

## Aided Language Stimulation: Increase Input to Increase Output!

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## Why Use AAC?

- Communication – may lead to speech, may use AAC as a means indefinitely
- Reduces frustration and behavior problems
- Makes language less transient - VISUAL
- Makes language more concrete
- Social interacting with peers
- Provides support for accessing other emergent skills (i.e. literacy)

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## Multimodality AAC

- More than one form of communication is needed to meet needs and social expectations.
- Typically many of us use two or more forms of AAC or visual supports as we talk.
- Children learn multiple symbol systems.

## AAC Should Be:

- Used frequently, interactively and generatively to express a wide range of communicative intents;
- Occurring during at least 80% of ongoing classroom programming (as speech or manual sign use is);
- Used to mediate communication with classmates as well as personnel (i.e. teachers, aides, therapists, clinicians);
- Designed and implemented in manner that is as time and cost effective as possible.

## AAC Today

- Communication displays and devices are often not used
- AAC users are typically responders not initiators
- Interaction patterns focus on “closed” questions such as “What do you want?”
- Conversational partners control interactions (turn taking is unequal)
- Peer interaction is minimal (Kraat, 1985)

What framework do we use when we think about what an efficient and effective communicator looks like?

## Communicative Competence

- Janice Light (1989) defines communicative competence as ". . . the ability to communicate functionally in the natural environment and to adequately meet daily communication needs."
- Light breaks down Communication Competence into 4 specific skill areas

## Communicative Competence

- **Linguistic Skills** include receptive and expressive skills in the native language spoken by the family and broader social community.
- **Operational Skills** refer to the technical skills required to use the AAC system(s) accurately, efficiently, and appropriately.
- **Social Skills** refer to knowledge, judgment, and skills in the social rules of interaction.
- **Strategic Skills** refer to compensatory strategies that may be utilized by individuals who use AAC to overcome functional limitations that restrict their effectiveness as communicators.

## Linguistic Skills

- The BEST way to improve someone's knowledge of how to use the linguistic code of their AAC system is to MODEL using it.
- This is known as **Aided Language Stimulation!**

## Aided Language Stimulation (ALgS)

- Aided language stimulation is approach in which the facilitator points out picture symbols on the child's communication display in conjunction with all ongoing language stimulation.
- Through the modeling process, the concept of using the picture symbols interactively is demonstrated for the individual.

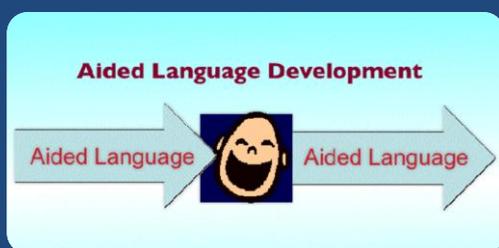
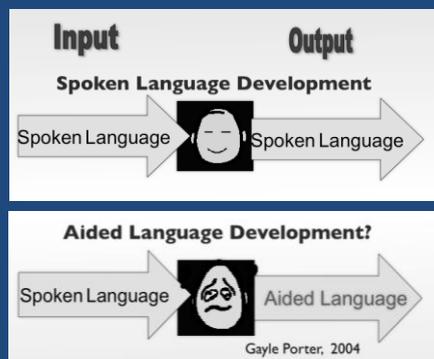
– Goossens, Crain, & Elder (1992)

## Been Around a While

- Called by different names
  - Partner-Augmented Input (PAI)
  - Natural Aided Language (NAL)
  - Aided Language Input (ALI)
  - Aided Language Stimulation (ALgS)
- Promoted by different people
  - Goossens', Crain, & Elder (1992)
  - Romski & Sevcik (1996)
  - Cafiero (1998)

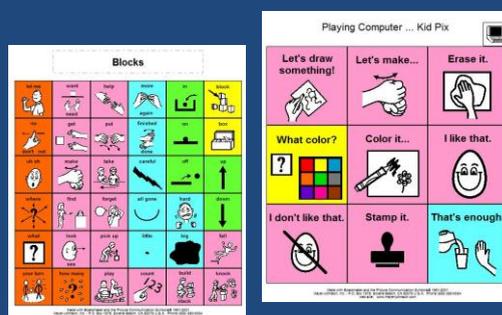
“From the moment a baby is born, they hear and respond to the spoken word. We bombard that infant with language for the first 12-18 months of their lives. During that time, we do not expect that they will utter a single understandable word.”

<http://atto.buffalo.edu/registered/ATBasics/Populations/aac/consider.php>



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## Engineering the Environment



Carol Goossens', Ph.D., CCC-SLP, Sharon Sapp Crain, M.S., CCC-SLP and Pamela S. Elder, M.A., CCC-SLP

## Aided Language Stimulation Research

- 3 week long aided language stimulation program on vocabulary acquisition skills of children with little or no functional speech (LNFS); 4 children single subject, multiple-probe study across activities.
- 3 activities: arts and crafts, food preparation, and story time activity. Each activity was repeated over the duration of 5 subsequent sessions. Eight target vocabulary items were taught within each activity.

### RESULTS:

- The intervention met the criterion of being used 70% of the time & providing aided language stimulation with 80:20 ratio of statements to questions.
- All 4 children acquired the target vocabulary items.
- The 3-week intervention program in aided language stimulation was sufficient to facilitate the comprehension of at least 24 vocabulary items in 4 children with LNFS.

Dada, S., & Alant, E. (2009)

## Aided Language Stimulation Research

- Study to determine impact on aided language stimulation on children with moderate cognitive disabilities.
- 3 preschool children with moderate cognitive disabilities who were functionally nonspeaking; 12 target vocabulary.
- Aided language stimulation during a scripted routine designed for a preferred activity. Before beginning the scripted routine, the experimenter placed a communication board in front of the child. The experimenter referred to each object/symbol four times during each session. The position of the symbols displayed was randomized before each session.
- Results indicated that all 3 children displayed increased symbol comprehension and production following the implementation of aided language stimulation.

Harris, M. & Reichle, J. (2004)

## Aided Language Stimulation Videos

## Designing AAC Systems

- Can YOU use the AAC system to communicate with others?
- If you cannot use it, is it designed well?
- By modeling how to use a display to initiate and maintain communication, you show a student how to initiate and maintain – not just respond!

## What can you say with this?



## What can you say with this?



## Designing AAC Systems

- The manner in which we design aided AAC systems for children often hinders rather than promotes frequent, interactive, generative use of those systems.
- How far does learning nouns take you? Nouns do not generalize or increase ability to communicate across activities.
- Learning 'cookie' versus 'more'

## First 22 words

all done/finished	no
go	off
help	on
here	out
I	some
in	that
is	the
it	want
mine	what
more	yes/yeah
my	you

Banajee & Buras-Stricklin (2003)



## Partner Assisted Scanning

### Partner-Assisted Scanning

- For children who have severe disabilities
  - no reliable means of direct selection
  - may have multiple disabilities
  - language level exceeds physical access abilities
- Partner acts as the switch
- Partner is the voice output
- Prepares child for possible switch use

## PARTNER ASSISTED SCANNING

### Partner-Assisted Scanning

- Requires intensive communication partner participation
- Partner models how to use a device and system to communicate
- Partner receives input/message from the individual with disabilities

[http://www.lburkhart.com/Isaac\\_instructional\\_06.pdf](http://www.lburkhart.com/Isaac_instructional_06.pdf)  
[http://www.lburkhart.com/PODD\\_Communication\\_books.pdf](http://www.lburkhart.com/PODD_Communication_books.pdf)  
<http://www.youtube.com/watch?v=pLb6-Oi3uR0>

## Trouble with Access

- Individuals with significant physical challenges, have to use cognitive effort for every motor movement
- In one exchange, a child could be working on:
  1. Process a question during a communication exchange
  2. Process how they want to respond
  3. Correlate their response to the best representation in as a picture symbol
  4. Process where on the device the picture symbol(s) are located
  5. Plan their motor movements to access the correct picture symbol
  6. All the while having the same question repeated, re-phrased, verbal prompts, etc. THIS IS TOO MUCH!
- With a beginning communicator, shouldn't the focus be on COMMUNICATION?

## Inconsistency & Priorities

- With all those different factors going on, we can not expect mastery of skills on a consistent basis.
- Need to decide which skill or what goal is most important right now.
- Eliminating access difficulties to communication is easiest when utilizing low tech AAC supports
- Work on Access separate from Communication.
- Don't wait for mastery of one to work on the other!

## Assumptions

- "The criterion of least dangerous assumption holds that in the absence of conclusive data, educational decisions ought to be based on assumptions which, if incorrect, will have the least dangerous effect on the likelihood that students will be able to function independently as adults." (Donnellan, 1984)
- 'How do I know that the child really meant to select that message?'
- The opportunities provided to practice a skill is as equally important as having the skills required to perform the task.

## Types of Visual Supports

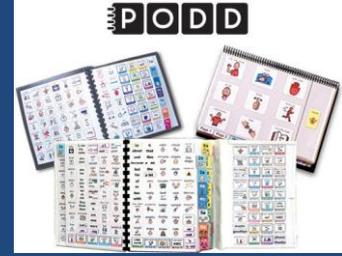
- Aided Language Boards
- Choice Making Boards
- Activity Sequence Strips
- Academic Multiple Choice Boards
- Aided Language Displays are NOT choice making boards.
- Choice making boards supplement ALGS Boards.
  - E.g. in music time a choice board of songs is followed by boards for singing the songs.

## Low Tech Communication Board Resources

- Preschool and Adolescent Engineered Display Boards - <http://www.mayer-johnson.com/communication-displays-for-engineered-adolescent-environments-and-preschool-environments>
- Pragmatically Organized Dynamic Display Boards – PODDs - <http://www.mayer-johnson.com/podd>
- Flip 'n Talk - <http://www.mayer-johnson.com/flip-n-talk>
- Light Tech Flip Communication Systems (Karen Casey and Sherry Kornfeld) - <http://sccatn.wikispaces.com/Communication>
- Boardmaker Share – [www.boardmakershare.com](http://www.boardmakershare.com)
- Printing Pages from Dynamic Display Devices

## PODD

Pragmatic Organization Dynamic Display (PODD) Communication Books by Gayle Porter



Provides templates and guidelines to develop communication books. Describes comprehensive strategies to enable the use of the system in the child's daily life.

<http://www.mayer-johnson.com/podd>

## Flip 'n Talk

Flip 'n Talk is a manual AAC device. Consists of main "core vocabulary board" and an affixed spiral bound flip chart of semantic categories.



<http://www.mayer-johnson.com/flip-n-talk>

## Print Pages from Dynamic Display Boards



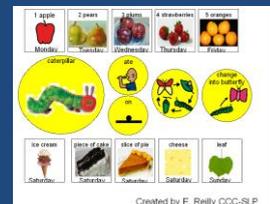
## Dynamic Display Software Demos

- Semesterware Software (Dynavox) – 180 day demo speaking software series 5 - <http://www.dynavoxtech.com/downloads/v/trials/default.aspx?id=89>
- PASS Software (Prentke Romich Corp.) – download and use, speaks for 90 days - <http://www.prentrom.com/downloads/pass>

Allows you to create, modify, and save vocabularies on your computer, then load them into your communication aid. You can also use the software to create manual boards.

Work on the device contents without needing to have the device present.

## Vocabulary Always Available: Environmental Embedded Supports



Created by E. Reilly CCC-SLP

## Vocabulary Always Available: Individual AAC



## Tips!

- Wait – give the student the opportunity to form a response and deliver it. Shush – stop constant chatter and cueing while the student is forming a response. Only one person should be talking!
- Fewer Nouns – Don't continually ask "What's this?" Open ended Questions - ask questions that elicit answers from Core Vocabulary

## Remember – AAC Competence Takes Time!

Jane Korsten points out that the average 18 month old child has been exposed to 4,380 hours of oral language at a rate of 8 hours/day from birth. A child who has a communication system and receives speech/language therapy two times per week for 20-30 minutes sessions will reach this same amount of language exposure in 84 years.

## Providing Communication Opportunities

- Initiate or call attention
- Greet
- Accept
- Reject
- Protest
- Request objects
- Share and show objects
- Request information
- Name
- Acknowledge
- Answer
- Comment on action/object
- Express feelings
- Assert independence
- Ask questions
- Share information
- Relate events
- Call attention to how things are related - similar and different
- Talk about past and future
- Negotiate and bargain
- State opinions
- Tease
- Make up stories

## Single Message Voice Output



Big Mack by AbleNet



Chipper by  
Adaptation



Partner/Plus  
by AMDi

## Ideas for Single Message and Sequential Message Devices (i.e. BigMack)

- <http://www.ttac.odu.edu/articles/device.html>
- <http://www.spectronicsinoz.com/article/20918>
- <http://enablingdevices.com/activity-guide-downloads.aspx>

## Sequential Message Voice Output



Partner/Plus by AMDI



Sequencer by Adaptation

Little Step-by-Step  
by Able Net



## Environmental AAC Supports

Add Communication Symbols to Play Toys



## Environmental AAC Supports



## Picture Resources

Pictures with printed words

- Product labels and wrappers
- Pogo Boards
- Boardmaker software
- Pics for PECS 2011 software
- Picture This software (Silver Lining Multimedia, Inc.)
- Flash Pro 2 software
- Free Photos ([www.freedigitalphotos.net](http://www.freedigitalphotos.net))
- Google Images
- List of Free Symbols:

<http://www.sc.edu/scatp/aacsymbols.html>

## Boardmaker Share

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

- Free resource that provides a place to find and share adapted curriculum (i.e. communication boards, visual supports) created with Boardmaker Software Family products.
- Screenshot of what each board looks like, ratings, & comments
- Users can download boards, or save them to 'my files' which stores your favorite boards under your account.
- Create public or private groups that can to share boards within a group.



## Pogo Boards

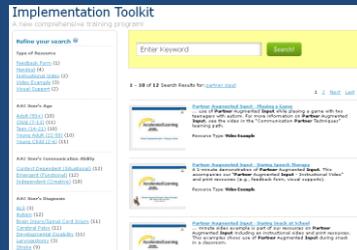
- Free version and paid version (<http://www.pogoboard.com/>)
- Web-based, solution for creating boards, which features the following characteristics: easy interface, access to millions of images through an intuitive, integrated Google® image search, plus thousands of unique, custom symbols with SymbolStix® and the new PICStix® symbol system
- Share boards online either within your own private community or the global community of all users



## Dynavox Implementation Toolkit

- The Implementation Toolkit is collection of video and print-based resources created to help you facilitate successful interaction using AAC.
- Create a free login and start taking advantage of thousands of free resources!
- Learning paths in areas: AAC 101, Communication Partner Techniques, AAC in the Classroom, AAC and Autism

<http://www.dynavoxtech.com/training/toolkit/default.aspx>



## SCCATN WIKI!

### SC Collaborative Assistive Technology Network

<http://sccatn.wikispaces.com/>

Upcoming Trainings, Conferences

Free Resources

Vendor Links

FAQ

Best Practice in AT



## South Carolina Assistive Technology Program

USC School of Medicine  
Center for Disability Resources  
Columbia, SC 29208

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[www.sc.edu/scatp/](http://www.sc.edu/scatp/)

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## Research

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