Contents

Foreword Daniel C. Miller xi
Preface xiii
Acknowledgments xvii

Chapter 1 Introduction and Overview 1
  Memory and Learning 4
  Memory Problems 6
  Applying Memory Research in the Classroom 8
  Overview of the Chapters 8
  Learning Objectives 10

Chapter 2 Memory Systems and Processes 13
  The Flow of Information 15
  Sensory Memory 16
  Short-Term Memory 16
  Working Memory 21
  Long-Term Memory Systems 27
  Long-Term Memory Processes 35
  Forgetting 47
  Interference 49
  The Organization of Memory 51
  Implications for Memory Assessment 53
  Educational and Training Implications 54
  Memory Fundamentals 54

Chapter 3 Memory Neuroanatomy, Development, and Dysfunction 57
  The Neuroanatomy of Memory 58
  Short-Term and Working Memory Structures 68
  Neurological Principles of Memory 71
  The Development of Long-Term Memory 72
  Development of Metamemory and Effective Strategies 75
  Fundamentals of Memory Development 81
  Related Cognitive Processes 82
  Memory Dysfunction 86
Chapter 4  Risk Factors for Memory Impairments  91

Acquired Brain Injury  94
Medical Conditions  99
Developmental Disorders  107
Mental Disorders  114
Substance Abuse  118
Findings that Apply to All At-Risk Groups  125
Assessment Implications  126
Implications for Interventions and Classroom Instruction  127

Chapter 5  Long-Term Memory Assessment Strategies  129

A Comprehensive Explicit Memory Assessment  130
Planning a Personalized Assessment  138
Cross-Battery and Selective Testing  142
Memory Assessment Challenges  143
Collecting Medical, Developmental, and Academic History  145
Interviewing Teachers, Parents, and Students  146
Observation  149
Assessment of Metamemory and Strategy Development  152
Collecting Classroom Examination Data  156
Guidelines for Administering Standardized Memory Tests  157
General Guidelines for Interpretation of Test Results  159
Analysis of Memory Test Scores  163
Specific Guidelines for Interpretation of Memory
Assessment Results  168
Case Study  176

Chapter 6  Assessing Long-Term Memory With
Standardized Tests  179

California Verbal Learning Test—Children’s
Version (CVLT-C)  180
Children’s Memory Scale (CMS)  184
The NEPSY II  187
The Rivermead Behavioural Memory Test for
Children (RBMT-C)  190
Test of Memory and Learning, Second Edition
(TOMAL-2)  192
Wide Range Assessment of Memory and Learning,
Second Edition (WRAML2)  196
Wechsler Memory Scale®—Fourth Edition (WMS®-IV)  200
Cognitive, Intellectual, and Achievement Batteries  205
Other Scales With Long-Term Memory Measures  221
Appendix A  Memory Assessment Plan  335
Appendix B  Analysis of Memory Testing Results  337
Appendix C  Conversion Table: Scaled Scores to Standard Scores  339
References  341
Index  377