Low-Tech AAC Options and Practical Strategies for Classroom Use

Presenter: Kristi Murphy, M.A., CCC-SLP

Moderated by:
Amy Natho, M.S., CCC-SLP, CEU Administrator, SpeechPathology.com

SpeechPathology.com Expert eSeminar

Need assistance or technical support during event?
Please contact SpeechPathology.com at 800-242-5183
Earning CEUs

• Log in to your account and go to Pending Courses under the CEU Courses tab.
• Must pass 10-question multiple-choice exam with a score of 80% or higher
• Two opportunities to pass the exam

Peer Review Process

Interested in Becoming a Peer Reviewer?

APPLY TODAY!

• 3+ years SLP Professional Experience Required
• Contact Amy Natho at anatho@speechpathology.com
LOW-TECH AAC OPTIONS AND PRACTICAL STRATEGIES FOR CLASSROOM USE

Kristi Murphy, M.A., CCC-SLP
Oak Hills Local School District
June 20, 2013

DEFINITION OF AAC
(AUGMENTATIVE AND ALTERNATIVE COMMUNICATION)

ASHA: Augmentative and alternative communication (AAC) refers to an area of research, clinical, and educational practice. AAC involves attempts to study and when necessary compensate for temporary or permanent impairments, activity limitations, and participation restrictions of individuals with severe disorders of speech-language production and/or comprehension, including spoken and written modes of communication.

Special devices and methods of communication which enhance or provide alternatives for spoken language.
**BENEFITS OF AUGMENTATIVE COMMUNICATION (AAC)**

- Can enhance expressive and receptive language development.
- Can increase literacy skills.
- May reduce frustration and decrease behavior as it provides an alternative means of communication.
- Promotes personal empowerment as it allows individuals to control their environment and interact socially.
- Increases self confidence and self esteem.

“One of the most essential factors in successful use of any AAC device, whether high-tech or low-tech, is respect and value for the form of communication that is being utilized. If the culture of the group does not value augmentative and alternative communication, then the likelihood of successful, functional use will be extremely limited.”
LEARNER OUTCOMES

Following this course, you will be able to:

- identify three benefits of augmentative communication.
- identify three low-tech communication options that can be used with students with disabilities.
- identify three strategies for using low-tech communication in the classroom.
- identify three benefits of collaborating with families and other professionals when working with students who use augmentative communication.

CONSIDERATIONS FOR USING AAC

- Current levels of expressive, receptive, pragmatic language skills
- Current level of cognitive skills
- Current level of literacy skills (word prediction, abbreviation expansion)
- Ability to recognize symbolic language (pictures, words, sequencing, categorization, Minspeak)
- Background (history of AAC use, family support & understanding, school/team support)
- Motivation of individual to use AAC
- Level of support available
CONSIDERATIONS FOR USING AAC

- Level of physical functioning
- Progressive nature of disability (?)
- Access techniques (direct selection, scanning)
- Portability
- Durability
- Integration with other technologies
- Evaluations and/or trials with multiple devices

1ST COMMANDMENT

- If you INCREASE the motor demand... DECREASE the cognitive demand.

- If you INCREASE the cognitive demand... DECREASE the motor demand.
LOW-TECH AAC OPTIONS

VOCALIZATIONS AND SPEECH

- Used for quick, general intent
- Gains attention and should be recognized
- May need to be augmented
- Any speech that is intelligible to all communication partners does not need to be augmented
- Augment speech that is not intelligible to all listeners
Gestures and Body Language

Conventional gestures - recognized by society as messages with specific meaning
Body language - postural behaviors and signals that are commonly recognized

Pros
- Nothing external required
- Readily available in all environments

Cons
- Limited in number and type of messages that may be conveyed
- Limited to ‘here and now’
- Can become a game of ‘20 questions’
- Some physical ability required

Sign Language

Gestures with rules for production

Pros
- May be learned more easily with reinforcement specific to a request
- Can communicate extensively if partner is knowledgeable

Cons
- Not universal
- Must have physical skills
- Can be difficult in school setting due to time constraints to teach staff
- Can result in decreased interactions due to lack of knowledge in sign
EYE GAZE/EYE BLINK

Use of the eyes for purposeful communication

Pros
 Extremely flexible with positioning (good option when individuals are being physically challenged)
 Fairly quick and easy
 Eye gaze boards are easy to make
 Good to use for quick choices for activities, answers to questions (including academics) when reliable
 Can be used with objects, static pictures, frames, alphabet, hands, initial letters

Cons
 Can be time consuming to obtain spelled or lengthy messages
 May be misinterpreted or difficult to read
 Can become a ‘yes/no’ game

Eye Gaze boards available from:
• Enabling Devices
• Object Symbol Resource LLC
• Pro-Ed
• Zygo

Eye-Talk with shelves by Enabling Devices
OPTIONS FOR ‘YES/NO’
EYE GAZE OR EYE BLINK

- Once/twice
- Up/down
- Fast/slow
- Right/left (may be paired with words or pictures)

**Make sure you ask your partner about predicting when using eye gaze with spelling/words**
‘OFF THE SHELF’ LOW-TECH

- Pad/paper
- Dry erase board
- Magna Doodle
- Letter bracelets
  - Yes/no

OBJECTS

- First level of vocabulary representation, most concrete
- Readily available in natural environment
- Allows for immediate reinforcement of actual item
- Offers tactile feedback for visually impaired
- Can be full or partial
  - Regular objects
  - Miniature objects
  - Partial objects
  - Tactile representation

4/8 Object Communicator
by Enabling Devices

Take or Place N’ Talk
by Enabling Devices
PHOTOGRAPHS AND PICTURE SYMBOLS

- Use with objects to teach association
- Encourage use of pictures at home
- Can be photos, magazine pictures, food labels, box labels
- Make tactile
- Color or black and white

You do not need to teach a symbol first before a child uses it to communicate. ~Pati King-DeBaun

PHOTOGRAPHS AND PICTURE SYMBOLS

- Use in natural environments
- Make pictures easily accessible
- Accessibility and ease of use are key
- Use for commenting, requesting, answering questions, sequencing
ACCESSIBLE PICTURES

**Velcro loop fabric**
Attached to door, back of mirror, walls, foam boards, cardboard, slant boards, cook book holders

**Wear them**
Vests, mitts, aprons
Can be purchased or made
Use with Velcro or in slip covers
Encourages eye contact with communication partner

www.lockfast.com

---

**Accessible Pictures**

- Organize vocabulary by areas of room
- Categorize for easy location and accessibility
- Keep next to Velcro board
- Keep multiple copies of generic and core vocabulary (yes/no, help, more, all done, bathroom)

elliecards
By Early Learning Images
STATIC BOARDS, BOOKS & WALLETS

- Advantages
  - Portable
  - Easy to use
  - Easy to construct

- Disadvantages
  - Requires partners’ active participation
  - Difficult to accommodate large vocabulary
  - No voice output

Available from: Key Technologies

WHAT ABOUT THE OBJECT/SYMBOL HIERARCHY?

Object?  Photo?  Symbol?

Photos and objects are used to enhance the understanding of symbols, learning activities, etc and as a motivation to participate, not to determine eligibility for use of symbols to communicate.

~ Pati King-DeBaun
PICTURE SYMBOLS

- Boardmaker
  - By Mayer-Johnson

- SymbolMate
  - By Tobii
  - SymbolStix symbols from News-2-You

- Matrix Maker by Inclusive Technologies
  - SymbolStix (12,000+ images)
  - Accessible online – updated symbols
  - Easy to use
  - $230.00

http://www.inclusive.co.uk/matrix-maker-p4837#
VOCABULARY

- Core words are the basis of interactive communication. Core vocabulary consists of those few hundred words used for 85% of what we say. Core words are structure words such as pronouns, verbs, determiners, adverbs, adjectives, and prepositions. Almost no core words are nouns, and even fewer are object nouns, the only nouns with an obvious picture association.

- Extended (fringe) vocabulary is made up of the remaining thousands of words. Most nouns are part of the extended vocabulary. Extended vocabulary words tend to be content or topic specific. These words are important, but are not used nearly as often as core vocabulary words.

The above quote on Core vs Fringe Vocabulary is from AAC Language Issues, downloadable from the AAC Research and Resources section of Prentke Romich's website.

AIDED LANGUAGE STIMULATION

*A language stimulation approach in which the facilitator points out picture symbols on the child’s communication display in conjunction with all ongoing language stimulation. Through all the modeling process, the concept of using the pictorial symbols interactively is demonstrated for the individual.

*Goosens’, Crain, and Elder (1992)

*Based on the idea that the input method should be the same as the desired output method.

http://www.lburkhart.com/ATIA_ALgS_handout_1_10.pdf
AIDED LANGUAGE STIMULATION

Pati King-DeBaun suggests:
- Pick 4-6 routine activities (should occur daily at minimum, preferably more than once a day)
- Select 4-6 supportive symbols for each routine (should represent a range of communicative functions)
- Create a script that you are comfortable with
- Model the language with the visuals
- Consider rearranging routines so they are more meaningful (e.g., weather talk)

Ideas for Routines
- Potty/diapering
- Recess
- Weather
- Month
- Morning meeting
- School talk
- Snack/food prep
- attendance

Sample Script (diapering)
- Uh oh, you have a stinky diaper
- It’s dirty
- Let’s take off your pants
- Take off that diaper
- Stinky! Phew!
- Put on the diaper
- Put on the pants
- All clean
PRACTICAL IDEAS
FOR USING
PICTURES

INTERACTIVE LITERACY CHARTS
INTERACTIVE LITERACY CHARTS

- Allow students to become an interactive part of the reading process
- Allow students to manipulate the story
- Encourage literacy at all levels (picture & text)
- Can be paired with low-tech or high-tech AAC
- Can be used with books, nursery rhymes, poetry, songs

ADAPTED STORYBOOKS
LITERACY TOOLS

Weekly Reader

- N2Y provides over 180 pages a week with news, activities, computer games, and storybooks.
- Multiple levels of text available.
- Pre-done communication boards.
- Speaking versions.

LITERACY & READING

- **News-2-You**
  - [https://www.n2y.com/news2you/](https://www.n2y.com/news2you/)
  - Provides over 180 pages a week with news, activities, computer games, and storybooks.
  - Multiple levels of text available.
  - Pre-done communication boards.
  - Speaking versions.
LITERACY & READING

- PowerPoint Books
  - Scan in your favorite books (must own original copy)
  - Create your own stories from class experiences, personal experiences, interviews, all about me
  - Allows access to independent reading with a click or a switch hit (with switch interface)
  - Allows students to do presentations for peers
  - Readily available to most professionals and easy to use

POWERPOINT BOOKS

- Create your own (must own hard copy to use)
- [http://www.hiyah.net/](http://www.hiyah.net/)
- [http://tarheelreader.org/](http://tarheelreader.org/) - Ready to use or can be downloaded and modified
- New York City Department of Education - [http://schools.nyc.gov/Offices/District75/Departments/Literacy/AdaptedBooks/default.htm](http://schools.nyc.gov/Offices/District75/Departments/Literacy/AdaptedBooks/default.htm)
- Paul V. Sherlock Center on Disabilities - [http://www.ric.edu/sherlockcenter/wwslist.html](http://www.ric.edu/sherlockcenter/wwslist.html)
- Teaching Learners with Multiple Special Needs (PowerPoint Switch Books) - [http://teachinglearnerswithmultipleneeds.blogspot.com/2007/02/power-point-switch-books.html](http://teachinglearnerswithmultipleneeds.blogspot.com/2007/02/power-point-switch-books.html)
  - (additional lists of resources available here)
LITERACY & READING

- Online books & reading supports
  - StarFall - http://www.starfall.com/
  - Tumblebooks - http://www.tumblebooks.com/
  - Storyline Online – www.storylineonline.net
  - AOL kids - http://kids.aol.com/KOL/1/KOLJrStories
  - Local library links

STATIC PICTURES AND BOARDS

- Interactive boards
- Allow student to manipulate pictures
- Offer pre-made picture boards for communication
- Pair with device overlays or pages
- Topic specific
- Available from Mayer-Johnson
**ALPHABET/WORD BOARDS**

- Allow for creation of novel messages
- Can be used with direct selection, eye gaze, or partner assisted scanning
- Can provide a back-up system for device users
- Pre-made boards are available from vendors
- Create books with printed screens from user’s device

---

**Example of an AAC static board**

![Example of an AAC static board created using Boardmaker](image-url)

Created using Boardmaker
SmartSpeak (AMDi) overlay created using Matrix Maker
**AAC Picture Tools**

- Yes/No Cards
  - yes
  - no
  - YES
  - NO

- More/All Done
  - more
  - all done

- First/Then
  - First
  - Then

**AAC Picture Tools**

- Picture preferences
  - music
  - bubbles
  - turn the page
  - stop

- more
- finished
- drink
- food
- help
- bathroom
- I like that
- I don't like that
AAC PICTURE TOOLS
WH question Cues
speakingofspeech.com
PICTURE SCHEDULES

- Help maintain structure
- Often used with individuals with autism/PDD
- Pictures/words
- Clearly defines daily routine and expectations
- Boardmaker and MatrixMaker have pre-made activity/schedule templates
- Can be low or high tech
- Cross off or remove activities
- Vertical or horizontal

PECS

- Picture Exchange Communication System
- Commonly used with individuals with Autism Spectrum Disorders
- Requires training of staff and strict teaching sequence

- Can help teach use of communication devices
- Transition to static pictures on device and then to static overlay
AAC Activities to use with devices/pictures

- Cooking
- Sensory Room Activities
- Reading A-Z books
- PowerPoint books
- Social Stories
**PARTNER ASSISTED SCANNING**

- Offers low-tech practice for auditory scanning
- Allows you to pace to individual’s needs
- Allows you to read facial expressions and body movements without having to rely solely on switch activation
- Offer all the choices first, then cycle through them slowly
- Be careful how much verbal prompting you offer, give time for listening and processing
- [http://www.youtube.com/watch?v=pLb6-Oi3uR0](http://www.youtube.com/watch?v=pLb6-Oi3uR0)
Low Tech
AAC Devices

VOICE OUTPUT SOLUTIONS:
SINGLE MESSAGE DEVICES

- Advantages: Easy to program, voice output, easy access
- Disadvantages: Anticipation of all communication needs in a situation, limited messages, requires continual active participation by others to program
SINGLE MESSAGE DEVICES:
IDEAS AND INTEGRATION

- Repetitive lines
- Two switches for answers/choices
- Initiate communication/request assistance
- Place in classroom available to everyone
- Place associated picture on device
- Encourage initiation, not just responses
- Offer choices for vocabulary

- Say It, Play It Switch Plate by Enabling Devices - use the repeated line connected with associated switch toy

VOICE OUTPUT SOLUTIONS:
SEQUENCED/RANDOM SINGLE MESSAGE DEVICES

- Record a sequence of messages (played sequentially or randomly)
- Device progresses through messages with each activation
- Often used in social situations

Big Talk Triple Play/Accessory by Enabling Device
Sequencer and Randomizer From Inclusive Technology
Step by Step Communicator By AbleNet
Partner/Plus Stepper By AMDI
Textured Roller Step Talking Sequencer by Enabling Devices
SEQUENCED SINGLE MESSAGE DEVICES: IDEAS AND INTEGRATION

- Tell a whole story (individually or as a group)
- Use a variety of the same message (e.g., hello)
- Encourage child-initiated interaction with parent/teacher (arriving at school/home)
- Interview peers/persons in the community
- Use randomized devices to:
  - Roll dice
  - Choose colors
  - Pick teammates/teams
  - Play games like Simon Says

MULTI-FUNCTION SINGLE BUTTON DEVICE

Smooth Talker
By Inclusive Technology
$189.00

- Multiple modes
  - Single message
  - Sequential message
  - Random message

- Add a second switch
  - Two message
  - Auditory scanning
  - Co-op messages
VOICE OUTPUT SOLUTIONS:
CLOCK COMMUNICATORS

Clear Clock Communicator by Enabling Devices
Compartmentalized Clock Communicator by Enabling Devices
Clock Communicator by Enabling Devices
Conboard by Tash Inc.

VOICE OUTPUT SOLUTIONS:
2-8 MESSAGES

- Allow for choices
- Require discrimination of pictures or knowledge of message item placement
- Limited vocabulary
- Can help transition from PECS to voice output

Cheap Talk 4 by Enabling Devices
Compartment Communicators by Enabling Devices
Partner Plus Four by AMDI
Talking Brix by AbleNet, Inc.
2-8 MESSAGE VOICE OUTPUT DEVICES: IDEAS AND INTEGRATION

- Repetitive lines in a story
- Sequence activities, stories
- Basic vocabulary accessible throughout classroom (art, reading, dramatic play, social phrases)
- Choice making (*give choices whenever possible, even if only a choice of 2)

Visually Impaired Communicator
By Enabling Devices
SWITCH ACCESS/CAUSE & EFFECT

SWITCH ACTIVATION: CAUSE & EFFECT ACTIVITIES
- Gives practice for switch use in a fun and motivating activity
  - Powerlink by AbleNet
  - Switch Adapted Camera
  - Switch Adapted Spin Art
  - Switch Adapted Pourer
  - Switch Adapted Scissors
  - Switch Adapted MP3 player
    - By Inclusive Technologies
  - Computer Activities (PowerPoint books)
FREE CAUSE AND EFFECT COMPUTER ACTIVITIES

- http://www.maylin.net/fireworks.html
- http://www.priorywoods.middlesbrough.sch.uk/
- http://www.primaryresources.co.uk/online/Chimes.html
- http://www.primaryresources.co.uk/music/music.htm
- http://www.helpkidzlearn.com/
- http://ianbean.co.uk/programs.html

LISTS OF ADDITIONAL CAUSE/EFFECT ACTIVITIES FOR SWITCH USE

- http://atspedresources.wikispaces.com/Cause+and+Effect+websites+for+switches+and+touchscreens
- http://sqworl.com/rerjzQ
- http://intensivespedresources.wikispaces.com/Free+Switch+Activities
- http://judyphelps.net/onlinestudent-activitiesusingsingleswitch.htm
- http://lowincidenceatresources.wikispaces.com/Online+Switch+Activities
- http://pinterest.com/mom2mikey/learning-switch-access/
### SWITCH SOFTWARE (FOR A PRICE)

- Inclusive Technologies
- SoftTouch
- Creative Communicating
- Marblesoft Simtech
- Don Johnston
- Judy Lynn Software

### SWITCH ACCESS FOR MY COMPUTER

<table>
<thead>
<tr>
<th>Switch Interface</th>
<th>Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swifty Switch Interface</td>
<td>Big Red &amp; Jelly Bean</td>
</tr>
<tr>
<td>by Origin Instruments Corp.</td>
<td>by AbleNet</td>
</tr>
<tr>
<td>Switch Interface Pro</td>
<td>Wobble Switch</td>
</tr>
<tr>
<td>by Don Johnston</td>
<td>by Prentke Romich Company</td>
</tr>
<tr>
<td>Cordless Switch Interface</td>
<td>Jelly Beamer wireless</td>
</tr>
<tr>
<td>by RJ Cooper</td>
<td>by AbleNet</td>
</tr>
<tr>
<td>SwitchHopper</td>
<td></td>
</tr>
<tr>
<td>by RJ Cooper</td>
<td></td>
</tr>
<tr>
<td>Switcheroo</td>
<td></td>
</tr>
<tr>
<td>by RJ Cooper</td>
<td></td>
</tr>
</tbody>
</table>
MAKE IT SWITCH ACCESSIBLE

<table>
<thead>
<tr>
<th>Do It Yourself</th>
<th>Buy It</th>
</tr>
</thead>
</table>
| Battery adapter  
By Don Johnston  
$14.95 | Musical Swirl Art with Lights  
By Enabling Devices  
$79.95 |
| Paint n Swirl  
By NSI Kits  
$22.49 on Amazon.com | |

Total cost ~ $38.00  
Total cost ~ $80.00

CHALLENGES WITH USE OF AAC IN THE CLASSROOM

- Resistance by team members
- Lack of education
- Lack of training
- Personal bias
- Inaccessible environment
- Lack of funding
- Lack of therapists
- Lack of time
- Lack of resources (adaptations, computer programs)
- Poor understanding of rights
- Differing priorities and inability to compromise
REASONS FOR FAILURE

- Lack of support on the part of significant individuals in the user’s life
- Device does not significantly improve expressive communication
- Unreliable device
- Inappropriate device: Too complex or too limiting
- Lack of education regarding device

COLLABORATION WITH FAMILIES AND OTHER PROFESSIONALS

- Collaboration with teachers is mandatory!
  - Knowledge of academic, behavioral needs
  - Work together on goals, don’t duplicate
- Collaboration with aides is a must!!!!!
  - They are with the students everyday
- Collaboration with OT, PT is crucial for students with physical disabilities
  - Positioning needs
  - Access needs
- Collaboration with families must be a priority
  - Communication history, medical history, carry-over at home
HELPFUL HINTS

- Contact your local colleges and universities with SLP and OT programs for projects
- Contact high schools that require community service hours
- Utilize sharing websites - don’t reinvent the wheel!

FUNDING SOURCES

- Medicaid/Medicare
- Private Insurance
- Community Resources (church, local organizations)
- Non-profit funding (Wish List, charity funds)
- BVR
- School
- Private funding
- Local boards of Developmental Disabilities
- Grants
RESOURCES

- AbleNet, Inc. - www.ablenetinc.com
- Adaptivation, Inc. - www.adaptivation.com
- AMDI - www.amdi.net
- Attainment Company - www.attainmentcompany.com
- Boardmaker Share - http://www.boardmakershare.com/
- Creative Communicating - http://www.creativecommunicating.com/
- Don Johnston - www.donjohnston.com
- Dynavox Mayer Johnson - www.mayer-johnson.com
- Early Learning Images - www.elliecards.com
- Enabling Devices - www.enablingdevices.com
- Inclusive Technology - www.inclusive.co.uk
- Judy Lynn Software, Inc. - www.judylynn.com/
- Key Technologies - www.gokeytech.com
- Marblesoft-Simtech - http://www.spectronicsinoz.com/
- Object~Symbol Resource LLC - www.objectsymbol.com
- ORCCA Technology Inc. - www.orcca.com
- Origin Instruments - www.orin.com
- Prentke Romich Co. - www.prentrom.com
- Pro-Ed Inc. - www.proedinc.com
- ProxTalker - http://www.proxtalker.com/
- Pyramid - www.pecs.com
- RJ Cooper & Associates, Inc. - www.rjcooper.com
- Scholastic - www2.scholastic.com
- Tobii - www.tobii.com
- Weekly Reader - http://weeklyreader.com/
- Words + - www.words-plus.com