JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY 20, 369–376 (1975)

Category Similarity Effects in Children's Semantic Memory Retrieval

CARL E. MCFARLAND, JR.[1] AND GEORGE KELLAS

University of Kansas, Lawrence, Kansas 66045

Fourth-, sixth-, and eighth-grade students were required to indicate whether or not a stimulus word belonged in either of two semantic categories that were held in memory. Each category pair was either semantically similar or semantically dissimilar. The results indicated that even for the youngest children, similar categories required less search time than dissimilar categories. It was suggested that while dissimilar categories had to be accessed successively prior to search, subjects were able to consolidate similar categories into a superordinate group which eliminated the time to shift from one category to another during search. The results were contrasted with clustering studies which have demonstrated a minimal amount of memory facilitation in children for conceptually related items over unrelated items.

Human memory is assumed to be organized along semantic dimensions by most contemporary theorists (e.g., Anderson & Bower, 1973; Collins & Quillian, 1972; Rumelhart, Lindsay, & Norman, 1972; Smith, Shoben, & Rips, 1974). It is therefore of considerable interest to investigate the development of the semantic system. One approach to this problem is to focus on the modifications of semantic structures as the child matures. Such an investigation was conducted by Schaeffer, Lewis, and Van Decar (1971) who demonstrated that children generally learn subordinate elements before they learn superordinate ones. Their data were derived from semantic oddity problems which essentially reflect knowledge of semantic concepts (competence) as opposed to actual processing (performance).

Another approach to the study of semantic development involves an examination of age-related modifications of the processes which operate on *existing* semantic structures. Such an orientation was adopted for the present investigation. The experimental task employed here was de-

This investigation was supported by PHS Grant HD 00870 from the National Institute of Child Health and Human Development to the Bureau of Child Research. The authors are grateful to Larry Gaston, Sylvia Nelson, Walter Way, and Frank E. Wilson of the Topeka Public School System for their generous cooperation throughout this project. The authors also wish to thank Mark Ashcraft and Jim Juola for their comments on an earlier draft of this manuscript.

[1] Requests for reprints should be sent to Carl E. McFarland, Jr., Department of Psychology, University of Alabama in Birmingham, Birmingham, Alabama 35294.