Communication Mode Influence on Phonological Development of Children with Hearing Loss

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Introduction

Phonology is a subdivision of language that studies the sound system and the rules that govern its spoken form. More specifically, phonological awareness is the ability to realize and reflect upon the sounds that make up words (Huit, Fahey, & Howard, 2015). According to Cleary (2009), children with hearing loss develop phonology in a late but normal pattern with significant variability. Due to this delayed development of phonological skills, many children with hearing loss will continue to fall behind their typically developing peers when they enter elementary school (Cleary, 2009).

According to Turking and Sussman (1992), total communication is an approach that focuses on the use of multiple modes including oral and manual communication dependent on which mode is best for the child in any given situation. The oral communication approach utilizes listening and spoken communication so individuals who are deaf or hard of hearing can become a part of mainstream society (Beattie, 2014). These two modes are similar in that they both foster phonological development, but it’s possible that one of these approaches advances these skills superiorly.

The purpose of this study was to gather research evidence for clinicians to provide the best recommendations about the development of phonological awareness for children under age 18 who are deaf or hard of hearing that use oral communication compared to children who use total communication.

Case Scenario

• Jordan is a speech pathology graduate student who attends the University of Nevada, Reno (UNR). Jordan sees a client named Jenny who is a 7-year-old female with hearing loss.

• Jenny currently uses the manual communication approach, but she just received cochlear implants. Her mother, Mrs. Tamarack, is considering changing her daughter’s communication and is concerned about her daughter’s awareness of speech sounds.

• Jordan was unsure about the external evidence supporting total and oral communication, so she was unable to provide recommendations for the client’s family. Because Jordan will soon be a new speech-language pathologist (SLP) and wants to use evidence-based recommendations, she decided to review the literature on phonological development for total and oral communication users.

I used the patient, intervention, comparison, and outcome (PICCO) framework (Gillam & Gillam, 2008) to develop the following clinical question:

Do children under age 16 who are deaf and hard of hearing (P) and use oral communication (C) have superior phonological awareness skills (O) than children who use total communication (C)?

Results

<table>
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<tr>
<th>Authors</th>
<th>Research Design</th>
<th>Participants (N, description, groups, and age)</th>
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<td>Huit &amp; Fahey (1999)</td>
<td>Experimental</td>
<td>N = 68 Children with prelingual deafness</td>
<td>To determine the contribution of students with prelingual deafness in phonological awareness, and to the development of phonemic awareness, and its role to reading success in Hebrew.</td>
<td>Phonemic awareness was measured by those of pictures were designed to assess phonemic awareness including initial phoneme identification, final phoneme identification, and rhyming.</td>
<td>G1 and G2 had significantly worse phonological awareness compared to G3, p &lt; .001.</td>
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<tr>
<td>Huit &amp; Fahey (1999)</td>
<td>Experimental</td>
<td>N = 60 Children with severe/profound prelingual HL</td>
<td>To determine the effect of implicit phonological awareness on reading progress of children who are deaf and children with normal hearing.</td>
<td>Implicit phonological awareness was measured as an adaptation of the Test of Phonological Awareness to appropriate for the DHH population.</td>
<td>There was a positive strong correlation between G2 and phonological awareness, r = .28, p &lt; .10.</td>
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Methodology

Search Terms: phonology, deaf and hard of hearing, communication mode, phonological awareness, oral communication, total communication

Electronic Databases: Campbell Collaboration, Cochrane Collaboration, National Guideline Clearinghouse, PubMed, & Google Scholar

Appraisal: The appraisal questions for intervention studies by Gillam & Gillam (2008) were used to evaluate validity and clinical significance of eight articles. An article was deemed “strong” if it earned 7 to 8 points, it was deemed “emerging” if it earned 4 to 6 points, and it was deemed “weak” if it earned 0 to 3 points.

Reliability: Eight articles were appraised for inter-rater reliability of greater than 80%. Of those eight, the top four articles were then selected for the evidence-based decision making process.

Conclusions

External evidence: The research shows that there are not any published studies that compare the phonological awareness skills of children who are deaf or hard of hearing that use oral communication to children who use total communication.

Internal evidence in relation to the client: Mrs. Tamarack wants to change her daughter’s communication mode from manual communication to a different approach due to recent cochlear implantation. Mrs. Tamarack feels more comfortable with the total communication approach because her daughter only uses manual communication as of right now. We decided together that Jenny would be introduced to the total communication approach. Jenny will continue to attend therapy twice a week, and her progress will be assessed every three months.

References