EDUCATIONAL RESEARCH

Competencies for Analysis and Applications

TWELFTH EDITION

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NEW TO THIS EDITION

Like the 11th edition, the 12th 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. Part I, Foundational Concepts and Processes, retains the same six chapters from the 11th edition and adds a seventh chapter on ethics. Part II, Research Designs, includes all of the research design chapters that were covered in the 11th edition. Part III, Working with Quantitative and Qualitative Data, brings together discussions of descriptive statistics, inferential statistics, and qualitative data collection and analysis. New for this edition is the introduction of open source statistics software—R. 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:

- Chapter 2 is new for this edition with the chapter dedicated to ethics in educational research. This chapter adds to the existing content on informed consent and protection from harm with a new and expanded section on action research and Institutional Review Boards (IRBs) that will be especially helpful for classroom-based, and school-based educational researchers.

- Chapter 4 has undergone significant revision because of the way technology has affected the literature review process. The use of online and digital technologies is growing in popularity and effectiveness for researchers in the field of education and other disciplines. Changes include an expanded Digital Research Tools feature that covers annotation, brainstorming, citation management, organization, and writing management.

- Chapter 7 has been significantly revised to provide an up-to-date discussion of selecting measuring instruments especially as it relates to the use of personality and affective tests in schools.

- Chapter 12 on single-subject experimental research has been updated and expanded to include a classroom-based special education example that breathes life in to the research process for classroom teachers.

- Chapters 18 and 19 on descriptive and inferential statistics have been updated, and new for this edition is the introduction of open-sourced statistical software R. R is a little different than Excel and SPSS in that it is open-source (read: free) but in order to operate R you need some very basic coding skills. This may frighten some readers from the start, but don’t worry. We are going to send the reader off with a nice start to R programming and offer suggestions for future reading that will enhance one’s skillset.

In addition, we have added new tables and figures throughout the text. Every chapter has been edited and updated. References have been updated as well.

MyLab for Education

One of the most visible changes in the new edition, also one of the most significant, is the expansion of the digital learning and assessment resources embedded in the etext and the inclusion of MyLab in the text. MyLab for Education is an online homework, tutorial, and assessment program designed to work with the text to engage learners and to improve learning. Within its structured environment, learners practice what they learn in the etext, test their understanding, and receive feedback to guide their learning and ensure their mastery of key learning outcomes. The MyLab portion of the new edition of Educational Research is
designed to help learners (1) understand the basic vocabulary of educational research, (2) get hands-on experiences in reading and evaluating research articles, and (3) get guided practice in planning and developing a research proposal and in collecting and analyzing research data. The resources in MyLab for Education with Educational Research: Competencies for Analysis and Applications, 12th edition include:

- **Self-Check** assessments with feedback throughout the etext help readers assess how well they have mastered content.
- Two kinds of **Application Exercises**, all with feedback, either help students learn how to read, understand, and evaluate research articles or give students opportunities to practice specific research tasks like collecting and analyzing research data or planning and writing up a proposal.

**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 12th 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 (Chapter 1) and the ethical considerations that affect the conduct of any educational research (Chapter 2), identifies a research problem and formulates hypotheses (Chapter 3), conducts a review of the related literature (Chapter 4), develops a research plan (Chapter 5), selects and defines samples (Chapter 6), and evaluates and selects measuring instruments (Chapter 7). 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 four 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 12th 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.pearsonhighered.com/educator](http://www.pearsonhighered.com/educator). Enter the author, title of the text, or the ISBN number, then select this text, and click on the “Resources” tab. 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 (Windows or Macintosh) 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.

The tests can be downloaded in the following formats:

- TestGen Testbank file—PC
- TestGen Testbank file—MAC
- TestGen Testbank—Blackboard 9 TIF
- TestGen Testbank—Blackboard CE/Vista (WebCT) TIF
- Angel Test Bank (zip)
- D2L Test Bank (zip)
- Moodle Test Bank
- Sakai Test Bank (zip)

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 12th edition: Jacqueline Swank, University of Florida; Raymond W. Francis, Central Michigan University; Robin Lund, University of Northern Iowa; Alane Starko, Eastern Michigan University; Vivian Ikpa, Temple University; Christian Kimm, California State University, Los Angeles. These reviewers contributed greatly to the 12th edition and their efforts are very much appreciated.

I would also like to acknowledge the staff at Pearson, without whose guidance (and patience!) this text would not have become a reality. In particular, I thank Kevin Davis, Director & Portfolio Manager, for working with me on the 12th edition of the text so as to build on what we achieved with the previous editions. Kevin has been my friend and mentor since he offered my first textbook contract in 1997, and I am indebted to him for his encouragement and support of my writing. Kevin worked diligently to ensure a quality, user-friendly, academically coherent text and patiently kept me on track in order to meet publication deadlines. His feedback on chapter drafts was insightful and important to the development of this 12th 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. The publication of this 12th edition also coincides with the end of my tenure at my academic home for the past 29 years: Southern Oregon University. I am now officially an Emeritus Professor and looking forward to dedicating more time to writing without the time commitment of teaching full time. At the risk of embarrassing Kevin, I can state with confidence that the past 20 years of my professorial career exceeded all of my expectations because of the opportunities Kevin has given me. Thank you.

This edition benefited from the efforts of my Developmental Editor Carolyn Schweitzer. This is my first collaboration with Carolyn and I am looking forward to working with her on future editions of Educational Research and Action Research. While we have never met face-to-face, I trust and respect all the contributions she has made to my work and benefit greatly from Carolyn’s creative thinking about how to make an educational research textbook meaningful and fun. Also at Pearson, Janelle Rogers ably shepherded the manuscript through development and production. 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 Carolyn 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 fifth 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. Adam Jordan (Associate Professor, University of North Georgia) for his thoughtful work on revising the descriptive and inferential statistics chapters and feedback and contributions on other quantitative chapters in the text. Similarly, my friend and colleague at Southern Oregon University, Dr. Dale Vidmar, was instrumental in the revision of the reviewing the literature chapter.

Finally, I want to thank my best friend and wife, Dr. Donna Mills (Emeritus Professor, 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 has now graduated from college, and Donna and I prepare for retirement after long university careers.

Geoff Mills
Emeritus Professor
Southern Oregon University
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