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Cognitive Learning and Memory in Children

Progress in Cognitive Development Research

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Series Preface

For some time now, the study of cognitive development has been far and away the most active discipline within developmental psychology. Although there would be much disagreement as to the exact proportion of papers published in developmental journals that could be considered cognitive, 50% seems like a conservative estimate. Hence, a series of scholarly books devoted to work in cognitive development is especially appropriate at this time.

The *Springer Series in Cognitive Development* contains two basic types of books, namely, edited collections of original chapters by several authors, and original volumes written by one author or a small group of authors. The flagship for the Springer Series is a serial publication of the “advances” type, carrying the subtitle *Progress in Cognitive Development Research*. Each volume in the *Progress* sequence is strongly thematic, in that it is limited to some well-defined domain of cognitive–developmental research (e.g., logical and mathematical development, development of learning). All *Progress* volumes will be edited collections. Editors of such collections, upon consultation with the Series Editor, may elect to have their books published either as contributions to the *Progress* sequence or as separate volumes. All books written by one author or a small group of authors are being published as separate volumes within the series.

A fairly broad definition of cognitive development is being used in the selection of books for this series. The classic topics of concept development, children’s thinking and reasoning, the development of learning, language development, and memory development will, of course, be included. So, however, will newer areas such as social-cognitive development, educational

applications, formal modeling, and philosophical implications of cognitive–developmental theory. Although it is anticipated that most books in the series will be empirical in orientation, theoretical and philosophical works are also welcome. With books of the latter sort, heterogeneity of theoretical perspective is encouraged, and no attempt will be made to foster some specific theoretical perspective at the expense of others (e.g., Piagetian versus behavioral or behavioral versus information processing).

C. J. Brainerd

Preface

Twenty-five years ago Miller, Galanter, and Pribram (1960) offered *Plans and the Structure of Behavior* to a psychological community that had avoided mentalistic thinking for more than two decades. Miller et al.'s (1960) impact was enormous; the publication of that volume stimulated much of the now classic work in cognitive psychology that was carried out in the 1960s. In developmental psychology the study of cognition was stimulated additionally by Flavell's (1963) masterful summary of Piagetian thinking, as well as Flavell's (1970) initial studies of children's information processing during memorization. The chapters of this volume and its companion [Brainerd, C. J., & Pressley, M. (Eds.), *Basic Processes in Memory Development*] document the enormous progress during the 1970s and 1980s. This volume focuses on memory development and intellectual processing related to memory.

The seven chapters weave conceptual and methodological issues relevant to the development and study of memory. Pressley, Forrest-Pressley, Elliott-Faust, and Miller develop a new model of efficient use of cognitive strategies and review supporting data, especially work on memory strategies. There are many recommendations in this chapter as to how to study efficient strategy use.

Daehler and Greco provide an overview of memory development in very young children. They describe each of the major methods of studying memory in children younger than three years of age, followed by a summary of research on young children's retention. It is a concise, yet thorough, integrative summary of early memory. Daehler's extensive research in this area permits insightful commentary on this challenging area of research.

Paris, Newman, and Jacobs take up the problem of the naturalistic development of memory skills, theorizing that such skills are shaped by children's social interactions. The authors argue that the environment is well suited to developing the child's mind—parents provide support for cognitive processing, withdrawing their assistance gradually as the child matures so as to promote autonomous cognition. Ideas from Soviet theorists are integrated with findings from the cross-cultural literature and western research on cognition, particularly research on everyday cognition.

Rogoff and Mistry explore in detail recent cross-cultural work relevant to memory development. While covering many of the same topics explored by Paris, Newman, and Jacobs, a particular strength of Rogoff and Mistry's contribution is that they provide extensive coverage of the difficulties of cross-cultural research—and many examples of how difficulties can be overcome. Rogoff and Mistry's chapter, especially when combined with Paris, Newman, and Jacob's contribution, provides detailed coverage of how memory can be studied in children's natural environments.

Reyna presents a review of recent research on children's interpretation of metaphors, relating it to other aspects of memory and cognition. Reyna documents that children often provide "magical" interpretations of metaphors; she hypothesizes that magical interpretation is preliminary to mature metaphoric understanding. Her chapter provides sufficient motivation for additional study of this interesting aspect of children's comprehension and interpretation as well as motivation for additional research relating metaphoric competence to other aspects of cognition.

Marx, Winne, and Walsh review a new area of cognitive inquiry, thinking as it occurs in the classroom. These authors have pioneered methodological advances in assessing student cognition during classroom learning, and they describe many of their contributions in this chapter. Marx, Winne, and Walsh identify a number of important variables that influence children's thinking in school—in doing so, this contribution complements well other chapters concerning memory and intellectual development in natural contexts.

The chapter by Joel Levin is a methodological critique of research on learning and cognition. He details many fundamental errors in procedure and analysis that have plagued developmental cognition. Levin also offers many solutions. This chapter is must reading for young cognitive researchers. Most veteran investigators will find worthwhile pointers here as well.

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