Developing classroom Assistive technology Kits
for students with complex needs

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objectives

- 1. Select appropriate AT equipment for specific students groups

- 2. Train school staff to incorporate equipment into the daily classroom curriculum

- 3. Create an accountability process for use of AT

- Disclaimer:
  - The project presented today describes the unique development of specific Assistive Technology kits for 25 self-contained classrooms and 4 resource classrooms for an entire county
  - The principles/protocols described here can be applied and adapted to the development of a single kit for an individual classroom
  - I do not represent any company that sells products for Assistive Technology

Kit development: where to start?

- 1. What *Funding* resources do we have to *purchase* equipment?
- 2. What *Process* should we use to determine the *appropriate* equipment to purchase that will *meet the needs* of our students?
- 3. How do we *Distribute* the kits?
- 4. How do we encourage teachers to *Incorporate* AT into their daily lessons?
- 5. How do we keep staff *Accountable* for use and care of equipment?
- 6. How do we *Inventory* our kits from year to year?

Kit development: funding

1. What *Funding* resources do we have to *purchase* equipment?

_____

- 2009 Stimulus funds
  - EC director commissions AT team to create Assistive Technology kits for two types of self-contained classrooms:
    - Students with Multiple-Disabilities (15 classrooms)
    - Students with Autism (10 classrooms)
  - Our OT asks for additional monies to create four more kits for resource classrooms
    - Students with Learning Disabilities (4 classrooms)
  - Total number of kits ordered = 29

Kit development: process

2. What *Process* should we use to determine the *appropriate* equipment to purchase in order to *meet the needs* of our students?
_____

- SETT Process
  - A thoughtful, collaborative process for determining AT equipment for an individual student
  - Why not apply this same process to determine equipment for an entire classroom?

review

THE SETT FRAMEWORK - PART I
Modified by Montgomery County, MD Public Schools Assistive Technology Team
Collaborative Consideration of Student Need for Assistive Technology Devices and Services
Student:_____ Date:_____ Staff:_____

	STUDENT: What are the student's strengths and needs?	ENVIRONMENT: Classes and situations where help is needed?	TASKS: What are the tasks that the student needs to be able to accomplish to meet IEP goals?	TOOLS: What AT or services will address these tasks?
What we know				

The Student(s)

Most of our MU students exhibit:

- Cognitive impairments
  - IQ 50 or below
- Physical impairments
  - limited or non-purposeful movements of their upper extremities, lower extremities and head
  - Visual impairments
- Slow response time
- Little to no exposure to scribbling and other pre-writing skills

Most of our AU students exhibit:

- Cognitive impairments
  - Variable IQ; 60 or lower
- Issues with auditory stimuli
- Issues with tactile stimuli
- Intact motor skills for all extremities
- Ability to recognize symbols
- Writing skills vary
  - Some students were writing letters, words
  - Some students were writing numbers
  - Limited interest in writing in general

Both MU and AU Students show:

- Limitations in communication (verbal and written)
  – Poor articulation of speech, echolalia, non-verbal
  – Limited vocabulary
  – Limited comprehension of instruction
  – Poor organization of language (verbal and written)
  – Limited means to communicate wants and needs to teachers
  – Limited social interactions with peers

- Some will attend a few regular education classes

Most of our LD students have:

- Cognitive impairments
  – IQ 80's
- Physical impairments
  – None
- Impairments of speech
  – rare
- Poor written language skills
  – Difficulties using graphic organizers to develop ideas and create a paragraph
  – Organization of language is poor
  – Struggle with spelling, grammar and syntax
- Poor handwriting (visual motor) skills
- Difficulty with independent calculations

The Environment(s)

What our classrooms look like

MU classes

- Centrally located programs by zone
- Staff : minimum of 1 teacher and 2 assistants
- Classrooms have group tables
- Instruction consists of a circle time, language arts, math, science
- Many of the classrooms have multiple grade levels with break times
- Most classrooms have changing area;
- New Lenovo desktops ordered when tools for kits were ordered; additional computers in room may be older Macs
- Smart boards
- Document cameras provided

What our classrooms look like

AU classes

- Centrally located programs by zone
- Staff : minimum of 1 teacher and 2 assistants
- Classrooms have individual desks
- Instruction consists of a circle time, language arts, math, science
- Many classrooms have multiple grade levels with break times while some classrooms complete work boxes
- Some classrooms have changing area;
- New Lenovo desktops ordered when tools for kits were ordered; additional computers in room may be older Macs
- Smart Boards
- Document cameras provided

What our classrooms look like

LD classes*

- Resource or inclusion classrooms
- Staff: 1 teacher for resource
  1 teacher for inclusion
- Students
  - 10-15 students in resource
  - 25 to 30 students in regular education
- Lecture style
- Independent work or peer work
- Smart boards

*We chose 4 middle school resources classes

classroom support

MU classes/AU classes

- Elementary schools usually have a school-based speech therapist and occupational therapist 1-2 days
- Middle schools have a part-time SLP and 2x/mo. OT
- High Schools have a part-time SLP and 1x/mo. OT
- PT's work with individual students in the classrooms
- Several of the MU classrooms receive adaptive PE intervention
- Some students will receive either inclusive or whole group art, music, and or library

classroom support

LD classes

- Related Services Support:
  - Speech/language support 1x/wk.
  - Occupational therapy support 2x/mo.
 - Related Service Support Description (RSSD)

The tasks

What tasks are expected and what outcomes are desired for our students?

- Attend to task
- Initiate communication with staff/students and respond appropriately in social and academic settings
- Initiate and maintain conversation with peers
- Participate in small group, calendar time, math, reading, science, writing
- Comprehend reading material and ask WH? questions
- Complete journal writing or variation of letter recognition
- Complete worksheets
- Access the computer/Smart board
- Complete work assignments as independently as possible
- Participate in pre-vocational tasks
- Participate in classroom experiments/labs
- Participate in non-instructional activities such as cooking, cause-effect and scanning software and educational websites

what "*types*" of equipment are needed to reach these desired outcomes?

- Communication
  - Low tech to high tech
- Writing
  - Graphic organizers
  - Keyboarding
  - Specialized software
  - Speech to text
- Computer access
  - Special Needs Software; switch/touch access
  - Adapted keyboards/mice
  - mounting
- Environmental control
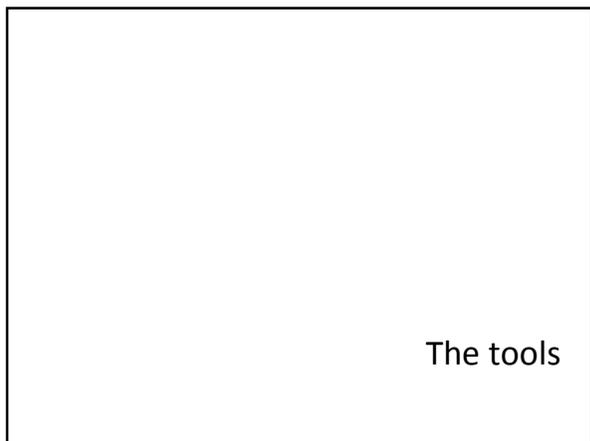
The tools

Tools

MU kits

- **Communication Devices**
  - **2, Step-by-Step communicators**
  - **iTalk2 communicator with levels**
  - **7- level Communication Builder**
- **Computer Access**
  - **USB interface**
  - **small Pal Pad switch**
  - **Jelly bean switch**
  - **Wobble switch**

◉ Special Needs Software
  ▪ Boardmaker Plus
  ▪ Cause-Effect Software
    ○ Big Bang (elem),
    ○ Switch-it! Wildlife(mid/high)
  ▪ Scanning software
    ○ Choose and Tell Fairy Tales (elem),
    ○ Legends (mid/high)
  ▪ Educational software
    ○ First Categories Software
    ○ Classroom Suite 4
    ○ Alternative Writing Pencil
◉ Mounting
  ▪ Goose Neck mount/Lockline mounting system
  ▪ Maxess Switch mount
  ▪ Maxess Switch Tray
◉ Environmental control
  ▪ Power Link
  ▪ Adapted Tape recorder in original kits; MP3 in newer kits

Tools

AU kits

- **Communication Devices**
  - **PECs communication notebook**
  - **Talkable 4 Communicator**
  - **7- level Communication Builder**
- **Computer Access**
  - **Switch Interface**
  - **2, small Pal Pad Switches***
  - **Ergo Mouse (trackball)**
- **Special Needs Software**
  - **Boardmaker Plus**
  - **Pixwriter 3**
  - **First Author**

◉ **Writing**
  ▪ **Writer word prediction keyboard**
◉ **Sensory**
  ▪ **Weighted Vest – Small/Large**
  ▪ **Weighted blanket or lap pad**
  ▪ **Sensory tube**
◉ **Environmental control**
  ▪ **Timer**

Tools

LD kits

- **Software**
  - **Graphic Organizers**
    - **Inspiration**
  - **Word Prediction software**
    - **Word Q**
  - **Speech-to-text software**
    - **Speak Q**
- **Writing**
  - **Colored notebook paper**
  - **Carbon notebook paper**
  - **LegiGuide paper**
  - **Fusion Keyboard**
- **Math**
  - **2 Sci-Plus Talking Scientific Calculators**
- **MP3 player**

KIT DEVELOPMENT: DISTRIBUTION

3. How do we *distribute* the kits?
_____

- Really Useful Box – plastic
  - All equipment stored in these
  - Equipment list taped to the inside of each lid that included the item name and AT sticker number on that particular item
  - Each box labeled with 3 identifying markers
    - Classification MU/AU/LD
    - School name
    - Number – Kit 1, 2, etc.
- Kit pick-up at AT office during opening workdays
- Kit collection last week of school by AT team

KIT DEVELOPMENT: incorporation

4. How do we encourage teachers to *incorporate* AT into their daily lessons?
_____

- How do we get teacher/TA "buy-in"?
  - PARTNER/COLLABORATE with the teacher on their lesson plans
    - **Listen -** to the teachers plan for each lesson
    - **Offer -** AT options for those plans that will allow all students to *actively* participate in curriculum
    - **Create -** the AT option for the first lesson plan and demonstrate it; can be use as template for future plans
  - REGULAR visits to the classroom to observe, encourage, tweak
    - Mentoring – teaching the continuum of options/problem-solving

KIT DEVELOPMENT: accountability

5. How do we keep staff *accountable* for use and care of equipment?

_____

- Our solution:
  - Regular classroom visits for support
  - AT Classroom plans
    - Assign responsibilities
  - AT Student Plans
    - Assign responsibilities
  - AT Competency sheets for Teachers

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sample student AT plan

Student Assistive Technology Plan

Student Name _____ Date of Birth _____ Age _____
School _____ Grade _____

Classroom Setting
☐ Regular Education Classroom ☐ Resource Room ☐ Self-contained ☐ Home
☐ Other: _____

School Contact Person _____ Phone _____
Person Completing Form _____ Date _____
Parent(s) Name(s) _____ Phone _____

Student's Primary Language _____ Family's Primary Language _____

Primary Area of Concern:
___

Step 1: OBSERVATION (15 minutes)

Date: _____ Time: _____ Setting: _____
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Adapted from
Adapted from
25 Minutes to Better Behavior – A Teacher-to-Teacher Problem Solving Process
By Randall S. Sprick. Pacific Northwest Publishing, Inc. 1999 and Joy Zabala (Revised 2005) SETT forms

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Step 2: TASK ANALYSIS (15 minutes)

TASK:
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ENVIRONMENT:
☐ Classroom ☐ Resource Room ☐ Gym ☐ Media Center ☐ Cafeteria ☐ Bathroom
☐ Transitions (hall/ramp/stairs)
☐ Community Based Instruction ☐ Bus ☐ Other

SPECIFIC SKILLS REQUIRED TO ACCOMPLISH TASK:
___

ACCOMMODATIONS, TOOLS, STRATEGIES	Person Responsible	Start Date	Date Complete	Signature

STUDENT OUTCOMES	Date	Initials

Sample teacher competency checklist

AU TEACHER COMPETENCIES

NAME: _____

COMPETENCY	ACHIEVED	DATE
1. Independently uses Boardmaker software to create picture schedules, classroom activity boards as well as communication pages for communication devices.		
2. Uses PCS symbols appropriately for training students to use class schedules, participate in classroom activities and communicate wants and needs using picture exchange.		
3. Demonstrates ability to manually set up the Step-by-Step, Talkable 4 and Communication Builder for different levels of communication.		
4. Demonstrates ability to create multiple communication pages for multiple levels on the Talkable4 and Communication Builder.		
5. Demonstrates ability to utilize communication devices (Step-by-Step, Talkable4 and Communication Builder) with students in classroom activities.		
6. Demonstrates understanding of how to use the 5 levels of the USB		

KIT DEVELOPMENT: INVENTORY

6. How do we *inventory* of the kits from year to year?
_____
_____

- Identification stickers
  – on each piece of equipment
- Equipment list
  – Taped to the inside of each box lid
    - Item name and sticker number
- Spreadsheet for kit location
  – Each kit is numbered
  – Assigned to a particular classroom/teacher
- End of year Accounting for all kits
  – Kits return to AT office in June: inventory broken or missing items (repair/replace), clean

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THANKS FOR YOUR ATTENTION!