CHAPTER 1

World Views, Paradigms, and the Practice of Social Science Research

Case 1. Quantitative Research

Dr. James Jackson was concerned about whether a particular approach to teaching undergraduate courses is effective. The approach is called the personalized system of instruction (PSI), developed by Fred Keller, a Columbia University psychologist and personal friend of B. F. Skinner. PSI (Martin, 1997) has been used for several decades in the sciences, but Dr. Jackson was not able to find convincing research about the suitability of PSI for humanities courses.

Personalized System of Instruction (PSI)

The PSI method of teaching was popular in the 1970s and is still used in many science classes. The content to be learned is divided into units or modules. Students get assignments with each module. When they think they have mastered a module, they come to class and take a test on that module. If they make 85% or more on the test, they get credit for the module and begin studying the next module. When they pass all the modules they are finished with the course and receive an A. In a course with 13 modules, anyone who completes all 13 might receive an A, students who finish 11 would receive Bs, and so on. The approach was called "personalized" because students could go at their own pace and decide when they wanted to be tested. Critics argued that PSI wasn't very personalized because all students had to learn the same content, which was selected by the instructor, and everyone was evaluated with the same objective tests.

Professor Jackson believed PSI would be a good format for humanities courses, and to test his hypothesis he and his colleagues conducted a research study. The course, "History of Western Cultural Traditions," was popular and had several sections. Dr. Jackson designed a PSI version of the course, and half the sections were taught using the PSI format whereas the others were taught using a standard lecture and discussion format. The sections were randomly assigned to treatment conditions (traditional or PSI).

The PSI sections were all taught by Dr. Jackson, and the traditional sections were taught by three experienced professors who had regularly taught the course using that format. At the end of the course all sections completed a 150-item objective test on the core content of the course. That content was agreed upon by all the instructors. Dr. Jackson analyzed the end-of-course test results. He used a statistical procedure called analysis of variance (ANOVA). The results were as follows:

- Students in the PSI sections scored significantly higher on the test than students in the traditional sections.
- Within each of the two groups of sections (traditional and PSI) some sections scored significantly higher than others. In the case of the traditional sections this may have resulted from the use of different instructors. However, there were also differences between the four PSI sections, which were all taught by Dr. Jackson.

Dr. Jackson concluded that the results of this study support the hypothesis that PSI is a viable format for humanities courses. He concluded his paper on the research by recommending that more humanities courses be taught using PSI.

Case 2. Qualitative Research

Dr. Joan Jackson was concerned about the quality of the humanities courses in her department. In talking with other faculty she found that they too were worried about their programs. All of them thought that although the courses were well organized and the teachers knowledgeable, the students simply were not getting as much as they should from the courses.

To explore this issue Joan organized a study group, with support from the department chair, who also became a group member. They met twice a month and eventually concluded that they might need to make major changes in the way the courses were taught. They also decided to get input from current students and graduates before making any changes. With that in mind

they invited three groups of students to their sessions to talk about the courses: current students, students who had just graduated, and students in the graduate program who had completed their undergraduate work in the department. These meetings were not very fruitful. The group realized that even the students who had graduated from the program and were no longer affiliated with the department were reluctant to talk freely with professors about needed changes in the courses. One member of the group suggested a different approach: Do individual interviews with students using a semistructured format that involved providing some guiding questions but allowed students to express their opinions on many topics related to the courses. The interviewer, who was a graduate student known for her comfort working with both students and faculty, conducted the interviews. She assured each participant that the report based on the interviews would not "name names," nor would it single out individual professors or students.

The results of the interviews were very helpful, and the faculty began to develop ideas about some of the problems in the courses. However, another faculty member suggested that students should not be the sole source of input to the group. He suggested that input be sought from several faculty members at similar universities who were known for their success as undergraduate teachers. Another suggested that they select humanities faculty by looking for winners of "excellence in teaching" awards. Over a 2-month period seven award-winning faculty from humanities departments around the country were interviewed, mostly by phone. They were asked about innovative methods of teaching. They also reviewed the course syllabi for several of the humanities courses that were of particular concern. The result was another very useful report that summarized the suggestions and opinions of the star faculty members from other universities.

The two reports and a review of the literature on teaching in the humanities were all valuable. After a number of extensive discussions the group decided to experiment with one course: "History of Western Cultural Traditions." The group agreed that three innovative teaching strategies were promising: problem-based learning (Savin-Baden, 2000), case-based learning (Christudason, 2003), and an approach called Assisting Small Group Learning Through Electronic Resources (ASTER), developed in Britain at Oxford University (Condron, 2000; Jelfs & Coburn, 2002).

Instead of selecting one idea and using it in several sections, the group decided that enthusiastic faculty teaching a section of the course would implement one of the three innovations. At the end of the first experimental semester, the faculty talked to the group about their impressions, and they presented the findings of the more formal evaluations of the innovation. The evaluations consisted of reflective notes written by the instructor

over the course of the semester, interviews with students at critical points during the semester, and observations and evaluations by other faculty who visited the class. Generally, the results of this first semester were that all three innovations showed promise, but they needed refinement and adaptation to work well in the course. Over two more semesters the ASTER approach and the case-based learning approach gradually evolved into mature innovations that were used in most of the other sections of the course. Problem-based learning was dropped because faculty decided it did not fit the content and goals of the course. Instead, several instructors tried new methods of facilitating class discussions that involved several interesting questioning techniques (Beaudin, 1999; George, 2004; VanVoorhis, 1999). The professors reported that these worked well and were also valued by the students and the observers who sat in on some of the classes.

Reflection

This term has many meanings, but the *reflective notes* that were an important part of the research in this example are a product of thinking about issues, problems, and successes that occurred as the instructor taught the course. The idea of thinking seriously about what you are doing and then using your reflections to plan future action is not new. The idea can be traced back to Plato. However, the best-known modern advocate of *reflective practice* was Donald Schon (1987), who suggested that practitioners such as psychologists, social workers, teachers, and architects engage in two forms of reflection. *Reflection in action* happens when someone encounters a unique problem or decision that cannot be solved by the application of routine or standard solutions or rules. Instead the professional must reflect on the fly and decide what to do. The other type of reflection, *reflection on action,* happens when practitioners think through their previous work. For example, a psychotherapist might mentally run through a recent therapy session, analyze it, evaluate the impact of different steps taken in the session, and come to a conclusion about what to do differently in the next session with that patient. That is reflection on action, and it is the type illustrated by the reflective notes the instructors took.

After 2 years of experimentation the group decided the three successful methods might be worth trying in other humanities courses as well. They held workshop sessions for other faculty and helped them try out the teaching and learning methods in their courses. At the same time, the group

decided to become a permanent aspect of the department. Each semester they tried out some interesting innovations and then reported to the humanities faculty on the results.

Joan Jackson published several papers on this work. One dealt with the process of selecting innovations and trying them out. Three other papers were also published, one on each of the successful methods. All were qualitative, which means they described the context of the work—the course, type of students, background of the instructors, and so forth—and the papers provided detailed information on the innovation and the story of how it evolved from the first implementation to the current incarnation. Evaluations by the professors, students, and observers were included, as were suggestions about issues to think about. Each paper concluded that the experiences of Dr. Jackson and her colleagues might be helpful to humanities faculty at other universities.

Article of Interest

Throughout this book there are boxes like this that alert you to an article of interest. Each article is briefly introduced in the box, but the full article is available on the publisher's Web site for the book. To read the entire article, please go to http://www.sagepub.com/willis_aoi.

Melanie Jasper. (2005). Using reflective writing within research. *Journal of Research in Nursing, 10*(3), 247–260.

Jasper distinguishes between notes about research progress and "reflective writing" as part of the research process. She points out that many more quantitatively oriented researchers tend to prefer research notes that are very objective. Reflective writing during a research project is much more subjective and may be considered detrimental to research by some. In the main portion of her article, Jasper argues that reflective writing can contribute to the trustworthiness of a study and facilitate "creativity, critical thinking and strategies for analysis and innovative discovery" (p. 248). She then describes the nature of reflective writing and how to use it in the research process. She even introduces the idea of reflective writing as additional data to be analyzed.

The two fictional cases that begin this book represent two distinct *paradigms,* or world views about what research is and how it is to be conducted. The first case is in the *quantitative* tradition and the second is in the *qualitative* tradition. The terms *qualitative* and *quantitative* are widely

used today to describe two ways of thinking about research in the social sciences, but the terms are not always clearly understood.

What This Book Is and Is Not About

This book is not an attempt to prepare you fully to use any research method. If you decide to do research using a particular method such as *focus groups,* you will need to immerse yourself in the growing body of literature on the use of focus groups. Our goal is more modest when it comes to methodology. It is to make you aware of several established and several emerging methods, how they work, and what sorts of issues are involved in their use. Furthermore, the goal is to deal with a particular group of emerging methods that are particularly appropriate for researchers who want to base their work on an *interpretivist* world view or a critical world view. The terms *interpretivist* and *critical theorist* will be explained and explored in detail in the coming chapters.

Interpretivism

This approach to social science research rejects the positivist idea that the same research methods can be used to study human behavior as are successfully used in fields such as chemistry and physics. Interpretivists argue that when you study the behavior of a metal, the primary causes of changes in the metal are in the environment (e.g., heat, stress). Humans behave the way they do in part because of their environment. However, that influence is not direct as it is with a piece of metal. Humans are also influenced by their subjective perception of their environment—their subjective realities. We do not worry about the subjective impressions of a steel bar, but if we are to fully understand the behavior of an 18-year-old delinquent we must understand her view of the world around her. We must also understand the subjective perceptions of her by others in her social and cultural context. Thus, for interpretivists, what the world means to the person or group being studied is critically important to good research in the social sciences. Interpretivists favor qualitative methods such as case studies, interviews, and observation because those methods are better ways of getting at how humans interpret the world around them. Some of the philosophical foundations of interpretivism can be found in Immanuel Kant's *Critique of Pure Reason* (1781/2003), in which he argued that humans interpret their sensations; they do not directly experience the "out there" world as it is. In the 18th century Wilhelm Dilthey added to the foundations of interpretivism by arguing that *verstehen* (understanding) was the goal of social science research and that the proper topic

of social science research was the lived experiences of humans. He was reacting against contemporary ideas that the social sciences should emulate the positivist methods of the natural sciences because humans could be treated as complex machines. For him, natural reality was not the same as social reality, and that meant that different methods of research were needed to study social reality.

In our view, however, any exploration of qualitative research methods cannot be meaningfully accomplished without attention to the underlying assumptions, or "givens," that guide the use of a particular research method. The terms *quantitative* and *qualitative* are popularly used to describe two different world views or paradigms for research. Using those terms implies that the big difference between the two paradigms is in the type of data collected: Quantitative researchers use numbers as data, whereas qualitative researchers do not. In fact, that is not true. Number-based research methods often are used by qualitative researchers, and a growing number of quantitative researchers use qualitative data.

The major difference between these approaches is not the type of data collected. It is in the foundational assumptions, the givens that are assumed to be true. A focus of this book is those foundational assumptions, and they will be explored in some detail. The paradigms of research therefore are the primary focus, especially the interpretivist and critical theory paradigms. Only after the major paradigms are explored will the focus shift somewhat to research methods.

Article of Interest

Jaan Valsiner. (2000). Data as representations: Contextualizing quantitative and qualitative research strategies. *Social Science Information, 39,* 99–113.

This chapter has presented the traditional view that qualitative data tend to be associated with critical and interpretive paradigms of research, whereas studies that rely on quantitative data tend to be couched in a positivist or postpositivist paradigm. Furthermore, the important difference between paradigms is not the type of data preferred but the underlying beliefs and assumptions of each paradigm. In this article Valsiner takes a closer look at qualitative and quantitative data and the quantitative and qualitative paradigms in the social sciences. In contrast to many scholars who see these two paradigm families as mutually exclusive and in opposition, Valsiner concludes that *quantitative* is actually a derivative of *qualitative*. You may find his reasoning fascinating.

To read the entire article, please go to http://www.sagepub.com/willis_aoi.

Just What Is a Paradigm?

Chalmers (1982) defines a paradigm as "made up of the general theoretical assumptions and laws, and techniques for their application that the members of a particular scientific community adopt" (p. 90). Chalmers (1982, p. 91) points out that a paradigm has five components:

- Explicitly stated laws and theoretical assumptions.
- Standard ways of applying the fundamental laws to a variety of situations.
- Instrumentation and instrumental techniques that bring the laws of the paradigm to bear on the real world.
- General metaphysical principles that guide work within the paradigm.
- General methodological prescriptions about how to conduct work within the paradigm.

A paradigm is thus a comprehensive belief system, world view, or framework that guides research and practice in a field. Today, in the social sciences, there are several competing paradigms. Some discussions are organized around the idea that there are two paradigms, quantitative and qualitative, but that is an oversimplification that emphasizes data rather than foundational beliefs and assumptions. The exact number of world views (paradigms) and the names associated with a particular paradigm vary from author to author, but one generally accepted list includes three paradigms (Cupchik, 2001; Gephart, 1999; Greene, Benjamin, & Goodyear, 2001; Guba, 1990; Smith, 1989):

- Postpositivism
- Critical theory
- Interpretivism

A paradigm is not just a philosophy of science, such as postpositivism. It is also the related social science theory, such as behaviorism, and the associated research framework. Finally, it is the application of that entire framework to practice. Each level influences and is influenced by all the other levels. At the basic or fundamental level there is a philosophy of science that makes a number of assumptions about fundamental issues such as the nature of truth (ontology) and what it means to know (epistemology). Although many researchers and practitioners ignore this foundational layer of assumptions, it is an essential aspect of a paradigm. Many of the basic tenets of behavioral psychology (and information processing theory and cognitive science), for

example, would make very little sense without the assumptions of postpositivism. That is because positivism or postpositivism is the philosophy of science that is the foundation for these paradigms. Their methods and practices are based on the assumption that positivism, or at least postpositivism, is the true and correct way to look at the world. And the use of the scientific method as a framework for conducting research would not make sense unless proponents adopt a realist ontology: "Reality exists 'out there' and is driven by immutable natural laws and mechanisms. Knowledge of these entities, laws, and mechanisms is conventionally summarized in the form of time- and context-free generalizations" (Guba, 1990, p. 20). Similarly, there are research frameworks such as cooperative inquiry (Heron, 1996; Tan, 2002) that attempt to see problems from multiple perspectives. Such methods would not make much sense without a relativist ontology—"Realities exist in the form of multiple mental constructions, socially and experientially based, local and specific, dependent for their form and content on the persons who hold them" (Guba, 1990, p. 27)—and an assumption that the goal of research is understanding in context instead of the discovery of universal, lawlike truths.

Ontology and Epistemology

These two terms often put students off philosophy for life. Ontology and epistemology are the two major aspects of a branch of philosophy called metaphysics. Metaphysics is concerned with two fundamental questions. First, what are the characteristics of existence? Or, put another way, what are the characteristics of things that exist? Or what are the universal characteristics of things that exist? These are ontological questions. The second aspect of metaphysics is the question, "How can we know the things that exist?" This is an epistemological question. Unfortunately, these definitions are too abstract and ephemeral to be of much use when the concepts are new to you.

Ontology is concerned with the nature of reality (or being or existence), and various ontological positions reflect different prescriptions of what can be real and what cannot. For example, someone who takes a materialist ontological position (e.g., all that is real is the physical or material world) would reject the idea that ghosts or spirits can influence the physical world. Why? Because ghosts cannot exist if all that is real is physical. Materialism is one of the major ontological positions, and it is the foundation for much of the research conducted in the natural sciences. However, a competing view of reality is idealism, which proposes that reality is mental and spiritual rather than material (Craig, 1998). Another ontological position is metaphysical subjectivism. Proponents of that position assert that perception, what we perceive through our senses, creates reality and that there is

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no other reality than what is in our heads. That is, there is no reality other than what humans create in their own minds. You can see how different ontological positions can lead to very different positions on many issues. Today, for example, there are debates in the field of medical informatics that come down to whether medical terms and diagnoses reflect a materialistic reality that is external to the mind and that exists independent of the mind versus a more subjective view that they are constructions of the minds of medical specialists (Hajdukiewicz, Vicente, Doyle, Milgram, & Burns, 2001). Most of Western natural science is based on modern versions of Descartes's dualism, the idea that both material and mental entities exist.

Epistemology is concerned with what we can know about reality (however that is defined) and how we can know it. At the risk of oversimplification, ontology is about what can exist or what is real, and epistemology is about knowledge. In fact, the English term comes from the Greek word *episteme,* which means "knowledge." When you ask questions such as "What is knowledge?" "How do I acquire knowledge?" "How can I be sure of my knowledge (if I can at all)?" and "What are the limits of human knowledge?" you are asking epistemological questions.

Epistemology is a crucial foundation for research in both the natural and the social sciences. The traditional scientific method, for example, is based on an empirical epistemology: You can come to know about the world (which, ontologically, is a physical or material world) through properly done experiments. An alternative is feminist epistemology, which argues that much of the research in the social sciences has been conducted from a male perspective. To a feminist epistemology this is important because all knowledge is situated in the experiences and context of the researcher. Thus, the knowledge produced by a male-dominated sociology or anthropology will not be the same as the knowledge produced by female-oriented researchers. Thus, feminist epistemology is based on a more subjective ontology and also rejects the idea that research is a way of coming to know what is objectively "real." Instead, the knower is always influenced by her or his situation, and thus all knowledge is also situated (Harding, 1998).

Article of Interest

Penelope Vinden. (1999). Gathering up the fragments after positivism: Can Ratner make us whole again? *Culture & Psychology, 5*(2), 223–238.

This article is actually a review and commentary on a book written by Carl Ratner (1997). The book lays out a foundation for building an approach to studying culture within psychology that uses qualitative research methods. Vinden tends to prefer positivist approaches (which are called postpositivism in this book), whereas Ratnerrejects them and proposes what Vinden calls postmodernism but is probably

closer to what is called critical theory in this book. She acknowledges that positivism has lost ground as a significant foundation for psychological research, and she makes the point that "with the demise . . . of traditional science has come a rejection of its time-honored methodology, quantitative methods" (p. 224). She questions whether this is a good idea, and she analyzes Ratner's case for adopting another paradigm (postmodernism or interpretivism) and another type of data (qualitative). For example, Vinden takes issue with Ratner's assertion that psychological phenomena have a cultural context and foundation. As a discipline psychology, more than other social sciences, has tended to equate quantitative research with positivist and postpositivist philosophies of science. That is the compass point Vinden is coming from. And although I do not agree with every position Ratner takes, he does come from the general direction of interpretivist and critical theory philosophies of science and qualitative research.

Vinden works hard to associate Ratner with names and terms such as *Marx, Engels, Leontiev, Luria, Vygotsky, Marxist,* and *new left,* and she concludes that his "formulation of cultural psychology has a Marxist flavor" (p. 225). In fact, much of her objection to Ratner's approach boils down to the two psychologists operating from two different paradigms. He is concerned, as critical theorists are, with linking research to the idea of emancipation, of freeing people from beliefs that restrict and control them in the name of movements and groups that do not have their best interests at heart. He is also more comfortable with the idea that our understanding of culture and behavior is not definitive and objective. What we know is subjective and tentative. Vinden is a bit worried about that; she wants more clear-cut ideas, theories, and answers. Otherwise, "there is no room to advance, nothing to study" (p. 227).

In the last half of her review Vinden addresses Ratner's critique of positivism as a poor foundation for psychological research. As you read Vinden's comments, consider whether you are most comfortable with her view or Ratner's. And, after you have read the article, ask yourself how many times you saw the basic or fundamental beliefs of Vinden or Ratner being expressed in the positions they take on various issues. Also notice how much overlap there is between the psychological theories they espouse and social-political theories. This overlap is nicely illustrated in Vinden's last comment: "Capitalism and positivism may not have provided an answer to these questions [how to determine what is good for people], or may have given answers with which many of us are not happy. It is not clear, however, that socialism and humanitarianism will guarantee more satisfactory answers" (p. 237).

To read the entire article, please go to http://www.sagepub.com/willis_aoi.

Family Resemblances Within Paradigm Groups

Qualitative research sometimes is described as ethnographic, interpretive, critical, or postmodern research (Creswell, 1997). Quantitative research, on the other hand, is often called empirical, positivist, postpositivist, or

objectivist (Henrickson & McKelvey, 2002). There are important differences between positivism and postpositivism or between postmodernism and interpretivism, for example. However, these differences are less important than the similarities. Positivism and postpositivism are members of a group of related ways of thinking about and doing research. The relationship between empirical, positivist, postpositivist, and objectivist frameworks for conducting research probably is best characterized as a set of *family resemblances* (Wittgenstein, 1973). Just as members of a particular family may have unique appearances but still resemble each other, all members of the empirical, positivist, postpositivist, and objectivist family have enough resemblances to make it obvious that they are members of the same family. That family dominates quantitative social science research, and it is sometimes called positivism, although the most influential version today is a variant called postpositivism. Two other families, critical theory and interpretivism, are the most important ones in the qualitative tradition.

Positivism

Seventeenth-century French philosopher Auguste Comte established positivism in Western philosophy. He believed societies passed through three stages of explanation. In the first and least enlightened stage, *theological* explanations dominate. In the second and more enlightened stage, *metaphysical* or philosophical explanations emerge. For example, a person might say that a particular drug puts people to sleep because it has "dormative powers." Certain characteristics are attributed to items and treated as explanations in the metaphysical stage. And in the third and highest stage, *positivism,* scientific explanations are the rule. Comte advocated the emerging sciences, such as astronomy, biology, physics, and chemistry, but he was also a founder of sociology and was concerned that this field of human study should be based on a solid scientific foundation. He sometimes called sociology "social physics" and argued that the methods that were so successful in the natural sciences should also be applied to the human sciences. He advocated the use of the scientific method to validate theories of human behavior:

> Scientifically speaking, all isolated, empirical observation is idle, and even radically uncertain; . . . science can use only those observations which are connected, at least hypothetically, with some law; that it is such a connection which makes the chief difference between scientific and popular observation, embracing the same facts, but contemplating them from

> different points of view: and that observations empirically conducted can at most supply provisional materials, which must usually undergo an ulterior revision. . . . The observer would not know what he ought to look at in the facts before his eyes, but for the guidance of a preparatory theory. . . . This is undisputed with regard to astronomical, physical, and chemical research, and in every branch of biological study. . . . Carrying on the analogy, it is evident that in the corresponding divisions . . . of social science, there is more need than anywhere else of theories which shall scientifically connect the facts that are happening with those that have happened. (Comte, 1854)

Thinking About the Foundations and Practice of Research

Some books on research concentrate on the tools for doing certain types of research. For example, there are thousands of books on the use and interpretation of statistical analyses (e.g., Lockhart, 1997; Ott, Longnecker, & Ott, 2000; Roussas, 2002; Sprinthall, 1996). The more general statistical books are supported and extended by thousands of books on specialized statistical methods of data analysis such as regression analysis (Montgomery, Peck, & Geoffrey, 2001; Von Eye, Schuster, & Schiller, 1998), multivariate statistical analysis (Johnson & Wichern, 2002), and structural equation modeling (Mueller, 1996; Schumacker & Lomax, 2004). These are but a few of the several hundred specialized statistical methods that are used in the social sciences today.

Statistics are used in social science research for two main reasons:

- To help us come to conclusions about what the data from our research say. The ubiquitous *t* test, for example, is used to compare the average (mean) scores of two groups. One of the groups has generally served as some sort of control group, and the other has been administered some form of treatment. If the treatment group's mean score is higher that the mean of the control group, and the *t* test is significant, then the researcher can suggest that the treatment used may have been effective.

- A second reason for using statistics is to deal with common, and often unavoidable, problems that crop up in research. For example, suppose you are going to study the impact of two alternative approaches to providing support services to new immigrant families. Unfortunately, it is not possible to randomly assign students to control and experimental groups. That is a problem

because random assignment to experimental and control groups usually is an important requirement of the scientific method. A statistical procedure called analysis of covariance (ANCOVA) has been developed to even out the effects of initial differences between control and experimental groups and thus give you a more accurate picture of the impact of your treatment (Huitema, 1980; Rutherford, 2000). Statistical procedures are used to compensate for violations in the basic requirements for scientific research (such as random assignment of subjects to groups). Similarly, analysis of variance procedures have been developed to improve statistical power (the ability to see real differences even when there is much random variation in the data; Lindman, 1992; Milliken & Johnson, 2001). Finally, nonparametric statistics have been developed to deal with data that do not meet some of the minimum standards of traditional *parametric* statistical analysis (Siegel & Castellan, 1988).

Statistics is a nearly universal aspect of traditional quantitative research. A second aspect of research, qualitative or quantitative, that must be considered is research design, or the way the study is organized. The term *methodology* generally is used to describe several aspects of a study: the design, the procedures for data collection, methods for data analysis, selection of subjects, and details of the specific treatments, if any. Many books are available on methodology or design from a traditional perspective (Campbell & Stanley, 1963; McBurney & White, 2003; Montgomery, 2004).

Statistics and methodology or design guides are at one end of a continuum of publications about how to conduct traditional or quantitative research. At the other end of the continuum are books that deal with the broad theoretical and philosophical frameworks that guide practice. Chalmers (1982, 1990, 1995, 1999), for example, compares the characteristics of several philosophies of science: positivism, postpositivism, sociological theories of science, and Feyerabend's (1993) *anything goes* philosophy of science.

The interconnectedness of the various levels of a paradigm is discussed throughout this book. Chapter 2 looks at the history of the three paradigms (postpositivism, interpretivism, and critical theory), with an emphasis on what the founders were reacting to when the paradigm emerged as a research framework. Chapter 3 introduces postpositivism, the dominant paradigm today. The chapter also discusses one of the alternative paradigms: critical theory. Chapter 4 covers the interpretive paradigm. The final four chapters of this book focus on methodology. Chapter 5 covers alternative frameworks for interpretivist and critical research, chapter 6 presents general principles or guidelines for doing research, and chapter 7 gets down to specific methods and covers in some detail broad methods of interpretive and critical qualitative research. Finally, chapter 8 deals with data collection and analysis, and chapter 9 looks at the future of social science research.

This book focuses on the qualitative research tradition from *interpretive* and *critical* approaches. However, the dominant quantitative frameworks for research will be addressed frequently for three reasons:

- Quantitative research remains the dominant paradigm in many areas of the social sciences. Some researchers and policymakers even consider quantitative research the only *real* research. The recent emphasis on traditional quantitative research in the second Bush administration's Department of Education is one example of an effort to make quantitative research methods based on the scientific method the only way to answer many important questions. The second Bush administration created the Institute of Education Sciences, and that agency's guide to deciding which educational innovations are supported by rigorous research illustrates this point (IES, 2003). Innovations with *strong* evidence should be supported by several well-designed research studies involving random assignment of students to control and experimental groups. Those with *possible* evidence of effectiveness should be supported by randomly assigned control–experimental group studies that are good but have some flaws or by comparison studies that involve closely matched groups. If an innovation does not have either strong or possible evidence (e.g., evidence based on research in the positivist or postpositivist tradition), then "one may conclude that the intervention is not supported by meaningful evidence" (p. 7). (Note: Although quantitative social science research normally is practiced within a postpositivist paradigm, which is discussed in the next two chapters, there is an emerging approach to quantitative research based on a alternative paradigm, critical theory.)

- Much of what has happened in the field of qualitative research has been in response to shortcomings, perceived or real, of quantitative research.

- There is a tradition in qualitative research that adopts the framework and belief systems of quantitative research. In that tradition qualitative research (or the collection of qualitative data) is really an extension of the quantitative paradigm. As you will see in this book, critical and interpretive qualitative research involves much more than that.

There is a significant tension between postpositivism, critical theory, and interpretivism.

What Warrants Our Attention?

At the American Educational Research Association (AERA) meeting in New Orleans a few years ago, Elliot Eisner quoted another Stanford professor, D. C. Phillips, as saying, "Worry about warrant will not wane." Phillips

and Eisner were referring to the current state of affairs in education and the social sciences with regard to what is and is not research. Scholars have perspectives, beliefs, ideas, and theories they would like to share with others in their field. However, all of us are besieged with papers, books, and presentations on the topics that interest us. We all develop ways of deciding what we will ignore and what we will pay attention to. That is what D. C. Phillips (2000; Phillips & Barbules, 2000) was talking about: warrant. All of us decide what types of material warrant our attention and what types do not.

My graduate experience, like that of most psychologists who were trained in American doctoral programs between 1930 and 1985, provided a precise, clear-cut answer to the question of warrant. Only properly conducted quantitative research that was based on the scientific method warranted our attention. Case studies, papers based on experience in a particular area of professional practice, and a hundred other types of studies that used qualitative data or were based on methods other than the scientific method were simply outside the pale. They were not research and did not warrant my attention. I must admit that I left graduate school in 1970 with great confidence about research. I could comfortably decide what warranted my attention both as a consumer of research and as a producer of research.

Now, more than 30 years later, I consider the confidence I had when I graduated as arrogance that kept me from attending to and learning from a whole range of scholarship that is outside the boundaries of traditional quantitative research. I am not alone in this predicament, however. Several generations of social scientists are reevaluating their long-established notions about what warrants their attention and what does not.

The Traditional Canon

Consider some of the chapter titles of a typical quantitative research and statistics book used in the 1980s (Welkowitz, Ewen, & Cohen, 1982):

Frequency Distributions and Graphs

Measures of Central Tendency

Measures of Variability

The Normal Curve Model

Testing Hypotheses About the Differences Between the Means of Two Populations

Linear Correlation and Prediction

Other Correlation Techniques

Introduction to Power Analysis

One-Way Analysis of Variance

Although more sophisticated methods for quantitative analysis are available today, thousands of research courses still teach these topics. They are topics I was taught in graduate school, topics I am comfortable with and understand. I have used the knowledge from my graduate school quantitative courses to conduct many research studies over the past 30 years. But there is something I did not learn in graduate school, something I should have learned along with the quantitative paradigm and its associated methods and techniques.

Alternative Paradigms

What I did not know when I finished graduate school was that the things I was taught about research—from how to decide what warrants my attention to how to interpret an analysis of variance summary table—were all based on one paradigm. That paradigm was *postpositivism,* and it takes very specific, very strong positions on everything from the acceptable reasons for doing research to the proper methods for collecting and analyzing data.

Postpositivism, which is also known as postempiricism, is no longer the only game in town when it comes to social science research. It never was. That fact gradually dawned on me over the past three decades. Awareness emerged as I became more and more dissatisfied with what I could and could not do with traditional scientific method research. It seemed to me that traditional research based on the scientific method forced us to study some of the least important issues because we could quantify the variables and control the experimental context. While we were publishing plenty of methodologically sound studies, we seemed to be publishing too few papers on the topics that were really important. So I began to explore other options and discovered the emerging field of qualitative research. The following is a list of topics covered in the fourth edition of Bogdan and Biklen's (2002) book on qualitative research:

Phenomenology
Symbolic Interaction
Ethnomethodology
Cultural Studies
Case Studies
Observational Case Studies
Life Histories
Modified Analytic Induction
The Constant Comparative Method
Participant/Observer Research
Developing Coding Categories
Action Research
Applied Qualitative Research

There is almost no overlap between the content of this qualitative research textbook and the quantitative book mentioned earlier. That is true even though the qualitative book takes a conservative approach. Bogdan and Biklen selected research methods primarily from social sciences, such as sociology and anthropology, and from education. Eisner (1997) makes the point that until recently "discussions of qualitative research methods almost always were reduced to doing ethnography" (p. 1) because ethnography was the established method for a social science, cultural anthropology. However, the interpretive paradigm is increasingly drawing on disciplines that are further afield. The humanities, for example, are often looked to for appropriate methods. An issue of the journal *Qualitative Inquiry* (1[4], 1996) includes an article on "Dance as a Mode of Research Representation" by Donald Blumenfeld-Jones. The same issue contains an article by Robert Donmoyer and June Yennie-Donmoyer titled "Data as Drama: Reflections on the Use of Reader's Theater as a Mode of Qualitative Data Display." As social science researchers get in touch with the methods of the humanities and social sciences besides their own specialty, we are all likely to find ourselves considering a wide range of methods for collecting new forms of data and new ways of representing our interpretations of that data. This point was made by education researcher Elliot Eisner (1997) when he said, "The assumption that the languages of social science—propositional language and number—are the exclusive agents of meaning is becoming increasingly problematic, and as a result, we are exploring the potential of other forms of representation for illuminating the educational worlds we wish to understand" (p. 4).

Propositional Logic

When Eisner mentioned "propositional language" in his discussion of research, he was talking about this type of logic:

If A is true (proposition or declarative or "atomic" statement)

and B is true (proposition or declarative or "atomic" statement)

then C must (logical statement or compound sentence) be true

The first two lines are each propositions about the world, also called declarative sentences or atomic statements. The third line is a logical statement or compound sentence that must be true if A and B propositions are true. Whereas sentences A and B are empirically verifiable statements, C is proved logically

rather than empirically. Here is a concrete example that is often used to illustrate the importance of the first two propositions being true:

All swans are white.

This bird is black.

Therefore, this bird is not a swan.

If the first two statements are true, then it is logically impossible for the bird to be a swan. It turns out, by the way, that every European swan thus far observed is white, but when explorers arrived in Australia, they found black swans. That means statement A is false (not all swans are white), and thus the logical conclusion in the third statement may be false as well. The bird could be a black swan from Australia. There is much more to propositional logic than presented here, but this is the basic idea.

New Techniques or New Paradigms?

The emergence of a qualitative research paradigm as a viable alternative to quantitative, postpositivist methods is not simply an expansion of options at the technique level. We have not simply added to control group and experimental group research a few additional methods such as case studies. Qualitative research can be, and usually is, based on a different paradigm or *world view*. It has different fundamental assumptions, different reasons for doing research, different beliefs about what types of data are the most worthwhile to collect, and decidedly different approaches to analyzing the data collected. Such differences are at the heart of the current debate about what type of research warrants our attention and energy.

In the AERA symposium mentioned earlier the focus was the question, "Could a novel ever be a dissertation in a college of education?" Elliot Eisner, among others, spoke eloquently in favor of that possibility because the purpose of research is to inform and convince people, and a novel might do that better than many other forms of research. Jere Brophy facetiously said that perhaps it could be used for an Ed.D. but not for a Ph.D. Then he and Howard Gardner argued forcefully that there are standards for what research is and that a novel does not fall within those standards. Eisner, Brophy, and Gardner disagreed in part because they were operating from different paradigms. Eisner is one of the best-known advocates of the interpretive paradigm in educational research, whereas Brophy is an established proponent of a more traditional view of research based on the postpositivist paradigm.

Alternative paradigms have become a major focus of debate in research circles over the last 20 years, and there is already a healthy body of literature on the topic. Two of the best books on the philosophies of science that are the foundation for research today were written by Alan Chalmers (1990, 1995). He roughly divides the alternatives into five general philosophies of science: empiricist, postempiricist, critical theory, sociological (e.g., Kuhn, 1970, 1996; Kuhn, Conant, & Haugeland, 2000; Lakatos & Musgrave, 1970), and anarchistic (e.g., Feyerabend, 1975, 1993). More specialized books written specifically for readers in the social sciences have generally covered the same ground but with more attention to the implications for research and practice in the areas of human and cultural endeavor. In a 1989 book, Smith roughly divided the options into two categories: empiricism and interpretivism. After a bit more thought, in a book titled *After the Demise of Empiricism: The Problem of Judging Social and Educational Inquiry,* Smith (1993) discussed four alternatives: empiricism, postempiricism, critical theory, and interpretivism. In *The Paradigm Dialog* (Guba, 1990), the alternatives were conventional positivism (or empiricism, which is generally agreed to be outmoded), postpositivism (or postempiricism), critical theory, and constructivism. Those same four paradigms were used by Guba and Lincoln (1994) in the *Handbook of Qualitative Research* (Denzin & Lincoln, 1994, 2000), a book that extensively covers the large and growing family of qualitative research models and paradigms.

The paradigm debates are more than intellectual exercises that waste time and energy. Let me cite just three examples that I ran across recently. In one case graduate students were told by a professor that their work, which was excellent scholarship within the interpretive paradigm, was not "real research." Such a comment from an authority figure is likely to discourage students from pursuing qualitative approaches to research even if they seem most appropriate to the student. In another case, a student developed a research proposal that focused on the collection of rich qualitative data. Her advisor refused to accept the proposal and required her to redesign the study to focus on quantitative data. She made the changes but still thought her research question was more amenable to qualitative approaches. In the third case, a department chair at a midlevel research university disagreed with the qualitative method being supported by one of his faculty. He did not have the power to forbid the particular research method, but he did suggest to the faculty member that a special departmental faculty meeting be called so that members of the faculty could vote on whether the method was acceptable to the department. If the majority of faculty voted against the method, students would be officially forbidden to use the method in their dissertations. For all these examples, differences in the underlying paradigm were at the bottom of the disagreement.

I am not troubled about one scholar expressing an opinion about what is considered research and what is not. Expressing different viewpoints and engaging in a discussion of the differences is a time-honored way of expanding our understanding of important, critical issues. The art of stimulating discourse, and the ability to listen to the perspectives of others who disagree with you, is probably more central to the highest purposes of scholarship than any traditional form of research.

What bothers me about these three examples is that they all involved assumptions and givens that people took for granted without acknowledging that others operating within different paradigms would not accept them. In each of the three examples, the positions taken are appropriate and meaningful in one paradigm of research, but they do not make sense if you accept an alternative paradigm. As described in the next chapter, there are three active paradigms that guide research in the social sciences today, and

- They differ on the question of the nature of reality.
- They offer different reasons or purposes for doing research.
- They point us to quite different types of data and methods as being valuable and worthwhile.
- They have different ways of deriving meaning from the data gathered.
- They vary with regard to the relationship between research and practice.

These three paradigms—postpositivism, interpretivism, and critical theory—are the dominant guiding frameworks in the research literature in the social sciences. However, there is no legitimate way of asserting with absolute confidence that one paradigm is better than another. Because of that inability to make a final choice with supreme confidence, scholars and research consumers should be willing to acknowledge that the viewpoints and procedures based on other paradigms are accepted and used by "reasonable" scholars even if they do not agree with them. This last point is one with which proponents of all the paradigms have difficulty (although we all tend to think that people who do not use "our" paradigm have more difficulty than we do).

However, there is a difference between limiting the work of others because it does not fit our criteria for acceptable research and working out in our own minds what we believe and arguing forcefully for that. I am an interpretivist, and I believe that paradigm affords the best framework within which to interpret and conduct research in my field. I also believe that the interpretive and critical perspectives overlap and that critical theory is an important and productive research tradition of the social sciences. (That

said, I must also acknowledge that research in the quantitative postpositivist tradition has supplied a rich vein of knowledge as well. However, this book focuses on qualitative research in the interpretive and critical traditions.)

Implicit in this book is a view of the relationship between our preferred paradigm and other paradigms. This book focuses on certain ways of researching an issue without asserting that other alternatives are valueless. Again, there is a difference between deciding what you believe and being so confident you are "right" that you try to impose your views on others. As a journal editor, for example, I do not feel I have the right to judge an article submitted to my journal as "right" or "wrong" on the basis of whether it adheres to the paradigm I currently use. The question is not whether it fits my paradigm. The proper question is, "Would scholars within the paradigm used in this article consider it a contribution to the literature? Do they support it being published?" None of us, regardless of the paradigm we adhere to, can be so confident we are right that we can justify limiting the practice of others. There are serious flaws in the logic of all three of the major paradigms (see Chalmers, 1990, 1995; Smith, 1993). There is no absolute winner in any effort to find the paradigm that has no flaws or weaknesses, although some authors continue to argue that there is. For example, D. C. Phillips and Nicholas Barbules (2000) continue to assert, "We need disciplined, competent inquiry to establish which of our beliefs are warranted and which are chimerical. And the philosophy that will serve us best in our endeavors is postpositivism" (p. 92).

Like Phillips and Barbules, I will make an effort to convince you that the paradigm choices I have made are good ones you should also consider. However, I do not think the choices are so straightforward that everyone who thinks about them will make the same choices I have. Thus, my goal for readers is not to convert you to my choices. It is to help you make better-informed and thoughtful choices as both a producer and a consumer of social science research.

Summary

In the social sciences there are a number of general frameworks for doing research. The terms *qualitative* and *quantitative* often are used to describe two of these frameworks. However, these terms imply that the main difference between the different frameworks is the type of data collected: numbers or something else such as interviews or observations. Actually, the differences are much broader and deeper than type of data. They involve assumptions and beliefs on several different levels, from philosophical positions about the nature of the world and how humans can better understand

the world they live in to assumptions about the proper relationships between social science research and professional practice. Terms such as *world view* and *paradigm* better capture the nature of the differences between different approaches to social science research, and this book focuses on three of the most popular paradigms or world views today: positivism or postpositivism, interpretivism, and critical theory.

Questions for Reflection

1. Consider your own history of contact with research in the social sciences and education. Have you been exposed to several different paradigms or primarily to one? As you start reading this book, what is your paradigm—what are your beliefs about critical issues such as the nature of the world and sources of knowledge about the world? For example, do you accept a materialistic view of the world, that the only thing that exists is the physical world? Or do you believe there is something else, a mental or spiritual element? What is the basis for your beliefs? And what are the ways humans can understand the world better? Is scientific research the only way? What other ways, if any, of knowing the world do you accept or reject? Intuition? Subjective experience? Religious visions? Holy books? Poetry? Ancient wisdom? Prophesy? Folk wisdom?
2. The knowledge and skills needed to be a good consumer of qualitative research are a subset of those needed to do qualitative research. Are there particular types of qualitative research you would like to learn to do? Are there particular types you would like to become a good consumer of? Why?
3. How does your answer to question 1 stack up to Chalmers's criteria for a paradigm? Are there areas of your paradigm that are undeveloped or underdeveloped? If so, why are they undeveloped or underdeveloped?

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