

TWELFTH EDITION

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# PRACTICAL RESEARCH

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## PLANNING AND DESIGN

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# Preface

## NEW TO THE TWELFTH EDITION

Every year brings new strategies for research design, data collection, and data analysis. Accordingly, this twelfth edition of the book has been revised in many ways. Discussions of some topics have been expanded—often with new, illustrative examples—and new topics have been added; meanwhile, sections that few of our readers were finding useful have been either reduced in length or eliminated altogether. Technology-based strategies have been updated to include new software options. And 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 and readability.

Especially noteworthy changes in this edition are (a) a better balance between quantitative and qualitative methods than was true for the eleventh edition; (b) the addition of a new chapter on action research, with room for it being made by the elimination of the chapter on historical research (which reviewers have almost unanimously been telling us they don't assign in their classes); and (c) a reorganization of what were formerly Parts III, IV, and V (Chapters 6 through 12) into a new Part III ("Research Designs," with Chapters 6 through 10) and a new Part IV ("Data Analyses," with Chapters 11 and 12). The last of the changes just listed—the reorganization of chapters—was due in large part to the fact that researchers are increasingly drawing from both quantitative and qualitative traditions in their efforts to address important research problems and questions.

Other significant changes in this twelfth edition are the following:

- **Chapter 1.** Revised discussions of Step 1 and Step 4 in the research cycle, with Figure 1.1 also being revised accordingly; expansion of the section on philosophical assumptions to include *phenomenology* and *action-research* orientations; replacement of the key term *hypothesis* with *research hypothesis* to contrast it with the less formal hypotheses of everyday life; introduction of *purpose statement* as a key term; replacement of the key term *juried* with the term *peer-reviewed*, to reflect more popular terminology.
- **Chapter 2.** Discussion of research problems broadened to include research *questions* (the term more commonly used in qualitative research) and *purpose statements*; updated and expanded discussion of mind-mapping software, with new illustrative example (Figure 2.3); new section on identifying a *theoretical* or *conceptual framework* for a research study, along with (a) a new example and graphic illustrating the nature of a conceptual framework and (b) an additional suggestion to identify or create a theoretical/conceptual framework in the Practical Application feature "Writing the First Section of a Proposal."
- **Chapter 3.** Introduction of key term *open-access journal*; updated and expanded discussion of online databases; movement of what was formerly Table 13.1 ("Commonly Used Styles in Research Reports") to this chapter, where it is now Table 3.3; more specific recommendations for annotating sources during an in-house or online library search; new paragraph regarding the importance of writing an honest, nonbiased literature review; use of excerpts from a more current (2016) doctoral dissertation in the Dissertation Analysis feature.

- **Chapter 4.** Addition of the concept *unit of analysis* as a key term; explicit distinction between the key terms *assessment* and *measurement* (to create a better balance between qualitative and quantitative strategies in this and succeeding chapters); overhaul of the eleventh edition's section "Considering the Validity of Your Method" to give a better balance between qualitative and quantitative approaches, with the new heading "Enhancing the Credibility of Your Findings" (the in-depth discussion of *internal validity* in this section has been moved to Chapter 7); addition of follow-up studies as a strategy for enhancing the credibility of a research project; revision of the eleventh edition's section "External Validity" to offer a better balance between quantitative and qualitative methods, with a new heading "Enhancing the Generalizability of Your Findings"; renaming of the eleventh edition's section "Identifying Measurement Strategies" to "Choosing Appropriate Assessment Strategies," with a reorganization and many revisions to achieve a better quantitative/qualitative balance; new "Examples" column in Table 4.4 ("Contrasting the Four Types of Measurement Scales"); in many instances, replacement of the term *assessment instrument* with the more inclusive term *assessment strategy*; revision of the eleventh edition's section "Validity and Reliability in Measurement" (including revisions of glossary definitions of several key terms) to reflect a better balance between quantitative and qualitative approaches, with a heading change to "Validity and Reliability in Assessment."
- **Chapter 5.** Several minor changes in response to reviewers' concerns regarding (a) possible organizational structures for a research proposal, (b) the need for a reminder about not plagiarizing from other sources, and (c) the distinction between a reference list and a bibliography (in a new footnote).
- **Chapter 6.** Revision of the section on surveys to encompass qualitative as well as quantitative data collection; new section on *experience-sampling methods* (ESMs); in the section "Nonprobability Sampling," a new paragraph regarding the use of social media (e.g., Facebook) as a possible strategy for recruiting participants; significant revision of the eleventh edition's checklist "Analyzing Characteristics of the Population Being Studied" to include nonprobabilistic as well as probabilistic sampling, with the new title "Considering the Nature of the Population When Identifying Your Sampling Procedure"; addition of the *social desirability effect* as a bold-faced key term (with an accompanying hotlinked glossary definition) as a way of increasing its salience within the chapter.
- **Chapter 7.** Addition of a description of double-blind experiments and an in-depth discussion of internal validity (both discussions were previously in Chapter 4); relabeling of Designs 4 and 6 as *control-group pretest–posttest design* and *control-group posttest-only design*, respectively, to make them parallel to the labels for Designs 2 and 8; "down-grade" of term *repeated-measures design* from its previous key-term status (because the term *repeated measures* is increasingly being used in descriptive studies as well, especially in experience-sampling methods); switch from term *single-subject design* to the more contemporary and inclusive term *single-case intervention research*, with a new illustrative example that encompasses collection of data for both a single group and individual members of that group; addition of a reminder to *interpret* one's results regarding their relevance to one's initial research problem.
- **Chapter 8 (formerly Chapter 9).** Expansion of section on ethnographies to include *autoethnographies* and *reflective journals*; expansion of the section on phenomenological studies to include the *three-interview series* strategy for data collection; new section on *narrative inquiry*; expanded discussion of memos to include three types (reflective, methodological, and analytical memos); significant revision of the first Practical Application feature to include the key terms *credibility*, *transferability*, *dependability*, *confirmability*, *member checking*, and *audit trails*, along with the new title "Ensuring That Qualitative Data Collection Yields Credible, Trustworthy Data"; addition of the key terms *theoretical sampling*, *discriminant sampling*, *primary informants* (a.k.a.,

*key informants*), *extreme case sampling*, *convenience sampling*, and *snowball sampling* in the Practical Application feature “Selecting an Appropriate Sample for a Qualitative Study”; addition of *interview guide* as a key term in the guidelines for “Conducting a Productive Interview.”

- **Chapter 9 (formerly Chapter 12).** New section on *longitudinal mixed-methods designs*; elimination of embedded designs as a category distinct from convergent designs (in line with Creswell’s recent revisions of design categories); additional illustrative examples of mixed-methods research; expansion of Conceptual Analysis exercise “Identifying Mixed-Methods Research Designs” to include an example of a longitudinal mixed-methods design; movement of sections on “Analyzing and Interpreting Mixed-Methods Data” and “Systematic Reviews of Qualitative and Mixed-Methods Studies” to Chapter 12.
- **Chapter 10 (new chapter).** In-depth discussion of *action research* and *participatory designs*, which includes *teacher research*, *design-based research* (DBR), *participatory action research* (PAR), *youth participatory action research* (YPAR), and three distinct forms of *community-based research* (CBR); new Conceptual Analysis feature “Choosing an Action-Oriented Design”; new Practical Application feature “Deciding Whether to Use an Action Research and/or Participatory Design”; new sections “Data Collection and Analysis in Action Research” and “Disseminating the Findings of Action Research Projects”; new Practical Application feature “Using Community Forums as a Means of Disseminating the Results of Action Research and Participatory Research Projects”; new sample research report, with the usual side commentary.
- **Chapter 11 (formerly Chapter 8).** Simplification of Figure 11.10 (formerly Figure 8.10) to enhance its readability; addition of using a repeated-measures variable as a strategy for enhancing the power of statistical analyses; new paragraph regarding *data dredging* (a.k.a. *p-hacking*) as a generally inappropriate and potentially unethical practice; updated list of popular statistical software programs.
- **Chapter 12 (formerly Chapter 11).** Chapter title now “Analyzing Qualitative and Mixed-Methods Data”; substantially updated and expanded discussion of qualitative data analysis strategies; new example illustrating data analysis in an ethnographic study; addition and revision of sections “Analyzing and Interpreting Mixed-Methods Data,” “Using Computer Software to Facilitate Mixed-Methods Data Analysis,” and “Systematic Reviews of Qualitative and Mixed-Methods Studies” (all of which were previously in the chapter on mixed-methods research).
- **Chapter 13.** Movement of Table 13.1 (regarding style manuals) to Chapter 3 (where it is now Table 3.3); substantial revision of the checklist “Criteria for Critiquing a Research Report” so that it more even-handedly addresses important qualities of qualitative and mixed-methods research as well as those of quantitative research.
- **Appendix A.** Update that describes the use of Microsoft Excel 2016 for Macintosh (rather than the 2008 version used in the eleventh edition of the book); update of Figure A.1 to include more recent literature sources.

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## 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 apply what they learn, test their understanding, and receive feedback to guide their learning and to ensure their mastery of key learning outcomes. The *MyLab* portion of the new edition of *Practical Research* is designed to help learn-

ers (1) understand the basic vocabulary of educational research and (2) get guided practice in planning and developing a research proposal and in collecting and analyzing research data. The resources in *MyLab for Education with Practical Research* include:

- *Self-Check* assessments with feedback throughout the etext help readers assess how well they have mastered content.
- *Application Exercises* allow the reader to practice research tasks from selecting and refining a topic, doing a literature review, collecting and analyzing research data, through writing up a proposal.
- *StatPak*, an easy to use statistical tool, enables students to enter sets of data and calculate common statistics automatically.

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## 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 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 at specimens through a microscope, a psychologist by administering certain tests or systematically observing people's behavior, and an anthropologist by examining artifacts from a particular cultural group and perhaps from an earlier time period. Otherwise, the basic approach to research is the same. Regardless of the discipline, the researcher identifies a problem or question in need of a solution, collects data potentially relevant to the solution, 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.

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## 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 try to answer a question that has never been answered before and, in the process, must discover something that no one else has ever discovered.

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 ground-breaking 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 university degree.

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.



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I must also thank Hadley Solomon (University of New Hampshire) both for the conceptual framework graphic used in Figure 2.3 and for her wise counsel and suggestions regarding the discussion of philosophical assumptions in Chapter 1.

In addition, 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 suggest how we might improve on the book—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 11 editions. I am especially grateful to reviewers of the 11th edition, who have offered many good suggestions for strengthening the book so that it can better assist novice researchers in the 21st century: Natasha V. Christie (University of North Florida), Rachel D. Goodman (George Mason University), Darren Liu (University of Nevada, Las Vegas), and Robert N. Ronau (University of Cincinnati).

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Paul and I have had many hands guiding our pens plus many minds adding richness and depth to our thoughts. For that, I offer my humble and hearty thanks.

*Jeanne Ellis Ormrod*



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