

# Literacy Intervention Approaches for Multilingual Preschoolers with Hearing Loss

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## Introduction

- Approximately two to three out of every 1,000 children are born with hearing loss in the United States (National Institute on Deafness and Other Communication Disorders [NIDCD], 2021).
- The Gallaudet Research Institute (2014) approximates that 82.1% of students with hearing loss speak English as the primary language, 17.9% of students speak Spanish, and 13.2% of students use American Sign Language (ASL).
- Children who are d/Deaf and/or hard of hearing (d/DHOH) often experience delays in early literacy outcomes (e.g., vocabulary acquisition, phonological awareness, and alphabetic knowledge) when compared to peers without hearing loss (Runnion & Gray, 2019).
- Previous literature addresses the impact of hearing loss on early literacy skills; however, few studies include multilingual children with hearing loss (Crowe et al. 2012).

## Clinical Scenario

- Rose is a bilingual speech-language pathologist (SLP) who speaks English and Spanish.
- Her new client, Mia, is a 4-year-old with moderate, bilateral sensorineural hearing loss. Spanish is her native language, and English is her second language.
- Mia presents with few vocabulary words in English, Spanish, and sign language, limited phonological awareness, and limited alphabetic knowledge.

## Clinical Research Question

- For a multilingual, preschool-age child with moderate hearing loss, will *Foundations for Literacy*, and/or *Pre-Teaching Reading Vocabulary* facilitate vocabulary acquisition and phonological awareness, when compared to *Enhanced Storybook Interaction*?

## Enhanced Storybook Interaction

- *Enhanced Storybook Interaction* is an intervention designed to facilitate vocabulary acquisition for children who are d/DHOH in kindergarten and first grade (Trussell & Easterbrooks, 2014).
- During each session, a teacher of the d/DHOH (TOD) read books with real photos.
- After reading the book with the participants, the TOD asked scripted questions to elicit target vocabulary words. Figure 1 depicts examples of the scripted storybook questions (Trussell & Easterbrooks, 2014).
- Participants were asked to respond using ASL, spoken language, or both.
- Ultimately, the researchers argued that children in kindergarten and first grade who are d/DHOH can increase vocabulary identification skills given scripted storybook intervention.

Figure 1.

### Scripted Storybook Questions

\_\_\_ What are these? (sheep)  
 \_\_\_ What is this? (calendar)  
 \_\_\_ What do you do at a birthday (party)?  
 \_\_\_ What is that? (raccoon)  
 \_\_\_ What do you think they will buy?  
 \_\_\_ Is this a raccoon? (mouse)  
 \_\_\_ What did they find in the shop?  
 \_\_\_ What is that? (register)  
 \_\_\_ What are these? (blocks)  
 \_\_\_ Is this a raccoon?  
 \_\_\_ What would you want for your birthday?  
 \_\_\_ What are they doing?

## Pre-Teaching Reading Vocabulary

- *Pre-Teaching Reading Vocabulary* is designed to facilitate vocabulary acquisition for multilingual, school-age students with hearing loss (Cannon et al., 2010).
- The intervention consisted of pre-teaching vocabulary and administration of DVD stories in ASL.
- The researchers found that administration of the DVD stories alone was less effective in teaching expository vocabulary than when pre-teaching occurred. Thus, pre-teaching can promote vocabulary acquisition.

## Foundations for Literacy

- *Foundations for Literacy* is designed to increase letter-sound correspondence, phonological awareness, and vocabulary acquisition for monolingual preschoolers with hearing loss (Lederberg et al., 2014).
- Participants used spoken language, ASL, or a combination of the two modalities.
- Intervention included the following procedures: storytelling, language activities, blending, segmenting, initial sound isolation, rhyming, and dialogic reading.
- Students in the intervention group demonstrated greater gains in phonological awareness, letter-sound knowledge, and expressive vocabulary than children in the comparison group. Thus, this curriculum supported and strengthened early literacy skills.

## Evidence-Based Decision

- After appraising studies and reviewing case history information, Rose identified *Foundations for Literacy* as the strongest approach to use in intervention with Mia.
- This framework was easily adapted to address Mia's areas of need (i.e., phonological awareness, alphabetic knowledge, and receptive and expressive vocabulary).
- Additionally, Rose decided to conduct intervention in Spanish and English to promote Mia's language, literacy, and metalinguistic skills in both languages.
- Rose used sign language as a supplement in intervention.
- Rose selected picture books written in both English and Spanish (e.g., *La Princesa and the Pea* by Susan Middleton Elya and Juana Martinez-Neal).
- To target letter-sound correspondence, phonological awareness, and vocabulary acquisition, Rose selected words with initial /p/, /b/, /m/, and /n/.
- Lastly, Rose selected the following skills to support Mia throughout the intervention process: gestural cues, visual cues, pre-teaching, kinesthetic cues, and verbal cues.

## Conclusion

- Multilingual preschoolers with hearing loss are underrepresented within the literature.
- Additional research should be conducted to examine effective literacy intervention protocols for multilingual preschoolers who are d/DHOH.
- Despite gaps in the literature, Rose chose the *Foundations for Literacy* curriculum as the evidence-based intervention for her client, Mia.
- She created lesson plans for SLPs working in private practice and school settings. Figure 2 shows a sample lesson plan (Gallagher, 2021).
- Rose altered the program to be administered in Spanish and English.
- Ultimately, clinicians must be prepared to utilize clinical expertise and critical thinking skills to adapt current literacy interventions for multilingual preschoolers with hearing loss.

Figure 2.

### Sample Lesson Plan

Session	Lesson	Target	Vocabulary Word(s)	Books/Stories	Supplemental Activities
1	Letter-Sound Correspondence	/p/	princesa pea	La Princesa and the Pea	Craft
2	Blending	p-p-i-n-e-e-s-a p-p-i-n-e-e-s	princesa princes	La Princesa and the Pea	Dolls
3	Initial Phoneme Isolation	Initial /p/	princesa princes	La Princesa and the Pea	"Find the Pea"
4	Rhyming	-oca -ee	soca soca pea pea bee bee knee	La Princesa and the Pea	"Feed the Princess" Storytelling (Chased by a Bee)

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