EDUCATIONAL RESEARCH

Competencies for Analysis and Applications

ELEVENTH EDITION

GLOBAL EDITION

Geoffrey E. Mills
Southern Oregon University

L. R. Gay
Late of Florida International University

PEARSON

Boston Columbus Indianapolis New York San Francisco Amsterdam
Cape Town Dubai London Madrid Milan Munich Paris Montréal Toronto
Delhi Mexico City São Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo

Preface

NEW TO THIS EDITION

Like the tenth edition, the eleventh edition reflects a combination of both unsolicited and solicited input. Positive feedback suggested aspects of the text that should not be changed—the writing style and the focus on ethical practice, for example. Those aspects remain. However, for the first time in many years, the Table of Contents reflects a new organization for the book. Part I, Foundational Concepts and Processes retains the same six chapters from the 10th edition, but Part II, Research Designs, includes all of the research design chapters that were previously separated into quantitative research designs and qualitative research designs. This reflects our decision to provide a comprehensive discussion of all the research designs before discussing data analysis and interpretation. Part III, Working with Quantitative and Qualitative Data brings together discussions of descriptive statistics, inferential statistics, and qualitative data collection and analysis. The intent of this new section is to provide a comprehensive section on both quantitative and qualitative data analysis and interpretation that reflects the increasing application of mixed methods designs in educational research. Part IV, Reporting and Critiquing Research effectively remains the same.

Content changes reflect the inclusion of new topics and the expansion or clarification of existing topics. There are many improvements in this edition, and we describe the more significant highlights here:

- All research articles have been annotated and now include descriptive annotations (what is the researcher doing) and reflective/evaluative annotations (how did the researcher's decisions support or challenge the chosen research design). These annotations will scaffold the readers' understanding of the content of the chapters to the sample journal articles.
- Chapter 1 (and subsequent chapters throughout the book) include a new "Write Like a Researcher" Feature that have been designed specifically with the purpose of encouraging new researchers to start writing early in the research process.
- Chapter 3 has undergone significant revision because of the way technology has affected the literature review process. Changes include a Digital Research Tools feature on Google Book and Google Scholar, step-by-step directions for an ERIC EBSCO search that maximizes the power of university library consortium agreements to identify fully online journal articles, a "Write Like a Researcher" feature that encourages new researchers to start their writing of the review of related literature very early in the research process.
- Chapter 8 on experimental research has been significantly updated to reflect 21st century discussions about validity, effect size, power, and quasi-experimental designs.
- Chapter 15 on mixed methods designs has been significantly updated to reflect the expansion of three basic and three advanced mixed methods designs currently being used in educational research settings.
- The chapters on Descriptive and Inferential Statistics (now Chapters 17 and 18 in Part III Working with Quantitative and Qualitative Data) have been updated to reflect new versions of SPSS and Excel.

In addition, we have added new tables and figures throughout the text. Every chapter has been edited and updated. References have been updated. Appendix A that historically contained tables related to random numbers, and so on, has been deleted and replaced with links throughout the book to online sources that provide the same information.

PHILOSOPHY AND PURPOSE

This text is designed primarily for use in the introductory course in educational research that is a basic requirement for many graduate programs.

Because the topic coverage of the text is relatively comprehensive, it may be easily adapted for use in either a senior-level undergraduate course or a more advanced graduate-level course.

The philosophy that guided the development of the current and previous editions of this text was the conviction that an introductory research course should be more oriented toward skill and application than toward theory. Thus, the purpose of this text is for students to become familiar with research mainly at a "how-to" skill and application level. The authors do not mystify students with theoretical and statistical jargon. They strive to provide a down-to-earth approach that helps students acquire the skills and knowledge required of a competent consumer and producer of educational research. The emphasis is not just on what the student knows but also on what the student can do with what he or she knows. It is recognized that being a "good" researcher involves more than the acquisition of skills and knowledge; in any field, important research is usually produced by those who through experience have acquired insights, intuitions, and strategies related to the research process. Research of any worth, however, is rarely conducted in the absence of basic research skills and knowledge. A fundamental assumption of this text is that the competencies required of a competent consumer of research overlap considerably with those required of a competent producer of research. A person is in a much better position to evaluate the work of others after she or he has performed the major tasks involved in the research process.

ORGANIZATION AND STRATEGY

The overall strategy of the text is to promote students' attainment of a degree of expertise in research through the acquisition of knowledge and by involvement in the research process.

Organization

In the eleventh edition, Part I "Foundational Concepts and Processes" includes discussion of the scientific and disciplined inquiry approach and its application in education. The main steps in the research process and the purpose and methods of the various research designs are discussed. In Part I, each student selects and delineates a research problem of interest that has relevance to his or her professional area. Throughout the rest of the text, the student then simulates the procedures that would be followed in conducting a study designed to investigate the research problem; each chapter develops a specific skill or set of skills required for the execution of such a research design. Specifically, the student learns about the application of the scientific method in education and the ethical considerations that affect the conduct of any educational research (Chapter 1), identifies a research problem and formulates hypotheses (Chapter 2), conducts a review of the related literature (Chapter 3), develops a research plan (Chapter 4), selects and defines samples (Chapter 5), and evaluates and selects measuring instruments (Chapter 6). Throughout these chapters are parallel discussions of quantitative and qualitative research constructs. This organization, with increased emphasis on ethical considerations in the conduct of educational research and the skills needed to conduct a comprehensive review of related literature, allows the student to see the similarities and differences in research designs and to understand more fully how the nature of the research question influences the selection of a research design. Part II "Research Designs" includes description and discussion of different quantitative research designs, qualitative research designs, mixed methods research designs, and action research designs. Part III "Working with Quantitative and Qualitative Data" includes two chapters devoted to the statistical approaches and the analysis and interpretation of quantitative data, and two chapters describing the collection, analysis, and interpretation of qualitative data. Part IV "Reporting and Critiquing Research" focuses on helping the student prepare a research report, either for the completion of a degree requirement or for publication in a refereed journal, and an opportunity for the student to apply the skills and knowledge acquired in Parts I through III to critique a research report.

Strategy

This text represents more than just a textbook to be incorporated into a course; it is a total instructional system that includes stated learning outcomes, instruction, and procedures for evaluating

each outcome. The instructional strategy of the system emphasizes the demonstration of skills and individualization within this structure. Each chapter begins with a list of learning outcomes that describes the knowledge and skills that the student should gain from the chapter. In many instances, learning outcomes may be assessed either as written exercises submitted by students or by tests, whichever the instructor prefers. In most chapters, a task to be performed is described next. Tasks require students to demonstrate that they can perform particular research skills. Because each student works with a different research problem, each student demonstrates the competency required by a task as it applies to his or her own problem. With the exception of Chapter 1, an individual chapter is directed toward the attainment of only one task (occasionally, students have a choice between a quantitative and qualitative task).

Text discussion is intended to be as simple and straightforward as possible. Whenever feasible, procedures are presented as a series of steps, and concepts are explained in terms of illustrative examples. In a number of cases, relatively complex topics or topics beyond the scope of the text are presented at a very elementary level, and students are directed to other sources for additional, in-depth discussion. There is also a degree of intentional repetition; a number of concepts are discussed in different contexts and from different perspectives. Also, at the risk of eliciting more than a few groans, an attempt has been made to sprinkle the text with touches of humor—a hallmark of this text spanning three decades—and perhaps best captured by the pictures and quotes that open each chapter. Each chapter includes a detailed, often lengthy summary with headings and subheadings directly parallel to those in the chapter. The summaries are designed to facilitate both the review and location of related text discussion. Finally, each chapter (or part) concludes with suggested criteria for evaluating the associated task and with an example of the task produced by a former introductory educational research student. Full-length articles, reprinted from the educational research literature, appear at the ends of all chapters presenting research designs and serve as illustrations of "real-life" research using that design. For the 11th edition all of these articles have been annotated with descriptive and evaluative annotations.

SUPPLEMENTARY MATERIALS

The following resources are available for instructors to download from **www.pearsonglobaleditions.com/mills**. Download the supplement you need. If you require assistance in downloading any resources, contact your Pearson representative.

Instructor's Resource Manual With Test Bank

The *Instructor's Resource Manual with Test Bank* is divided into two parts. The Instructor's Resource Manual contains, for each chapter, suggested activities that have been effectively used in Educational Research courses, strategies for teaching, and selected resources to supplement the textbook content. The test bank contains multiple-choice items covering the content of each chapter, newly updated for this edition, and can be printed and edited or used with TestGen®.

TestGen®

TestGen is a powerful test generator available exclusively from Pearson Education publishers. You install TestGen on your personal computer and create your own tests for classroom testing and for other specialized delivery options, such as over a local area network or on the web. A test bank, which is also called a Test Item File (TIF), typically contains a large set of test items, organized by chapter and ready for your use in creating a test, based on the associated textbook material. Assessments may be created for both print and testing online.

PowerPoint® Slides

The PowerPoint® slides highlight key concepts and summarize text content to help students understand, organize, and remember core concepts and ideas. They are organized around chapter learning outcomes to help instructors structure class presentations.

ACKNOWLEDGMENTS

I sincerely thank everyone who provided input for the development of this edition. The following individuals made thoughtful and detailed suggestions and comments for improving the eleventh edition: M.H. Clark, University of Central Florida; Anne Dahlman, Minnesota State University, Mankato; Dwight R. Gard, Texas Tech University; Jann W. MacInnes, University of Florida; Lauren Saenz, Boston College; and Rishi Sriram, Baylor University. These reviewers contributed greatly to the eleventh edition and their efforts are very much appreciated.

This edition benefited from the efforts of two editors: Kevin Davis and Gail Gottfried. A few words of thanks are in order here. For nearly 20 years I have been fortunate to work with Kevin Davis, Vice President and Publisher at Pearson. Kevin gave me my textbook start in 1997 when he offered me a contract to write *Action Research: A Guide for the Teacher Researcher* (now in its fifth edition). Kevin has taught me a great deal about writing, and I will always be indebted to him for trusting me with stewardship of this wonderful text. I have also been fortunate to work with my Developmental Editor, Gail Gottfried, for a number of years spanning both my action research and educational research books. My virtual relationship with Gail is remarkable. While we have never met face-to-face I trust and respect all the contributions she has made to my work over the years. I benefit greatly from Gail's creative thinking about how to make an educational research textbook meaningful and fun. Also at Pearson, Lauren Carlson ably shepherded the manuscript through development and production, responded to my cries for help, and kept me on track. An author does not take on the task of a major revision of a text of this magnitude without the commitment and support of excellent editors. Kevin and Gail were instrumental in the development of this edition and I sincerely thank them for their professionalism, patience, caring, and sense of humor.

I believe that I have made a positive contribution to this text, now my fourth edition, and added to the wisdom of earlier editions by L. R. Gay and Peter Airasian. Long-time users of the text will still "hear" Lorrie Gay's voice throughout the text, but increasingly there is an Aussie accent and sense of humor creeping its way into the pages!

I wish to thank my friend and colleague Dr. Ken Kempner (Emeritus Professor, Southern Oregon University) for his thoughtful work on revising the descriptive and inferential statistics chapters and feedback on other quantitative chapters in the text.

Finally, I want to thank my best friend and wife, Dr. Donna Mills (Southern Oregon University), and my son, Jonathan, for their love, support, and patience. Their commitment to my work is always appreciated and never taken for granted. The completion of this edition signals another new era in my life as my son Jonathan completes his undergraduate degree and contemplates work and graduate school, and Donna prepares for retirement after a very successful university career. I continue to suggest to Jonathan that one day he may want to take over my books. While it is safe to say that he is less than excited by the prospect—his undergraduate experiences in the Clark Honors College at the University of Oregon and his study abroad experiences at the University of Oxford have seen his interest in research increase dramatically!

Geoff Mills
Southern Oregon University

Brief Contents

Part I FOUNDATIONAL CONCEPTS AND PROCESSES

CHAPTER 1 EDUCATIONAL RESEARCH: METHOD, PURPOSE, AND ETHICS 20

CHAPTER 2 IDENTIFYING AND STATING A RESEARCH PROBLEM 88

CHAPTER 3 LITERATURE REVIEW 106

CHAPTER 4 PREPARING AND REFINING A RESEARCH PLAN 136

CHAPTER 5 SAMPLING 154

CHAPTER 6 CONSTRUCTS, VARIABLES, AND TESTS 174

Part II RESEARCH DESIGNS

CHAPTER 7 SURVEY RESEARCH 208

CHAPTER 8 CORRELATIONAL RESEARCH 232

CHAPTER 9 CAUSAL–COMPARATIVE RESEARCH 258

CHAPTER 10 EXPERIMENTAL RESEARCH 284

CHAPTER 11 SINGLE-SUBJECT EXPERIMENTAL RESEARCH 334

CHAPTER 12 NARRATIVE RESEARCH 364

CHAPTER 13 ETHNOGRAPHIC RESEARCH 390

CHAPTER 14 CASE STUDY RESEARCH 416

CHAPTER 15 MIXED METHODS RESEARCH: INTEGRATING QUANTITATIVE AND QUALITATIVE RESEARCH DESIGNS 442

CHAPTER 16 ACTION RESEARCH 474

Part III DATA IN RESEARCH

CHAPTER 17 ORGANIZING AND GRAPHING DATA 500

CHAPTER 18 INFERENTIAL STATISTICS 522

CHAPTER 19 FIELDWORK 562

CHAPTER 20 ANALYZING AND INTERPRETING DATA 580

Part IV WRITING AND EVALUATING RESEARCH REPORTS

CHAPTER 21 PREPARING AND PUBLISHING A RESEARCH REPORT 596

CHAPTER 22 ANALYZING AND CRITIQUING RESEARCH 620

Contents

PART I FOUNDATIONAL CONCEPTS AND PROCESSES

CHAPTER 1 EDUCATIONAL RESEARCH: METHOD, PURPOSE, AND ETHICS 20

Tasks 1A, 1B 21
Task 1C 21
Welcome! 21
The Scientific Method 22
Limitations of the Scientific Method *23*
Application of the Scientific Method in Education *23*
Different Approaches to Educational Research 24
The Continuum of Research Philosophies *24*
Quantitative Research *24*
Qualitative Research *25*
Mixed Methods Research *26*
Characteristics of Quantitative and Qualitative Research Approaches *26*
Classification of Research by Design 28
Quantitative Approaches *28*
Qualitative Approaches *32*
Classification of Research by Purpose 34
Basic and Applied Research *34*
Evaluation Research *35*
Research and Development (R&D) *35*
Action Research *36*
The Ethics of Educational Research 36
Informed Consent and Protection from Harm *38*
Deception *39*
Ethical Issues Unique to Qualitative Research *39*
Gaining Entry to the Research Site *42*
Summary 47
Performance Criteria Task 1 51
Tasks 1A and 1B *51*
Task 1C *51*
Task 1A Quantitative Example *52*
Task 1B Qualitative Example *76*

CHAPTER 2 IDENTIFYING AND STATING A RESEARCH PROBLEM 88

The Research problem 89
Identifying a Research problem 89
Sources of Research Problems *89*
Narrowing the Problem *92*
Characteristics of Good Problems *93*
Stating the Research Problem *94*
Developing Research Questions *95*
Formulating and Stating a Hypothesis 97
Definition and Purpose of Hypotheses in Quantitative Studies *98*
Types of Hypotheses *99*
Stating the Hypothesis *100*
Testing the Hypothesis *101*
Definition and Purpose of Hypotheses in Qualitative Studies *101*
Summary 103

CHAPTER 3 LITERATURE REVIEW 106

Task 2A 107
Task 2B 107
Review of Related Literature: Purpose and Scope 107
Qualitative Research and the Review of Related Literature 108
Identifying Keywords and Subject Terms, and Identifying, Evaluating, and Annotating Sources 109
Identifying Keywords *109*
Identifying Your Sources *110*
Evaluating Your Sources *119*
Annotating Your Sources *122*
Analyzing, Organizing, and Reporting the Literature 123
Meta-Analysis 127
Summary 129
Performance Criteria Task 2A and 2B 132
Task 2 Example *133*

CHAPTER 4 PREPARING AND REFINING A RESEARCH PLAN 136

Task 3A 137
Task 3B 137
Definition and Purpose of a Research Plan 137
Components of the Quantitative Research Plan 138
Introduction Section *138*
Method Section *139*
Data Analysis *141*

Time Schedule 141
Budget 141
Components of the Qualitative Research Plan 142
Prior Fieldwork 142
Title 142
Introduction Section 142
Research Procedures Section 143
Appendixes 147
Revising and Improving the Research Plan 147
Summary 148
Performance Criteria Task 3 151
Task 3 Example 152

CHAPTER 5 SAMPLING 154

Task 4A 155
Task 4B 155
Sampling in Quantitative Research 155
Defining a Population 156
Selecting a Random Sample 156
Determining Sample Size 163
Avoiding Sampling Error and Bias 165
Selecting a Nonrandom Sample 166
Sampling in Qualitative Research 167
Selecting Research Participants: Purposive Sampling Approaches 168
Determining Sample Size 169
Summary 170
Performance Criteria Task 4 172
Task 4A Example 173

CHAPTER 6 CONSTRUCTS, VARIABLES, AND TESTS 174

Task 5 175
Vignette: Big Pine School District 175
Constructs 175
Variables 176
Measurement Scales and Variables 176
Quantitative and Qualitative Variables 178
Dependent and Independent Variables 178
Characteristics of Measuring Instruments 179
Instrument Terminology 179
Quantitative and Qualitative Data Collection Methods 180
Interpreting Instrument Data 180
Types of Measuring Instruments 181
Cognitive Tests 181
Affective Tests 182
Projective Tests 185
Criteria for Good Measuring Instruments 186
Validity of Measuring Instruments 186
Reliability of Measuring Instruments 190
Test Selection, Construction, and Administration 195
Selecting a Test 195
Sources of Test Information 195
Selecting from Alternatives 198
Constructing Tests 199
Test Administration 200
Summary 201
Performance Criteria Task 5 205
Task 5 Example 206

PART II RESEARCH DESIGNS

CHAPTER 7 SURVEY RESEARCH 208

Task 6A 209
Survey Research: Definition and Purpose 210
Survey Research Designs 210
Cross-Sectional Surveys 210
Longitudinal Surveys 211
Conducting Survey Research 211
Conducting a Questionnaire Study 212
Administering the Questionnaire 216
Summary 222
Example: Survey Study 225

CHAPTER 8 CORRELATIONAL RESEARCH 232

Task 6B 233
Correlational Research: Definition and Purpose 234
The Correlational Research Process 235
Problem Selection 235
Participant and Instrument Selection 235
Design and Procedure 235
Data Analysis and Interpretation 235
Relationship Studies 239
Data Collection 239
Data Analysis and Interpretation 239
Prediction Studies 242
Data Collection 242
Data Analysis and Interpretation 243
Other Correlation-Based Analyses 244
Problems to Consider in Interpreting Correlation Coefficients 245
Summary 246
Example: Correlational Study 249

CHAPTER 9 CAUSAL–COMPARATIVE RESEARCH 258

Task 6C 259
Causal–Comparative Research: Definition and Purpose 260

The Causal–Comparative Research Process 263
Design and Procedure 263
Control Procedures 264
Data Analysis and Interpretation 265
Summary 267
Example: Causal-Comparative Study 269

CHAPTER 10 EXPERIMENTAL RESEARCH 284

Task 6D 285
Experimental Research: Definition and Purpose 286
The Experimental Process 287
Manipulation and Control 288
Threats to Experimental Validity 289
Threats to Internal Validity 290
Threats to External Validity 293
Control of Extraneous Variables 298
Group Experimental Designs 300
Single-Variable Designs 301
Factorial Designs 309
Summary 312

CHAPTER 11 SINGLE-SUBJECT EXPERIMENTAL RESEARCH 334

Task 6E 335
Single-Subject Experimental Designs 336
Single-Subject versus Group Designs 336
The Single-Variable Rule 336
Types of Single-Subject Designs 336
Data Analysis and Interpretation 342
Threats to Validity 342
External Validity 342
Internal Validity 343
Replication 344
Summary 345
Performance Criteria Task 6 348
Task 6 Example 349
Example: Single-Subject Study 351

CHAPTER 12 NARRATIVE RESEARCH 364

Task 7A 365
Narrative Research: Definition and Purpose 366
Types of Narrative Research 367
Narrative Analysis and the Analysis of Narrative 368
The Narrative Research Process 368
Key Characteristics of Narrative Research 369
Narrative Research Techniques 370
Restorying 370
Oral History 371
Examining Photographs, Memory Boxes, and Other Artifacts 372
Storytelling 372
Letter Writing 372
Autobiographical and Biographical Writing 372
Other Narrative Data Sources 372
Writing the Narrative 373
Summary 374

CHAPTER 13 ETHNOGRAPHIC RESEARCH 390

Task 7B 391
Ethnographic Research: Definition and Purpose 392
The Ethnographic Research Process 393
Key Characteristics of Ethnographic Research 395
Types of Ethnographic Research 395
Ethnographic Research Techniques 396
Triangulation 397
Participant Observation 397
Field Notes 399
Observing and Recording Everything You Possibly Can 401
Looking for Nothing in Particular; Looking for Bumps and Paradoxes 402
Summary 404

CHAPTER 14 CASE STUDY RESEARCH 416

Task 7C 417
Case Study Research: Definition and Purpose 418
When to Use Case Study Research 419
Characteristics of Case Study Research 419
Case Study Research Design 420
Sample Selection in Case Study Research 421
Data Collection Techniques 422
Conducting and Analyzing Multiple Case Studies 422
Summary 426

CHAPTER 15 MIXED METHODS RESEARCH: INTEGRATING QUANTITATIVE AND QUALITATIVE RESEARCH DESIGNS 442

Task 7D 443
Mixed Methods Research: Definition and Purpose 444
Types of Mixed Methods Research Designs 445
Basic Mixed Methods Designs 445
Advanced Mixed Methods Research Designs 447
Conducting Mixed Methods Research 449
Identifying Studies Using Mixed Method Designs 451
Evaluating a Mixed Methods Study 451
Summary 453
Performance Criteria Task 7 455
Task 7 Example 456

CHAPTER 16 ACTION RESEARCH 474
Task 8 475
Action Research: Definition and Purpose 476
Key Characteristics of Action Research 476
Action Research Is Persuasive and Authoritative 476
Action Research Is Relevant 476
Action Research Is Accessible 477
Action Research Challenges the Intractability of Reform of the Educational System 477
Action Research Is Not a Fad 477
Types of Action Research 477
Critical Action Research 478
Practical Action Research 478
Levels of Action Research 479
The Action Research Process 480
Identifying an Area of Focus 480
Data Collection, Analysis, and Interpretation 482
Action Planning 482
Summary 483
Performance Criteria and Examples Task 8 485
Write an Area-of-Focus Statement 485
Define the Variables 485
Develop Research Questions 485
Describe the Intervention or Innovation 485
Describe the Membership of the Action Research Group 485
Describe Negotiations That Need to Be Undertaken 486
Develop a Time Line 486
Develop a Statement of Resources 486
Develop Data Collection Ideas 486
Example: Action Research 488

PART III DATA IN RESEARCH

CHAPTER 17 ORGANIZING AND GRAPHING DATA 500
The Language of Statistics 501
Preparing Data for Analysis 502
Scoring Procedures 502
Tabulation and Coding Procedures 502
Types of Descriptive Statistics 503
Frequencies 503
Measures of Central Tendency 504
Measures of Variability 506
The Normal Curve 508
Skewed Distributions 510
Measures of Relative Position 511
Measures of Relationship 514
Graphing Data 517
Postscript 518
Summary 519

CHAPTER 18 INFERENTIAL STATISTICS 522
Task 9 523
Concepts Underlying Inferential Statistics 523
Standard Error 523
Hypothesis Testing 526
Tests of Significance 526
Two-Tailed and One-Tailed Tests 527
Type I and Type II Errors 529
Degrees of Freedom 532
Selecting Among Tests of Significance 532
The t Test 533
Analysis of Variance 540
Multiple Regression 544
Chi Square 547
Other Investigative Techniques: Data Mining, Factor Analysis, and Structural Equation Modeling 550
Types of Parametric and Nonparametric Statistical Tests 551
Summary 552
Performance Criteria Task 9 556
Task 9 Example 557

CHAPTER 19 FIELDWORK 562
Data Collection Sources and Techniques 563
Observing 563
Interviewing 568
Questionnaires 570
Examining Records 571
Validity and Reliability in Qualitative Research 572
Validity in Qualitative Research 572
Reliability in Qualitative Research 576
Getting Started 577
Summary 578

CHAPTER 20 ANALYZING AND INTERPRETING DATA 580

Data Analysis and Interpretation: Definition and Purpose 581
Data Analysis During Data Collection *581*
Data Analysis after Data Collection *582*
Steps in Analyzing Qualitative Research Data 582
Reading/Memoing *583*
Describing *584*
Classifying *584*
Data Analysis Strategies 584
Example of Coding an Interview *586*
Developing a Concept Map *588*
Qualitative Data Analysis: An Example *589*
Data Interpretation Strategies 592
Ensuring Credibility in Your Study 593
Summary 594

PART IV WRITING AND EVALUATING RESEARCH REPORTS

CHAPTER 21 PREPARING AND PUBLISHING A RESEARCH REPORT 596

Task 10 597
Guidelines for Writing a Research Report 597
Format and Style 599
Formatting Theses and Dissertations 600
Preliminary Pages *601*
The Main Body *602*
Writing for Journal Publication 604
Summary 606
Performance Criteria *Task* 10 608
Task 10 Example *609*

CHAPTER 22 ANALYZING AND CRITIQUING RESEARCH 620

Task 11 621
General Evaluation Criteria 621
Introduction *622*
Method *622*
Results *623*
Discussion (Conclusions and Recommendations) *623*
Abstract or Summary *623*
Design-Specific Evaluation Criteria 623
Survey Research *624*
Correlational Research *624*
Causal–Comparative Research *624*
Experimental Research *624*
Single-Subject Research *624*
Qualitative Research (in General) *625*
Evaluating Validity and Reliability in Qualitative Studies *625*
Narrative Research *626*
Ethnographic Research *626*
Case Study Research *626*
Mixed Methods Research *626*
Action Research *626*
Summary 627
Performance Criteria Task 11 *629*
Task 11 Example *630*

Appendix A Statistical References 645

Appendix B Suggested Responses 667

Glossary 673

Name Index 685

Subject Index 687