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%2C1%2CA%2C602%2C1%2C
Terms: Assistive Technology
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)
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?
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 warrants 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
AAC Systems

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

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

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
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
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
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](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
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


- 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

References