

Research Methods in Library and Information Studies

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Stimulated Recall and Mental Models

*Tools for Teaching and Learning
Computer Information Literacy*

Lyn Henderson
Julie Tallman

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*To our family and friends with love and thanks
for their unwavering support over the years.*

*To the teacher-librarians and students in this study—
they have taught us so much.*

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Foreword

Research Methods in Library and Information Studies, the monographic series of which this book is a part, addresses research in all areas of library and information studies by presenting, delineating, explaining, and exemplifying a full range of research methodologies. Works in this series are intended to serve the needs of scholars, graduate students, library managers, information professionals, interdisciplinary faculty, teacher-librarians, library media specialists, and teachers.

Both applied and theoretical works are appropriate for this series, as it ranges from action research (e.g., cost-benefit analysis techniques) to analytic approaches (e.g., bibliometrics). Works on both macro (e.g., historical analysis) and local (e.g., performance/output evaluation) levels are germane, as are works representing qualitative, quantitative, and mixed approaches.

In addition to the topics already treated by this series, others may include historical analysis of information provision, design, and resources; biographical treatment of leaders, change-agents, and key figures; bibliometric analysis of the web, e-journals, and other digital resources; applied techniques for community information needs analysis and library evaluation; quantitative analysis of library collections, resources, and delivery mechanisms; theoretical analysis of relevance criteria in various settings; feminist analysis of document representation in classification and subject access systems; content analysis of library and information studies literature; and explanations and examples of key statistical techniques used by library managers in action research projects.

This book by Lyn Henderson and Julie Tallman is ideal for this series in both subject and approach. The authors provide an excellent descrip-

tion of, rationale for, and methodological explication of their approach to studying mental models in the instructional context. To exemplify and expand on their explanations, they carefully incorporate the results of their timely research in this significant area. Mental model research incorporates work in cognitive psychology, sociocognitive analysis, and learning theory—a rich framework that makes this volume's explanatory approach particularly useful.

Indeed, their research on teaching through the perspective of teachers' mental models has important implications for understanding the elements that govern choice of teaching strategies. That understanding is the essential first step toward changing teaching beliefs and methods. Finding the underlying thinking that exposes their mental models in action, which affect their actual use of teaching strategies, is the most difficult aspect of studying mental models. The problem is identifying the most effective method for discovering teachers' thinking in action without undue distortion from the researcher or the participant. The stimulated recall method was selected as the most reliable and valid method for identifying and exploring mental models through the teachers' thinking while they were actually teaching. Clearly detailed are various surprises that would not have been revealed by using interviews, discourse analysis, and/or observation rather than stimulated recall.

An exemplar of how researchers proceed through the various stages of research is provided through the authors' meticulous paper trail of how their theoretical constructs inform and are informed by their research instruments, data categorization, findings, analyses, and conclusions. The authors clearly demonstrate the worth of careful adherence to strict protocols while administering their data collection tools—a pre-interview to establish espoused mental models, a videotape of the information literacy lesson, a stimulated recall interview using the video as a prompt to ascertain in-action stimulated recall mental models, and an enhanced post-interview to explore reasons for, and critical reflection on, particular strategies and actions that occurred during the lesson. Through within-case and across-case examination, the authors demonstrate the viability of mental models as either a liberating change-agent or stultifying status-quo manager of their pedagogy, even when teachers voice accurate critical self-reflection, a strong commitment to change certain mental models that were problematic and ineffective for their students, and identified how they would accomplish their commitment to change.

A new analogy of mental models as interwoven threads is argued. This analogy is demonstrated by delineating how the teachers' mental models operated together to either manage the teacher or be managed by the teacher. By ascertaining certain mental models and how they combined

through "if . . . then . . ." scenarios, the authors conclude that mental models have predictive power, particularly with respect to pedagogic strategies, even if the opposite were espoused.

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