AAC: BREAKING DOWN THE BASICS

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In-service Objectives

- #1 Define Assistive Technology (AT) and Augmentative Alternative Communication (AAC)
- #2 Develop an understanding for when AAC is warranted
- #3 Define AAC Systems
- #4 Define AAC User Abilities

AAC & AT DEFINITIONS

Objective #1

Terms: Assistive Technology

- **Assistive Technology (AT):** any tool and /or system implemented to improve and/or maintain the capabilities of an individual with a disability
  - Writing
  - Reading
  - Computer Access
  - Communication
  - Play
  - More…

http://idea.ed.gov/explore/view/p/%2Croot%2Cstatute%2CI%2CA%2C602%2C1%2C

Terms: Assistive Technology

Terms: Augmentative/Alternative Communication

- **Alternative/Augmentative Communication (AAC):** a subset of AT; AAC involves the study of, and when necessary compensations put in place for individuals with severe speech and language disorders (ASHA, 2005)

- **Speech Generating Device (SGD):** systems that enable individuals with severe speech impairments to verbally communicate their wants, needs, emotions, thoughts, etc. (ASHA, 2005)

Terms cont.

- AAC System components (Calculator, 2000)
  - **Symbols:** visual, auditory, and/or tactile representations of concepts (language)
    - Brail, PECS, gestures, etc
  - **Aid:** a physical object or device used to transmit or receive messages (ASHA, 1991)
    - communication book, board, computer, Speech Generating Device (SGD)
  - **Strategy:** a way of implementing AAC for more effect communication; varies for every individual
    - Play based, partner augmented input, trials, etc
  - **Technique:** the method of message transmission; how the user accesses AAC to communicate
    - Direct selection, gestures, scanning, signing, eye gaze etc.

Objective #1 Overview

- **AT**: systems and tools put in place to help the functioning of an individual with a disability

- **AAC**: a subset of AT; systems and tools put in place for an individual with severe speech and/or language impairments
  - Speech Generating Devices (SGD)

WHEN IS AAC NEEDED?

Objective #2

Speech/Language Impairments

- Speech and language disorders which may necessitate AAC may include but are not limited to (Buzolich, 2006)
  - Dysarthria
  - Apraxia (aka Dyspraxia, Developmental Apraxia of Speech)
  - Aphonia
  - Aphasia
  - Aglosia
  - Developmental Language Disorder
  - Other Developmental Articulation Disorder
  - Mixed Expressive/Receptive Language Disorder

Speech/Language Indicators

- **Expressive/Receptive Gap:** when receptive language skills are higher than expressive language skills; this typically warrents AAC intervention
- **Frustration** due to the inability to effectively communicate
- **Guarded Verbal Speech Prognosis:**
  - Limited progress with speech therapy
  - Physical limitations for speech production

Objective #2 Overview

- **When is AAC needed:**
  - Moderate-Severe expressive speech/language disorder(s)
  - Expressive/Receptive Gap: understanding more than you can say
  - Limited speech improvement with therapy
  - Frustration

AAC SYSTEMS

Objective #3

AAC Systems

- No Tech/Unaided
- Low Tech
- Light Tech
- High Tech

http://www.talkingpoint.org.uk/parents/speech-and-language/alternative-forms-communication-what-communication

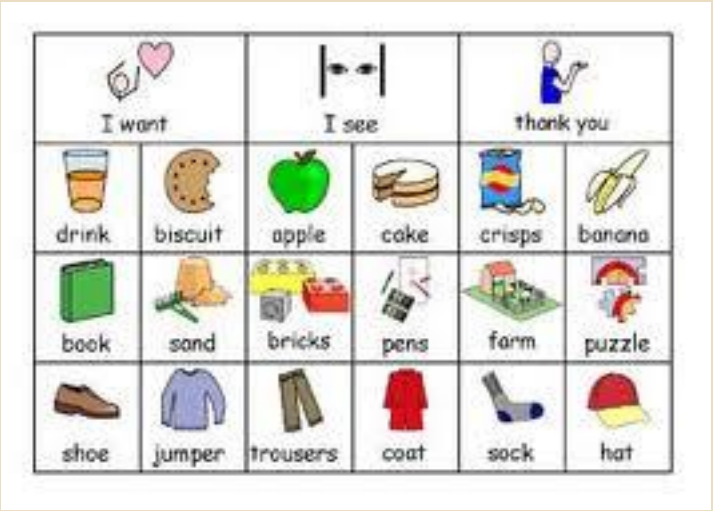
AAC Systems: No Tech/Unaided

- Systems an individual uses with no additional tools or technology
  - **Motor Behaviors**
    - Lean, kick, turn head
  - **Gestures**
    - Wave, point, head nod
  - **Sign Language**
    - More, please, etc
  - **Vocalizations**
    - Groan, cry, laugh
  - **Verbalizations**
    - Speech
  - **Proxemics**
    - Approach, walk away, crawl towards
  - **Eye Gaze**
  - **Facial Expressions**
    - Smile, frown, furrow

Buzolich, M., Russell, D., Lunger-Bergh, J., McCloskey, D. (2008).

AAC Systems: Low Tech

- Communication aides which do not run from a power source
  - Examples
    - PECS: Picture Exchange Communication System
    - Communication board
    - Eye gaze board
    - Live Voice Scanning



AAC Systems: Light Tech

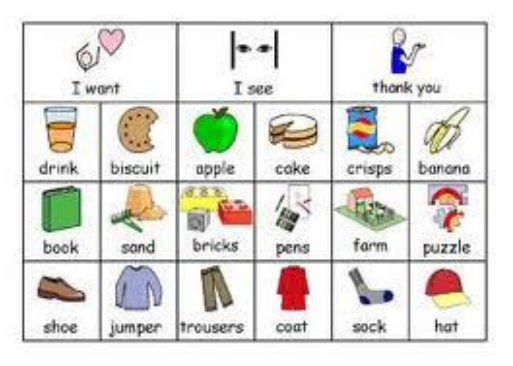
- Communication system which are typically battery operated and have a static (non-changing) display
  - Examples
    - Big Mac
    - Step by Step
    - Tech Talk
    - Go Talks

AAC Systems: High Tech

- Systems typically requiring an electronic power source and have a dynamic display (changing)
  - Examples
    - DynaVox Vmax
    - PRC Vantage
    - PRC ECO
    - iPad (e.g. ProLoQuo2Go, TouchChat)
    - Chat PC Silk (Saltillo)

AAC Systems

- It is ideal for an AAC user to have a system/aide from multiple levels for various environments and in the event of 'breakage'



Objective #3 Overview

- AAC Systems
  - No-Tech
  - Low Tech
  - Light Tech
  - High Tech

AAC USER ABILITIES

Objective #4

AAC Ability Levels

- Emergent
- Context Dependent
- Context Independent
- Literate

AAC Users: Emergent (Dowden, 20054

- **Characteristics:**
  - No symbolic expressive language
  - No prior experience with AAC
  - Communicative intent may be developing
  - Requires the support of a familiar partner
  - Limited communicative reliability
  - Exploring access

- **Primary Goal:** teach symbolic communication

AAC Users: Context Dependent

(Dowden, 2004)

- **Characteristics:**
  - Utilizes symbolic expressive language
  - Prior experience with AAC
  - Developing novel language generation
  - Demonstrates communicative intent
  - Successful communication is typically context dependent
  - Increase communicative success with familiar partners
  - Identified access

- **Primary Goal:** expand communicative contexts and partners

AAC Users: Context Independent

(Dowden, 2004)

- **Characteristics:**
  - Extensive use and knowledge of symbolic expressive language
  - Novel language generation
  - Prior experience with AAC
  - Successful communication in and out of context
  - Successful communication with unfamiliar partners
  - Determined access

- **Primary Goal:** explore users goals and desires for communication

AAC Users: Literate (RAST, 2013)

- **Characteristics:**
  - Extensive use and knowledge of symbolic expressive language
  - Novel language generation
  - Prior experience with AAC
  - Successful communication in and out of context
  - Successful communication with unfamiliar partners
  - Determined access

- **Primary Goal:** explore users goals and desires for communication

AAC Abilities

- User abilities are determined in the AAC Evaluation
- Device selection is determined based on the user abilities and needs
- Treatment plan is based on user abilities and needs

Afreen using software Kathamala

Objective #4 Overview

AAC User Profiles

- Emergent
- Context Dependent
- Context Independent
- Literate

Intervention: A brief look

- **Based on:**
  - User Abilities
  - AAC Competencies
  - Communicative Needs
- **Intervention must be:**
  - Motivating
  - Functional
  - Implemented across environments and partners

Intervention: A brief look

- **Create a supportive and positive communication environment**
- **Multi-modal/Total Communication** (Berke, 2009)
  - Respond to and encourage all forms of communication
- **Aided Language Stimulation** (Goosens', Crain, & Elder, 1992
  - The communication partner uses the communicator's system as he or she communicates verbally with the user
- **Participation Plans** (Light, J. & Binger, C. 1998)
  - Documents created to engineer the users day around various aided and unaided communication systems.

iPad and iTouch: Pros & Cons

- **Pros**
  - A low cost, high-tech SGD option
  - Several communication apps commercially available
  - It's cool!
  - Educational apps available too
  - Small and light weight
- **Cons**
  - Not covered by insurance because it is not Durable Medical Equipment (DME)
  - Direct selectors only (at this time)
  - Programming limitations- user has access to other apps

iPad and iTouch: Apps!

- **Communication**
  - TouchChat
  - http://www.spectronicsinoz.com/article/iphoneipad-apps-for-aac
  - Lamp Words for Life
  - Pictello
  - Autismate

AAC: The School Setting

- **AAC Evaluation**
  - Completed by a Speech Language Pathologist with AAC training
  - 20 hours for extensive evaluation and report
- **Collaborative Model**
  - Role delineation and overlap of team members
- **AAC Goals and Objectives:** AAC competencies
- **Participation Plan**
- **Language rich environment** with visual supports
- **Direct and Indirect AAC Services**
  - Varies for each individual

AAC and Down Syndrome

- Effects of Early Intervention for Children with Down Syndrome by Janice Light & Kathryn Drager
  - Use of AAC did not inhibit speech production
  - Intervention is an art and science
  - Increased social interactions

http://aac-rerc.psu.edu/_userfiles/file/Light%20ASHA%202010%20%20AAC%20and%20children%20with%20Down%20Syndrome.pdf

AAC and Down Syndrome

- Foreman P, Crews G. Using augmentative communication with infants and young children with Down syndrome. *Down Syndrome Research and Practice. 1998;5(1);16-25.*Completed by a SLP with AAC training

  - Discusses the importance of trialing and providing access to a multitude of AAC systems to facilitate successful communication in infants and young children with Down syndrome.
  - Limit communicative failures

http://www.down-syndrome.org/reports/71/

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