

Assistive Technology for Young Children

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Development

Assistive Technology

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



Assistive Technology for Young Children

- Play
- Communication
- Language
- Mobility
- Literacy
- Computer Access
- iPad

Play

- Switch-adapted toys
- Tactile toys
- Audio toys
- Computer games



AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (AAC)

“Everyone Communicates”



Augmentative/Alternative Communication (AAC)

Definition: Augmentative/Alternative Communication is the use of technology to support, enhance and supplement the communication of individuals who are not independent verbal communicators in all situations.

Critical Questions

- Is the child's speaking skills keeping him/her from effectively interacting with others in various environments?
- Is the child's speaking skills limiting his or her opportunity for speech and language practice?
- Could AAC provide new opportunities for the development of both speech and language ability?

If the answer to any of the
previous questions was yes....

AAC should be considered!



Let's look at some research...

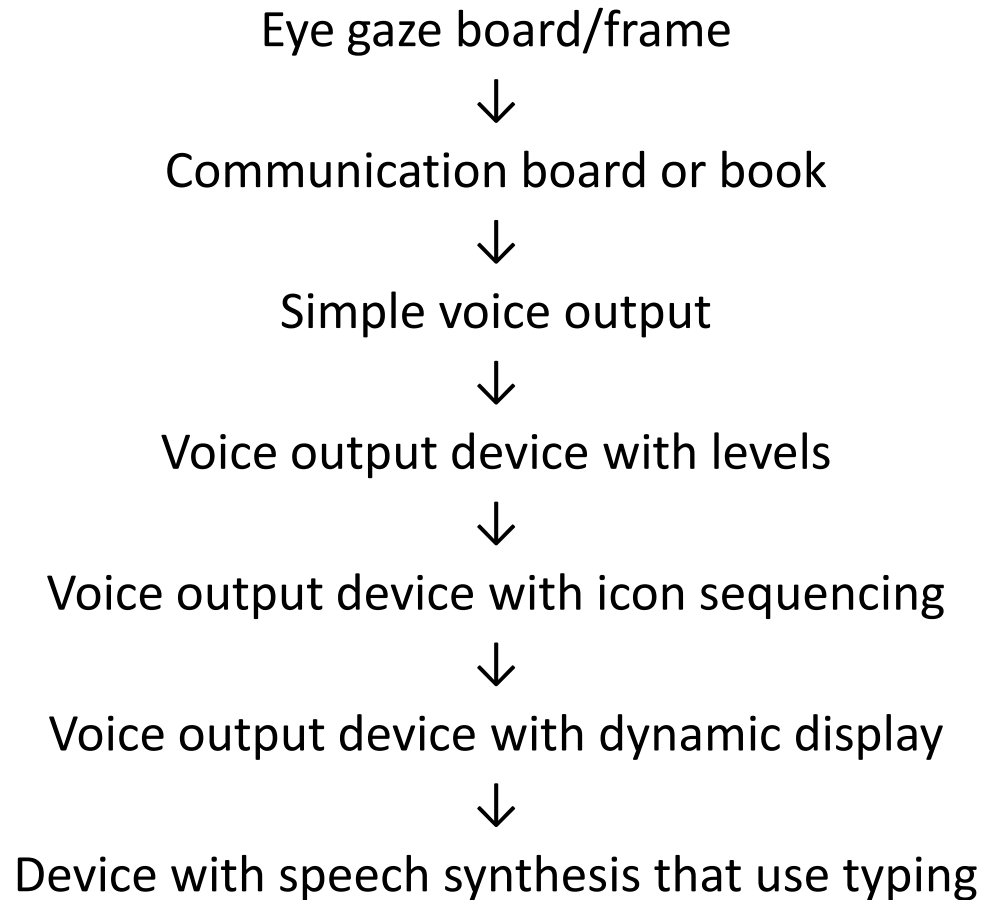
Silverman (1995)

Silverman (1995) found that in the overwhelming majority of cases, the use of augmentative communication actually increased natural speech production.

Blischak (1999)

Blischak (1999) specifically studied the effects of using voice output communication aids and found that there was a marked increase in production of natural speech by children following the use of the voice output devices.

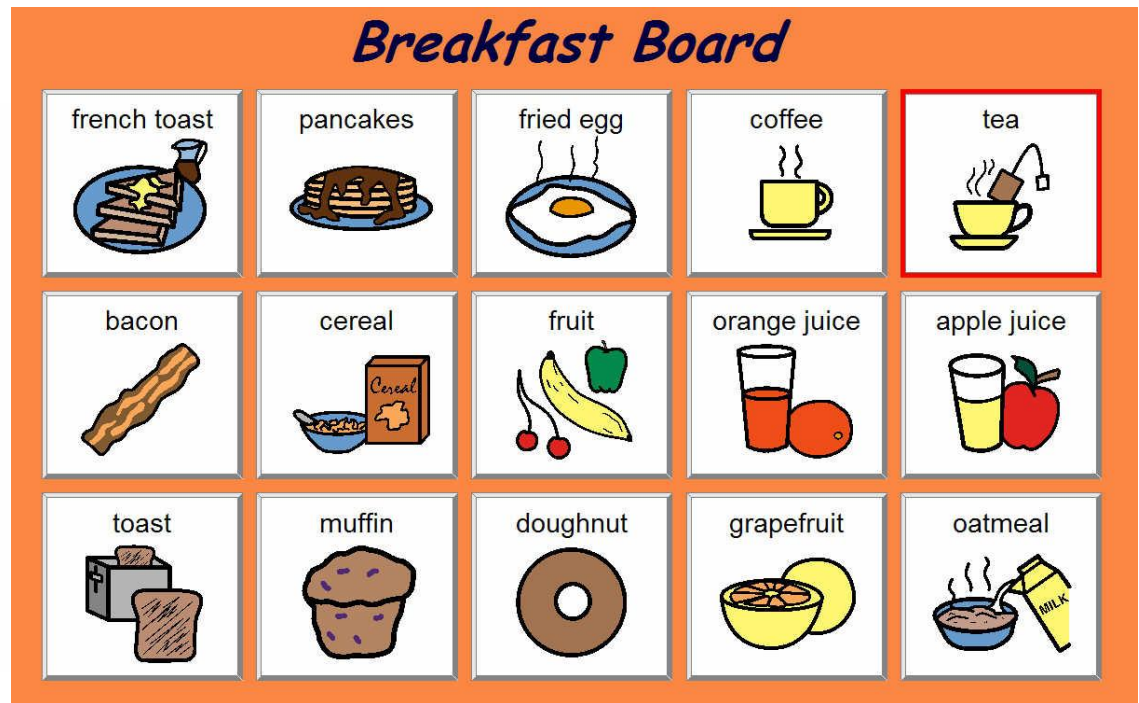
Continuum of AAC Devices



Eye Gaze Board



Communication Board or Book



Simple Voice Output



GoTalk 9+



Voice Output With Icon Sequencing



Voice Output Device with Dynamic Display



Devices With Speech Synthesis That Use Typing



AAC

- Switch play develops motor skills necessary to run a communication device
- Model, model, model, use of communication device
 - Initiating, self-talk, talking to others
- Have a system always within reach
- Work up to 200 opportunities a day
- Use mix of light, mid, and high tech

AAC on the GO

School - Community - Home

- Accessible
 - Easy
 - Adaptable/Flexible
-
- Individuals will use a variety of ways to communicate!!
 - Gestures, verbalization, AAC

National AAC Experts

- Caroline Musselwhite
 - www.aacintervention.com
- Linda Burkhardt
 - <http://www.lburkhart.com>

AAC Camp

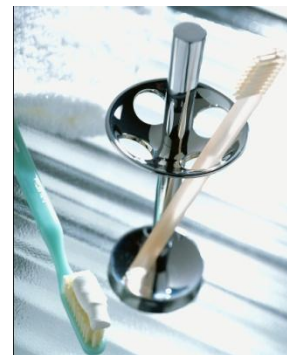
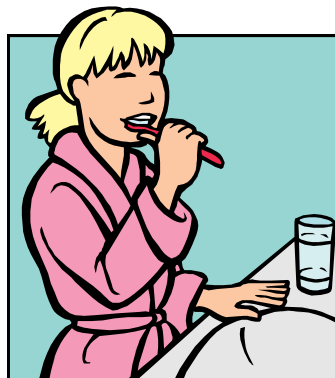
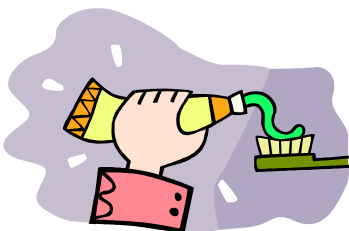
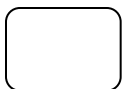
- June 27-July 1, 2011
- Mandatory training June 23 and 24
- Contact: Anne M. Kuhlmeier
Phone: 208-706-5548
E-mail: akuhlmeier@ierh.org



For children who struggle to understand language, making language visual helps build comprehension.

LANGUAGE

Visual Schedules



get dressed



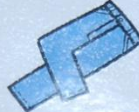
underwear



T-shirt



pants



socks



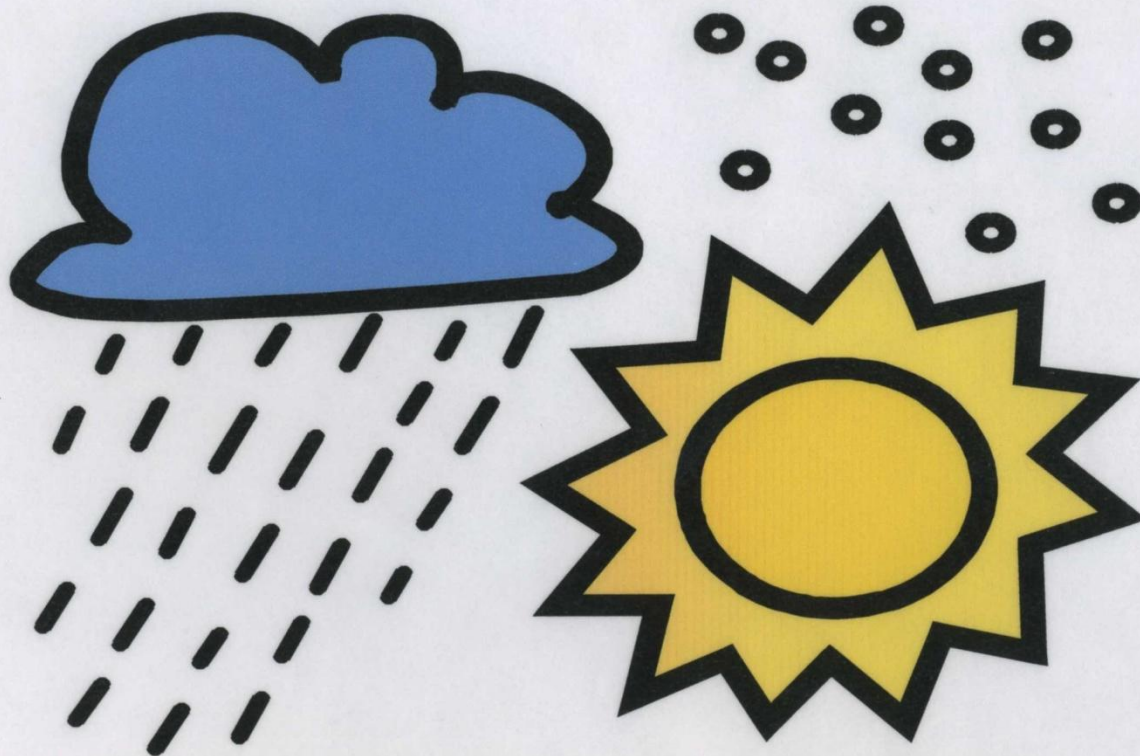
tennis shoes



all done



The weather is



Hannah's Home to School Communication Books



MOBILITY

Mobility/Transportation



Wheelchairs

- Power or manual
- How soon?



Mobility Devices for Young Children with Visual Impairments

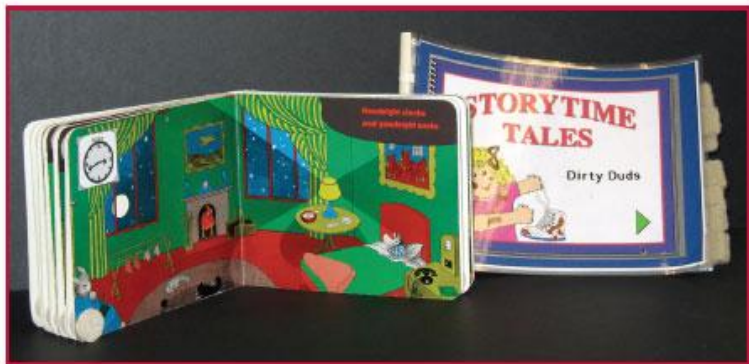
- Kiddie canes
- Modified walkers
- Push toys
 - Toy lawn movers
 - Corn poppers



LITERACY

Adapted Books for Young Children

- Tactile books
- Book holder
 - Velcro back of the book – will stick to carpet
- Page fluffers
 - add space between each page for ease of turning
 - Ethafoam
 - Chip bag clips
 - Paper clips



Adapted Books for Young Children

- Audio Books
 - Amazon has 1,000 audio books for Baby-3
 - Audible.com has 994 downloadable audiobooks for ages 0-4
- E- Books
 - Tar Heel Reader, www.tarheelreader.org
 - Almost 17,000 free e-books on a variety of subjects with audio support
 - Storyline Online, <http://storylineonline.net>
 - Free e-books read by members of the Screen Actors Guild
 - One More Story, www.onemorestory.com
 - 65 e-books with audio support
 - Small subscription fee

Alternative Pencils

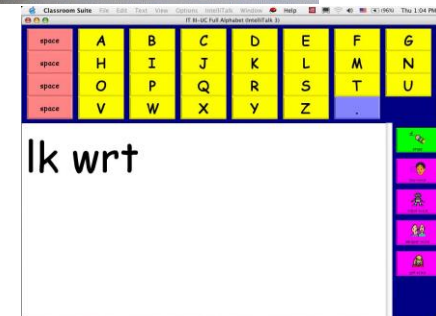
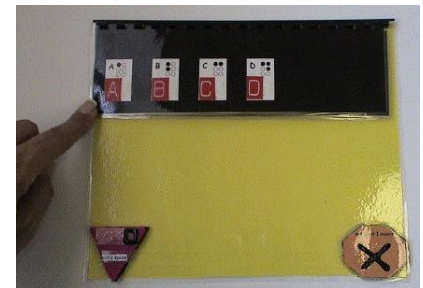
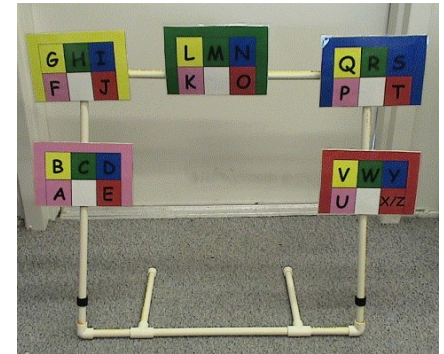
Center on Literacy and Disability, UNC, Chapel Hill

- Pick an alternative pencil that has the most potential for students to easily use.
- Students do not need to know their letters in order to write with an alternative pencil.
- Students need access to the full alphabet in order to learn about the alphabet.
- All students, regardless of their ability, learn about writing and alternative pencils, by writing.
- There are no prerequisites to writing. Don't wait! Students don't need to be ready to write. No one is "too...anything" to begin writing with an alternative pencil.
- Pick an alternative pencil and get started now!

Alternative Pencils

Center on Literacy and Disability, UNC, Chapel Hill

- Alphabet eye-gaze frame
- Print flip charts
- Braille alphabet flip charts
- Switch accessible onscreen keyboard



COMPUTER ACCESS

Computer Access

- Alternative mouse
- Alternative keyboard
- Touch monitor





Switches

- Consider the voluntary movements of the child
- Consider the seating and positioning of the child
- Choose switch activation
 - Pressure, movement, sip and puff, etc.
 - Bite, blink,
- Choose switch type
 - Single, dual, multiple switches
- Choose switch position
 - Head, foot, knee, eyebrow, chin,



Switch Interface

- Hardware that allows a switch(es) to activate a specific keyboard or mouse function(s) on a computer



- Some switches have built-in interface
 - Intellikeys, Switch Click USB



1



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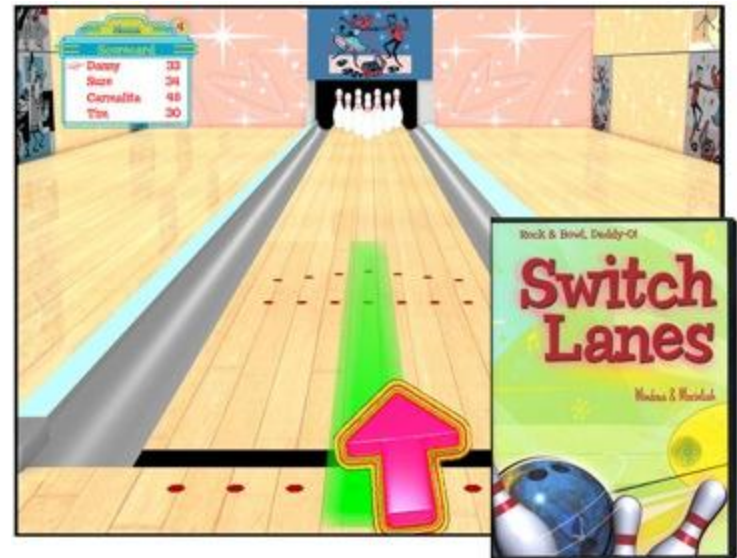


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Switch Games

- It's hard to run a computer with switches.
Make it fun!



The iPad!

- Portable
- Touch screen
- Apps for special needs
- It's cool!

