

Augmentative and Alternative Communication (AAC):



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- Augmentative and alternative communication (AAC) refers to a strategy that helps an individual who cannot speak, or who is hard to understand, to communicate.
- The goal of AAC is generally to achieve the most effective communication possible for the individual.
- For many, AAC is multi-modal.



What is AAC?

- "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"

• Beukelman & Miranda, 2013



Who Uses AAC?

- Anyone
 - Any age group, SES, gender, race, ethnicity, etc....
 - Require adaptive assistance for speaking and/or writing



What are forms of AAC?

- AAC includes:
 - writing
 - pictures
 - symbols
 - photos
 - signs
 - gestures
- essentially everything but spoken communication



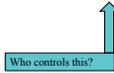
What is the goal of AAC?

- The goal of AAC is to achieve the most effective communication possible. AAC "enable[s] individuals to efficiently and effectively engage in a variety of interactions and participate in activities of their choice"
 - B&M, 2013, p. 8
- Communicative interactions include (Light, 1988):
 - Communication of needs/wants
 - Information transfer
 - Social closeness
 - Social etiquette



Only Part of the Answer:

- “A piano alone doesn’t make a pianist...AAC technology alone doesn’t make one a competent, proficient communicator...Those who rely on AAC...become experts with **appropriate support, instruction, practice and encouragement**” *B&M, 2013, p. 11*



Unaided vs. Aided Communication:

- “AAC” is an umbrella term that references a range of different tools and strategies. These can be categorized as either unaided, or aided forms of communication.



Unaided vs. Aided Communication:

- Unaided Communication
 - Can be used without an external aid or tool:
 - Gestures
 - Vocalizations
 - Speech
 - Manual sign & other signing systems
- Aided Communication
 - Requires an aid, and include tools such as:
 - Real & mini objects
 - Tactile Symbols, Pictures, Icons & Photos
 - Communication books
 - Speech Generating Devices (SGDs)



Communicative Competence:

- Four components (Light, 1989):
 - Linguistic – an individual’s understanding of the language/linguistic code of his or her device.
 - Operational – the technical skills needed to operate the specific AAC system.
 - Social – being able to use the AAC system to achieve functional communication goals.
 - Strategic – appropriate use of strategies to compensate for barriers associated with using AAC.



Communicative competence is essential to the enhancement of the quality of life of individuals with complex communication needs

Light & McNaughton, 2014, p. 27

Linguistic Competence:

- Refers to an individual’s receptive and expressive language skills and knowledge of the linguistic code unique to one’s AAC system.

- You need to be able to:
 - Provide ongoing opportunities for practice using AAC
 - Provide receptive input strategies (AAC modeling)
 - Have an understanding of the linguistic code of the system



Operational Competence:

- Is the technical skills needed to operate the AAC system.
- Usually facilitators are trained, but AAC users need the knowledge too.

- You need to be able to:
 - Update vocabulary
 - Program as needed
 - Protect the tools
 - Secure repairs
 - Modify the system
 - Ensure availability and operation



Social Competence:

- Social interactions such as initiating, maintaining, developing, and terminating communication interactions.

- You need to be able to:
 - How to adjust your conversational style
 - About different systems (i.e., high-tech vs. low-tech)
 - How to support an individual's ability to engage in interactions



Strategic Competence:

- Involves the compensatory strategies used by individuals using AAC to account for the limitations associated with AAC – “communicate effectively within restrictions.”

- You need to be able to:
 - Facilitating communication with unfamiliar partners
 - Repairing communication breakdowns
 - Compensating for a slow speaking rate
 - Adaptive and coping strategies



A New Understanding of Communicative Competence:



Symbols and Symbol Varieties:

- A variety of symbols exist:
 - Real photos
 - Mayer Johnson Picture Communication Symbols (PCS)
 - Unity/Minspeak (PRC)
 - Pixons (combination of PCS and PRC)
 - Symbolstix (like in Proloquo2Go and News2You)
- Understanding can be affected by:
 - Concreteness: clear depiction
 - Familiarity: often seen
 - Context: familiar activities
 - Wholeness: complete people/objects
 - Color: brighter and more contrastive
 - Focus: relevant characteristic



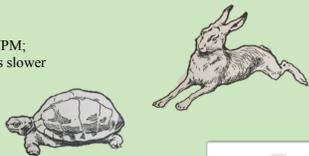
Rate Enhancement:

- Rate enhancement = coding and retrieval strategies designed to help increase rate of production using aided AAC systems
 - Word codes: alpha (letter) word codes – truncation (HAMB) vs. contraction (COMUNCTN); alphanumeric, letter-category, numeric encoding, and Morse code
 - Message codes: alpha (letters), alphanumeric, numeric, iconic and color encoding
 - Letter, word and message predictions: single-letter, word-level and phrase/sentence-level prediction



Rate of Output:

- Typical rate of 150-250 WPM;
- AAC rates are 15-25 times slower



up, with all the ease imaginable. In the meanwhile the *Tortoise* came jogging on with a slow but continued motion, and the *Hare*, out of a too great security, and confidence of victory, overleaping herself, the *Tortoise* arrived at the end of the race first.



Core vs. Fringe Vocabulary:

- Core Vocabulary
 - Most commonly used words
 - 20-25% of words that we use 75-80% of the time
 - Usually pronouns, verbs, and describing word
- Fringe Vocabulary
 - Specific or unique to an individual, topic or context
 - 80% of words that we use only 20% of the time
 - Predominantly nouns



Access Methods:

- Selection Sets
 - Include visual, auditory or tactile presentation of messages & codes
- Types of display sets:
 - Fixed, dynamic, hybrid, and/or visual scene displays
- Physical characteristics:
 - Number, size, spacing, arrangement, orientation of display, shape, color and contrast variation



Direct Selection:

- It is the act of selecting a desired item directly from a set.
 - Selection options:
 - Physical contact, pressure or depression
 - Pointing (eye-gaze, joystick, etc.)
 - Speech recognition
 - Activation strategies:
 - Touch, timed/pushed release, or filtered/averaged activation
 - Keyguard
 - Mouse, joystick, eye gaze, etc.



Scanning:

- Indirect access aided by either a communication partner or electronic technology in a predetermined configuration.
 - *Switches:*
 - Mechanical switch
 - Touchscreen switch,
 - Sip-'n-puff switch, proximity switches, etc.
 - *Activation strategies:*
 - Circular
 - Linear
 - Group-item (row-column or column-row)
 - *Timing techniques:*
 - Direct/inverse
 - Automatic
 - Step scanning



Feedback:

- Tells the individual using AAC that an item has been selected
- Offers information about the message being generated
- *Types*
 - Activation feedback: information sent back to the user upon activation of the input device
 - Auditory
 - Visual
 - Message Feedback: provides information about the message after it has been formulated
 - Auditory
 - Visual



Message Output and Input:

- Message output: what is sent to the communication partner
 - Synthetic speech (text-to-speech, digitized speech)
 - Print
 - Gestures, pointing and sign
 - Non-electronic/low-tech aided symbols
- Message input: information people using AAC receive from communication partners (usually) Natural speech
 - Gestures
 - Vocalizations



Visual Output and Input:

- Visual output: serves to clarify messages when the listener may not understand, or be able to hear.
 - Types:
 - Hard copy (printed copy)
 - Computer screen messages
 - Aided and unaided symbol displays
- Visual input: supports receptive language development and comprehension
 - Aided and unaided symbols



Input Output Asymmetry:

- We can't expect individuals using AAC to learn how to use it without seeing it action. Aided language stimulation is key!



Aided Language Stimulation:

- What is it?
 - Aided language stimulation (ALS) is a facilitation technique in which the communication partner highlights symbols on the individual's overlay as he or she interacts and communicates in the context of an activity.
 - The partner can choose to highlight and activate the device, or activate the device and verbalize the word at the same time.
 - It allows the individual to visually process words and symbols being concretely combined to form functional utterances.



Aided Language Stimulation:

- Why is it used?
 - It demonstrates to the individual using AAC how to use their system for functional communication.
 - It helps to develop and enhance their language.
 - It provides examples of language in the same or similar mode that is expected of the individual using AAC.



Aided Language Stimulation:

- How is it used?
 - Use primarily single words/symbols and short phrases.
 - Use lots of repetition as you describe ongoing events.
 - Model the single word/symbol needed to communicate a message of the same intent.
 - Expand that message into a semantically equivalent two-word/symbol combination.
 - Use the device in the same way the individual accesses the device.
 - It can be used with low-tech and high-tech systems.



AAC Systems: Low-Tech Boards

- Picture Exchange System (PECS)
- Communication books that require sequencing to compose message, with Velcro or pointing on a board



AAC Systems: Tactile Symbols

- Graphic language system using concrete or abstract representations that are both permanent and manipulative.
- Can be physically discriminated



AAC Systems: Mid-Tech Display

- Made with a paper overlay
- Digitized speech:
 - Voice recording
- Set number of buttons
- Set number of overlays:
 - Slide in different overlays



AAC Systems: High-Tech Device

- A.k.a. speech-generating devices (SGDs)
- Electronic AAC systems used to supplement or replace speech or writing for individuals with complex communication needs, enabling them to express their needs.