Introduction

• Do children with normal hearing, and Deaf, signing parents, develop spoken language in ways parallel to children in typical environments?

• In particular, how do they develop in the area of speech as speech that includes difficulty making articulation?

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• 21% were developing language atypically.

• The American Speech Language Hearing Association (ASHA) defines disordered or delayed phonological development of a 24 month old child:

• 21% were developing language atypically.

• • The 50 most frequently used words were derived from each session for word initial, medial, and final position.

• Syllable structure:

• • The child’s syllable structure for each token was compared against the target syllable structure to determine percentages of correct syllable structure.

• Phonological Processes:

• • The phonological processes used by each child were identified and then summed against the total number of tokens during the videotaped session.

Methods

• Videotapes used were part of a larger study being done at Gallaudet University and the University of Connecticut examining the bimodal bilingual development of hearing children of deaf adults.

• Children were videotaped in naturalistic settings, alternating between communicating with hearing adults and deaf adults, weekly from 18 months to 40(6 years, months of age).

• For this study, videotapes with hearing adults, at approximately 24, 30, and 36 months of age were analyzed.

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• • TOM had a greater amount of videotaped sessions selected due to his production of fewer linguistic utterances per session.

• • Elan software, a language archiving system, was used to view the videos and accompanying transcripts.

• • The 50 most frequently used words were derived from each transcript and further analyzed using Microsoft Excel.

• Phonemic Inventory:

• • Phonemic inventories were collected for each session for word initial, medial, and final position.

• • This information was compiled into a Microsoft Excel spreadsheet.

• Syllable structure:

• • The child’s syllable structure for each token was compared against the target syllable structure to determine percentages of correct syllable structure.

• Phonological Processes:

• • The phonological processes used by each child were identified and then summed against the total number of tokens during the videotaped session.

Results

• Phonemic Inventory:

• By 3 years of age, BEN, TOM and LEX have mastered all stops as well as nasals in word initial position.

• All 3 children produce at least some affricates, fricatives, glides, and liquids which is to be expected of children around 3 years of age.

• Syllable structure:

• • BEN and LEX both had very high percentages of correct syllable structure as compared to target syllable structure.

• • TOM showed decreased variation of syllable structure as compared to the other 2 children in the study.

• Phonological Processes:

• • BEN had low occurrences of all phonological processes which is consistent with the typical findings of 3 year old children. His adult-like utterances were 79% by 3;0.

• • Similarly, LEX had low occurrences of all phonological processes. By age 3;0, he had adult-like utterances of 77%.

• • However, TOM was still producing some phonological processes by age 3;0, including final consonant deletion and stopping. His adult-like utterances were 47%.

Conclusions

• The 3 CODA children examined in this study are developing language in a pattern that is consistent with children in typical linguistic environments.

• TOM, however, did present at the low end of the normal range of linguistic development. This may be due in part to his linguistic environment but this can not be determined until further research has examined his language at an older age.

Background

• Over 90% of children born to deaf parents (CODAs) are hearing

• Schiff and Ventry (1976) studied 52 CODAs; found 21% were developing language atypically.

• Brejje (1971) found that 56 CODAs had normal receptive vocabulary and above average articulation.

• Stoel-Gammon and Stone (1991) – typical phonological development of a 24 month old child:

• • Words of form CV, CVC, CVCV, and CVCVC

• • A few consonant clusters in word initial and potentially 1 or 2 in word final position

• • 9 or 10 different consonantal phones in word initial position, including stops, nasals, fricatives and glides

• • 5 or 6 different consonantal phones in word final position (mostly stops with some from nasal, fricative, and liquid classes)

• • The American Speech Language Hearing Association (ASHA) defines disordered or delayed speech as speech that includes difficulty making sounds, including substituting or adding sounds, as well as patterns of sound errors.

Participants

<table>
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<tr>
<th>Participant</th>
<th>1;11</th>
<th>2;06</th>
<th>3;00</th>
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<td>2;03-2;04</td>
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<td>3;00</td>
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All three children have normal hearing, no diagnosed disabilities, and Deaf parents.

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Bibliography