

**USING COMPUTERS IN
EDUCATIONAL AND
PSYCHOLOGICAL RESEARCH**

ABOUT THE AUTHORS

Dr. Jerry W. Willis is Associate Dean for Research in the College of Education, Louisiana State University. He also is a professor in the Department of Educational Leadership, Research, & Counseling at LSU. He is the author of over 60 books and monographs and is Editor of the *International Journal of Higher Education Innovation*. He completed his Ph.D. in child clinical psychology at the University of Alabama and his clinical internship at the University of Kansas Medical Center in Kansas City.

Dr. Seung Kim teaches in the Secondary Education Technology program at Lewis University in Chicago. She also is coordinator of the instructional technology graduate program at the university. Dr. Kim teaches research courses and instructional technology courses. She completed a B.S. degree in mathematics at SungKyunKwan University in Korea and an Ed.D. degree in educational technology at the University of Houston.

USING COMPUTERS IN EDUCATIONAL AND PSYCHOLOGICAL RESEARCH

Using Information Technologies to
Support the Research Process

By

JERRY W. WILLIS, PH.D.
Louisiana State University

and

SEUNG KIM, Ed.D.
*Lewis University
Chicago*



CHARLES C THOMAS • PUBLISHER, LTD.
Springfield • Illinois • U.S.A.

Published and Distributed Throughout the World by

CHARLES C THOMAS • PUBLISHER, LTD.
2600 South First Street
Springfield, Illinois 62704

This book is protected by copyright. No part of
it may be reproduced in any manner without
written permission from the publisher. All rights reserved.

© 2006 by CHARLES C THOMAS • PUBLISHER, LTD.

ISBN 0-398-07616-2 (hard)
ISBN 0-398-07617-0 (paper)

Library of Congress Catalog Card Number: 2005051420

With THOMAS BOOKS careful attention is given to all details of manufacturing and design. It is the Publisher's desire to present books that are satisfactory as to their physical qualities and artistic possibilities and appropriate for their particular use. THOMAS BOOKS will be true to those laws of quality that assure a good name and good will.

Printed in the United States of America
JW-R-3

Library of Congress Cataloging-in-Publication Data

Willis, Jerry, 1942–

Using computers in educational and psychological research : using information technologies to support the research process / by Jerry W. Willis and Seung Kim.

p. cm.

Includes bibliographical references and index.

ISBN 0-398-07616-2 — ISBN 0-398-07617-0 (pbk.)

1. Education—Research—Computer network resources. 2. Psychology—Research—Computer network resources. 3. Information storage and retrieval systems—Education. 4. Information storage and retrieval systems—Psychology. 5. Research—Methodology. I. Kim, Seung. II. Title.

LB1028.W51919 2005
370'.72—dc22

2005051420

PREFACE

We wrote this book after looking for a book on ways information technologies, especially computers, can support the research process. What we found were books that dealt with a specific aspect of the research process. For example, there are plenty of books on how to use the popular statistical analysis packages such as SPSS. And there are books on writing your dissertation using a word processor.

What we did not find was a good book that has the following characteristics:

- Covers all aspects of the research process from locating relevant literature to collecting and analyzing data, to writing up your research for publication and presenting it at conferences.
- Covers both “qualitative” and “quantitative” research methods.
- Is rich in links and references to additional resources that make it easy for readers to find more information about virtually any topic discussed in the book.
- Is written in an informal, approachable style that does not assume that all readers have a high level of computer expertise.

So, we wrote one. This, however, is not the type of book we suggest you read intensively from Chapter 1 to Chapter 11. Depending on your needs, some of the material should be skimmed, some should be read so that you become aware of possibilities and options, and some should be read more carefully. Which material you skim, read informally, or study carefully will vary depending on the purpose. In addition, there is quite a bit of material in this book that we would call “just-in-time” content. It is best read carefully when you actually need it. For example, when you need to insert a foreign language character into a paper you are writing in Microsoft Word, there are directions in Chapter 10. Until you actually need to do it, there is no reason to try to remember the details of that process. The important thing is to remember where to find the details on how to do it.

We welcome feedback and suggestions for improving this book as well as recommendations for electronic resources that should be included in a future edition. Feel free to write us at jwillis@aol.com with any information or suggestions.

Jerry W. Willis
Seung H. Kim

CONTENTS

	<i>Page</i>
<i>Preface</i>	viii
 <i>Chapter</i>	
1. COMPUTERS AND RESEARCH IN EDUCATION AND PSYCHOLOGY .	3
Comparing the Two Cases.	12
An Overview of the Book	13
Some Advice on How to Read This Text	17
Summary.	18
References	18
2. LOCATING APPROPRIATE LITERATURE	19
What Is the ERIC Database?	20
Psychological Abstracts (PA)	29
In Summary	32
References	32
3. ONLINE SOURCES OF INFORMATION	33
Finding Information on the Web	33
An Overview of Some Popular Search Engines	35
Online Journals: An Essential Resource for Scholars	51
Summary.	52
4. BASIC TOOLS FOR COLLABORATION	54
Electronic Support for Groups	57
Web Sites About Research	76
Summary.	83
References	85
5. ORGANIZING AND SECURING YOUR DATA	86
Data Storage Guidelines	86
What Tool Will You Use to Organize Your Data?	88

	An Example: Preparing a Data Set for Analysis.	92
	Summary.	103
6.	ANALYZING DATA WITH SPREADSHEETS	104
	How to Analyze Data with Excel.	104
	Some Hands-On Practice	106
	Examining Data with a Scatterplot.	108
	Comparing Two Samples.	110
	Summary.	116
	References	116
7.	ANALYZING DATA WITH STATISTICAL SOFTWARE PACKAGES . . .	117
	General-Purpose Packages	118
	The Most Popular Commercial Statistical Package: SPSS	125
	A More Complex Procedure: Analysis of Variance	136
	Summary.	143
8.	QUALITATIVE DATA ANALYSIS STRATEGIES	144
	An Ongoing Debate	144
	Case 1. “Unstructured” Interviewing	148
	Case 2. Word Processing and Qualitative Data Analysis	149
	Supporting Holistic Data Analysis	151
	Collaborative Writing Programs	163
	Software for Creative Writing	166
	Hypermedia Authoring Software	170
	Software That Supports Reflection.	170
	Summary.	171
	References	171
9.	SOFTWARE FOR ANALYZING QUALITATIVE DATA	173
	Atomistic Versus Holistic Approaches to Data Analysis	173
	The Ethnograph 5.0: A Pioneering Program	174
	Ethnograph’s Advanced Features.	179
	Which Program Fits You and Your Needs?	195
	Specialized Qualitative Data Analysis Software	195
	A Final Comment on Atomistic Versus Holistic Approaches.	196
	Summary.	197
	References	198
	Sources of Software Discussed in Chapters 8 and 9	198
10.	WRITING PROPOSALS AND PAPERS USING ADVANCED WORD PROCESSING FEATURES.	200
	Simple and Boring, But Useful.	200

Managing Versions of Your Documents	203
Complex But Powerful Features	212
Summary	225
References	226
 11. CREATING SCHOLARLY MULTIMEDIA PRESENTATIONS	227
Selecting Multimedia Presentation Software	227
A Basic Issue: What Form Will the Final Result Take?	231
Learning How to Use PowerPoint	233
Guidelines for Making Great Presentations	250
Summary	251
Web Sites of Interest to Presenters	251
 <i>Index</i>	253