AUGMENTATIVE & ALTERNATIVE COMMUNICATION FOR CHILDREN WITH AUTISM

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Agenda

1. What is AAC?
2. Characteristics of the Population
3. AAC & Speech
4. Matching AAC to Learner Needs
5. AAC to Support Expression & Comprehension
6. Current Researchable Issues
What is AAC?

- Language, speech & communication
  - Language - socially shared code
  - Speech - one means of expressing language
  - Communication - exchanging thoughts & information

- Modes of communication
  - Vocal
  - Gestural
  - Graphic
## Advantages & Disadvantages

**Reichle, 1991**

<table>
<thead>
<tr>
<th></th>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td><strong>Vocal</strong></td>
<td>• Portable</td>
<td>• Transient</td>
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<tr>
<td></td>
<td>• Quick to produce</td>
<td>• Burden on memory</td>
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<td></td>
<td>• Widely used</td>
<td>• Motor skills</td>
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<td><strong>Gestural</strong></td>
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<td>• Quick to produce</td>
<td>• Motor skills</td>
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<td></td>
<td>• Some are easily guessed</td>
<td>• Few understand signs</td>
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<tr>
<td><strong>Graphic</strong></td>
<td>• Non-transient longer to comprehend</td>
<td>• Portability</td>
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<td>• Recognition vs recall</td>
<td>• Dependence on others to create</td>
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<td>• Many are easily understood by others</td>
<td>• Navigation</td>
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What is AAC?

- AAC Defined
  - Any mode of communication that supplements or replaces speech
  - Permanent or temporary
  - Expression and comprehension

(ASHA, 2013)
What is AAC?

- *Aided AAC
  - Requires tools or equipment external to one’s body
    - Pencil/paper
    - Picture symbols
    - Speech-generating “talking” computers

- Unaided AAC
  - Uses only one’s body
    - Signs
    - Gestures
    - Facial expressions
What is AAC?

- Levels of AAC Technology
  - Low Tech
  - Mid Tech
  - Hi Tech

- One goal:
  - To support individuals to be as independent and competent in communication as possible
About 50% of individuals with ASDs present with non-functional speech
- (Wendt & Schlosser, 2007; Weitz, Dexter & Moore, 1997)

Challenging Behaviors

No longer a candidacy model, a participation model
- (Beukelman & Mirenda, 2013)
## Characteristics of the Population

### Graphic Mode AAC & Autism - A good match?

(Cafiero, 2005)

<table>
<thead>
<tr>
<th>Learner Characteristic</th>
<th>Graphic Mode AAC Characteristic</th>
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<tbody>
<tr>
<td>Visual learner</td>
<td>Visual cues &amp; information</td>
</tr>
<tr>
<td>Trouble with complex cues</td>
<td>Level of complexity can be matched, expanded with learner</td>
</tr>
<tr>
<td>Resistant to change</td>
<td>Static &amp; predictable</td>
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<tr>
<td>Difficulties with social interaction</td>
<td>Can provide a buffer and/or bridge between social partners</td>
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<tr>
<td>Behavioral challenges</td>
<td>Can preempt challenging behaviors</td>
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<tr>
<td>Difficulties recalling words or holding messages in working memory</td>
<td>Relies on recognition, not recall</td>
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</table>
Not a “last resort”

Relationships
- Lack of functional speech, social experiences, language development
- Lack of functional speech & challenging behavior

AAC should be considered for all individuals with ASDs (Wegner, 2012)

AAC + speech

AAC and collateral speech production (Schlosser & Wendt, 2008)
Graphic Mode AAC

- Receptive and Expressive Communication

- The Evidence Base

- Recent Developments in Graphic Mode AAC
  - Increases in ASD diagnoses (CDC, 2009)
  - Technological advances
  - AAC assessment “tables turning”
Matching AAC to Learner Needs

- **Current needs**
- **Future needs**
- Feature-matching:
  - Contexts and settings
  - Partners
  - Culture
  - Learner characteristics
  - Vision
  - Motor - access
  - Communication needs
  - Portability
  - Type of graphic symbol
  - Type of display
  - And more...

(Beukelman & Mirenda, 2013)
Grid vs. Visual Scene Display
Matching AAC to Learner Needs

- One size does not fit all!
- Sources of evidence
- Least dangerous assumptions
- Let learner performance inform intervention
  - Examples:
    - Symbol type
    - Mode
Matching AAC to Learner Needs

- Vocal
- Gestural
- Graphic
AAC to Support Expression
AAC to Support Expression
AAC to Support Comprehension
AAC to Support Comprehension
8:00-8:30 Free Play
8:30-9:00 Activity
9:00-9:30 Story time
9:30-9:45 Snack time
9:45-10:15 Art
10:15-10:45 Outside
10:45-11:30 Free Play
11:30-11:45 clean up/bus
Snack Time 9:30-9:45

- wash hands
- get placemats
- sit in chair
- put napkin in lap
Contingency Map

Del is writing

Del asks for help or a break
- help
- break

Del gets help, or gets to have a short break

Del cries, yells, and bangs his head

Del still has to do his work
Outcomes of AAC Interventions

- Reductions in Challenging Behavior
  - (Bopp, Brown & Mirenda, 2004; Reichle & Dropik, 2001; Doss & Reichle, 1989)

- Expressive Language
  - (Millar, 2009; Sigafoos, 1998; Frost & Bondy, 1994; Reichle & Brown, 1986)

- Comprehension & Receptive Language
  - (Brady, 2000; Wood, et al., 1998; Quill, 1997; Hodgdon, 1995)

- Self-regulation
  - (Reichle & Halle, 2002; Pierce & Schreibman, 1994; Hall, McClannahan & Krantz, 1995)

- Social Interaction
  - (Higginbotham, et al., 2007; Garrison-Harrell, Kamps & Kravits, 1997)
Instructional Strategies

Prelock & McCauley, 2012  Mirenda & Iacono, 2009
Current Researchable Issues

- Reducing cognitive load
- Selection of initial graphic mode vocabulary
- Cultural considerations
- Parent & care partner support
- Speech & AAC
- Literacy
- Social Experiences

(For additional discussion: Light, 2012)
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Selected Resources

- Augmentative and Alternative Communication (AAC) Connecting Young Kids (YAACK) [http://aac.unl.edu/yaack/]


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