AAC Devices and Interventions

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Picture Exchange Communication Systems (PECS)

Image 1: PECS USA

Appropriate for:

- Non verbal individuals
- Individuals with limited verbal ability

History:

- Developed in 1985 by by Andy Bondy, PhD, and Lori Frost, MS, CCC-SLP
- First used in pre-school setting
- derived from *Verbal Behavior* by B.F. Skinner and broad spectrum applied behavior analysis

(Pyramid Educational Consultants, n.d.)

Picture Exchange Communication Systems (PECS®)

Benefits

- Decreases maladaptive behavior
- Can expand to increase complexity of communicatio
- Relatively inexpensive
- Customizable

Drawbacks

- May impede functional use of speech
- Requires training to use with fidelity

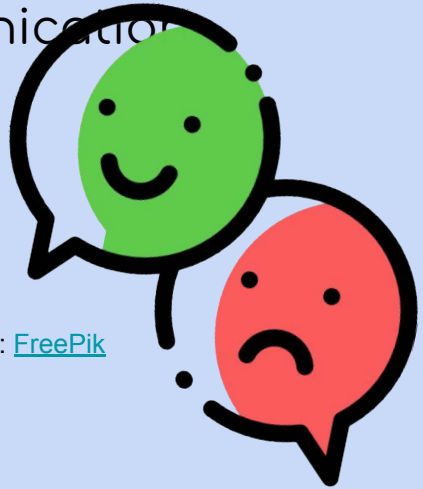


Image 2: FreePik

(National Autism Resources, n.d.)

Picture Exchange Communication Systems (PECS®)

Implementation: Six Phases

1. How to communicate

- Learning to trade pictures for desired items.

2. Distance and Persistence

- Work on generalization across settings, with various people, and across distance.

3. Picture Discrimination

- Learn to ask for their favorite things by choosing from two or more images.

4. Sentence Structure

- Use sentence strips for learning to create simple phrases using a "I want" graphic followed by a picture of the item sought.

5. Responsive Requesting

- Respond to questions (e.g. “What do you want?") via the PECS system.

6. Commenting

- Learn to respond to queries (e.g. "What do you see?") with constructed replies using sentence starters (e.g. "I see,").

Images 3-8: PECS USA

(Pyramid Educational Consultants, n.d.)

Learning to Use PECS®

https://www.youtube.com/watch?v=Hs-412lhXb0 (Pyramid Educational Consultants, 2015).

Proloquo2go

What is Proloquo2go?

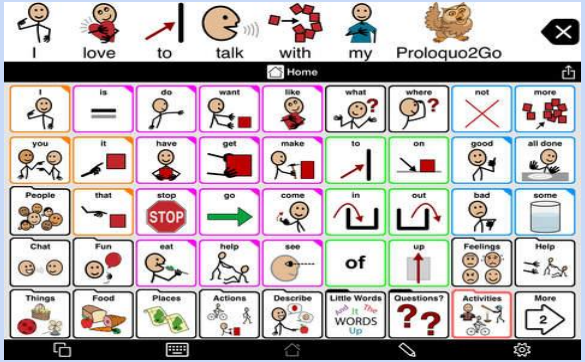
- Found in the apple app store, Proloquo2go is a symbol-based AAC communication tool that is used to build language skills.
- Works for all age groups
- Allows for users to learn how to express themselves. The app is completely customizable for a wide range of fine-motor and visual skills. Is designed for all users from beginning to advanced.
- “Useful for non-verbal individuals with autism, down syndrome, cerebral palsy, and a range of other diagnoses or speech impediments like apraxia and dysarthria”

(AssistiveWare, 2022).

Proloquo2go

Basics

- About 200-400 core words that make up 80% of the words people say everyday.
- Can allow user to create single words or full grammatical sentences
- Works best with modeling to grow language skills. No limit on language development and allows for customizable levels.



Communicate with ease

- Easy to Use
- Core words remain is the same location
- Customizable folders
- Designed for a range of fine-motor and visual skills

Use it your way

- Allows for customizable speaking voices, languages, accents, and regional vocabulary.

(AssistiveWare, 2022).

Beginners Guide to the Proloquo2Go Communication App

https://www.youtube.com/watch?v=SD787kRJSyA&t=11s

(Special Education Session, 2020).

Tablet/Smartphone Apps

"Educational App for children with ASDs is developed for iOS and Android devices to focus on giving a solution to verbal communication problems, which can give children with ASD a useful way of communication and interaction with others" (Hussian & et al., 2021).

Apple (IPhone, IPad, IPod & Mac)

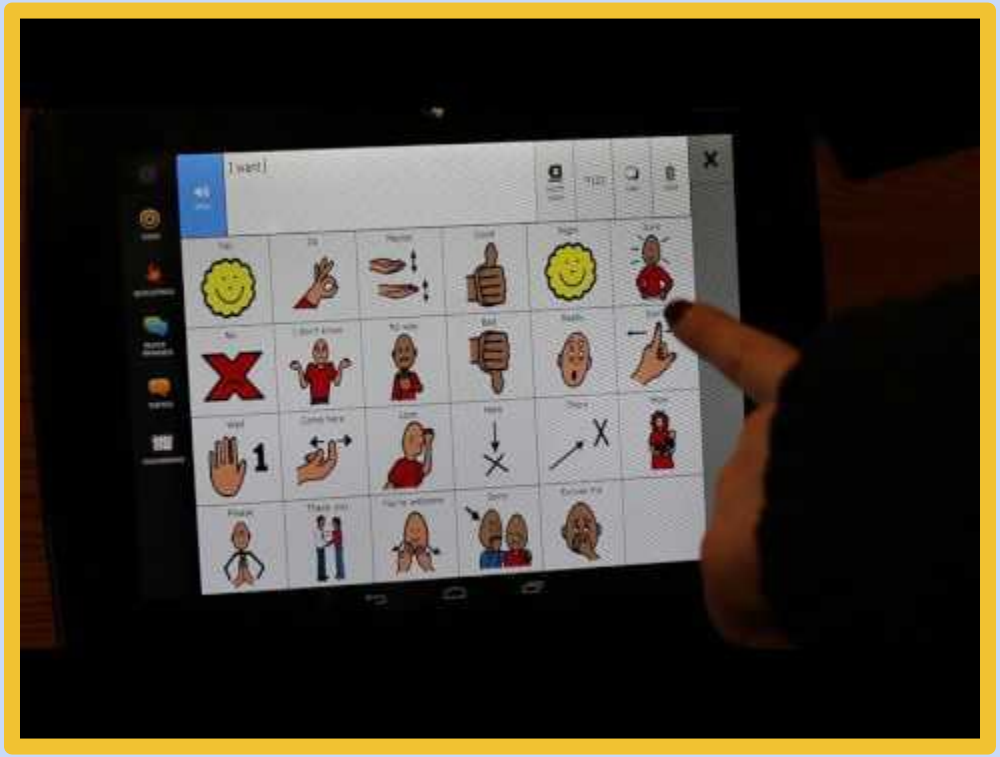
- SayIt!-text-to-speech tool for all ages who struggle to vocalise words.
- Lil Requester- Helps children communicate needs and wants.
- TouchChat- Symbol and text-based. Allows users to create words, phrases and messages using digitised speech.
- ProloquoGo
- SonoFlex- Turns symbols into clear speech.

Android

- CBoard-Symbols and text-to-speech.
- LetMeTalk- Enables ujsers to line up images in a meaningful way to make a sentence.

(Walsh, 2022).

Dynavox/Tobii



Augmentative Communication device that is used to serve individuals with a variety of disabilities including ALS, Autism, and other cognitive, language and physical impairments (INData, n.d.).

Electronic device that offers tablet (touch) capability which supports non-verbal individuals with communicating independently.

Dynavox/Tobii also offers an eye-gaze component, which, when paired with a specialized software (Tobii), allows users to communicate by looking at the screen (INData, n.d.).

https://www.youtube.com/watch?v=x2-S4kKhYeo

AAC Device Examples and Stories

iPads

https://www.youtube.com/watch?v=3LUbl7QydwM

iPad versions offer independence across environments. This story offers an example of how Austin and his family use iPads and the Tobii software to communicate in the home (The Columbian, n.d.).

AAC Device Examples and Stories

Talk to Touch

Talk to Touch, can be used to help individuals with Autism in the school setting immediately communicate via the device. It can also offer a model for pronouncing words. This story shares how families utilize Talk to Touch and how it is beneficial in social settings.

https://www.youtube.com/watch?v=OeBt31Q5GG4

Benefits of Augmentative and Alternative Communication devices

- **Implementation and Learning.**
    - Individuals with ASD can learn the system quickly because most AAC's are visually based systems. According to Ganz, "Autism experts and individuals with high-functioning autism contend that many individuals with autism spectrum disorders (ASDs) respond most favorably to information that is presented visually" (2007).
- **Individualized**
    - Designed to meet the learner's needs. According to Hopf, "AAC is a spectrum, with different systems spanning along a continuum. There are high-tech, low-tech, and no-tech options, with each selection factoring in the cognitive, motor, and cultural needs of those utilizing it" (2022). Most importantly an individuals strengths and preferences should be considered.
- **Attention Gaining/Social Interactions**
    - AAC's use of either concrete visual representations and/or auditory output that the conversation partners can easily comprehend. AACs that generate speech allow people with ASD to get the attention of their communication partner without having to be physically close to them. It could be helpful for some individuals who have difficulty interacting socially (VCU, 2022).
- **Communicating knowledge**
    - When individuals are able to communicate what they know through AAC's, there may be an increased improvement in academics, fewer challenging behaviors and improved social interactions (Ganz et., al., 2011).

Benefits of Augmentative and Alternative Communication devices

- Positive Behavioral Outcomes
  - Increased Communication Skills
  - Decreased Challenging Behaviors
  - Increased Social Skills/Social Interaction

- Positive Academic skills outcomes
  - Spelling - sight words and shared reading groups.
  - Mathematics (number sense)
  - Increased Independence

According to Ganz et. al., "When challenging behaviors function to communicate desire for an item or attention, or to escape an activity or attention, providing a more conventional means of communicating (e.g., simulated voice) may result in decreased challenging behaviors due to the efficiency of the new form of communication" (2011).

AAC in your Classroom - Strategies for Implementation

Tips for Using Assistive Technology Devices. (2022).

1. Begin by teaching/modeling using the device and pair verbal language with the device and pictures.
2. Use positive reinforcement - when the user attempts to communicate using the device. Reward them and if requesting an item give them the item.
3. Set-up the device for success, use appropriate items/photos and intentional vocabulary (core vocabulary and sight words).
    a. Chose a behavior you want to increase
    b. Keep a schedule on the device so that it can be used to follow daily schedules and routines.
    c. Include Steps for activities that are challenging for the individual to support independent learning
4. Use for shared reading groups (lessons) and incorporate vocabulary and target words
5. Sight words learning
6. Find Joy in using the system and make lessons fun!

Modeling and Using ACC Devices with Students

https://www.youtube.com/watch?v=Z0TBQY_UuOQ&t=1s

Helpful Websites and Resources for Implementing ACC Devices

Integrating AAC Into the Classroom

ASHAWIRE - American Speech, Language & Hearing Association

https://leader.pubs.asha.org/doi/10.1044/leader.FTR2.09172004.6

ACC Language Lab Free Lessons plans and stages

https://aaclanguagelab.com/lesson-plans?free=1

Miss Molly's YouTube channel

Includes ACC videos for sight word,, alphabet, letters, Numbers, Counting, Colors, Calendar, Time, Months of the Year, Days of the Week, Opposites, Feelings, Dancing, Singing, and More!

https://www.youtube.com/c/MissMollyLearning/about

Orange Effect Foundation

Picture Books for ACC to target Core Vocabulary

https://theorangeeffect.org/70-kids-picture-books-to-target-core-vocabulary-for-aac/

Tobii dynavox

First Books and Lessons

https://www.tobiidynavox.com/products/core-first-lessons

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Research Studies on Aided Augmentative and Alternative Communication Systems with Individuals with Autism

Spectrum Disorders. *Journal of Autism and Developmental Disorders*, *42*(1), 60–74. https://doi.org/10.1007/s10803-011-1212-2

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