

GLOBAL
EDITION



Practical Research

Planning and Design

ELEVENTH EDITION

Paul D. Leedy • Jeanne Ellis Ormrod



ALWAYS LEARNING

PEARSON

Vice President and Editorial Director: Jeffery W. Johnston
Vice President and Publisher: Kevin Davis
Editorial Assistant: Caitlin Griscom
Development Editor: Gail Gottfried
Executive Field Marketing Manager: Krista Clark
Vice President, Director of Marketing: Margaret Waples
Senior Product Marketing Manager: Christopher Barry
Senior Acquisitions Editor, Global Edition: Sandhya Ghoshal
Senior Project Editor, Global Edition: Daniel Luiz
Manager, Media Production, Global Edition: M. Vikram Kumar
Project Manager, Global Edition: Ruchi Sachdev
Senior Manufacturing Controller, Production, Global Edition: Trudy Kimber
Project Manager: Lauren Carlson
Procurement Specialist: Carol Melville
Senior Art Director: Diane Lorenzo
Cover Designer: Lumina Datamatics, Inc.
Full-Service Project Management: Mary Tindle, S4Carlisle Publishing Services
Composition: S4Carlisle Publishing Services
Printer/Binder: Courier Kendallville
Cover Printer: Courier Kendallville

Credits and acknowledgments for materials borrowed from other sources and reproduced, with permission, in this textbook appear on the appropriate page within text.

Every effort has been made to provide accurate and current Internet information in this book. However, the Internet and information posted on it are constantly changing, so it is inevitable that some of the Internet addresses listed in this textbook will change.

Pearson Education Limited
Edinburgh Gate
Harlow
Essex CM20 2JE
England

and Associated Companies throughout the world

Visit us on the World Wide Web at:
www.pearsonglobaleditions.com

© Pearson Education Limited 2015

The rights of Paul D. Leedy and Jeanne Ellis Ormrod to be identified as the authors of this work have been asserted by them in accordance with the Copyright, Designs and Patents Act 1988.

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.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without either the prior written permission of the publisher or a license permitting restricted copying in the United Kingdom issued by the Copyright Licensing Agency Ltd, Saffron House, 6–10 Kirby Street, London EC1N 8TS.

All trademarks used herein are the property of their respective owners. The use of any trademark in this text does not vest in the author or publisher any trademark ownership rights in such trademarks, nor does the use of such trademarks imply any affiliation with or endorsement of this book by such owners.

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.

Practical Research: Planning and Design, eBook, Global Edition

Table of Contents

Cover

Title Page

Copyright Page

Contents

Preface

Acknowledgments

PART I: The Fundamentals

Chapter 1 The Nature and Tools of Research

What Research Is Not

What Research Is

Philosophical Assumptions Underlying Research Methodologies

Tools of Research

The Library and Its Resources

USING TECHNOLOGY: Computer Technology

Measurement

Statistics

Language

PRACTICAL APPLICATION: Communicating Effectively Through Writing

USING TECHNOLOGY Guidelines: Using the Tools in Word Processing Software

The Human Mind

USING TECHNOLOGY: Collaboration with Other Minds

Reflections on Noteworthy Research

Exploring Research in Your Field

PRACTICAL APPLICATION: Identifying Important Tools in Your Discipline

For Further Reading

PART II: Focusing Your Research Efforts

Chapter 2 The Problem: The Heart of the Research Process

Finding Research Projects

PRACTICAL APPLICATION: Identifying and Describing the Research Problem

Dividing the Research Problem into Subproblems

Subproblems Versus Pseudo-Subproblems

Characteristics of Subproblems

Identifying Subproblems

USING TECHNOLOGY: Using Brainstorming (Mind Mapping) Software

Every Problem Needs Further Delineation

Stating Hypotheses

Identifying the Variables Under Investigation

Table of Contents

CONCEPTUAL ANALYSIS EXERCISE: Identifying Independent, Dependent, Mediating, and Moderating Variables

Defining Terms

Stating Assumptions

Identifying Delimitations and Limitations

Importance of the Study

Writing the First Chapter or Section of a Research Proposal

PRACTICAL APPLICATION: Writing the First Section of a Proposal

PRACTICAL APPLICATION: Reappraising a Proposed Research Problem

For Further Reading

Answers to the Conceptual Analysis Exercise "Identifying Independent, Dependent, Mediating, and Moderating Variables"

Chapter 3 Review of the Related Literature

Understanding the Role of the Literature Review

USING TECHNOLOGY: Strategies for Locating Related Literature

Using the Library Catalog

USING TECHNOLOGY: Using Online Databases

Consulting with Reference Librarians

USING TECHNOLOGY: Surfing the Internet

Using Citations and Reference Lists of Those Who Have Gone Before You

PRACTICAL APPLICATION: Planning a Literature Search

USING TECHNOLOGY: Guidelines: Using Your Library Time Efficiently

PRACTICAL APPLICATION: Evaluating the Research of Others

Knowing When to Quit

Organizing and Synthesizing the Literature into a Cohesive Review

PRACTICAL APPLICATION: Writing the Literature Review

A Sample Literature Review

For Further Reading

Chapter 4 Planning Your Research Project

Planning a General Approach

Research Planning Versus Research Methodology

The Nature and Role of Data in Research

Data Are Transient and Ever Changing

Primary Data Versus Secondary Data

Planning for Data Collection

Linking Data and Research Methodology

Comparing Quantitative and Qualitative Methodologies

PRACTICAL APPLICATION: Choosing a General Research Approach

Considering the Validity of Your Method

Internal Validity

External Validity

Validity in Qualitative Research

Table of Contents

Identifying Measurement Strategies

Defining Measurement

Measuring Insubstantial Phenomena: An Example

Types of Measurement Scales

CONCEPTUAL ANALYSIS EXERCISE: Identifying Scales of Measurement

Validity and Reliability in Measurement

CONCEPTUAL ANALYSIS EXERCISE: Identifying Problems with Validity and Reliability in Measurement

Ethical Issues in Research

Protection from Harm

Voluntary and Informed Participation

Right to Privacy

Honesty with Professional Colleagues

Internal Review Boards

Professional Codes of Ethics

PRACTICAL APPLICATION: Planning an Ethical Research Study

Critically Scrutinizing Your Overall Plan

PRACTICAL APPLICATION: Judging the Feasibility of a Research Project

When You Can't Anticipate Everything in Advance: The Value of a Pilot Study

USING TECHNOLOGY PRACTICAL APPLICATION: Developing a Plan of Attack

USING TECHNOLOGY: Using Project Management Software and Electronic Planners

Keeping an Optimistic and Task-Oriented Outlook

For Further Reading

Answers to the Conceptual Analysis Exercise "Identifying Scales of Measurement"

Answers to the Conceptual Analysis Exercise "Identifying Problems with Validity and Reliability in Measurement"

Chapter 5 Writing the Research Proposal

Characteristics of a Proposal

A Proposal Is a Straightforward Document

A Proposal Is Not a Literary Production

A Proposal Is Clearly Organized

Organizing and Writing a Research Proposal

Formatting Headings and Subheadings

PRACTICAL APPLICATION: Writing Your Proposal

PRACTICAL APPLICATION: Strengthening Your Proposal

Final Thoughts About Proposal Writing

A Sample Research Proposal

For Further Reading

PART III: Quantitative Research

Chapter 6 Descriptive Research

Descriptive Research Designs

Observation Studies

Table of Contents

Correlational Research

Developmental Designs

Survey Research

Planning for Data Collection in a Descriptive Study

PRACTICAL APPLICATION: Using Checklists, Rating Scales, and Rubrics

USING TECHNOLOGY PRACTICAL APPLICATION: Computerizing Observations

PRACTICAL APPLICATION: Planning and Conducting Interviews in a Quantitative Study

USING TECHNOLOGY Guidelines: Conducting Interviews in a Quantitative Study

PRACTICAL APPLICATION: Constructing and Administering a Questionnaire

USING TECHNOLOGY Guidelines: Using Technology to Facilitate Questionnaire

Administration and Data Analysis

USING TECHNOLOGY PRACTICAL APPLICATION: Using the Internet to Collect Data for a Descriptive Study

Choosing a Sample in a Descriptive Study

Sampling Designs

Sampling in Surveys of Very Large Populations

PRACTICAL APPLICATION: Identifying a Sufficient Sample Size

PRACTICAL APPLICATION: Analyzing the Population in a Descriptive Study

Common Sources of Bias in Descriptive Studies

Sampling Bias

Instrumentation Bias

Response Bias

Researcher Bias

PRACTICAL APPLICATION: Acknowledging the Probable Presence of Bias in Descriptive Research

Interpreting Data in Descriptive Research

Some Final Suggestions

A Sample Dissertation

For Further Reading

Chapter 7 Experimental, Quasi-Experimental, and Ex Post Facto Designs

The Importance of Control

Controlling for Confounding Variables

Overview of Experimental, Quasi-Experimental, and Ex Post Facto Designs

Pre-Experimental Designs

Design 1: One-Shot Experimental Case Study

Design 2: One-Group PretestPosttest Design

Design 3: Static Group Comparison

True Experimental Designs

Design 4: PretestPosttest Control-Group Design

Design 5: Solomon Four-Group Design

Design 6: Posttest-Only Control-Group Design

Table of Contents

Design 7: Within-Subjects Design

Quasi-Experimental Designs

Design 8: Nonrandomized Control-Group PretestPosttest Design

Design 9: Simple Time-Series Design

Design 10: Control-Group Time-Series Design

Design 11: Reversal Time-Series Design

Design 12: Alternating-Treatments Design

Design 13: Multiple-Baseline Design

Using Designs 11, 12, and 13 in Single-Subject Studies

Ex Post Facto Designs

Design 14: Simple Ex Post Facto Design

Factorial Designs

Design 15: Two-Factor Experimental Design

Design 16: Combined Experimental and Ex Post Facto Design

CONCEPTUAL ANALYSIS EXERCISE: Identifying Quantitative Research Designs

PRACTICAL APPLICATION: Determining Possible Cause-and-Effect Relationships

Meta-Analyses

USING TECHNOLOGY: Conducting Experiments on the Internet

Testing Your Hypotheses, and Beyond

PRACTICAL APPLICATION: Acknowledging the Probable Presence of Bias in

Experimental Research

A Sample Dissertation

For Further Reading

Answers to the Conceptual Analysis Exercise "Identifying Quantitative Research

Designs

Chapter 8 Analyzing Quantitative Data

Exploring and Organizing a Data Set

Organizing Data to Make Them Easier to Think About and Interpret

USING TECHNOLOGY: Using Computer Spreadsheets to Organize and Analyze Data

Choosing Appropriate Statistics

Functions of Statistics

Considering the Nature of the Data

Descriptive Statistics

Measures of Central Tendency

Measures of Variability: Dispersion and Deviation

Keeping Measures of Central Tendency and Variability in Perspective

Measures of Association: Correlation

Inferential Statistics

Estimating Population Parameters

Testing Hypotheses

Meta-Analysis

USING TECHNOLOGY: Using Statistical Software Packages

Table of Contents

Interpreting the Data

PRACTICAL APPLICATION: Analyzing and Interpreting Data in a Quantitative Study

A Sample Dissertation

For Further Reading

PART IV: Qualitative Research

Chapter 9 Qualitative Research Methods

Research Problems and Methodology Choice in Qualitative Research

Potential Advantages of a Qualitative Approach

Qualitative Research Designs

Case Study

Ethnography

Phenomenological Study

Grounded Theory Study

Content Analysis

CONCEPTUAL ANALYSIS EXERCISE: Choosing a Qualitative Research Design

Collecting Data in Qualitative Research

PRACTICAL APPLICATION: Addressing Validity and Reliability Issues in Qualitative Data Collection

PRACTICAL APPLICATION: Selecting an Appropriate Sample for a Qualitative Study

PRACTICAL APPLICATION: Making Observations in a Qualitative Study

PRACTICAL APPLICATION: Planning and Conducting Interviews in a Qualitative Study

USING TECHNOLOGY: Using Technology to Facilitate Collection of Interview Data

Criteria for Evaluating Qualitative Research

PRACTICAL APPLICATION: Planning the Logistics of a Qualitative Study

A Sample Dissertation

For Further Reading

Answers to the Conceptual Analysis Exercise "Choosing a Qualitative Research Design"

Chapter 10 Historical Research

USING TECHNOLOGY: Data Sources in Historical Research

Collecting Historical Records

USING TECHNOLOGY: Online Databases for Historical Events

PRACTICAL APPLICATION: Handling Historical Data USING TECHNOLOGY Systematically

Evaluating and Interpreting Historical Data

External Evidence

Internal Evidence

Psychological or Conceptual Historical Research

Searching for Roots

PRACTICAL APPLICATION: Historical Research Writing

A Sample Dissertation

For Further Reading

Chapter 11 Analyzing Qualitative Data

Table of Contents

Qualitative Analysis Strategies

General Strategies for Organizing and Analyzing Qualitative Data

Creswells Data Analysis Spiral

An Example: Data Analysis in a Grounded Theory Study

An Example: Data Analysis in a Content Analysis Study

USING TECHNOLOGY PRACTICAL APPLICATION: Using Computer Databases to Facilitate Data Organization and Analysis

Acknowledging the Role of Researcher-as-Instrument in Qualitative Research

PRACTICAL APPLICATION: Planning Data Analysis for a Qualitative Study

PRACTICAL APPLICATION: Observing How Experienced Researchers Have Conducted Qualitative Research

A Sample Dissertation

For Further Reading

PART V: Mixed-Methods Research

Chapter 12 Mixed-Methods Designs

When Mixed-Methods Designs Are Most Useful and Appropriate

Common Mixed-Methods Designs

Convergent Designs

Embedded Designs

Exploratory Designs

Explanatory Designs

Multiphase Iterative Designs

Common Symbolic Notations for Mixed-Methods Designs

CONCEPTUAL ANALYSIS EXERCISE: Identifying Mixed-Methods Research Designs

Planning a Mixed-Methods Study

Identifying Research Questions and Hypotheses

Conducting the Literature Review

Choosing One or More Appropriate Samples

Addressing Validity Concerns

Special Ethical Considerations in Mixed-Methods Research

Analyzing and Interpreting Mixed-Methods Data

USING TECHNOLOGY PRACTICAL APPLICATION: Using Computer Software to Facilitate Mixed-Methods Data Analysis

PRACTICAL APPLICATION: Deciding Whether to Use a Mixed-Methods Design

Systematic Reviews of Qualitative and Mixed-Methods Studies

A Sample Dissertation

For Further Reading

Answers to the Conceptual Analysis Exercise "Identifying Mixed-Methods Research Designs"

PART VI: Research Reports

Chapter 13 Planning and Preparing a Final Research Report

Getting Started

Table of Contents

USING TECHNOLOGY: Surfing the Internet for Writing Assistance

Learn by Looking

Essential Elements of a Research Report

Explanation of the Research Problem

Description of Methods

Description of the Data and Data Analyses

Interpretation of the Data

Identification of Possible Weaknesses of the Study

Summary and Connections to a Broader Context

Maintaining Your Academic Integrity

Front Matter and End Matter

Preliminary Pages

Endnotes and Footnotes

USING TECHNOLOGY: Reference List

Appendix Content

Organizing a Research Report

Writing and Finishing! A Report

PRACTICAL APPLICATION: Writing Your Final Report

PRACTICAL APPLICATION: Developing a Writing Schedule

PRACTICAL APPLICATION: Critiquing a Final Research Report

Beyond the Unpublished Research Report: Presenting and Publishing

Conference Presentations

PRACTICAL APPLICATION: Presenting Your Research at a Professional Conference

Journal Articles

Sharing Authorship

Responding to Reviewers Critiques

A Closing Thought

For Further Reading

APPENDICES

Appendix A: Using a Spreadsheet: Microsoft Excel

USING TECHNOLOGY: Using Excel to Keep Track of Literature Resources

Using Excel to Record and Recode Data

Reorganizing Data in Excel

Using Excel to Perform Simple Statistical Analyses

Appendix B: Using SPSS

USING TECHNOLOGY: Creating a Data Set

Computing Basic Descriptive Statistics

Computing Inferential Statistics

Glossary

A

B

Table of Contents

C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
Z

References

Index

A
B
C
D
E
F
G
H
I
J
K
L
M

Table of Contents

N
O
P
Q
R
S
T
U
V
W
X
Y
Z