The Effects of Language Experience Approach vs. Activity-Based Intervention on Phonemic Awareness in Deaf and Hard of Hearing Children

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Introduction

- Hearing loss has been shown to negatively impact children's speech and language abilities (Delage & Teller, 2007).
- Children who are deaf or hard of hearing (DH), have difficulty with phonemic awareness which has been attributed to language processing abnormalities (Herman et al., 1995).
- One method to improve phonemic awareness is to use an activity-based intervention which is a strategy to help develop functional abilities by embedding goals and objectives into routine, planned, and spontaneous activities (Brickey & Woods Cripe, 1992).
- Another method is the language experience intervention, which is a whole language approach that promotes reading and writing through the use of personal experiences and oral language (Dixon & Nessel, 1983).
- It is unclear if activity-based Intervention or language experience intervention will improve phonemic awareness skills more quickly for children who are DH.

Case Scenario

- Margeaux is a graduate student clinician at the University of Nevada, Reno seeking a degree in speech pathology. She is currently working with a child, Morgan, who is DHH. She sees Morgan, a 5.5 female, 2 times a week for 1 hour sessions. Morgan has difficulty with syllable segmentation, initial phoneme isolation and phoneme blending. Margeaux is using activity-based intervention and has noticed some improvements in phonemic awareness.
- Margeaux recently learned about language experience in her course readings. She is wondering if language experience intervention will result in better phonemic awareness skills compared to activity-based intervention.

Purpose

The purpose of this research project was to determine whether an activity language experience intervention leads to an increase in phonemic awareness, compared to activity-based intervention, in early school-aged children who are DH.

Method

Search Terms:
- Activity-Based Intervention, Language-Experience Approach, Deaf and Hard of Hearing (DHH), Phonemic awareness

Electronic Databases:
- PsycINFO, PubMed, ERIC, Google Scholar

Appraisals:
- 10 Articles were appraised and evaluated for validity and reliability using a modified CATE form (Dollahite, 2007), by two raters until at least 85% interrater agreement was met.
- Appraisal points 7.8 were Suggestive, 4.6 were Compelling, and 0.3 were Equivocal.
- 4 articles were selected citing direct relevance to the purpose of this study.

Discussion

External Evidence:
- The research indicates improvements in both the use of an activity-based intervention and experience intervention in fostering phonemic awareness in DHH children.

Evidence Internal to Clinical Practice:
- I would feel comfortable implementing an activity-based intervention given training. My supervisor believes that using an activity-based intervention would be beneficial to my client.

Evidence to Client:
- My client prefers to receive therapy that is activity-based rather than language experience based therapy.

EBP Decision:
- Based on the external evidence, internal evidence to clinical practice, and evidence internal to my client, I chose to implement an activity-based intervention to increase phonemic awareness with Morgan. I will assess the outcomes of activity-based treatment after 3 months.

<table>
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<tr>
<th>Author(s), Year</th>
<th>Research Design</th>
<th>Appraisal Points</th>
<th>Participants (N, Grade, Description)</th>
<th>Purpose of Study</th>
<th>Dependent Variables</th>
<th>Results</th>
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<tr>
<td>Lederberg, M., Easterbrooks &amp; Connor (2014)</td>
<td>Experimental</td>
<td>6/8 points “Compelling”</td>
<td>N = 18, Grade: Preschool, Description: G1: Intervention, n = 33, G2: Control, n = 25</td>
<td>This study evaluated the efficacy of a new preschool early literacy language experience intervention, Foundations for Literacy, created specifically for DHH children with functional hearing.</td>
<td>Phonological awareness as measured by Test of Preschool Emergent Phonological Awareness</td>
<td>G1 performed significantly better on phonological awareness compared to G2 with medium effects, p &lt; .01, d = 0.6</td>
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<tr>
<td>Werfel, Lund &amp; Schutte (2015)</td>
<td>Experimental</td>
<td>6/8 points “Compelling”</td>
<td>N = 16, Grade: Preschool, Description: G1: With hearing loss, n = 8, G2: No hearing loss, n = 8</td>
<td>This study evaluated the components of alphabet knowledge in a group of preschool children with hearing loss who are learning spoken language.</td>
<td>Four Categories of Alphabet Knowledge: Letter names, Letter sounds, Print concepts, Word concepts</td>
<td>Letter names: G1 did not differ statistically on letter names compared to G2, p = 0.98, d = 0.02</td>
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<td>Trefuk, Wang, Woods, Gamp &amp; Paul (2007)</td>
<td>Experimental</td>
<td>7/8 points “Suggestive”</td>
<td>N = 20, Grade: Kindergarten &amp; 1st grade, Description: All had mild to profound hearing loss</td>
<td>This study evaluated the effectiveness of using Visual Phonics (activity-based intervention) with Direct Instruction reading programs with children with hearing-loss.</td>
<td>Sentence writing phoneme, Sentense writing spelling, Phonemic awareness segmentation</td>
<td>Word concepts: G1 performed significantly better on word concepts compared to G2, p = 0.36, d = 0.47</td>
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<td>Webb &amp; Lederberg (2012)</td>
<td>Experimental</td>
<td>7/8 points “Suggestive”</td>
<td>N = 108, Grade: Kindergarten &amp; 1st grade, Description: All had mild to profound hearing loss</td>
<td>This study evaluated psychometric properties of the TOPEL-PA and PAT-2, for DHH children with functional hearing.</td>
<td>Phonological awareness as measured by: TOPEL-PA, PAT-2</td>
<td>Phonological awareness: Results indicated that DHH children showed gains in phonemic Awareness across the school year.</td>
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</table>

Reference
