

Bristow, D. C. (1980). *A comparison of the learnability of basic ideographic symbols and manual signs*. Unpublished master's thesis, Purdue University, West Lafayette. Macalayne Fristoe (Advisor): 50 pages of text, 43 references, 8 appendices, 18 tables, and 7 figures.

Bristow, D. C., & Fristoe, M. (1984). A comparison of the learnability of basic ideographic symbols and manual signs. *Journal of Speech and Hearing Disorders*, 49, 145-151.

The purpose of this study was to determine if a significant difference existed between the production of manual signs and identification of basic ideographic symbols in response to the presentation of familiar pictures in a paired associate transfer-of-training task. Subjects were twenty normal children, ages 7 and 8. Subjects were given a pre-test in which a spoken nonsense syllable was presented and they were required to produce signs in response to half of the test items and select symbols for the other half. The subjects were then trained to (1) associate a picture with a nonsense syllable and (2) to produce a manual sign or select a graphic symbol to go with each picture. Half of the nonsense syllables and pictures were paired with signs and half with symbols. Whether a sign or symbol was used with a particular syllable or picture varied according to the subgroup (A or B) to which a subject was assigned. This counterbalanced design was used to avoid having the ease or difficulty of learning particular signs or symbols influence the overall comparison of sign and symbol learning. Upon reaching criterion on both these tasks, each subject was then administered a post-test and, on the next day a follow-up test. These tests were identical in form to the pre-test.

A 2 x 3 (Response Type x Tests) repeated measures analysis of variance was used to compare the number of correct responses obtained for the signs and symbols at each test interval (pre-test, post-test and follow-up test). No significant difference was found in the performance with signs versus the performance with symbols on the post-test and follow-up test.

A Wilcoxon Test for differences between related samples was done to compare the number of trials it took to reach criterion for learning the signs with that required for learning symbols. No statistically significant differences were found between subgroups A and B on sign-symbol performance, or between subgroups A and B on symbol performance. The difference between A and B on sign performance, however, was significant at the .02 level of confidence, suggesting that the sign responses required of subgroup A were easier to learn than those required of subgroup B, even though they were highly similar in degree of translucency.

Individual differences did occur, however, in the number of trials it took to reach criterion for learning the signs and symbols. The subjects ranged from learning both types of response in the same number of trials to taking twice as long to learn one type as the other and the type learned more quickly varied across subjects. This suggests that certain individuals may find one type of representation easier to learn than the other.