SPEECH PERCEPTION AND THE DEVELOPMENT OF LANGUAGE IN
DEAF CHILDREN

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This study has been undertaken to help determine how the perception of phonemes is important in the development of language and speech in deaf children. It is generally accepted that a pure tone audiogram is not a reliable indication of future language development, and consequently it is necessary to look for other prognostic tests. The development of these tests would be of great value not only in the prognosis but also in helping to reveal the basic underlying mechanisms in speech perception and production. This could in turn lead to a more definitive approach to the aural rehabilitation of the patient.

An initial study by Fry (1973) has shown that synthetic speech can be used to determine the cues that are important in the perception of certain phonemes by deaf children. The results suggest that the ability to perceive a second formant transition is important and correlates with overall speech and language development. Furthermore, some children with severe sensori-neural hearing loss may be able to use a frequency transition as a cue for the perception of fricatives which are normally perceived on the basis of the spectral energy distribution.

The present study has been carried out to examine in more detail the ability of deaf children, with different levels of speech development, to perceive the fricatives /s/ and /ʃ/. There were eight children in the series, and they were independently classified into a group of four with quite good speech and another group of four with poor speech. All the children had severe sensori-neural hearing loss, and the results indicate there was little correlation between their speech development, and the severity of the hearing loss. A preliminary analysis of the results, however, suggests that the ability to categorize the synthetic speech was correlated with speech development. One child was able to categorize the synthetic stimuli, but confused the stimulus that should have been perceived as an /s/ with a /ʃ/ and vice versa. This is interesting, because although the child had good speech, he was unable to perceive the difference between /s/ and /ʃ/. This would suggest that the child could perceive frequency transitions, but needed further rehabilitation in their finer discrimination.
Finally, two children were presented with the fricatives as a consonant-vowel, and consonant combination, to help confirm the importance of the frequency transition in the perception of these fricatives. In one of these children who had good speech, the results showed categorization for the consonant-vowel combination, but not for the consonant alone. This would suggest that deaf children can learn to take advantage of cues in the perception of fricatives that are probably not used by those with normal hearing.

REFERENCE:


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