What is AAC?
Project Questions

- Does aided Augmentative Alternative Communication (AAC) promote social communication in children with Autism Spectrum Disorder (ASD)?

- How does aided AAC affect social communication in children with ASD?
Why is it important?

- Social communication situations present challenges to children with ASD.
  - Up to 25% of children with ASD do not develop functional speech
  - Lack of motivation and communication skills
  - Social communication beyond simple requests
  - Cultural acceptance of their communication partners.
Method: Literature Search

• Systematic mini-meta analysis
• Database Engines used:
  • PsychINFO, ASHA(JSLHR), Googlescholar, and Pubmed.
• Search Criteria:
  • Date: 1997 to 2017
  • Search terms:
    aided AAC, autism/ASD, social communication functions
• # of article found: 48
• # of article chosen for the analysis: 7
Inclusion Criteria

• Children of age 2 through 18 diagnosed with ASD (previous terms used: autistic disorder, Asperger’s disorder, or pervasive developmental disorder)

• Using aided AAC for expressive communication:
  • High tech AAC, PECS (Picture Exchange Communication System)

• Communication functions beyond object requests were targeted:
  • Various communication functions for social communication-requesting, questioning, answering, commenting, greeting, calling, providing information...
Exclusion Criteria

• Studies solely focusing on PECS.
• AAC studies on pre-linguistic communication in children with ASD.
• Studies employing low tech AAC devices only.
<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Participants</th>
<th>Types of AAC used</th>
<th>Dependent Variable(s)</th>
<th>Communication functions</th>
<th>Intervention strategy</th>
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<tbody>
<tr>
<td>Xing &amp; Leonard (2015)</td>
<td>Sigle subject study: Multiple Base line study</td>
<td>8–12 years, minimally verbal (n = 2)</td>
<td>High tech AAC: iPad</td>
<td>Use of SGD to communicate specific function</td>
<td>Acknowledge</td>
<td>Least to most prompting hierarchy with an iPad</td>
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<tr>
<td>Lorah, Parnell, and Speight (2014)</td>
<td>Sigle subject study: Multiple Base line study</td>
<td>4–6 years, minimally verbal or up to 1–2 word phrases (n = 2/3 with ASD)</td>
<td>High tech AAC: iPad</td>
<td>Frequency of independent responses with SGD</td>
<td>Comment</td>
<td>5-s time delay, with full physical prompts with an iPad</td>
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<td>Strasberger and Ferreri (2014)</td>
<td>Sigle subject study: Multiple Base line study</td>
<td>5–13 years, minimally verbal (n = 4)</td>
<td>High tech AAC: iPad</td>
<td>Frequency of requests and responses</td>
<td>Request object; acknowledge</td>
<td>Peer-assisted communication application training with an iPod©</td>
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<td>Kagohara et al. (2012)</td>
<td>Sigle subject study: Multiple probe designs</td>
<td>13–17 years, minimally verbal (n = 2)</td>
<td>High tech AAC: iPad</td>
<td>Correct responses with SGD</td>
<td>Acknowledge</td>
<td>Time delay, least to most prompting,</td>
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<td>Schepis et al. (1998)</td>
<td>Sigle subject study: Multiple probe designs</td>
<td>3–5 years, minimally verbal ($n = 4$)</td>
<td>High Tech AAC</td>
<td>Frequency of communicative interactions</td>
<td>Request, acknowledge, comment</td>
<td>Naturalistic teaching with an SGD</td>
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<tr>
<td>Kravits et al. (2002)</td>
<td>Sigle subject study: Multiple base designs</td>
<td>6 years, minimally verbal ($n = 1$)</td>
<td>PECS</td>
<td>Frequency of use of symbolic communication; length of interaction</td>
<td>Request and comment</td>
<td>PECS plus social skills training with pictures</td>
</tr>
<tr>
<td>Charlop-Christy et al. (2002)</td>
<td>Sigle subject study: Multiple base designs</td>
<td>3–12 years, minimally verbal ($n = 3$)</td>
<td>PECS</td>
<td>$N$ of trials to reach criterion in each phase; $N$ minutes until criterion met</td>
<td>Request object and acknowledge</td>
<td>PECS with pictures</td>
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Results:

• **Question #1:** Yes, aided Augmentative Alternative Communication (AAC) can promote social communication in children with Autism Spectrum Disorder (confirmed in 6 studies)

• **Question #2:**

Types of aided AAC:

- PECS are more effective for addressing communication and social skills.
- SGD (high tech AAC) are shown effective for reduce challenging behaviors.
- Picture based AAC (solely) are not as effective as PECS or SGD.
Results continued

• Types of aided AAC and social communication functions:

  • PECS are effective for teaching object requests, but inconsistently for other communication functions such as comments and joint attention. (mixed results)
  • SGD + spoken words, as opposed to spoken words alone, showed improvements in children’s use of social communication functions.
Tips for parents:

• Follow your child’s needs and family’s preferences:
  ➢ Their behavioral challenges, fine motor skills, hearing/vision problems.

• Advocate for your child at school:
  ➢ Express your preferences regarding AAC use at your child’s IEP meeting
  ➢ Refer your child for AAC evaluation

**Consistency is important:**
  ➢ Use AAC devices at home as well: slow and steady increment in time for AAC use
  ➢ Parents need to model communication with AAC by themselves.
  ➢ Incorporate AAC into fun play time with your kid’s siblings/close friends.

• Plan ahead for your kids’ future social communication:
Tips for professionals

• Refer for AAC treatment:
  ➢ Refer to AAC evaluation to find a matching AAC solution for a child.

• Peer-mediated AAC intervention for a child social communication:
  ➢ Encourage and train peer volunteers for AAC intervention
  ➢ Make it fun!

• Clinician’s modeling for AAC use found effective:
  ➢ Speech + AAC modeling

• **Consistency is important:**
  ➢ Work with classroom teachers, special education teachers, and parents for consistent AAC use at school and home.
What I have learned:

• I have learned how to establish evidence base for AAC intervention services.

• I became more aware of the needs of practical applications of AAC that can help clients with ASD, and gained experiences to act on it as a leader in my profession.

• In the future, I would like to continue advocate for positively impacting social communication in such experiences and academics for children who use AAC.
References


