

# 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?

# 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 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

Objective #3

# AAC Systems

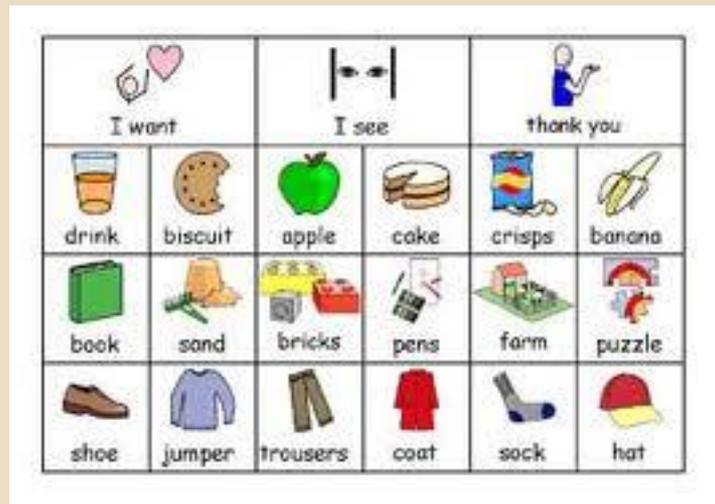
- ▣ No Tech/Unaided
- ▣ Low Tech
- ▣ Light Tech
- ▣ High Tech

# 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



# 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)

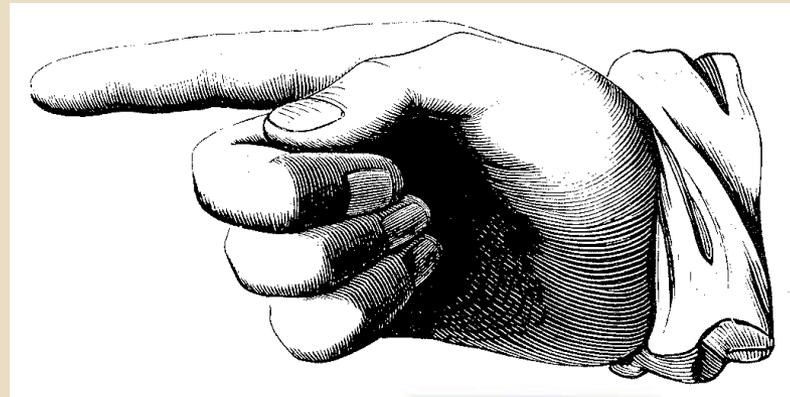
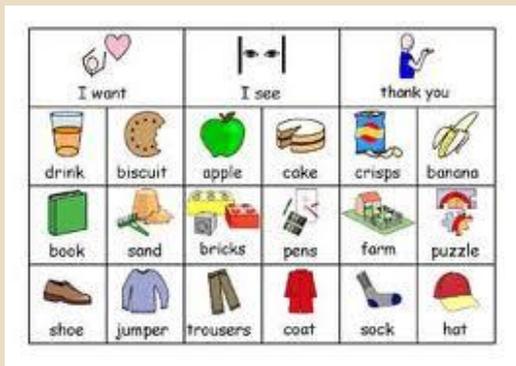
- Examples

- 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, 2005)

- **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)

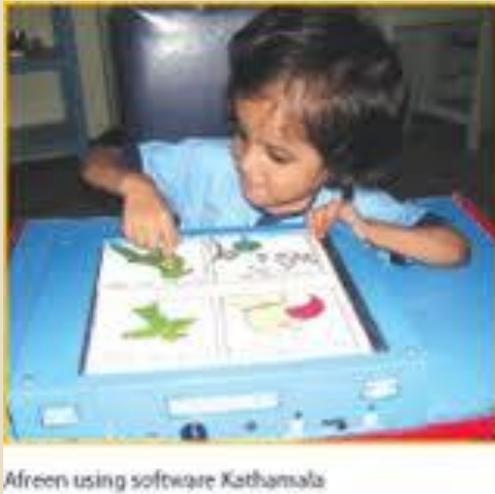
## □ **Characteristics:**

- 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>
- 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  
0%20AAC%20and%20children%20with%20Down%20S  
yndrome.pdf](http://aac-<br/>rerc.psu.edu/_userfiles/file/Light%20ASHA%202010%20<br/>0%20AAC%20and%20children%20with%20Down%20S<br/>yndrome.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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