Variables Influencing the Learnability of Individual Signs and Sign Lexicons: A Review of the Literature

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The last decade has seen an increase in investigations of the psycholinguistic and production attributes of sign and the features of sign which influence learning and memory. However, these investigations usually have not adequately delineated between the learning of individual signs as opposed to the learning of sign lexicons or sign strings and have not discussed features which might differentially influence the learning and recall of single signs and sign lexicons. The current paper reviews existing literature in the area of sign learning and identifies psycholinguistic, psychological, and production features which may influence learning and recall of individual signs as well as sign lexicons. Included in the discussion of features which are hypothesized to influence the learning of individual signs are sign translucency (rather than sign iconicity) and referential concreteness of the sign gloss. Variables hypothesized to influence sign lexicon learning are cheremic similarity, acoustical confusion, and their relationship to proactive and retroactive interference. Implications of the effects of these variables on the learning of individual signs and on the learning of sign lexicons are discussed.

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PSYCHOLINGUISTIC AND PRODUCTION CONSIDERATIONS

The last decade has seen the psycholinguistic and production variables of sign become a focal point of research (Kahn, 1981; Luftig, in press; Siple et al., 1977; Wilbur, 1976). These investigations, originally pioneered by Stokoe and his associates, have demonstrated that sign may be subjected to the same types of linguistic and psychological analyses as spoken languages (Stokoe, 1960, 1976; Stokoe et al., 1965). Specific questions have begun to be asked about the lexical, grammatical, and semantical components of sign as well as the psychological and linguistic constraints which govern its learning and subsequent recall (Bellugi & Klima, 1975; Bonvillian et al., 1976; Frishberg, 1975; Fristoe & Floyd, 1979; Griffith & Robinson, 1980; Griffith et al., 1981; Luftig, in press; Luftig & Lloyd, 1981; Siple et al., 1977).

Unlike spoken language, sign is subject to constraints both of physical production of signs as well as the linguistic and semantic components of referents which affect all symbolic systems. For example, within the area of sign production, variables which have been shown to influence sign learning are conventionality (Bellugi & Klima, 1972, 1975; Frishberg, 1975; Harrell et al., 1973; Stokoe, 1970, 1976), iconicity (Brown, 1977; Griffith & Robinson, 1980; Griffith et al., 1981; Hoemann, 1975; Stokoe, 1975), and cheremic variables of sign articulation (Stokoe, 1960; Battison, 1974). Likewise, a partial list of psycholinguistic and psychological variables which have been shown to influence the learning of symbolic referents includes word class, imagery value, concreteness-abstractness, and the mediational properties of semantic material (Abbott, 1975; Begg & Robertson, 1973; Foth, 1973; Gallagher, 1970; Paivio, 1980).

A limited number of studies have appeared which have investigated the interaction between production and referent variables as well as the subsequent effects of these variables on human information processing (Bellugi & Siple, 1974; Conlin & Paivio, 1975; Luftig & Lloyd, 1981; Siple et al., 1977). However, little theoretical model building has occurred which attempts to incorporate these research findings into a coherent hypothesis of sign learning which makes predictions about the ease or difficulty in learning sign. Likewise, current research reports have not addressed differences in learning individual signs vs. learning sign strings or sign lexicons and the psychological and linguistic variables which might affect their acquisition and recall. Thus, the primary purposes of this paper are the discussion of production and linguistic elements which may influence the learnability of individual signs as opposed to sign lexicons and the making of predictions about the learnability of common signs.