

Reynolds, B. W. (1980). *Speechreading training related to the Danish Mouth Hand System for adventitiously hearing impaired adults*. Unpublished doctoral dissertation, Purdue University, West Lafayette. Carl A. Binnie (Advisor): 104 pages of text, 85 references, 6 appendices, 16 tables, and 1 figure.

The Danish Mouth Hand System (MHS) was originally developed in Denmark in 1903 by George Forchhammer. The system is mainly used to assist in the maintenance or oral person-to-person communication for those hearing impaired individuals who must rely on recognition of visible articulatory gestures, i.e., speechreading, for communication. The MHS cues are based on a hand cueing, manual phonemic system related to word pronunciation, not spelling. The cues utilized are not a manual alphabet or a sign language. They represent primarily the voicing and nasal characteristics of the acoustic speech signal. There are eight hand shapes and three hand positions that represent the 24 English consonant phonemes.

This investigation studied the ability of eight adventitiously hearing impaired adults to recognize consonant, word, sentence, and vowel stimulus items. Each subject was trained individually for nine hours. The stimulus items were videotaped with and without MHS cues and administered at pre-training and post-training sessions. The tests using MHS cues were incorporated to determine if the subjects could enhance their recognition of the stimulus items with supplemental visual support. The tests without MHS cues were included to determine if the subjects' speechreading abilities improved during nine hours of exposure to lip movements, but without formal training. Also, included in the study were two interim tests utilizing cues. The first interim test was given after three hours of consonant training and the second interim test was administered after three additional hours devoted to word practice. With the results of the interim tests, it could be determined if any stimulus generalization or transfer of learning occurred for words and sentences after consonant training and for sentences after consonant and word training.

The pre-training tests for Condition 1 and 2 and the post-training tests for Condition 3 were essentially speechreading tasks. Results of Conditions 1-3 in the consonant, word, sentence, and vowel recognition tasks were very similar. Differences among the three conditions for consonants and words were less than 2.5% while the vowel recognition varied 5% and the sentence recognition variation was 8%. The three conditions for all stimulus items were not statistically significant. In other words, there was no speechreading improvement during the nine hours of training on the MHS for any of the stimulus materials.

There were statistically significant improvements for the consonant, word, and sentence recognition items in Condition 4 (post-training test with MHS cues). The amount of improvement in the consonant and sentence recognition items was approximately equal to or greater than findings with similar items in previous research with the MHS. Improvements with word items were lower than previous findings, however, the increase continued to be substantial. Vowel recognition in Condition 4 was not statistically different from that recognition task in Conditions 1-3.

From inspection of the interim tests, stimulus generalization did not occur. The ability of the subjects to recognize the stimulus items utilized in this investigation occurred only after the item was practiced. Therefore, no significant improvements were observed prior to training on each type of stimulus material.