



# USING DISTANCE COACHING TO IMPROVE SLP USE OF AAC IMPLEMENTATION STRATEGIES

Stefanie Blanco, SLP.D., CCC-SLP, ATP  
Kate Franklin, Ph.D., CCC-SLP

*New York Medical College*



# Purpose

- To determine if distance coaching focused on AAC implementation strategies improved the self-efficacy of SLPs working with children in EI with CCN
- To determine if distance coaching increased the frequency of SLPs' use of evidence-based AAC implementation strategies for children in EI with CCN after one coaching session



**BACKGROUND**

# AAC in Early Intervention

- Introduce AAC as early as possible and involve caregivers  
(Cress & Marvin, 2003; Light & McNaughton, 2012a, 2012b; Smith & Hustad, 2015)
- AAC has been shown to promote verbal speech  
(Behnami & Clendon, 2015; Cress & Marvin, 2003; Judge et al., 2010; Ronski & Sevcik, 2005)
- There are no prerequisite skills for AAC (Beukelman & Light, 2020; Cress & Marvin, 2003).
- Significant outcomes are documented for families of children in EI who use AAC including:
  - improved caregiver-child interactions
  - increased caregiver self-esteem
  - reduced stress

(Behnami & Clendon, 2015; Cress & Marvin, 2003; Judge et al., 2010; Ronski & Sevcik, 2005)

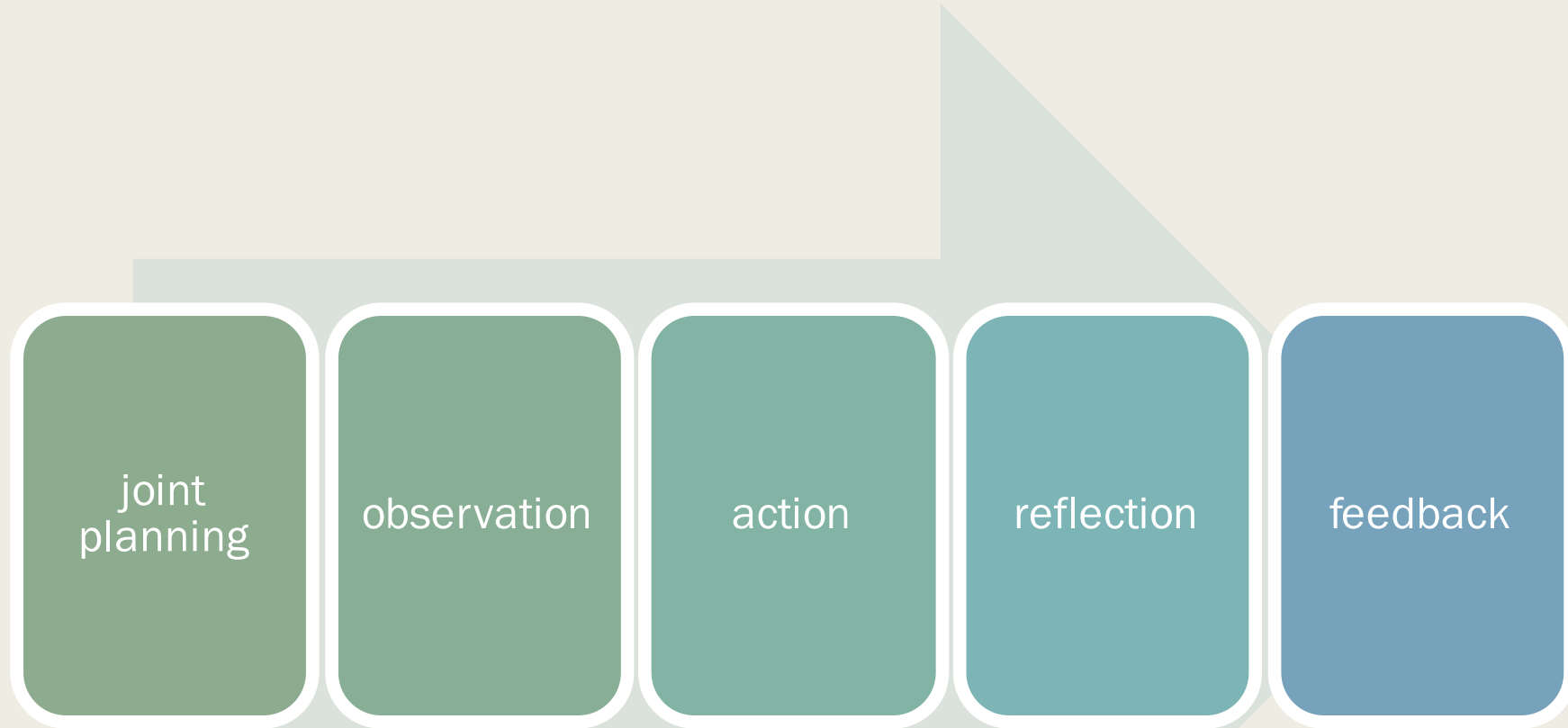
# SLP Competence in AAC

- AAC abandonment
  - lack of AAC knowledge on the part of the professional
  - lack of training to both the user and the communication partners  
(Wright & Quinn, 2016)
  
- Self-efficacy has been considered a robust predictor of learning, training and performance across different environments and circumstances  
(Schwoerer et al., 2005)
  
- SLPs need to feel confident in their ability to facilitate AAC use

# Coaching in AAC

- Intervention should include training for the communication partners of AAC users to ensure optimal success in improving communication outcomes  
(Ganz et al., 2013; Kent-Walsh et al., 2015; McMillian, 2008; Torrison et al., 2007)
- Instructional coaching has been established as an effective means for adult learning  
(Snodgrass & Meadan, 2018)

# Evidence Based Characteristics of Coaching



(Rush & Shelden, 2011)

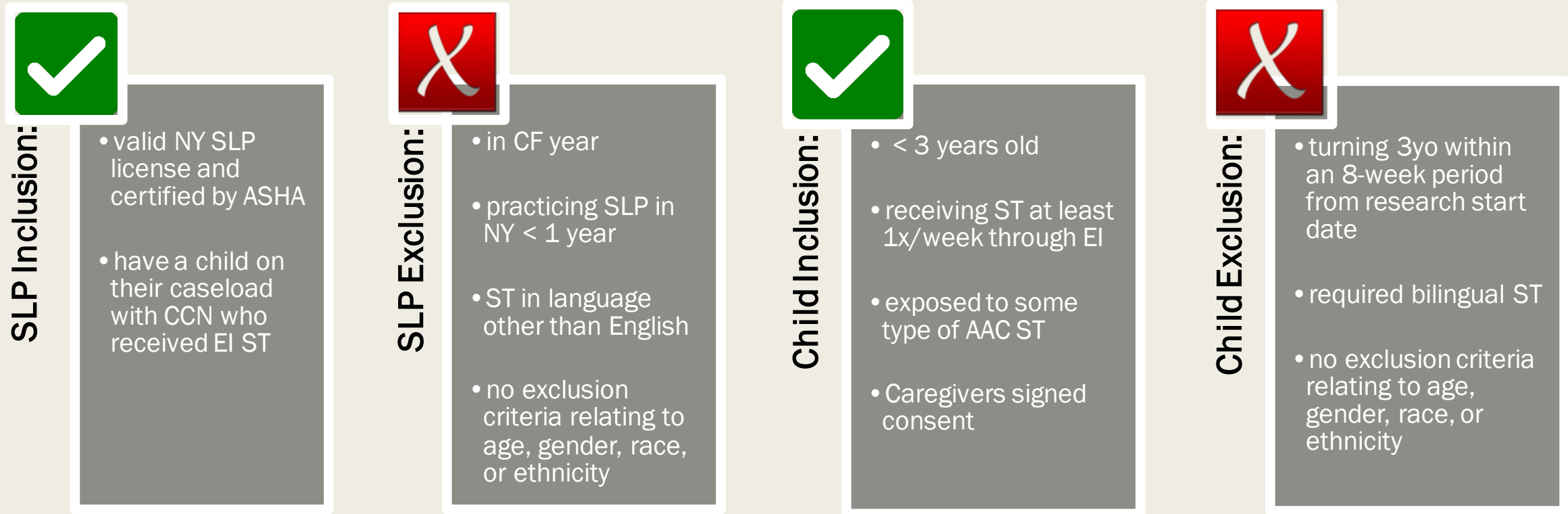


# METHODOLOGY



# Participants

3 nested dyads: each with 1 SLP & 1 Child



# Methodology: Design

Single-subject AB experimental design across participants was used:

(A) baseline data was measured and then

(B) the intervention was introduced and the individuals' response over time was measured

*(Lobo et al., 2017)*

- Pretest and posttest measures to determine if the frequency of AAC strategy use changed
- Pretest and posttest measures to determine if self-efficacy of SLPs changed
- Qualitative survey used to understand more about the challenges, limitations, and/or benefits of coaching

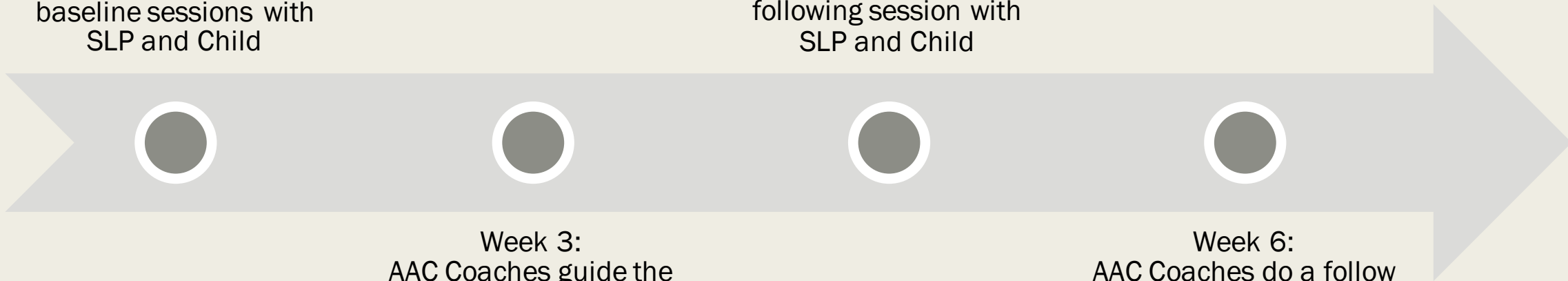
# Timeline of Study

Weeks 1 & 2:  
SLPs complete a pre-coaching self-efficacy questionnaire.  
AAC Coaches observe and take data on three baseline sessions with SLP and Child

Week 4:  
AAC Coaches observe and take data on the following session with SLP and Child

Week 3:  
AAC Coaches guide the SLP through a coaching session

Week 6:  
AAC Coaches do a follow up observation with SLP/Child.  
SLPs complete a post-coaching self-efficacy questionnaire.



# Tools Used

- (1) *Coaching Practices Rating Scale (Rush and Shelden, 2011)*
- (2) *SLP Self-Efficacy Pretest/Posttest Questionnaire*
- (3) *SLP Post-Coaching Intervention Survey*
- (4) *AAC Implementation Strategies Checklist (AAC-ISC)*

# (1) Coaching Practices Rating Scale Guidelines

<b>Coaching Practice</b>	<b>Description of practice</b>
1. Acknowledged the learner's existing knowledge and abilities as the foundation for improvement	
2. Interacted with the learner in a nonjudgmental and constructive manner during coaching conversations	
3. Identified with the learner the targeted skills that he or she wanted to learn and a timeline for the coaching process	
4. Developed with the learner a plan for action/practice necessary to achieve targeted skills following each coaching conversation	
5. Observed the learner demonstrate knowledge and understanding of the targeted skills or practices	
6. Observed the learner's use of the targeted skills or practices	
7. Created opportunities for the learner to observe the coach and/or others model the target skills or practices	
8. Promoted use of multiple opportunities for the learner to practice implementation of the targeted skills or practices (e.g. role plays, in context)	
9. Use both planned and spontaneous opportunities to strengthen the learner's knowledge and skills	
10. Asked probing questions to examine the learner's knowledge and abilities	
11. Promoted learner to reflect on his or her knowledge and use of the targeted skills and practices compared with research-based practice standards	
12. Provided feedback about the learner's knowledge and skills following the learner's reflection on his or her performance	
13. Provided and/or promoted access to new information and resources after the learner reflects on his or her performance	
14. Engaged the learner in reflection on the usefulness, effectiveness, and need for continuation of coaching	

( ©Rush & Shelden 2011)

# (2) SLP Self-Efficacy Pre-coaching/Post-coaching Questionnaire

## I. Demographic Information

1. How many years have you been a certified speech-language pathologist (SLP)

- 1 -5
- 6-10
- 11-15
- 16-20
- 21+

2. How many years have you worked in Early Intervention (EI)?

- 1 -5
- 6-10
- 11-15
- 16-20
- 21+

3. How many years of experience do you have with children using AAC in EI?

- 1 -5
- 6-10
- 11-15
- 16-20
- 21+

4. Have you had any formal training in AAC? (Check all that apply)

- Yes, I completed an academic course in AAC.
- Yes, I completed continuing education in the area of AAC.
- No formal training.
- Other (please specify) \_\_\_\_\_

## II. Self-Efficacy

5. I feel competent working with children with AAC needs in EI.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

6. I am confident in my ability to choose relevant vocabulary for AAC implementation for children in EI.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

7. I am confident in my ability to provide children with opportunities for communication via AAC during therapy sessions.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

8. I am confident in my ability to provide appropriate wait time for a child to respond to communicative opportunities during AAC implementation.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

9. I am confident in my ability to respond to a child's communication during AAC implementation.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

10. I am confident in my ability to provide aided augmented input during AAC implementation for children in EI.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

11. I am confident in my ability to train communication partners in AAC implementation.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

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# (3) SLP Post Coaching Intervention Survey

1. The coaching experience improved my knowledge and skills in AAC implementation.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

2. I believe that the children I work with in EI with AAC needs would benefit from having communication partners trained to implement the AAC goals.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

3. I believe that distance coaching can be a potential strategy to train communication partners about how to implement AAC.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

4. The videoconferencing equipment was easy to use.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Please offer any additional comments or suggestions about the coaching experience:

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# (4) AAC-ISC

## AAC Implementation Strategies Checklist (AAC-ISC)

Participant Identification Number:

Observer:

Date:

AAC Implementation Strategy		(+) Each time strategy was used during session		Comments	
<p><i>Inclusion of relevant vocabulary</i> (e.g. SLP targets a specific vocabulary word on AAC device that is relevant to the child's ability to communicate; SLP incorporates target core word(s) into session)</p>					
<p><i>Aided augmented input</i> (e.g. SLP models language on AAC device to teach vocabulary in context without the expectation of the child responding)</p>					
<u>PoWR</u>	<p><i>Providing opportunities for communication</i> (e.g. SLP may do the following: make environmental modifications such as reducing stimuli; establish joint attention; ask the child questions; provide choices; sabotage environment; provide small amounts of preferred item; briefly delay access; use fill-in-the-blank activities)</p>				
	<p><i>Wait for child's communication</i> (e.g. SLP uses an expectant pause, waiting at least 5 seconds for child to respond)</p>	Child responded in < 5 seconds	SLP provided wait time, child responded	SLP provided wait time, no child response	No response opportunity provided
	<p><i>Respond to the child's communication</i> (e.g. SLP acknowledges child's communication by responding in some way such as providing positive feedback, asking for clarification, or responding to request)</p>				
<p><i>Train Communication Partners</i> (e.g. SLPs offer an AAC implementation strategy that can be used outside of therapy session)</p>					

Notes:

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# Coaching Strategies Targeted

- 1) Core Vocabulary
- 2) Aided Language Input
- 3) PoWR
- 4) Train Communication Partners

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# CORE VOCABULARY TRAINING

# Inclusion of Relevant Vocabulary/Core Vocab

- Target appropriate vocabulary that is relevant to the child (Ronski & Sevcik, 2018)
- Consider core vocabulary
  - makes up approximately 80% of the most-used words in the English language
  - includes linguistic forms such as pronouns, verbs, demonstrative, prepositions, and adverbs
  - remainder are called fringe vocabulary (mainly nouns)
  - choose words that are highly motivating(Behnami & Clendon, 2015; Ronski & Sevcik, 2005; Van Tatenhove, 1987)
- Robust vocabulary selection can facilitate the development of a range of communicative functions (Behnami & Clendon, 2015)

# Core Vocabulary Continued

HIGH FREQUENCY WORDS USED BY TODDLERS (96.3% of the time)

*(Banajee, DiCarlo, & Buras-Stricklin, 2003)*

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

For an example of Universal Core Communication Book: <http://www.project-core.com/9-location/>

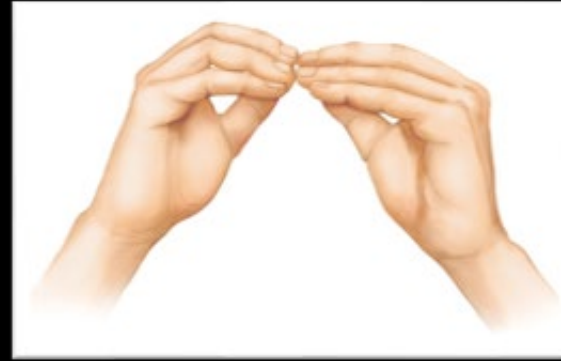
# Example: Bubble Activity Images from Google Search



I/my/me



blow



more



bubbles



pop



help



all done/finished

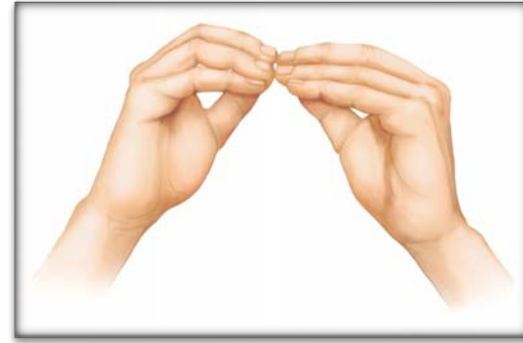
I/me/my



blow



more



help



pop

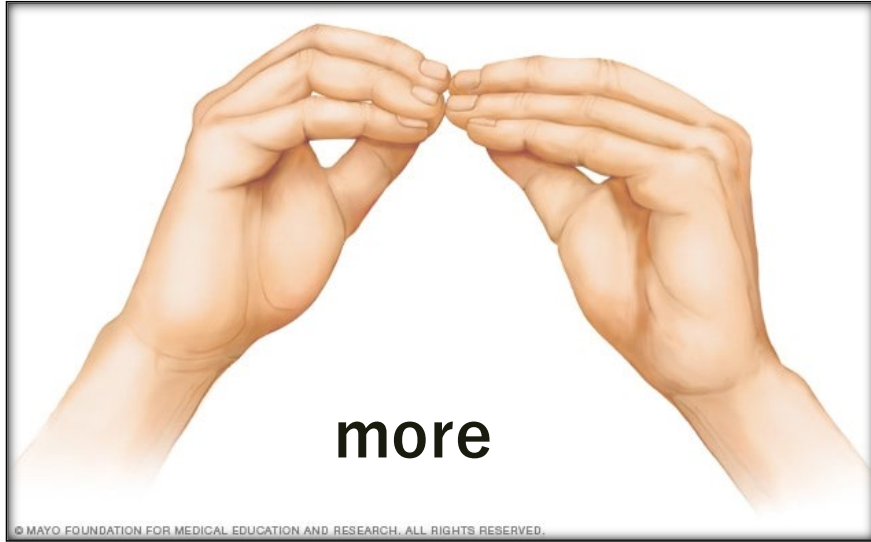


bubbles



All done/finished



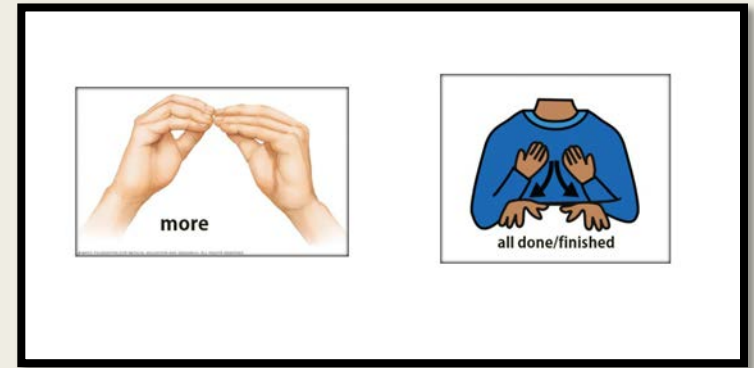


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# AIDED AUGMENTED INPUT TRAINING



# Aided Augmented Input



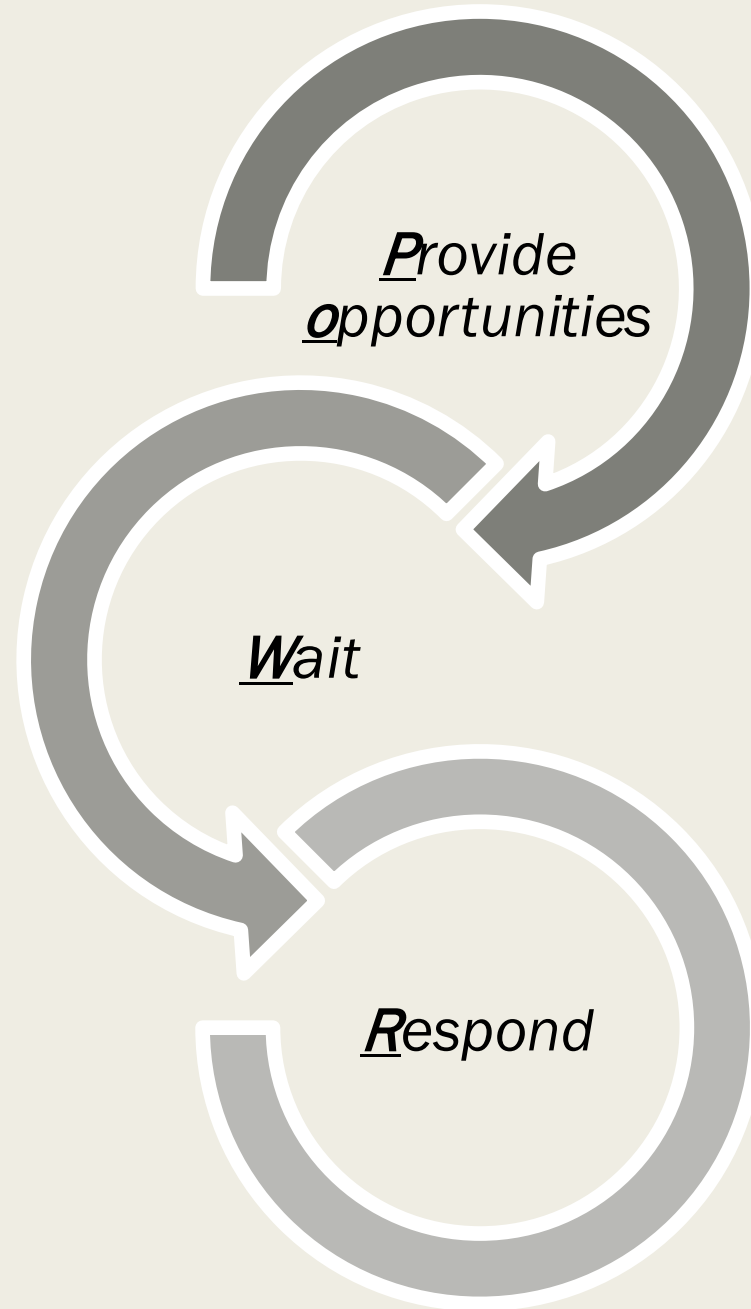
- “An umbrella term for systematic modeling with input from two or more modalities, one of which must include the learner’s AAC system.” (Allen et al., 2017, p. 157)
  - Fosters improvements in receptive and expressive vocabulary, pragmatics, and expressive syntax
- Allows for demonstration of contextually appropriate use of specific symbols and language across environments (Van Tatenhove, 1987)
  - Model language without expectation of immediate imitation or response
  - Model as often as possible
  - For example: say the target word, use a manual sign, point on communication board across environments and contexts

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# POWER STRATEGY TRAINING

# PoWR Strategy

(Douglas, McNaughton, & Light, 2013)



- Environmental arrangement
- Joint attention
- Choose motivating activities
- Turn-Taking

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**COMMUNICATION  
PARTNER TRAINING**

# Train Communication Partners

- Training communication partners of AAC users is crucial to overall success  
(Behnami & Clendon, 2015; Ronski & Sevcik, 2018)
  
- Skilled communication partners:
  - recognize communicative attempts
  - offer scaffolding
  - use extended pauses
  - use open-ended questions
  - model language
  - shape behaviors into more appropriate forms of communication  
(Olive et al., 2008; Sonnenmeier, 2014)

# (4) AAC-ISC

## AAC Implementation Strategies Checklist (AAC-ISC)

Participant Identification Number:

Observer:

Date:

AAC Implementation Strategy		(+)		Each time strategy was used during session		Comments	
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<p><i>Train Communication Partners</i> (e.g. SLPs offer an AAC implementation strategy that can be used outside of therapy session)</p>							

Notes:



# RESULTS

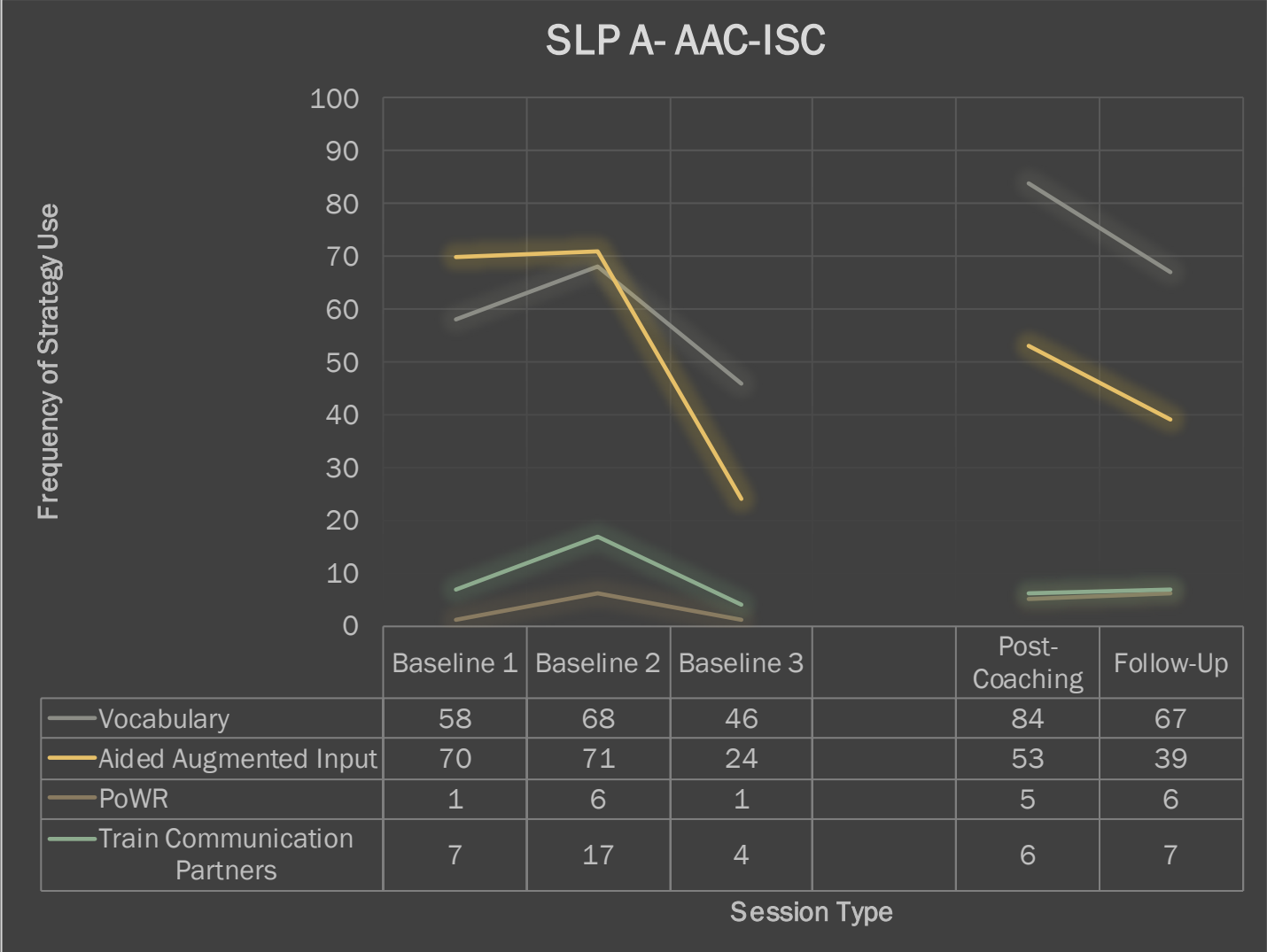


# Results: Baseline Data

- Baseline: first three speech-language therapy sessions for each dyad.
- Sessions were recorded via Zoom videoconferencing software and reviewed by the AAC Coach and observed using the AAC-ISC form.
- Upon visual inspection of the baseline data, each SLP demonstrated variable AAC strategy use across baseline sessions.



# Results: SLP A AAC Strategy Use



**Baseline sessions:**

- Demonstrated ease with inclusion of relevant vocabulary and aided augmented input.
- Trained Child A's communication partner

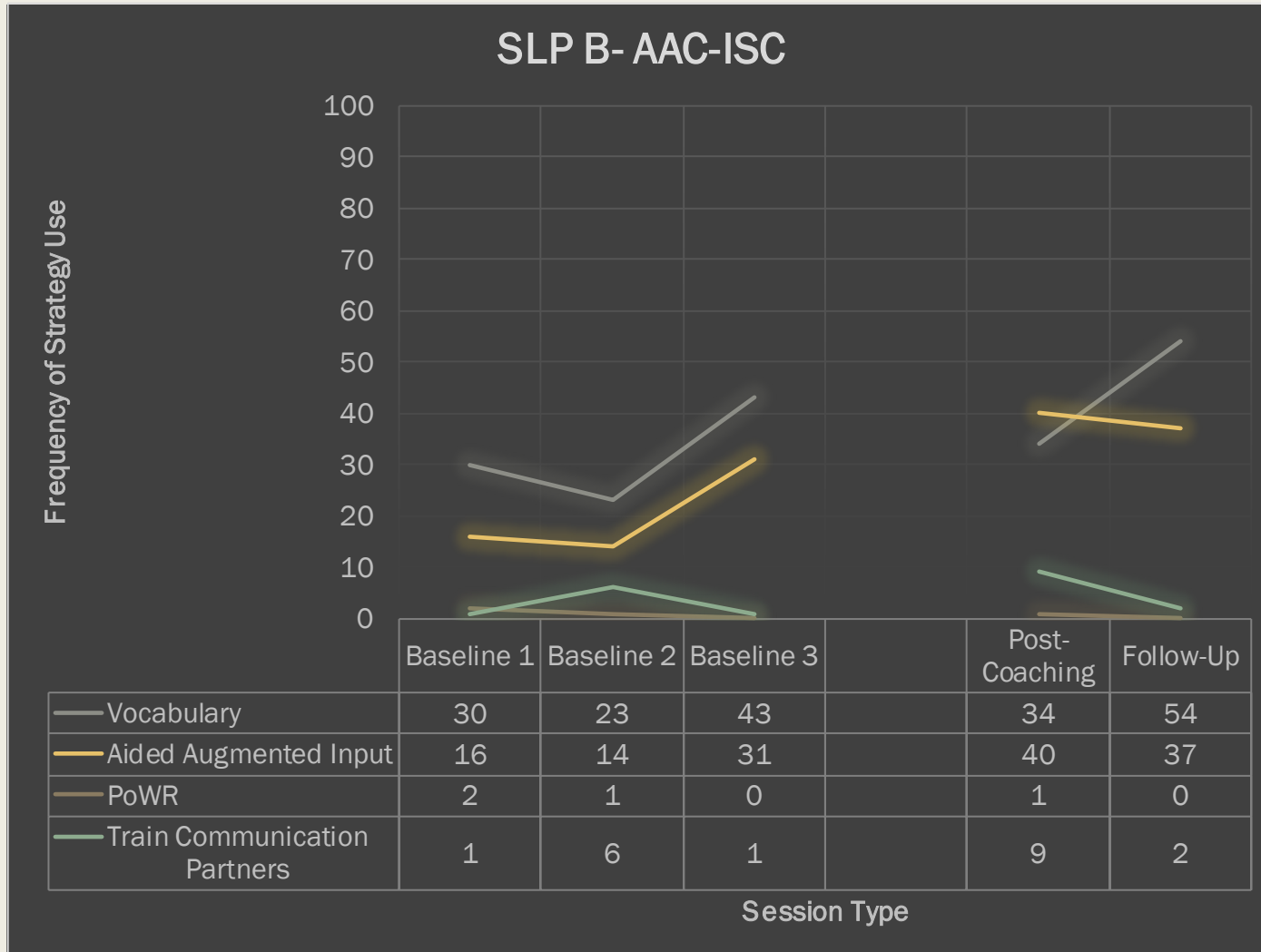
**Coaching session:**

- Reviewed all AAC strategies
- Focus on PoWR strategy, specifically the importance of providing wait time for the child to respond.

**Notable observations post-coaching:**

- From baseline to post-coaching, increases in inclusion of core vocabulary
- Child increased MLU to 2 for the first time (gesture "more" + word approx. "ball")

# Results: SLP B AAC Strategy Use



## Baseline sessions:

- Focus was on receptive language tasks.

## Coaching session:

- Reviewed all AAC strategies
- More specific focus on aided augmented input, PoWR strategy specifically the importance of wait time, and training communication partners
- Discussed a low tech communication boards

## Notable observations post-coaching:

- Implementation of low tech board
- Increase in use of aided augmented input, inclusion of core vocabulary, and communication partner training

# Results: SLP C AAC Strategy Use



## Baseline sessions:

- Used limited to no wait time
- Child demonstrated limited attention to task; limited functional communication

## Coaching session:

- Reviewed all AAC strategies
- Focus on providing effective methods of communication
- Discussed low tech communication boards
- Participated in role play activities to practice strategies

## Notable observations post-coaching:

- Implementation of low tech board
- Child attended to aided augmented input and used AAC to request “more” 2 times (a novel occurrence)

# Results: Self-Efficacy

QUESTION	SLP A	SLP B	SLP C
1. I feel competent working with children in EI with AAC needs.	0	0	+1
2. I am confident in my ability to choose relevant vocabulary for AAC implementation.	+1	+2	0
3. I am confident in my ability to provide children with opportunities for communication via AAC.	+1	+1	+1
4. I am confident in my ability to provide appropriate wait time for a child to respond to communicative opportunities.	+1	+1	0
5. I am confident in my ability to respond to a child's communication.	+1	+1	+1
6. I am confident in my ability to provide aided augmented input.	+3	+1	+1
7. I am confident in my ability to train communication partners.	0	0	+1
<b>Total Change Score</b>	<b>+7</b>	<b>+6</b>	<b>+5</b>

# Results: Reflection

## *SLP Post-Coaching Intervention Survey*

3/3 SLP participants agreed that the coaching experience improved their knowledge and skills in AAC implementation

3/3 SLP participants strongly agreed that their clients in EI would benefit from having communication partners trained to implement AAC goals

3/3 SLP participants either agreed or strongly agreed that distance coaching could be a potential strategy to train communication partners about how to implement AAC

3/3 SLP participants agreed or strongly agreed that the videoconferencing equipment was easy to use

# Results: Comments

**SLP A:**

“I enjoyed the coaching. I got some new perspectives about Aided Augmented Input and the power of waiting.”

**SLP B:**

“The coaching session was informative and helpful. I think that it would be helpful for the AAC coach to assist in the implementation of the coaching model. If possible a half-hour of coaching the SLP and then introduce the AAC with the SLP during a telehealth session.”

**SLP C:**

“The coaching was very helpful. I feel like I learned a lot that I can use with other clients as well.”

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# DISCUSSION

# Discussion: Clinical Implications

- Distance coaching has the potential to be an effective method for training SLPs in a variety of specialty areas
- The pandemic has opened doors for telehealth to become a more accessible and commonplace method of service delivery



# Discussion: Future Research

- Compare typical in-person format versus telehealth
- Include a variety of age ranges
- Additional coaching sessions
- Efficacy of distance coaching with AAC Coach/SLP providing caregivers with real-time model of behaviors of a communication partner
- Efficacy of distance coaching on the child's communication outcomes

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