

Educational

RESEARCH

Fundamentals for the Consumer

Second Edition

James H. McMillan

Educational Research

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the Consumer*

SECOND EDITION

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Educational Research: Fundamentals for the Consumer, Second Edition

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To Janice, Jon, and Ryann

To the Instructor

This book is primarily for consumers, rather than producers, of educational research. Consumers locate, read, understand, critique, and then use the results of research to become more effective professionally and to make sound educational decisions. This book is designed to enable students to become intelligent consumers of educational research and to introduce its basic principles to those who may eventually be involved in research in their work. The book is intended for a one-semester or one-term course in educational research. It is best suited for advanced undergraduate and beginning graduate students in education, and it is ideal for students enrolled in extended teacher preparation programs for initial certification which emphasize research on effective teaching. The examples and excerpts from published studies are drawn largely from research that teachers will find interesting and informative. The book is also appropriate for students in more traditional masters' programs, who will be consumers of educational research, and for students in related social sciences, who need to learn how to read and understand research. Students who intend to conduct research will find that this book provides an excellent introduction to research methods.

The goal is to educate students to be intelligent consumers. This is accomplished by promoting student understanding of the intent of the researcher, the procedures, and the results. Students are then shown how to analyze and evaluate the research, judging the usefulness of the findings for educational practice. More specifically, the book will help students to

- apply the principles of scientific inquiry to everyday problem solving and decision making;
- obtain a healthy skepticism about “studies” that purport to advance our knowledge;
- understand the process of conceptualizing and conducting educational research;
- understand strengths and weaknesses of different methodologies used in research;

- be able to read, understand, critique, and use published reports of research;
- understand the probabilistic, uncertain nature of knowledge about educational practice generated through research; and
- keep a balanced perspective about the relative contributions of research and professional judgment.

These goals are reached by presenting in a concise manner principles for conducting research and criteria for evaluating its overall credibility. Although the style of the book is informal, the language is non-technical, and no prerequisite courses in measurement or statistics are needed, the material is not oversimplified. Illustrations and excerpts from actual studies are highlighted as examples to familiarize students with the style and format of published articles. These examples introduce students to the language of research.

The sequence of topics has remained unchanged from the first edition. The book covers fundamental principles in the sequence found in the research process, beginning with research problems and ending with conclusions. The emphasis is on teaching students that all aspects of conducting and reporting research are important in judging the overall credibility of the findings. The format of research articles is included in the first chapter with an example of a published study to enable students to read published studies as early as possible in the course. Suitable articles, in addition to the four examples in the book, are identified as references in the book and in the *Instructor's Manual*. My experience is that students need as much practice in reading and critiquing articles as possible.

Since good consumers know how to find helpful research, the chapter on reviewing literature includes skills in locating primary and secondary sources and in evaluating a review of literature section of an article. The chapters on measurement are fairly extensive because of its important role in educational research. Basic statistical principles are presented first to enhance understanding. For example, students must know about correlation to understand reliability and validity. The emphasis in the discussion of each methodology—descriptive, correlational, survey, experimental, single subject, qualitative, and historical—is on what to look for in evaluating the credibility of the design and procedures. A conceptual introduction to inferential statistics is included to clarify the results sections of quantitative articles. The final chapter provides in outline form important questions to guide an evaluation of a research report or article, with examples from actual studies. These questions can be used in conjunction with the criteria for evaluating different sections of studies.

The chapters include aids to facilitate the learning of essential

skills and knowledge. Key research terms are highlighted in the margins to reinforce their importance, chapter summaries in the form of concept maps and outlines organize the material succinctly, and study questions allow students to check their knowledge. Throughout the book special sections, called Consumer Tips: Criteria for Evaluating Research, emphasize the skills needed to judge studies critically. Examples from over 50 published articles are included in the form of direct excerpts or examples from actual research.

The second edition has been strengthened with addition of the following:

- Updating of all chapters and references.
- A published study in Chapter 1, with important features and sections clarified.
- Substantial revision of Chapter 3, Locating and Reviewing Related Literature, to include more information about computer searches and currently available secondary sources.
- Substantial revision and expansion of Chapter 10, now titled Qualitative and Historical Research, including more examples of qualitative methodology.
- Throughout the text new graphs and tables have been added, including concept maps to introduce each chapter, to aid student understanding.
- Objective test items have been added to each chapter, with answers in Appendix A, to provide student self-instructional checks of understanding major terms and concepts.

Numerous individuals have contributed much to this book. I am most grateful to my editor, Chris Jennison, for his support, encouragement, and needed recommendations. I am also indebted to many students who provided feedback to my approach and materials. The following reviewers contributed constructive suggestions: Judith Kenniston, Ithaca College; Jack Barnett, Pittsburg State University; John Neel, Georgia State University; Larry A. Hudson, University of Central Florida; Bert I. Greene, Eastern Michigan University; and Ayres D'Costa, The Ohio State University. Finally, I am grateful to the staff at HarperCollins, who have been exemplary in their editing and production of the book.

As this is being written, further ideas are germinating for possible changes in organization and content for the third edition. Please write with any suggestions. Your comments will be most helpful.

James H. McMillan

To the Student

It was not too long ago that I sat, somewhat nervously, in a university auditorium waiting for my first class in educational research. Perhaps you have had, or will have, a similar experience. I distinctly remember thinking, given what I had heard about “research,” that I needed to learn only enough to pass the course and would not have to worry about it again! It was another hurdle that I was forced to jump to graduate. I was not bad in mathematics but my interest was in working with people, not numbers. It was incomprehensible that I would someday teach and write about educational research. But something happened to me as I grudgingly struggled through the course. What I discovered was that research is a way of thinking, a tool that I could use to improve the work I do with other people. My hope is that this book can instill a similar disposition in you, providing knowledge, skills, and attitudes to improve your life and the welfare of others. Although learning the content and skills needed to become an intelligent consumer of research is not easy, my experience in teaching hundreds of students is that you will improve yourself, professionally and otherwise, through your efforts. In the beginning, especially as you read research articles, not everything will make sense. But as your experience in being an informed consumer increases, so will your understanding. Good luck and best wishes, and please write to me if you have suggestions for improving the book.

James H. McMillan

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