

# Contents

<i>Foreword</i>	viii
ROBERT J. STERNBERG	
<i>Preface</i>	x
<i>Acknowledgement</i>	xi
<b>1 A Growing Sense of “Agency”</b>	<b>1</b>
DOUGLAS J. HACKER, JOHN DUNLOSKY, AND ARTHUR C. GRAESSER	
<b>PART I</b>	
<b>Comprehension Strategies</b>	<b>5</b>
<b>2 The Role of Metacognition in Understanding and Supporting Reading Comprehension</b>	<b>7</b>
MARGARET G. McKEOWN AND ISABEL L. BECK	
<b>3 The Role of Metacognition in Teaching Reading Comprehension to Primary Students</b>	<b>26</b>
JOANNA P. WILLIAMS AND J. GRANT ATKINS	
<b>PART II</b>	
<b>Metacognitive Strategies</b>	<b>45</b>
<b>4 Question Generation and Anomaly Detection in Texts</b>	<b>47</b>
JOSÉ OTERO	
<b>5 Self-Explanation and Metacognition: The Dynamics of Reading</b>	<b>60</b>
DANIELLE S. McNAMARA AND JOSEPH P. MAGLIANO	
<b>PART III</b>	
<b>Metacomprehension</b>	<b>83</b>
<b>6 Metacognitive Monitoring During and After Reading</b>	<b>85</b>
KEITH W. THIEDE, THOMAS D. GRIFFIN, JENNIFER WILEY, AND JOSHUA S. REDFORD	

<b>7 The Importance of Knowing What You Know: A Knowledge Monitoring Framework for Studying Metacognition in Education</b>	<b>107</b>
SIGMUND TOBIAS AND HOWARD T. EVERSON	
<b>PART IV</b>	
<b>Writing</b>	<b>129</b>
<b>8 Metacognition and Children’s Writing</b>	<b>131</b>
KAREN R. HARRIS, STEVE GRAHAM, MARY BRINDLE, AND KARIN SANDMEL	
<b>9 Writing is Applied Metacognition</b>	<b>154</b>
DOUGLAS J. HACKER, MATT C. KEENER, AND JOHN C. KIRCHER	
<b>PART V</b>	
<b>Science and Mathematics</b>	<b>173</b>
<b>10 The Interplay of Scientific Inquiry and Metacognition: More than a Marriage of Convenience</b>	<b>175</b>
BARBARA WHITE, JOHN FREDERIKSEN, AND ALLAN COLLINS	
<b>11 The Enigma of Mathematical Learning Disabilities: Metacognition or STICORDI, That’s the Question</b>	<b>206</b>
ANNEMIE DESOETE	
<b>PART VI</b>	
<b>Individual Differences</b>	<b>219</b>
<b>12 Context Matters: Gender and Cross-Cultural Differences in Confidence</b>	<b>221</b>
MARY LUNDEBERG AND LINDSEY MOHAN	
<b>13 Teachers as Metacognitive Professionals</b>	<b>240</b>
GERALD G. DUFFY, SAMUEL MILLER, SETH PARSONS, AND MICHAEL MELOTH	
<b>PART VII</b>	
<b>Self-Regulated Learning</b>	<b>257</b>
<b>14 Supporting Self-Regulated Learning with Cognitive Tools</b>	<b>259</b>
PHILIP H. WINNE AND JOHN C. NESBIT	
<b>15 Effective Implementation of Metacognition</b>	<b>278</b>
MICHAEL J. SERRA AND JANET METCALFE	
<b>16 Self-Regulation: Where Metacognition and Motivation Intersect</b>	<b>299</b>
BARRY J. ZIMMERMAN AND ADAM R. MOYLAN	

<b>PART VIII</b>	
<b>Technology</b>	317
<b>17 Self-Regulated Learning with Hypermedia</b>	319
ROGER AZEVEDO AND AMY M. WITHERSPOON	
<b>18 Interactive Metacognition: Monitoring and Regulating a Teachable Agent</b>	340
DANIEL L. SCHWARTZ, CATHERINE CHASE, DORIS B. CHIN, MARILY OPPEZZO, HENRY KWONG, SANDRA OKITA, GAUTAM BISWAS, ROD ROSCOE, HOGYEONG JEONG, AND JOHN WAGSTER	
<b>PART IX</b>	
<b>Tutoring</b>	359
<b>19 Meta-Knowledge in Tutoring</b>	361
ARTHUR C. GRAESSER, SIDNEY D’MELLO, AND NATALIE PERSON	
<b>20 <i>In Vivo</i> Experiments on Whether Supporting Metacognition in Intelligent Tutoring Systems Yields Robust Learning</b>	383
KEN KOEDINGER, VINCENT ALEVEN, IDO ROLL, AND RYAN BAKER	
<b>PART X</b>	
<b>Measurement</b>	413
<b>21 Measuring Metacognitive Judgments</b>	415
GREGORY SCHRAW	
<b>22 Sins Committed in the Name of Ecological Validity: A Call for Representative Design in Education Science</b>	430
JOHN DUNLOSKY, SARA BOTTIROLI, AND MARISSA HARTWIG	
<i>Index</i>	441