

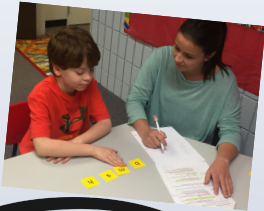


# AAC & Adapted Literacy Instruction: Closing the Research-to-Practice Gap Through Online Training of Pre-service SLPs

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## INTRODUCTION

- No single intervention will have as dramatic effects on a student's future as a solid foundation in literacy (Heller, Fredrick, Tumin, & Brineman, 2002).
- Currently, **90% of individuals with CCN enter adulthood without acquiring functional literacy skills** (Foley & Wolter, 2010). Access to adapted literacy instruction can potentially break the cycle of limited outcomes, expand communication options, and support fuller participation in an increasingly text-based society (Caron et al., 2016).
- SLPs have specialized knowledge that can be used to provide the help and adaptations for students with CCN in order to build vital language, communication and literacy skills and support the maximization of literacy and communication outcomes.
- Most SLPs receive limited or no pre-service training in AAC, as well as literacy related to AAC.



"As a new graduate, I didn't feel well prepared...I remember taking several courses on literacy, but they never tied AAC or students with CCN into any of the lessons." (Participant 3, Caron et al., 2018)



87% of SLPs interviewed (N=21) discussed lack of pre-service preparation as a barrier to their ability to deliver quality and effective literacy instruction for individuals with CCN. (Caron, et al., 2018)

## AIM

- Effectively translating the current positive findings of adapted literacy instruction with researchers, to SLPs, could potentially increase quality literacy opportunities and access to adapted instruction, as well as change outcomes for individuals with CCN.
- 1. The project aimed to develop and evaluate an online training to teach pre-service SLPs the provision of adapted letter-sound correspondence (LSC) instructional lesson.
- 2. The project aimed to use findings to continue to refine and develop future in-services and on-line training modules for common services providers (e.g., SLPs, teachers) – moving towards translation of the provision of evidence-based adapted literacy instruction away from researchers.

## METHOD

### Design:

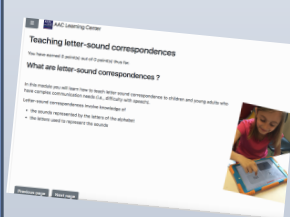
Group	Time point 1		Time point 2	Time point 3
Group 1	Role play (pre)	Training	Role play (post)	
Group 2	Role play (pre)		Role play (pre)	Training Role play (post)

### Participants:

- 20 preservice SLPs
- All students were enrolled in an undergraduate AAC course at the time of the study
- No students had experience related to the provision of adapted instruction
- 5 students had worked with an individual who use AAC (e.g., personal care assistant, camp)

### Materials:

- (a) All LSC Protocol: The protocol, developed by Light and McNaughton (2009), outlines explicit instruction procedures using an introduction, model, guided practice, independent practice format;
- (b) online training: It incorporates research in partner training (e.g., Ellis et al., 1991), literacy instruction (e.g., Light & McNaughton, 2013), and principles of e-Learning (e.g., Clark, 2014) in order to assist common service providers in acquiring the steps to implement an evidence-based LSC Protocol; and
- (c) low-tech materials: Letter cards will be created, adapted from the materials developed by Light and McNaughton (2009), including a 2 x 2-in laminated cards per targeted letter sound.

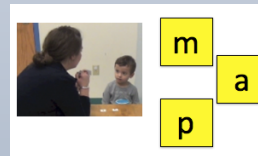


### Procedures & Data Collection:

- Simulated role plays; All role plays were video-taped
- Following first role play for Group 1 (i.e., Time 1) and the second role play for Group 2, each pre-service SLP was given instructions to access the online training site.
- After completion of the interaction, the recordings were labeled with a code and uploaded to a digital storage system for coding.

### Measures & Analysis:

- Dependent Variable
  - LSC Scoring Rubric: measured the participants' use of the component skills in each strategy step, a scoring rubric was used which was adapted from past research investigating the use of the ALL LSC Protocol
  - Coding Procedures: Graduate students were recruited to complete the coding
- Analysis
  - Independent t-tests & Paired t-tests



## RESULTS

Group	Time 1		Time 2		Time 3		Group	Time 1 to Time 2	Time 1 to Time 3
	M	(SD)	M	(SD)	M	(SD)			
Group 1 (n = 10)	4.90	(3.00)	51.7	(13.3)			Group 1 (n = 10)	+46.80	
Group 2 (n = 10)	4.80	(3.26)	5.80	(3.03)	58.7	(13.3)	Group 2 (n = 10)	+1.00	+52.90

- Group 1 averaged 4.9 correct prior to training (Time 1) and 51.7 after the training (Time 2); Gain of +46.80 after the online training
- Group 2 averaged 4.8 and 5.80 correct prior to training (Time 1 and 2 respectively). After the training Group 2 averaged 58.7 correct, for a gain for +52.90 (Time 2 to Time 3).
- No statistically significant difference was observed between the two groups at Time 1, indicating that the groups' initial behavior was similar,  $t(18) = -0.7$ ,  $p = 0.944$ .
- Group 1 had statistically significant greater gains from Time 1 to Time 2, compared to the gains made by Group 2, suggesting that the training was effective in increasing Group 1's provision of adapted LSC instruction with simulated students with CCN.
- All participants demonstrated an increase in behaviors required to implement an evidence-based protocol, yet variation across participants, within each group was observed.

## DISCUSSION & FUTURE RESEARCH

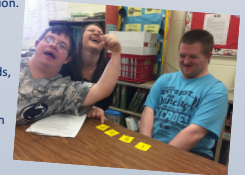
SLPs report the need for training in order to effectively implement adapted literacy instruction. This training can start at the pre-service level.

Online trainings, using effective and evidence-based strategies, can positively change behaviors, leading towards more optimal implementation of interventions, as well as contributing towards closing the research-to-practice gap.

Although additional analysis at the individual level, as well as skill level is needed, preliminary results indicate that the majority of errors occurred during the guided practice portion of lesson implementation.

Future research should investigate the most effective modes (e.g., in person, online) of training, as well as training components (e.g., instructional methods, targets, and intensity).

Future research should move beyond simulated role-plays, to implementation with individuals with CCN, by both pre and in-service SLPs.



## OTHER RESOURCES

- <http://aac.psu.edu>
- <http://aacliteracy.psu.edu/>
- <https://rerc-aac.psu.edu/isaac-2016/>

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