

The relation between gestures and semantic processes:

A study of normal language development and specific language impairment in children

Abstract

In this thesis, three groups of eight children each are studied; all the children are four to six years old. One group has language comprehension problems; in their production, semantics and the lexicon are primarily affected (SEM/LEX group). Another group has no language comprehension problems and their main production problems affect phonology and grammar (PH/GR group). These two specific language impairment groups are compared to a matched control group.

One purpose of this study was to find out how age, phonological problems and word-finding problems interact with different categories of body communication (BC). BC that was significantly correlated with word-finding ability, phonological development or age was of interest. The influence of specific activities—a naming task versus a spontaneous situation—is also discussed. A qualitative interpretation of the function of the BC used by the three groups of children when they had phonological and word-finding problems was done. Another purpose of this study was to develop a method for observing semantic development as revealed by children's speech and hand gestures. This would provide insight into which words a child is able to access or has a "conceptual representation" for. A method for observing the content, significance, complexity and internal structure of the children's gestures was developed. The procedure consisted of in-depth studies of the features of word substitutions and of hand gestures used by children with different types of language disorders in confrontation naming tests and spontaneous speech.

A key finding was the fact that the SLI groups evidenced the same semantic processes concerning hierarchical organization as the children with normal language development. All groups used conceptual similarity, including perceptual and functional similarity, very frequently. Syntagmatic substitutions based on contiguity also occurred, pointing to a need to contextualize. Where the SLI groups differed was that the SEM/LEX group relied more on perceptual similarity (specifically shape), while the PH/GR group used conceptual contiguity significantly more often than the other group. In addition, the SEM/LEX group was found to use iconic gestures lacking in semantic features. This was also the only group to express perceptual similarity without functional similarity in their iconic gestures and in their verbal responses. Other practices typical of this group were repetition of the same word and/or iconic gesture and showing the "location on the body." The PH/GR group typically substituted iconic gestures for words when their utterances were not comprehensible; word substitutions tended to feature an entity becoming an action or a sound. Children in this group also elaborated on their words by providing additional information about function in their iconic gestures.

KEY WORDS: Specific language impairment, semantic development, body communication, substitutions, iconic gestures, semantic features, semantic relations, word-finding ability, phonological ability. The thesis is written in English