Augmentative Communication and Assistive Technology Users…

understanding their skills, strengths, challenges and complex needs

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Invited Lecture
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Assistive Technology and Universal Access
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School Supported
Community Based
Collaborative
AAC and AT
Service Delivery

Augmentative Communication
Resource and Evaluation Center

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ACRE Center - The Beginning Needs

(breaking the barriers)

• Students having **daily access** to AAC and AT tools
• **Diagnostic use** prior to equipment recommendations and permanent acquisition
  (the only way to determine if AT will work is to try it)
• **Access to information** for families and educators
• **Coordination** of procurement, dissemination and repair of equipment
• Encourage **donations** and grants
Our Mission

Providing Monterey County students with disabilities the assistive strategies, materials, technologies and training necessary to support their social, physical and academic participation at home, school, work and play.
Assistive Technology

“...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” (20 U.S.C., Chapter 33, Section 1401(25).

This means... “that many of the adaptations, modifications and accommodations made for a student, in order for him/her to participate, may be considered as assistive technology. Assistive technology can be as simple as a pencil grip or as complex as a computer. “ Chambers, A.C.

AT . . . Using tools to augment and extend ability
Categories of Assistive Technology (AT) …what AT is used for

- Writing
- Computer access
- Communication
- Reading
- Learning & Studying
- Math
- Recreation & Leisure
- Activities of Daily Living
- Mobility
- Vision
- Hearing
- Vocational tasks
Augmentative and Alternative Communication (AAC)

Includes receptive and expressive no-tech through high-tech strategies, tools and devices used to assist individuals with comprehension, transitions, communication, language, literacy, and learning.
Using AAC Devices
continuum from partner assisted to independent

No Tech Systems
Communication system that does not require a power source

Low Tech Systems
Communication system that requires a source of power and is easy to program.

Mid Tech Systems
Communication system that requires a power source and requires some level of training to adequately program and maintain the device

High Tech Systems
Communication system that requires a power source and extensive training to completely program and maintain the device
Rich palette of communication concepts to meet students' needs
Social Scripts

Adapted from Musselwhite and Burkhart, 2001

1. **Claim/Attention Getters**
   - Excuse me
   - Guess what?
   - Hey you guys.
   - I've got a good one for you!
   - Look at this!
   - What's happening?
   - Wow! What a day

2. **Starters/Context Setters**
   - Been to the movies lately?
   - Did you see the game last night?
   - How about the weather
   - I have an idea
   - I'd like to tell you what happened!
   - Remember when?
   - You'll never believe this

3. **Maintainers/Turn Transfer**
   - How about you?
   - Can you believe it?
   - That's cool!
   - what else happened!
   - Can you guess what I like?
   - Did this ever happen to you?
   - Know any good jokes?
   - What do you think? ...about this?
   - How about you?
   - Do you like this?
   - Has this ever happened to you?

4. **Topic Closure**
   - adios amigos!
   - See you later.
   - Catch you later!
   - It was nice to talk with you.
   - Okey dokey artichoke.
   - Thanks for sharing.

V. Kalashian 3/06
• Communication is a complex, dynamic process

• AAC technologies are not, in themselves, end goals. Instead, they are a means to a variety of ends...determined by the individual
Computer-Based Supports for Learning

- Single switch software to **learn** cause and effect, identify numbers, colors and letters
- **Reading supports** to access grade level materials including the use of electronic text.
- **Writing adaptations** including alternatives to standard keyboard and mouse
- **Organizational tools** for reading and writing
EADLs
Environmental Aids for Daily Living
AAC & AT Considerations

The student
• What does the student need?
• What are the student's special needs and current abilities?

The Environments
• What are the instructional and physical arrangements?
• Are there special concerns?
• What materials and equipment are currently available in the environments?
• What supports are available to the student and the people working with the student on a daily basis?
• How are the attitudes and expectations of the people in the environment likely to affect the student's performance?

THE SETT Framework by Joy Zabala
At Considerations Continued

The Tasks
- What activities occur in the student's natural environments which enable progress toward mastery of identified goals?
- What is everyone else doing?
- What are the critical elements of the activities?
- How might the activities be modified to accommodate the student's special needs?

The Tools
- What no tech, low tech, and high tech options should be considered for inclusion in an assistive technology system for a student with these needs and abilities doing these tasks in these environments?
- What strategies might be used to invite increased student performance?
- How might student try out the proposed system of tools in the customary environments in which they will be used?
- How will they be used?
- AAC system involves multiple communication techniques...a device is only one part of the system

THE SETT Framework by Joy Zabala
Multi-Modal Systems

No single “best device”

AAC & AT Systems means Multiple Systems

AAC & AT consideration is a process
Keeping up with the technology... exciting next generation of **VOCAs** (voice output communication aids)

Thinking out of the box

Small consumer market

The Tango

www.blink-twice.com/

**ACRE**

Collaborating our skills
Improving outcomes for all children

- Support access to the general education curriculum
- Students fall along a continuum of learner differences
- Teacher adjustments for learner differences
- Curriculum is varied and diverse including digital and online resources rather than a single book.
Universal Design for Learning (UDL) is for All Students

Multiple means of representation to give learners various ways of acquiring information and knowledge

Multiple means of expression to provide learners alternatives for demonstrating what they know, and

Multiple means of engagement to tap into learners' interests, challenge them appropriately, and motivate them to learn

Helping Diverse Learners Access the Curriculum
Represent information in multiple formats and media...

• Electronic version of the text... **optimizing text**
  - Font, size, color, background color
  - Letter-word-line spacing
  - Read aloud with text-to-speech)

• Electronic outline of lecture content with main idea **highlighted**

• **Graphic highlighting** of important ideas

• **Illustrations**

• Using **line drawings/symbols** to represent text
NOW you must know that a Town Mouse once upon a time went on a visit to his cousin in the country. He was rough and ready, this cousin, but he loved his town friend and made him heartily welcome. Beans, cheese and bread, were all he had, but he offered them freely. The Town Mouse rather turned up his nose at them.
Don Johnston Solo- Use the yellow marker to highlight answers from the text.
Provide multiple pathways for students' expression...

- Printed and electronic concept map to structure composition
- *Cheat cheats with clear steps for library research*
- Set of pre-chosen links to relevant web sites
- Option to create multimedia report rather than written
- Talking word processor with spell check
- Voice recognition software to scaffold writing
Provide multiple ways to engage students’ interest and motivation

- Option to create a graphic report with minimal text
- Electronic concept map with parts filled in and limited content choices as scaffold'
Quality of Life

• Majority of AAC users report positive quality of life

• AAC users differ in regards to what factors contribute to their quality of life.
Factors Associated with a High Quality of Life

• High self-esteem

• Strong levels of self determination

• Strong social networks and relationships
What Makes Employment Work for AAC Users

• **Marketable Skills**
  - Formal education
  - Literacy
  - Informal ed and work/volunteer experiences

• **Barrier**
  - Low expectations for becoming literate
  - Often assumed AAC users do understand as much as their peers
  - Low expectations for academic achievement
What Makes Employment Work for AAC Users...continued

• Effective Communication Skills
  - Initiating conversations
  - Networking
  - Social Networks

• Barriers
  - Speed (5-20 wpm, 60 wpm is fastest, 150-180 wpm for normal conversation)
  - Training
  - Equipment Breakdowns
  - Reluctance of co-workers to socialize
  - Few communication partners
What Makes Employment Work for AAC Users... continued

• **Strong Work Ethic**
  - Time management skills
    “We don’t have the luxury of being spontaneous”

• Individuals who use AAC are described as skilled, loyal, and hard working

• **Barriers**
  - Societal prejudice...limited expectations
  - Speed
  - Technology Difficulties & Breakdowns
  - Difficulty managing workload, assistance, activities of daily living and social interactions
  - Lack of previous work experience
Employment and Individuals Who Use AAC

• Over 85% of individuals who use AAC are unemployed.

• Employment Barriers
  - Lack of education
  - Limited job preparation
  - Transportation
  - Work place support
  - Attitudinal barriers
Challenges for Individuals who use AAC

- Maximize educational/vocational achievement
- Participate fully in society
- Pursue meaningful goals
- Experience a quality of life
Important Supports

• Encouragement from relevant role models

• Well-developed problem solving strategies

• Access to information
Student Outcomes... as a result of using AAC tools

- Improved Oral Speech
- Improved Life Transitions
- Improved Self Regulation Behaviors
- Increased Choice Making Skills
- Improved Social Communication
- Increased Length of Utterances (sentence length and complexity)
- Increased Independence in Educational and Vocational Activities
- Access to Multi-Modal Communication
- Students Transitioned to New Environments With “more skills under their belt” and therefore Greater Expectations