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EDITION



Practical Research

Planning and Design

ELEVENTH EDITION

Paul D. Leedy • Jeanne Ellis Ormrod



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Practical Research

PLANNING AND DESIGN

ELEVENTH EDITION

GLOBAL EDITION

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Composition: S4Carlisle Publishing Services
Printer/Binder: Courier Kendallville
Cover Printer: Courier Kendallville

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Pearson Education Limited
Edinburgh Gate
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Essex CM20 2JE
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www.pearsonglobaleditions.com

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Authorized adaptation from the United States edition, entitled Practical Research: Planning and Design, 11th edition, ISBN 978-0-13-374132-2, by Paul D. Leedy and Jeanne Ellis Ormrod, published by Pearson Education © 2016.

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ISBN 10: 1-29-209587-3
ISBN 13: 978-1-29-209587-5

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library.

10 9 8 7 6 5 4 3 2 1
14 13 12 11 10

Typeset in Garamond 3 LT Std by S4Carlisle Publishing Services.

Printed and bound by Vivar in Malaysia.

Preface

NEW TO THE ELEVENTH EDITION

Every year brings exciting new strategies in research methodologies, making any updated edition of *Practical Research* a joy to write. With this eleventh edition, the book has been revised in numerous ways. As always, every page has been revisited—every word, in fact—and many minor changes have been made to tighten the prose or enhance its clarity. Also, discussions of technology-based strategies have been updated to reflect not only new software options but also the increasing technological sophistication of most of our readers.

Probably the two most noteworthy changes in this edition are the addition of a new chapter and a reorganization of some of the other chapters. In response to reviewers' requests, the tenth edition's chapter "Qualitative Research" has been expanded into two chapters, "Qualitative Research Methods" and "Analyzing Qualitative Data." Discussions of quantitative research methods now precede (rather than follow) discussions of qualitative methodologies, and the chapter on analyzing quantitative data now immediately follows the two chapters on quantitative methodologies.

Other significant changes in the eleventh edition are these:

- **Chapter 1.** Revision of Figure 1.1 and accompanying text to include seven (rather than six) steps in order to better align with discussions that follow in the chapter; new section on philosophical underpinnings of various methodologies; new discussion of quantitative vs. qualitative vs. mixed-methods research (moved from its previous location in Chapter 4); discussion of the iterative nature of research; expansion of Table 1.1; revision of the guidelines for using word processing software to focus on features that readers may not routinely use in their day-to-day writing.
- **Chapter 2.** Introduction of the idea of *a priori* hypotheses (to distinguish them from hypotheses that researchers might form midway through a study); new discussion about identifying the limitations (as well as delimitations) of a proposed study.
- **Chapter 3.** Elimination of outdated sections "Using Indexes and Abstracts" and "Locating Relevant Government Documents," with electronically based strategies in those sections being incorporated into the sections "Using Online Databases" and "Surfing the Internet"; relocation of the discussion of database creation to the Practical Application "Planning a Literature Search."
- **Chapter 4.** Better balance between discussions of quantitative and qualitative approaches; addition of design-based research to what is now Table 4.2 (previously Table 4.5).
- **Chapter 6 (formerly Chapter 8).** New discussion of rubrics; omission of a random numbers table (because such tables are widely available on the Internet); expanded discussion of possible biases in descriptive research; new Guidelines feature ("Identifying Possible Sampling Bias in Questionnaire Research"); new Checklist feature ("Identifying Potential Sources of Bias in a Descriptive Study").

- **Chapter 7 (formerly Chapter 9).** New section on possible biases in quantitative research; new Checklist (“Identifying Potential Sources of Bias and Potential Threats to External Validity in an Experimental, Quasi-Experimental, or Ex Post Facto Study”).
- **Chapter 8 (formerly Chapter 11).** New example (regarding a cancer prognosis) as an illustration of the limitations of a median as a predictor; addition of the five-number summary as a possible indicator of variability in ordinal data.
- **Chapter 9 (formerly Chapter 6).** Focus now on general design, planning, and data collection in qualitative research, with data analysis being moved to the new Chapter 11; new section on validity and reliability; expanded discussion of how cultural differences can influence interviews; relocation of the extensive example in international relations (formerly in the chapter “Descriptive Research”) to this chapter, where it is more appropriately placed.
- **Chapter 10 (formerly Chapter 7).** Expanded discussion of possible biases in primary and secondary sources; updated and expanded list of online databases.
- **Chapter 11 (new chapter).** Greatly expanded discussion of qualitative data analysis; new Checklist (“Pinning Down the Data Analysis in a Qualitative Study”); new Sample Dissertation (by Society for Research in Child Development award winner Christy Leung).
- **Chapter 12 (formerly Chapter 10).** Expanded discussion of mixed-methods designs, with a new fifth category, *multiphase iterative designs*; new Conceptual Analysis Exercise (“Identifying Mixed-Methods Research Designs”); new section on sampling; expanded discussion of data analysis strategies; new Practical Application section discussing helpful software for analyzing mixed-methods data; new section on systematic reviews.
- **Chapter 13 (formerly Chapter 12).** Better balance between quantitative and qualitative research reports; reorganization and revision of the section “Essential Elements of a Research Report” (formerly titled “Planning a Research Report”); updated discussion of APA style for electronic resources; new Guidelines feature (“Writing a Clear, Coherent Report”).

THE PURPOSE OF THIS BOOK

Practical Research: Planning and Design is a broad-spectrum, cross-disciplinary book suitable for a wide variety of courses in basic research methodology. Many basic concepts and strategies in research transcend the boundaries of specific academic areas, and such concepts and strategies are at the heart of this book. To some degree, certainly, research methods do vary from one subject area to another: A biologist might gather data by looking through a microscope, a historian by examining written documents from an earlier time period, and a psychologist by administering certain tests or systematically observing people’s behavior. Otherwise, the basic approach to research is the same. Regardless of the discipline, the researcher identifies a question in need of an answer, collects data potentially relevant to the answer, analyzes and interprets the data, and draws conclusions that the data seem to warrant.

Students in the social sciences, the natural sciences, education, medicine, business administration, landscape architecture, and other academic disciplines have used this text as a guide to the successful completion of their research projects. *Practical Research* guides students from problem selection to completed research report with many concrete examples and practical, how-to suggestions. Students come to understand that research needs planning and design, and they discover how they can effectively and professionally conduct their own research projects. Essentially, this is a do-it-yourself, understand-it-yourself manual. From that standpoint, it can be a guide for students who are left largely to their own resources in carrying out their research projects. The book, supplemented by occasional counseling by an academic advisor, can guide the student to the completion of a successful research project.

LEARNING ABOUT THE RESEARCH PROCESS IS AN ESSENTIAL COMPONENT OF ACADEMIC TRAINING

All too often, students mistakenly believe that conducting research involves nothing more than amassing a large number of facts and incorporating them into a lengthy, footnoted paper. They reach the threshold of a master's thesis or doctoral dissertation only to learn that simply assembling previously known information is insufficient and unacceptable. Instead, they must do something radically different: They must answer a question that has never been answered before and, in the process, must discover something that no one else has ever discovered. Something has gone tragically wrong in the education of students who have, for so many years of their schooling, entirely misunderstood the true nature of research.

Research has one end: the discovery of some sort of "truth." Its purpose is to learn what has never before been known; to ask a significant question for which no conclusive answer has previously been found; and, by collecting and interpreting relevant data, to find an answer to that question.

Learning about and doing research are of value far beyond that of merely satisfying a program requirement. Research methods and their application to real-world problems are skills that will serve you for the rest of your life. The world is full of problems that beg for solutions; consequently, it is full of research activity! The media continually bring us news of previously unknown biological and physical phenomena, life-saving medical interventions, and groundbreaking technological innovations—all the outcomes of research. Research is not an academic banality; it is a vital and dynamic force that is indispensable to the health and well-being of Planet Earth and its human and nonhuman inhabitants.

More immediate, however, is the need to apply research methodology to those lesser daily problems that nonetheless demand a thoughtful resolution. Those who have learned how to analyze problems systematically and dispassionately will live with greater confidence and success than those who have shortsightedly dismissed research as nothing more than a necessary hurdle on the way to a degree. Given the advantages that a researcher's viewpoint provides, considering an academic research requirement as annoying and irrelevant to one's education is simply an untenable position.

Many students have found *Practical Research* quite helpful in their efforts both to understand the nature of the research process and to complete their research projects. Its simplification of research concepts and its readability make it especially suitable for those undergraduate and graduate students who are introduced, perhaps for the first time, to genuine research methodology.

We hope we have convinced you that a course on research methodology is not a temporary hurdle on the way to a degree but, instead, an unparalleled opportunity to learn how you might better tackle any problem for which you do not have a ready solution. In a few years you will undoubtedly look back on your research methods course as one of the most rewarding and practical courses in your entire educational experience.

Pearson would like to thank the following people for their work on the Global Edition:

Contributor:

Sunita Nair

Reviewers:

Amita Agarwal, S.K. Government College, Sikar

Mayuri Chaturvedi

Priyanka Pandey, London School of Economics

Acknowledgments

No man is an island, entire of it selfe; every man is a peece of the Continent, a part of the maine . . .

So wrote John Donne, the great dean of St. Paul's Cathedral in the 17th century. And so do we authors write in the 21st century.

Those who have had a part in the making of this book, known and unknown, friends and colleagues, gentle critics and able editors—all—are far too many to salute individually. Those of you who have written in journals and textbooks about research methods and strategies, the generations of graduate and undergraduate students whom we authors have taught and who have also taught *us*, the kindly letters and e-mail messages that so many of you have written to describe how this book has helped you in your own research endeavors—to all of you, I extend my acknowledgment and appreciation wherever you may be. You have had the greater part in bringing this book through its previous ten editions. I am especially grateful to the reviewers of the eleventh edition, who recently offered many good suggestions for strengthening the book so that it can better assist novice researchers in the 21st century: Brian Belland, Utah State University; Robert Hayden, Michigan State University; Walter Nekrosius, Wright State University; Lloyd Rieber, University of Georgia; and Susan Twombly, University of Kansas.

I am also indebted to the students whose research proposals, doctoral dissertations, and master's theses have enabled me to illustrate some of the research and writing strategies described in the book. In particular, I extend my gratitude to Rosenna Bakari, Arthur Benton, Jennifer Chandler, Kay Corbett, Dinah Jackson, Ginny Kinnick, Laura Lara-Brady, Peter Leavenworth, Christy Leung, Matthew McKenzie, Kimberly Mitchell, Richard Ormrod, Luis Ramirez, Janie Shaklee, Nancy Thrailkill, and Debby Zambo. Pete Leavenworth and Matt McKenzie gave me their time as well as their research reports, and their recommendations for the chapter on historical research were superb.

Equally important is to say “Thank you, thank you, thank you” to many folks at Pearson and S4Carlisle who have been key players in bringing this book to fruition. In particular, I extend my deepest gratitude to Gail Gottfried, who has lined up helpful multimedia supplements to the book and, in general, has been a regular and reliable sounding board and source of support throughout my writing endeavors in recent years. Thanks also to Lauren Carlson and Mary Tindle, both of whom have expertly coordinated what has become an ever-evolving and increasingly complex textbook-production process in the electronic age. A shout-out to Chris Feldman, whose close attention to nitty-gritty details during copy edits has consistently warmed the cockles of my obsessive-compulsive heart. And several people have worked diligently outside my range of sight to make the whole project come together; hearty thanks to Kate Wadsworth for the interactive quizzes and end-of-chapter activities, as well as to Carrie Mollette, Caroline Fenton, and Caitlin Griscom for the many behind-the-scenes contributions I can only begin to fathom.

Finally, I must thank our editor, Kevin Davis, for his guidance throughout this and preceding editions. Throughout its many editions, Kevin has shared Paul's and my vision for the book and struck the ever-so-important balance between providing guidance to help us improve it while also trusting our instincts about how best to explain and illustrate the complex, multifaceted nature of research planning and design.

No author is an island, entire of itself. Paul and I have had many hands guiding our pens and many minds adding richness and depth to our thoughts. All of you have been exceedingly helpful, all of you have been “a peece of the Continent, a part of the maine.” For that, I offer my humble and hearty thanks.

Jeanne Ellis Ormrod

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