tried and the results of implementation
- Present a variety of options available to remove barriers
- Develop a plan to establish a trial

Key Elements of Plan

- Identification of tools
- Specific details of trial period
- Criteria for success
- Method for data collection
- Assignment of team members to responsibilities
- Training procedures for all team members
- Plan for re-evaluation

Assistive Technology For All Ages

- Necessary to Remove Barriers at all Ages
- Teaching AT must be provided in a classroom based model



Preschool/Kindergarten

- Simple cause/effect
- Basic communication of needs/responses
- Interact with educational games
- Acquire knowledge through listening
- Practice motor movements for pre-writing skills



Early Elementary

- The role of the AT team at the elementary level is critical
- The team must drive the plan to balance learning to read and write with the need for removing these barriers



The critical role of Assistive Technology in the success of special needs students at the secondary level

Key Components

- For success in high school, all students must know how to:
 - acquire knowledge (reading)
 - demonstrate learning (writing)



Functional Writing

- Many students can verbally express their thoughts and copy material presented to them
- For students to write independently, they must utilize AT

Accessibility Features

- Accessibility features are available on all devices
- The job of an AT team is to train all students to use accessibility features on the devices that are available to them

Low Tech

- Adaptive pencils/grips
- Enlarged writing tools/stylus
- Colored overlays
- Stencils, stamps, magnets
- Slant boards
- Raised line paper
- Highlighted paper

Low Tech (Continued)

- Graph paper
- Non Stick Material for stabilization
- Sticky notes
- Colored paper clips
- Colored homework folders
- Talking calculators
- Timers
- Most frequently used - Word list

AT Implementation

Students must be able to demonstrate successful use of assistive technology as defined by the decision making process.

Key components:

- Trials
- Data collection

Trials

- Must be a minimum of 3 months
- Must be evaluated across multiple environments
- Must be documented on a daily/weekly basis
- Must be completed using a variety of tasks

Data Collection

- Must be observable and measurable
- Must be related to academic success
- Must address the goals of the AT plan
- Must describe the question or problems as identified in the plan



You are Part of a Team

- You don't have to be an Assistive Technology Specialist to remove barriers and create a plan for implementation
- The SETT framework is an ongoing process that provides for team cooperation

Begin by Utilizing what is Available



There are a variety of methods for:

- Note taking
- Interacting with worksheets
- Having material read out loud
- Auto summarize
- Improving readability
- Spelling
- Speech to text

Free to Low Cost Assistive Technology Solutions
OklahomaABLETech (youtube)

Bookshare

- An accessible online library for people with print disabilities
- 554,002 titles and counting

Bookshare.org

Quality Indicators for Assistive Technology (QIAT)

- Development began in summer 1998
- Included more than 4,000 AT providers from 17 countries
- Represented a variety of perspectives
- Included students, families, staff and policy makers

National Center on Accessible Educational Materials



- National Instructional Materials Access Center
- The national repository for source files provided by publishers
- Students must be dually qualified under IDEA and copyright law to receive specialized formats

National Instructional Materials Accessibility Standard (NIMAS)

- Accessible educational materials (AEM)
- Accessible instructional materials (AIM)
- Focus on mandates in IDEA related to provision of specialized formats of printed materials for students with print disabilities in K-12

National Instructional Materials Accessibility Standard (NIMAS) Continued



Incorporated into IDEA 2004 and expanded to include:

- Accessible digital materials
- Accessible technologies
- Post-secondary education
- Workforce development

Universal Design for Learning

- Framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn

(cast.org)

Apple - Accessibility - Sady

<https://www.youtube.com/watch?v=XB4cjbYywqg>





Thank you!