

# Effects of Telepractice versus In-Person Phonemic Awareness Intervention with Head Start Preschoolers



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## INTRODUCTION

- Speech-Language Pathologists have been slow to adopt Telepractice as a service delivery model, although it has been approved by ASHA.
- It is well-documented that children living in low SES households are at risk for diminished early literacy skills (Lonigan, 1998).
- When phonemic awareness explicit instruction is targeted during the preschool years, the likelihood of becoming a good reader increases.
- Underserved, at-risk for early literacy low SES Head Start Preschoolers rarely receive these efficacious SLP interventions due to nation-wide shortages.
- However, it is currently unknown if Telepractice compared to In-person therapy is equally efficacious and efficient.

## PURPOSE AND DESIGN

### PURPOSE:

- To study the effects of Telepractice versus the In-Person service delivery model using a Phonemic Awareness intervention with low SES 4-year old preschoolers attending Head Start.

### DESIGN:

- Single-subject Adapted Alternating Treatment Design

### SETTING:

- Head Start Preschool therapy room

### INDEPENDENT VARIABLES:

- Telepractice versus In-Person service delivery models

### DEPENDENT VARIABLES:

- Matching the stimuli phoneme to the picture
- starting with the same phoneme from an array
- of four pictures within five seconds of a verbal antecedent.

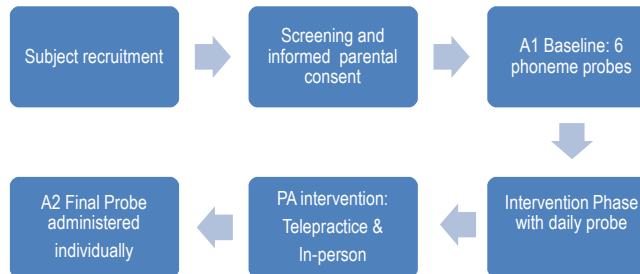
### SUBJECTS:

- Four Head Start Preschoolers
- 3 males, 1 female
- Age range 4.5 to 4.11 years
- Three African American
- One Latino
- No prior PA training



## METHODS

- An initial probe was completed during baseline. The intervention was provided 4 times per week for 20 minutes, 12 sessions overall.
- A Gateway laptop with a 15" screen, adjusted to a comfortable loudness per participant preference, Zoom © for Windows® web platform.
- During the Telepractice sessions, an e-helper was present to supervise the preschoolers and complete any technological procedures.
- Intervention followed a 4-step protocol:
  1. Introduction of Activity or review
  2. Thumbs Up-Thumbs Down activity
  3. Munch monster Matching activity
  4. End of session Probe
- Equivalence of Instructional Sets: phonemic categories, developmental acquisition, number of trials, IV conditions, intervention protocol, interventionist.



## DATA ANALYSIS

Inter-observer agreement at 90%

Fidelity of Implementation 87%

Social validity Scale completed by HS classroom teacher: Strongly agree 65%, Agreed 35% of the time and e-helpers: Agreed 100% of the time.

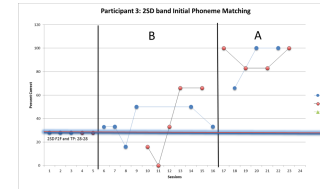
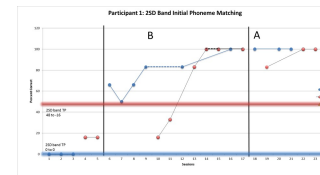
### VISUAL ANALYSIS

- Adjacent Condition Comparison to determine the direction of the level change: improvement or deterioration between A1-B1-A2.
- Slope analysis to determine the rate of improvement (average change) across sessions for each service delivery model.
- Percent of Non-Overlapping Data (PND) to determine the overall degree to which the intervention had an impact on the DV.
- 2SD band statistical measure to determine the effect and significance of the intervention on the DV for each service delivery model.
- Sessions to proficiency to determine the efficiency of each service delivery model.

## RESULTS

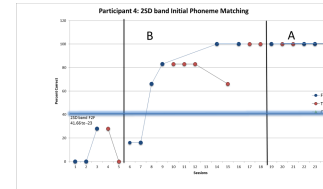
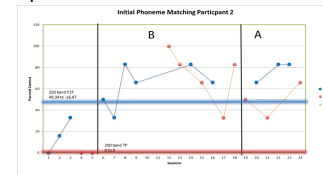
### TELEPRACTICE

- 100% of participants were proficient at the 83% correct criterion.
- 100% of participants generalized skills A2
- 2SD significant



### IN-PERSON

- 100% of participants were proficient at the 83% correct criterion.
- 100% of participants generalized skills A2
- 2SD significant
- The rate of acquisition varied across participants for both TP and I-P



## DISCUSSION

- TP is a viable solution for providing effective early literacy interventions to underserved low SES preschoolers.
- The high-impact findings from this study have the potential to affect the provision of speech-language therapy by creating an emerging evidence base for using the effective and efficient Telepractice service delivery model when providing phonemic awareness interventions by SLPs to Head Start preschool children at risk for low early literacy skills.
- Future research focusing on a larger, more diverse participant pool or a longer intervention period, or providing TP in the Head Start classroom are areas needing further investigation.

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