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## AAC App Selection for Students with Autism

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## Topics for Today

- » AAC app selection process
- » Language features to consider
- » Tools and resources

>

## Take A GULP

- » **ASK:** “What do I want the student to be able to do with this app?”
- » **GET** a comprehensive list of AAC apps.
- » **USE** a feature match approach to ensure a good fit.
- » **LOOK** for app reviews & talk with knowledgeable users.
- » **PLAY:** Get a version to explore & use.

>

## ASK: “What do I want the student to be able to do with this app?”

- » Ultimate goal is for the students to be able to convey:
  - > Anything they wish
  - > To any communication partner
  - > In any setting or activity

>

## Determine the Purpose

### » Identify intermediate steps & short term goals

> For the student

- + Generative language?
- + Choicemaking & requesting?
- + Support literacy learning?



- » 19 y/o with ASD and significant intellectual disability
- » IEP goals: Self care (e.g., hygiene, dressing) & life skills (e.g., meal preparation, bus riding)
- » Has struggled with:
  - > Object and picture schedules
  - > Matching and picture identification
  - > Choicemaking with objects and pictures
  - > Following single step directions

**Garrett**

- » 9 y/o with ASD and apraxia
- » IEP goals: Communication, literacy, math, emotional regulation
- » Has been successful with:
  - > Picture schedules; First/then boards
  - > Low tech AAC to request, protest, comment, and answer questions
  - > Creating 2-3 word sentences
  - > Social narratives
  - > Sight word programs (reading)

**Terrence**

## What is/are the primary role(s) will it serve?

- » As the main means of functional communication
- » As a language learning tool
- » As a clarification tool
- » For specific situations and contexts



## Determine the Purpose

### » Identify intermediate steps & short term goals

- > For the student
  - + Generative language?
  - + Choicemaking & requesting?
  - + Support literacy learning?
- > For the team
  - + Early success
  - + Positive regard
  - + Strong implementation

participate protest  
 redirect repeated lines maintain  
 commenting initiate  
 choicemaking  
 bell exchange  
 ask respond  
 recurrence  
 answer reject affirm  
 terminate  
 greeting  
 battle  
 be involved  
 experience connect  
**communication**  
 sing relate interact  
 show of request jokes

## GET: A comprehensive listing of AAC apps

- » Jane Farrall's Website (<http://bit.ly/1sYkRkm>)
- » AAC App Categories
  - > Pictures only
  - > Picture symbols with text
  - > Text only

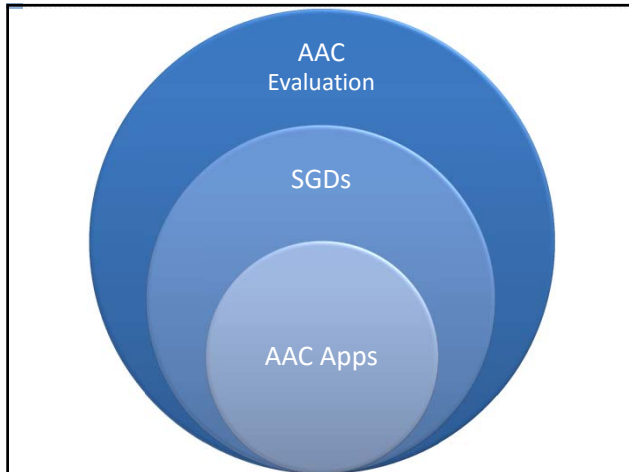


AAC  
 Ferret  
 App  
<http://bit.ly/1ifg8IU>

## USE: A feature match approach to assessment

- » Gold standard for AAC assessment for 20+ years (Shane & Costello, 1994)
- » Predictive assessment
  - > Language representation, symbols
  - > Vocabulary organization, type, amount
  - > Physical access; Hardware features
  - > Word prediction, etc.
- » \*\*Includes device/app trials\*\*





## AAC Feature Match Process

- » Begins with information gathering
  - > Multiple stakeholders: Student & family; teachers, therapists, aides; School & community
  - > “What can he do? What does he need to do? What has been tried? What happened? Top priorities?” etc.
  - > Review of previous speech, language, and communication evaluations
  - > Purpose-driven observation with quantitative data collection
  - > Environmental inventory
    - + Allies and obstacles
    - + Classroom atmosphere
    - + Team functioning

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## Multiple Stakeholders

- » The more time that an individual spends with our student, the more important it is that we get his/her input.
  - > When we proceed without the input of key stakeholders, we set ourselves up for poor implementation.
  - > “Buy – in” starts with the assessment.



## Direct Assessment

- » Assess to attempt to answer specific questions regarding:
  - > Language comprehension
  - > Symbols: Preference, performance, environmental support, history
  - > Expressive communication: Form and function
  - > Language skills
  - > Vision and hearing
  - > Motor skills
  - > iPad skills



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## In Collaboration with Others

- » Determine what features the student needs in an app
- » Determine which apps have those features
- » Create a 'short list' of AAC apps for trial use



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## Trial Period

- » Obtain those apps
- » Try a few *appropriately programmed* apps to see which one is most promising.
- » "How long should the trial period be?"
  - > It depends. It can be anywhere from a few sessions to a couple of months, depending on the student.
  - > The slower the student learns, the longer the process.



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## Trial Period, continued

- » Begin teaching use in natural contexts & therapy
  - > Frequent models of competent AAC use (aided language input)
  - > Consider providing full support (e.g., most-to-least prompting)
  - > Focus on teaching, NOT testing
  - > Activities and messages that are high in motivational value
  - > Support for frequent use



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## Trial Period, continued

- » Probe periodically (not often) to assess learning but only AFTER the team has been doing the other things for awhile.
  - > "Is he starting to 'get' it?"
  - > "Does this have potential?"
  - > "How does his skills with this compare to use of other AAC?"
- » Repeat with other apps, then bring to team for discussion & decision



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## Language Features & Considerations



How is language organized?

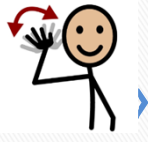


What type of vocabulary display is best for this student?



Which visual representations are best for this communicator?

»Unity/Minspeak, SmartySymbols, Pixons, SymbolStix, PCS, LessonPix, Widgit, Mulberry, AACORN symbols, photographs, clipart, etc.



Does it need to be consistent with AAC already used by this student?



Gateway on DynaVox VMax



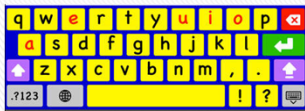
Gateway on iPad





## How will the student access the alphabet?

- » Keyboard or alphabet screen
- » Layout/customization
- » Word prediction



## Operational Features That Impact Language Learning

- » What tools are there for language exploration?
  - > Word Finder/Tutor
  - > Babble/Explore

## Features That Impact Intervention

- » What is the process for making changes on the fly? (e.g., Hide/Show)
- » What tools are available for data collection & analysis? (e.g., history, data logs for language sampling, analytics)



## Other Features

- » Search feature
- » Saving phrases/sentences on the fly
- » Managing interruptions
- » Back-ups
- » Support
  - > Particularly if you are not using an SGD company



## LOOK: To others for app reviews & feedback

- » App Reviews: Beyond the App Store
- > Yapp Guru



- > Blogs (e.g., Speechy Musings, Special Apps Special Kids, Home Sweet Speech Room)
- > Jane Farrall's site

TITLE	DEVICE	SYMBOL SYSTEM	PRE-PROGRAMMED PAGES & CUSTOMISATION	VOICE OUTPUT & SPEECH	ACCESS OPTIONS	RATING (OUT OF 5)
Remote AAC for non-verbal children	iPhone iPad	Has a number of symbols. User can add own images.	Category based AAC which also includes the option of remote chatting. With the app installed on multiple devices, users can chat face-to-face or remotely. Message window allows user to construct sentences.	Synthesised and recorded speech	Direct Access	★ ★
Communication System	iPad	Contains a number of photos of common items. User can add own images.	Designed to simulate a Picture Exchange Communication System (PECS) approach to AAC. Communication pages are designed to be stored under categories e.g. bathroom, clothing. Text appears over photos. Once an item is selected, it appears in the sentence strip at the bottom of the page and the sentence strip can be spoken whenever it is visible by pressing it. aOL_ The Panda appears in many of the photos (e.g. on the school bus). Existing vocabulary can be added to, edited or deleted. The app also offers the easy	Recorded Speech	Direct Access	★

## Other Sources of Input

- » Activate your Professional/Personal Learning Network
- » Social Media
  - > AAC Facebook Groups: <http://bit.ly/1PwwMUJ>
  - > App-specific Facebook Groups
  - > Twitter: #AACapps; #Augcomm

## PLAY: Get the app to explore & experience

- » Look for a lite version of the app
- » Download an emulator
- » Work toward having a mobile device loaded with a variety of AAC apps that staff can borrow to learn them.
  - > Assessment Centers: Reach out to app developers

## PLAY: Get the app to explore & experience

- » In the US, contact your state AT project
- » Look at the app from your client's point of view
  - > Which vocabulary set?
  - > What would the starting point be?
  - > How would you expand language w/ this app?



## Build Your AAC App Library

- For assessment purposes
- You don't even have to own a mobile device!
  - Set up an account: iTunes App Store, Google Play
- How do you find free/reduced cost apps?
  - Facebook Groups & Pages
    - SLPs Talk Apps
    - iTeach: Apps for the Classroom
    - Omazing Kids
    - Appy Mall: Tech in Special Ed Autism Apps
    - Apps for Apraxia-KIDS
  - Twitter #AACapps, #augcomm, #AAC



## Some Common Sense Guidelines

- » Presume competence
- » Maximize the use of whatever the student currently has
- » Keep asking questions and searching for answers
- » Work toward a more optimal process and/or set of tools
  - > Understand the implications of your decisions



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## Tools & Resources

- » App Lists & Comparison Tools
  - > [www.JaneFarrall.com](http://www.JaneFarrall.com)
  - > AAC Ferret
  - > AAC App Assistant
  - > AAC App Feature Match Rubric
  - > Rubric for Evaluating the Language of AAC Apps



# AAC App Assistant



[www.aactechconnect.com](http://www.aactechconnect.com)

# Fonner & Marfilus

**Feature Match Listings** page 15

**Portable Operating System**

- iPad
- iPhone
- iPod
- Android
- Other

**Other Features**

- Life Version Available
- Cost \$ \_\_\_\_\_
- Back-up/Portable
- Battery Life \_\_\_\_\_

**Visual Appearance**

- Landscape View
- Portrait View
- Type of Board
  - \_\_\_\_\_ Text only \_\_\_\_\_ Pictures
  - \_\_\_\_\_ Digital Images
- Customizable Board
  - \_\_\_\_\_ Number of Cells \_\_\_\_\_
  - \_\_\_\_\_ Size of Cells \_\_\_\_\_
  - \_\_\_\_\_ Internal Cell Sizes on Board \_\_\_\_\_
  - \_\_\_\_\_ Color of Board Background \_\_\_\_\_
  - \_\_\_\_\_ Color of Board Background \_\_\_\_\_
- Symbols on Cell
  - \_\_\_\_\_ Text \_\_\_\_\_ Phrases \_\_\_\_\_
  - \_\_\_\_\_ Picture \_\_\_\_\_ Symbol \_\_\_\_\_
  - \_\_\_\_\_ Digital Image \_\_\_\_\_ Tactile \_\_\_\_\_
  - \_\_\_\_\_ Other \_\_\_\_\_

**Output Features**

**Visual Feedback**

- Key Alerts depressed when active
- Message Display on Screen
- Text Message Display only
- Color Change
- Symbol Display
- Size of Display \_\_\_\_\_

**Auditory Feedback**

- Text-to-Speech Synthesis
- Voice Options
- Digitized/Recorded Sound
- Key Click

**Input Features**

- Access by \_\_\_\_\_ Touch \_\_\_\_\_ Pen/Stylus \_\_\_\_\_
- Switch \_\_\_\_\_
- Input Cueing
- Auditory Cue
- Visual Cue (highlighting/graying)
- Adjustable Timing
- Rate of Selection \_\_\_\_\_
- Delay on Call
- Key Latching
- Self Screen Locations/HotSpots/Markers
- Camera

**Processing Features**

- Basic Board (Single Level)
- Dynamic Boards (Multiple Levels)
- Keyboard Layout
  - \_\_\_\_\_ QWERTY \_\_\_\_\_ ABC \_\_\_\_\_
  - \_\_\_\_\_ AZDQJ \_\_\_\_\_ DVORAK \_\_\_\_\_
  - \_\_\_\_\_ Phrases \_\_\_\_\_ Other \_\_\_\_\_
- Customizable Layout
- Call Functions
  - \_\_\_\_\_ Speak only \_\_\_\_\_ Branch/Linkarity \_\_\_\_\_
  - \_\_\_\_\_ Speak and Branch/Link \_\_\_\_\_
- Branching Linking
  - \_\_\_\_\_ to another layout \_\_\_\_\_ to move to internet \_\_\_\_\_ to application \_\_\_\_\_
- Rate Enhancements
  - Word Prediction
  - Abbreviation Expansion
  - Scribble/Mouse
  - Smart Branching

**Scanning Features**

- Number of Switches \_\_\_\_\_ 1 Switch \_\_\_\_\_ 2 Switch \_\_\_\_\_ 3 Switch \_\_\_\_\_ Multiple
- Step Scanning
- Automatic Scanning
- Inverse Scanning
- Organization of Scan
  - \_\_\_\_\_ Linear \_\_\_\_\_
  - \_\_\_\_\_ Circular \_\_\_\_\_
  - \_\_\_\_\_ Row/Column \_\_\_\_\_
  - \_\_\_\_\_ Column/Row \_\_\_\_\_
  - \_\_\_\_\_ Block/Row/Column \_\_\_\_\_

**Scott Marfilus & Kelly Fonner**

Assistive & Educational Technology Consultants

**Feature Match Checklists**

**Page Director**

1. Electronic Readers
2. Portable Electronic Readers
3. Portable Writing Systems
4. Talking Word Processors
5. Word Prediction Systems
6. Word Prediction Software
7. Accessible Testing Software
8. Onscreen Keyboards
9. Alternative Keyboards
10. Working, Graphic Organizers & Outlines
11. Symbol to Text Systems
12. Task & Behavior Support Software
13. Portable Task & Behavior Support
14. AAC Apps

<http://bit.ly/1XghYuF>

## Rubric for Evaluating the Language of Apps for AAC (RELAACs; Parker & Zangari, 2012)

<http://bit.ly/1KtSxzJ>

**RUBRIC FOR EVALUATING THE LANGUAGE OF APPS FOR AAC: RELAAACS**

name & zangari 2012

**PURPOSE:** This rubric is designed to help speech-language pathologists compare AAC apps on the dimension of language and communication. It should be used in conjunction with more comprehensive checklists that address a variety of app features, such as those developed by [Wagner \(2011\)](#) and [Marfilus and Fonner \(2015\)](#). When selecting AAC apps for an individual, this rubric should be used in the context of a comprehensive AAC evaluation, which considers a range of strategies and tools.

App Name: \_\_\_\_\_ Evaluator: \_\_\_\_\_

App Version: \_\_\_\_\_ Date of Evaluation: \_\_\_\_\_

	DOES NOT SUPPORT	LITTLE SUPPORT	SOME SUPPORT	CONSIDERABLE SUPPORT	FULLY SUPPORTS
	1	2	3	4	5
<b>FUNCTIONAL COMMUNICATION LEARNING</b>					
1. Object/action requests, choices	1. No capacity for making requests of desired objects or actions	2. Very limited capacity for generative requests of desired objects, actions	3. Some capacity for preformed & generative requests of objects or actions	4. Fairly good capacity for preformed & generative requests of objects or actions	5. Excellent capacity for preformed & generative requests of objects or actions
2. Other requests (help, attention, simple, negotiation)	1. No capacity for more abstract requests	2. Very limited capacity for more abstract requests (preformed or generative)	3. Some capacity for more abstract requests (preformed or generative)	4. Fairly good capacity for more abstract requests (preformed & generative)	5. Excellent capacity for more abstract requests (preformed & generative)
3. Negatives (rejection, protest)	1. No capacity for preformed or generative negation	2. Little capacity for preformed or generative negation	3. Some capacity for preformed or generative negation	4. Considerable capacity for preformed or generative negation	5. Excellent capacity for preformed or generative negation
4. Social interaction	1. No capacity for social interaction words	2. Very limited capacity for preformed or generative for social interaction words	3. Some capacity for preformed or generative for social interaction words	4. Fairly good capacity for preformed or generative for social interaction words	5. Excellent capacity for preformed or generative for social interaction words

<http://bit.ly/1KtSxzJ>

How well does this app support the most frequently used words? Think about common pronouns, helping verbs, descriptors, and conjunctions.

11. Syntax & sentence-building	1. No capacity for syntactic learning or sentence-building	2. Very limited capacity for syntactic learning or sentence-building	3. Some capacity for syntactic learning or sentence-building	4. Fairly good capacity for syntactic learning or sentence-building	5. Excellent capacity for syntactic learning or sentence-building
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How well does this app support language competence through word combinations? Think about its capacity for assembling single words into phrases/sentences.

12. Morphology & word forms	1. No capacity for modifying word forms	2. Very limited capacity for modifying word forms	3. Some capacity for modifying word forms	4. Fairly good capacity for modifying word forms	5. Excellent capacity for modifying word forms
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How well does this app support language competence by permitting variations of word forms? Think about its capacity for verb conjugation, changing verb tense, singular/plural, comparative/superlative, etc.

13. Narratives & story telling	1. No capacity for telling preformed stories or creating new ones	2. Very limited capacity for telling preformed stories or creating new ones	3. Some capacity for telling preformed stories or creating new ones	4. Fairly good capacity for telling preformed stories or creating new ones	5. Excellent capacity for telling preformed stories or creating new ones
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How well does this app support storytelling? Think about personal narratives (e.g., recounts, accounts), stories, series, and events.

14. Semantics & new word learning	1. No capacity for planned expansion or extensive restriction in word types	2. Very limited capacity for planned expansion or significant restriction in word types	3. Some capacity for planned expansion & some variety in word types	4. Fairly good capacity for planned expansion & variety in word types	5. Excellent capacity for planned expansion & extensive variety in word types
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How well does this app support the learning and use of new words? Think about organizational features of the app, ability to hide/show and support for exploration of language and lexical diversity.

15. Linguistic aspects of this app	Very beginning communicator (not yet using words)	Beginning communicator (1 word/1 cell)	Early sentence users (2-5 words using multiple cells)	More complex sentence users	Adult-like language users
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**SUBTOTAL** \_\_\_\_\_ out of 75 possible points

16. Customization (5 post ph)	1. Either no premade displays or no customizability	2. Inadequate balance of premade displays & customizability	3. Moderate balance of premade displays & customizability	4. Fairly good balance of premade displays & customizability	5. Excellent balance of premade displays & customizability
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How well does this app strike a balance between being entirely pre-set and fully customizable? Think about how much is pre-stored and how much the user needs to create.

**TOTAL** \_\_\_\_\_ out of 75 possible points [Points can be used to compare one AAC app to another.]

# Questions?

Handout will be available via  
[www.PrAACticalAAC.org](http://www.PrAACticalAAC.org) next week.

