

An Introduction to  
**EDUCATIONAL RESEARCH**  
Connecting Methods to Practice



Chad R. Lochmiller  
Jessica N. Lester



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## STUDYING EDUCATION PRACTICE WITH RESEARCH

### CONSIDERING THE VALUE OF RESEARCH

*As you sit in your first (or perhaps last) research class, you may wonder how research relates to your work as a classroom teacher, teacher leader, school administrator, or district leader. Research is often filled with terms, concepts, and ideas that may seem foreign or unrelated to your daily work. And yet, as you have undoubtedly heard, research informs your practice. But how? What do you need to know about research to use it in your practice? What do you need to know in order to undertake your own research study?*

### INTRODUCTION

As illustrated in the opening vignette, in this chapter we invite you to begin learning some of the key concepts related to education research. To some, this invitation may seem daunting, as the technical nature of research and the skills required to carry out a research study may feel beyond their grasp. We argue that practitioner-scholars need *not* maintain this fear. Rather, as we will demonstrate, the research process can be experienced as both straightforward and rewarding.

This chapter aims to provide you with a broad foundation for understanding educational research and also how researchers think about the research process. It may be a chapter you want to return to again and again as you progress in your work as a practitioner-scholar. We begin this chapter by discussing the key assumptions of this textbook and the idea of practitioner-scholars and research more generally. Next, we briefly introduce four problems of practice that are used throughout the textbook. Then, we discuss the various purposes of educational research specifically related to practitioner-scholars, as

### Learning Objectives

By the end of the chapter, you will be able to:

- Define the meaning of practitioner-scholar.
- State a working definition of educational research.
- Describe the problems of practice discussed throughout the textbook and their relationship to research.
- Summarize the purposes of educational research.
- Discuss the differences between the dominant research paradigms.
- Describe the meaning and role of ontology and epistemology in the research process.
- Identify and state the differences between research methodology and research method.
- Paraphrase basic definitions of qualitative, quantitative, mixed methods, and action research.

well as the various research paradigms and the meaning of key social science terms such as *research methodologies* and *methods*. Finally, we briefly highlight some of the distinctions between qualitative and quantitative research traditions.

## PRACTITIONER-SCHOLARS DEFINED

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Despite how research may appear or be presented, we start this textbook with several assumptions about you and the research process. First, we assume that research is connected to your professional practice. Second, we assume that the professional challenges and issues you face can be understood and, in part, addressed through research. Third, we assume that you are likely a consumer of research, meaning that you read, digest, and enact ideas taken directly from research of various kinds. Thus, being familiar with the language and central practices of research are likely important to you. Finally, we assume that through your investment in research training, you will acquire skills that compliment your capacity as a practitioner and thus we position you as a practitioner-scholar. We define a **practitioner-scholar** as an individual who aspires to study problems of practice in a more comprehensive and systematic way, allowing them to better understand the schools, districts, and other educational organizations within which they work. Practitioner-scholarship is *both* about your practice as an educator and your practice as a researcher.

In preparing this textbook, we reviewed numerous research textbooks that positioned the world of research as being different from the world of practice. Some research textbooks assumed that you, as a practitioner-scholar, aspire only to consume existing research and thus that the primary aim of a research methods textbook is to familiarize you with research terminology, rather than show you how the work that you already do can be understood through research practices. Alternatively, other textbooks assumed that you aspire to be researchers and therefore minimized the connections between research and practice. While we agree that research methods are distinct and require specialized training, we do not believe that research is irrelevant to or disconnected from practice and practitioners. We see practitioner-scholarship and you, as a practitioner-scholar, as simultaneously seeking to understand practice and becoming familiar with and skilled at using research methods. Thus, our task is to show you: (a) how research practices are connected to problems of practice, which we define next, and (b) how your professional work can be better understood through research practice.

## USING PROBLEMS OF PRACTICE TO FRAME RESEARCH

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In this textbook, we aim to connect some of the contemporary problems of educational practice to research methods. **Problems of practice** are common, everyday challenges that confront school leaders, teachers, and educators of all stripes in their classrooms, schools, districts, and educational organizations. For you as a practitioner, these are challenges that likely inspire, frustrate, embolden, or drive you to support student learning. You may have already heard the term *problem of practice*, whether working with your colleagues in a professional learning community (PLC), developing a school improvement plan, or discussing how your own challenges as a classroom

teacher complicate your work with students. These are problems that shape your work in any number of ways and perhaps lead you to pose questions about how you and others might respond to the challenge. These problems may include things like the achievement gap or educational policies that directly impact your daily practice in the classroom.

As a practitioner-scholar, many of the problems of practice that you encounter are topics that the research community seeks to understand and elaborate on through a systematic investigation, which is often referred to as research. We define **research** as a systematic investigation designed to make sense of complex, everyday problems that impact your work as a professional educator. In other words, educational research is an intentional practice that typically follows a step-wise process and is designed to identify and understand current problems of practice.

We acknowledge that research, and science for that matter, can be defined in multiple ways. In fact, throughout history there have been varied ways of making sense of the concept of “doing research” or conducting a scientific study (see, for example, Woolgar, 1988 for a discussion of how the idea of science came to be). For instance, when you hear the word *research* you may immediately think of a scientific laboratory where scientists follow the scientific method. In contrast, you may picture an anthropologist studying the cultural practices of a given community, using an ethnographic approach to make sense of the context of interest. Perhaps you picture a group of educators coming together to identify patterns and trends in student achievement data in order to develop interventions to address specific student needs.

Throughout this textbook, we emphasize the importance of thinking about your own assumptions regarding how we come to understand the world; in this case, those problems of practice that are of importance to you. We believe that reflecting upon your assumptions about the world is where the research process must begin. Further, when we think about the different research traditions or approaches to research, such as qualitative, quantitative, mixed methods, or action research, it is important to keep in mind that a given approach to research brings with it a set of assumptions about how the world is ordered and can come to be understood. Perhaps you have read or heard people say that the main difference between quantitative and qualitative research is that one approach uses numbers and the other does not. We beg to differ! The main differences lie not solely in the type of data or procedures used to analyze the data, but in the assumptions the researcher makes about the data and the world more generally. In other words, one’s research methods—those procedures that are used to carry out a study—do not alone make a study qualitative, quantitative, or mixed methods. Rather, it is the foundational assumptions of a particular research approach that truly shape it (Willis, 2007).

For now, a few basic distinctions between the three, main research traditions are needed. First, **qualitative researchers** are typically interested in studying things in their natural environments with a focus on exploring and understanding how people make sense of and experience the world in which they live (Denzin & Lincoln, 2005). Second, **quantitative researchers** use numeric data to represent individuals, experiences, and outcomes. They study numeric data to identify, understand, and assess the strength of relationships between data points and to make inferences about relationships between data points. Third, **mixed methods researchers** use both qualitative and quantitative research methods to make sense of a research question and/or problem.

## REFLECTIVE OPPORTUNITY 1.1

Take a moment to reflect on your own assumptions. Consider the following questions:

1. When you think about the word *research*, what images come to mind?
2. How do you define research?
3. What is your past experience with research as a consumer of research?
4. What is your past experience with conducting research?

In this textbook, we also give special attention to **action research**, which seeks to use the systematic process of research to improve practices and/or processes. Action researchers often use qualitative and/or quantitative research strategies, while including an intentional focus on a current problem of practice. For this reason, we view action research as being particularly useful for practitioner-scholars.

Throughout the textbook, we return to the distinctions across the research traditions. At this stage, however, we move to discuss four contemporary problems of practice, all positioned in relationship to particular research traditions.

### AN OVERVIEW OF THE PROBLEMS OF PRACTICE

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In each of the following sections, we briefly summarize topics that have been studied by researchers and that, we believe, are familiar to you as a practitioner-scholar. We position these research topics as problems of practice, as they are likely closely related to the everyday challenges that you face in your schools. Throughout the textbook, we will refer to these problems of practice to illustrate how you might use them to develop a research study. Here, we provide a brief overview of the topic, describe the commonly used theoretical perspectives, and note how we will treat the topic throughout the textbook. We frame each of these topics in a specific way, but acknowledge upfront that many of the topics we present have been framed in different ways by different researchers. For example, even though we present the challenge related to the achievement gap as one primarily understood through the use of quantitative research, there are numerous studies and numerous researchers who use qualitative approaches to examine the same phenomenon. Similarly, we frame the study of educational organizations as one that might be understood qualitatively, but acknowledge that many researchers use quantitative approaches to investigate the challenges related to educational organizations.

The narrowness of our framing is not to discourage you from considering multiple research methodologies to investigate the same unit of study or phenomenon of interest. Nor should our framing imply that there is one correct way to design research studies around particular

topics. Rather, our intent is to provide you with clarity and consistency from which to acquire an understanding of how the research methodologies and methods we describe relate to the problems of practice. Further, in this section, we describe these approaches to research using terminology with which you may not be familiar. These terms will be discussed in more detail. At this stage, your primary task is to familiarize yourself with how we are thinking about these problems of practice and how we will present them to you. As the textbook unfolds, you will have opportunities to become more familiar with these problems of practice and approaches to research.

### **Problem of Practice 1: Promoting Educational Equity in Student Achievement**

For decades, researchers have focused on the persistent differences in student achievement between white and minority students (Lee, 2002), male and female students (Dee, 2007), and English-speaking and non-native English-speaking students (Rumberger & Willms, 1992). Much of the research focused on these differences has discussed an achievement gap. Researchers have attempted to identify the underlying causes of differing achievement levels (Howard, 2010), including the impact of school and non-school factors on student achievement (Desimone & Long, 2010).

Theoretically, researchers have used numerous perspectives to explain why differences in student achievement exist. For example, researchers have used economic perspectives to explain how a child's socioeconomic status influences their achievement (Orr, 2003). Some researchers have used theories of motivation and engagement to explain why students may disconnect from the learning environment and thus achieve at lower levels (Brophy, 1987). Researchers have also used critical theories to explain unspoken biases in instructional practices that reflect how educators view students or assess their potential for success (Anyon, 2005).

Many researchers have used numerical data to identify and explain differences in student achievement based on gender, race or ethnicity, and socioeconomic status. Researchers have also sought to identify the influence of school conditions (which have principally been described as factors that influence student learning) including the qualifications and practices of classroom teachers, class size, curriculum, instructional strategies, and the allocation of time. Most researchers have assumed that one or many of these factors influence how students perform. The research literature suggests that many of these challenges are best understood through the use of numerical data, such as student test scores. Thus, throughout the textbook, we use this particular problem of practice to introduce you to quantitative research methodologies and methods. We see this topic as an important one for practitioner-scholars, particularly given the increasing pressure to use data to inform decision-making as well as the significant role of achievement in schools and educational practice.

### **Problem of Practice 2: Implementing Education Policies**

Issues related to educational equity are typically related to specific educational policies. Thus, researchers have often invested considerable energies into identifying and exploring problems and challenges in existing education policies. In particular, researchers have examined challenges and

opportunities that arise from the development, design, implementation, and evaluation of these policies. From recent policies such as the Obama administration's Race to the Top Initiative to more established policies such as No Child Left Behind, researchers have invested considerable time in developing an understanding of the impact that such policies have on students, teachers, schools, and districts.

These impacts are often studied both quantitatively and qualitatively. Quantitatively, researchers often use student achievement data and survey responses from large samples of teachers, administrators, and stakeholders. Qualitatively, researchers have tended to rely on qualitative data to understand isolated impacts of education policy, such as the impact policies have on individual classroom teachers. They have also focused these qualitative research efforts on understanding the conditions, perspectives, beliefs, values, and thinking of those charged with implementing these policies. For example, a recent qualitative research study included interviews with key stakeholders in state education systems to make sense of the implementation challenges of the Common Core State Standards (McDonnell & Weatherford, 2013). Relatedly, states are increasingly invested in the implementation of new evaluation criteria for classroom teachers and school principals aimed at improving classroom instruction and the quality of instructional leadership. For instance, researchers have used observational data collected from K–12 classrooms to examine the impact of feedback from principals who use performance evaluation models on teachers' instructional practices (Milanowski & Kimball, 2004; Sartain, Stoelting, & Brown, 2011).

Multiple theoretical perspectives have also been used to ground the interpretation of policy related challenges. Indeed, our review of the literature suggests that researchers have used perspectives broadly related to the policy process (Sabatier, 2007), the arenas and venues where policy decisions are made (Mazzoni, 1991), and the formal legislative or policy-making processes (Wirt & Kirst, 1997). At a local or micro level, researchers have discussed how policy actors make sense of the directives contained in policies and thereby use these directives to shape their work (Honig, 2006; Weatherly & Lipsky, 1977). Thus, many studies examining education policy have drawn on theories of sociocultural learning (Vygotsky, 1978) as well as policy learning (May, 1992).

Given the breadth of policy research, we present policy-related problems of practice as those that often use a mixed methods research approach. Thus, we use this problem of practice to introduce you to the concept of mixed methods research. We highlight how both qualitative and quantitative research approaches can work together to inform studies of educational policy. While as a practitioner-scholar you may not see a direct connection between the development of policies and your daily work, the implementation of various policies likely defines your work in significant ways. Thus, we believe that practitioner-scholars should understand how to conduct research related to policy, as it is yet another way for you to understand your work.

### **Problem of Practice 3: Reforming and Improving Educational Organizations**

Given recent policy changes surrounding educational organizations (for example, Common Core Standards, Next Generation Science Standards, Race To The Top, and so on), another set of challenges confronting practitioner-scholars relates to the task of reforming and improving

educational organizations (such as schools, districts, education service agencies, and so on). The literature is filled with examples of school reform dating back to the late 1970s (Edmonds, 1979), district reform dating to the mid-1990s (McLaughlin & Talbert, 2003), and, more recently, central office transformation (Honig, 2012). Within large school district bureaucracies, attention has also been focused at the micro level, where researchers have sought to define and understand specific activities that take place within school districts, such as improving personnel functions (Odden, 2012), enhancing the allocation of resources to support students and teachers equitably (Knapp, Copland, Honig, Plecki, & Portin, 2014), or configuring new programs or services to support teaching and learning (Honig, 2012). Recently, researchers have studied the structures and functions of state education agencies, which parallels previous research focused at the school and district level (Jochim & Murphy, 2013). Given the focus on the conditions, beliefs, behaviors, and actions that individuals take within a broader organizational structure, we use this problem of practice to introduce you to qualitative research methodologies.

There are numerous theoretical perspectives that might be used to understand this problem of practice. Some researchers have used organizational theories to describe the structures, behaviors, and interactions that occur within school districts and schools (Knapp, 2008). For instance, Honig (2003) used sociocultural learning theory (Vygotsky, 1978) to explain how central office administrators supported improvements in teaching and learning. In contrast, other scholars have relied on theories of organizational learning to explain how organizations acquire information, make sense of that information, and then enact it in organizational practice (Senge, Cambron-McCabe, Lucas, & Smith, 2012). Other theoretical perspectives have been used to describe how individuals within organizations behave, and what their role is relative to the organization's mission and functions. Regardless of the school or school district in which you work, the opportunity to study these organizations and the people within them is a valuable one. It provides you with the opportunity to acquire a deeper understanding about the context that shapes your work.

#### **Problem of Practice 4: Improving Instructional and Leadership Practice**

Given changes to educational policies and required improvements in educational organizations, researchers have increasingly focused on applying research to practice or adopting research models that allow for connections between research and practice to be made. Research focused on the improvement of practice has been particularly popular in programs preparing classroom teachers (Price, 2001), in studies focused on the preparation of school and district leaders (Osterman, Furman, & Sernak, 2014), and in studies that look specifically at improving practices that lead to school improvement (Calhoun, 2002). These studies often describe how educators of various stripes collect information from their practice, analyze it, and enact improvements that support student learning. Nolen and Vander Putten (2007) described these studies as “practical yet systematic” (p. 401) in that they focus on familiar practices or behaviors, use readily available data, and tend to emphasize immediate implementation. There is a growing body of literature that frames this approach to research as a form of action research (Nolen & Vander Putten, 2007; Stringer, 2007). Given the practical orientation of many of these studies, we use this topic or problem of practice to introduce you to action research.

Here, unlike other problems of practice, the aim is not simply to make sense of the organization, practices, or processes, but to thoughtfully collect information about them and then enact changes



to them. Instead of a theoretical perspective guiding the study, action research frequently rests on a process or model (c.f., Stringer, 2007), which we will discuss further in Chapter 11. This final problem of practice and related research approach is perhaps among the most valuable for you as a practitioner-scholar, as it enables you to make immediate changes to your practice, your school, or your school district.

## THE PURPOSES AND TYPES OF EDUCATIONAL RESEARCH

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Educational research has many purposes and it is beyond the scope of this textbook to identify *all* of these purposes. Nonetheless, in this textbook we suggest that the purpose of educational research is to use a systematic approach to investigate everyday problems that impact students, educators, schools, and districts. This assumes that educational research is inherently practice-focused and that the results/findings of research studies should directly inform the work that happens in schools and school districts.

Researchers often distinguish between two types of, or orientations, to research: basic research and applied research. **Basic research** is research that aims to generate new knowledge and understanding about a research topic of interest. For example, a qualitative study that focuses on developing a theoretical understanding of the activities that take place in a school district would be considered basic research, as such a study aims to generate new knowledge and may or may not directly inform the daily work of practitioners. **Applied research** is research that aims to understand a problem of practice and uses this understanding to address the problem. For instance, this type of research might include conducting an action research study of instructional practice in an individual classroom or a grade-level instructional team. The findings of this action research study would have direct application to the daily work of the classroom teacher or grade-level instructional team.

We further delineate these types of research to include descriptive, predictive, and explanatory research. Practitioner-scholars engage in descriptive research for the purpose of describing educational practices, processes, or outcomes. **Descriptive research** provides important information about “what is” and thus provides opportunities to understand and critique existing practices in the education system. This research, however, does not allow practitioner-scholars to anticipate changes in outcomes. **Predictive research** is designed to help practitioner-scholars anticipate changes in outcomes, such as student achievement, teacher behavior, or parent relationships. Predictive research anticipates what “could be” given particular changes or alternatives. Some researchers consider predictive research to be more powerful than descriptive research in that it allows researchers to make assumptions and claims about anticipated changes in outcomes. Finally, **explanatory research** enables researchers to generate theoretical understandings of current practices, programs, processes, and policies. These understandings can be used to explain what is or what could be. And, more important, these explanatory studies seek to provide an answer to “why” practices, policies, programs, and processes interact or act as they do.

A more recent addition to the purposes of educational research involves using research to improve practice, programs, processes, or policies. Indeed, to some extent, we see this purpose underlying

## LINK TO PRACTICE 1.1

### CONSIDERING YOUR ORIENTATION FOR YOUR RESEARCH

Let's assume that you are a central office administrator who is interested in studying how the central office supports the implementation of new teacher evaluation criteria. You have seen principals you supervise struggle with the new criteria and realize that this topic is one that interests you and that would make for an interesting thesis or dissertation study. Thinking about the topic, you realize that you are not as interested in the evaluation criteria, per se, as you are interested in the ways that the district supports principals in implementing the criteria. Thus, you are primarily interested in studying this topic from an organizational perspective and now must decide whether you will orient to your research from a descriptive, predictive, or explanatory stance, as well as whether your research will be basic research or applied research.

You first think critically about your interests in completing the research. Do you, for example, want to simply describe the practices or in some way explain the practices using existing organizational theories? After reflecting on this, you decide that the primary goal for your study is to describe the practice and explain it using existing theories, mostly drawn from organizational theory. Thus, you

decide that your research will be both descriptive and explanatory in nature.

Next, you must decide who the research will appeal to. On the one hand, you are interested in writing your research for your colleagues (that is, teachers, principals, and others with whom you work). This interest compels you to write for a practitioner audience and thus aligns your study with applied research. However, for this study, you recognize that the audience with whom you are most interested in communicating are researchers and scholars. You believe that there is an important gap that your study can address. Thus, you ultimately decide to position your study as a basic research study, as it will essentially contribute to the field's understanding of existing theories and perspectives.

#### Focus Questions

1. How might you decide whether your research study should appeal to a practitioner-scholar audience, a research audience, or both?
2. How might you determine whether your research study should be basic or applied?

each of the three purposes discussed previously. More specifically, however, **improvement-oriented research** seeks to address practice, as it uses knowledge derived through research. It is concerned with identifying what could be if particular actions or reforms were adopted. Improvement-oriented research may be the most appealing to you as a practitioner-scholar given your work in schools; yet it is important to note that this type of research can be coupled with descriptive, predictive, or explanatory research.

Given the purposes of research, we also think it is important to identify why we conduct research. One of the reasons we conduct educational research is to build knowledge and understanding about practice and the social world more generally. A component of this certainly involves describing practice, but it also involves evaluating practice with the intent to improve it. More broadly, practitioner-scholars also conduct research to contribute to the

## REFLECTIVE OPPORTUNITY 1.2

As you consider the purposes of educational research as related to practitioner-scholarship, consider the following questions:

1. From the perspective of a practitioner-scholar, what are the primary purposes of research?
2. In what ways do you see educational research informing and/or being disconnected with your work as a practitioner?
3. What can you do to make better connections between educational research and your work as a practitioner?

scholarly conversation about what constitutes good or effective practice, what influences practice, and what aspects of practice can be generalized across types of students, schools, districts, and states.

### RESEARCH PARADIGMS

Generally, when people talk about a paradigm they are referring to a way of thinking, with the popular idea of a paradigm shift typically pointing to a change in how someone thinks or makes sense of something. When discussing a **research paradigm**, it is helpful to think about a paradigm similarly. A research paradigm can be thought of as a way of thinking about and making sense of the world. This way of thinking is centered around a shared set of assumptions about how the world works and how we, as practitioner-scholars, can go about studying the world. A paradigm is somewhat similar to a worldview or a filter that shapes how you interpret life (Saldaña, 2014), and is ultimately associated with your beliefs about how knowledge is gained (that is, the research approach that you use when studying a problem of practice). Kuhn (1970) suggested that paradigms are competing ways of thinking about the world. For instance, what counts as knowledge? Is there only one reality or are there multiple realities? These questions matter to practitioner-scholars, as how we answer them reveals how we assume that the world should be studied and interpreted.

Qualitative and quantitative approaches to research involve very different assumptions about the world, as well as about how research should be conducted and the conclusions that can be drawn from this research. In other words, various research traditions take up different research paradigms. Specifically, these research paradigms include assumptions about what we believe the universe is composed of and how we can come to know the universe (Grix, 2002; Hatch, 2002). Two key concepts related to the idea of research paradigms are ontology and epistemology. Both ontology and epistemology are philosophical concepts of study related to the study of being (ontology) and knowing (epistemology); however, for the purposes of our discussion, we focus on more narrowly defining these concepts as they relate to consuming and carrying out research.

**Ontology** refers to the nature of reality and some scholars suggest that this is the starting point for all research (Grix, 2002). Essentially, ontology refers to

claims and assumptions that are made about the nature of social reality, claims about what exists, what it looks like, what units make it up and how these units interact with each other. In short, ontological assumptions are concerned with what we believe constitutes social reality. (Blaikie, 2000, p. 8)

Your ontological position or assumptions can be better understood by answering the question: “what is the nature of social and political reality” (Hay, 2002, p. 63)? Some people might suggest that reality is driven by universal, natural laws and distinct from social actors, while others would counter that an absolute reality is unknowable as it is made up of individual perspectives and always being reconstituted. These two perspectives are an example of two different ontological assumptions, which are associated with particular research paradigms.

**Epistemology** refers to the idea of knowledge construction and centers around what we know and how we go about knowing. More specifically, epistemology is a branch of philosophy that is particularly interested in making sense of the methods and practices used to gain knowledge about social reality. Your epistemological position or assumptions can be better understood by answering the question: “What can be known, and what is the relationship of the knower to the known” (Hatch, 2002, p. 14)? Some people would argue that knowledge is a human construction and therefore a practitioner-scholar goes about co-constructing their understanding of the world with their research participants. Other people would suggest that the world has order and this order can be discovered; therefore, the task of the practitioner-scholar is the “capture” the “immutable truth” of the world that they study (Hatch, 2002, p. 14).

## Unpacking Five Research Paradigms

There are a number of research paradigms. While limited in scope, we center this brief discussion around five research paradigms, drawing upon Hatch’s (2002) organization. The paradigms we discuss are: positivist, postpositivist, constructivist, critical/feminist, and poststructuralist. Table 1.1 provides a description of the ontological and epistemological assumptions associated with these research paradigms, with the next five paragraphs offering brief descriptions of each of the paradigms in turn.

Within a **positivist paradigm**, a practitioner-scholar assumes that his or her research can identify a single truth about the phenomenon that they are studying. For example, if you are studying differences in student achievement as measured by student learning assessments, a positivistic paradigm assumes that differences in achievement can be known and explained objectively. In other words, truth is objectively known. This assumption allows you to generalize your findings to a much broader population. This is often the paradigm that is adopted in quantitative research.

On the other hand, a **post-positivist paradigm** assumes that a reality exists (similar to a positivist perspective), but acknowledges that the reality must be interpreted and thus can only be approximated because of our own limitations as researchers. The aim of a post-positivist paradigm is to develop through the research the best possible approximation of the reality that they are observing. For example, if you were to conduct a qualitative study of a classroom in your school, you would likely develop a description of the classroom, the activities adopted by the teacher, and

**Table 1.1 Research Paradigms**

Research Paradigm	Ontology (What is the nature of reality?)	Epistemology (What can be known?)
Positivist	Reality is out there to be captured	How the world is really ordered can be known
Postpositivist	Reality exists but can only be approximated	Approximation of how the world is really ordered can be known
Constructivist	Multiple realities exist and are constructed	Knowledge is a human construction
Critical/Feminist	There is a reality, which has been shaped by economic, social, cultural, and political forces	Knowledge is subjective and political
Poststructuralist	There are multiple realities that individuals construct to give meaning to the universe	There is no truth with a capital T to be known

Source: Adapted from Hatch, 2002, p. 13.

the reactions of the students through your observations of the environment. Your observations and the interpretation that you apply to them thus approximates what you presume you are actually seeing.

A **constructivist paradigm** assumes that there are multiple realities that can be studied and that the researcher derives his or her understanding of these realities by working with and through the participants' perspectives of a given phenomenon or problem of practice. In other words, if you conducted a qualitative study in your school related to the community's current needs, you would derive your understanding by asking the teachers, staff, parents, and other community members about their needs. The assumption that you would make is that the needs of your school are unique and thus your aim is to use research to construct an in-depth, contextually detailed understanding of the needs of your school. This understanding, though, might not apply to another school and thus would likely not be generalizable.

A **critical/feminist paradigm** raises questions about the power bases and inherent inequities that exist across race, gender, social class, sexual orientation, ethnicity, and language. The critical/feminist seeks to question these power bases and inherent inequities. The perspective that a researcher takes is thus not objective but intentionally grounded in their understanding of the world, their lived experience, and their identity as a researcher. As an example, if you conducted a qualitative study in a school to examine the experiences of LGBTQ-identified high school students, a critical perspective might serve as a lens to challenge what had previously been characterized as traditional or customary practices. As Hatch (2002) suggested, the purpose of critical/feminist perspectives is to "reveal for others the kinds and extent of oppression that are being experienced by those studied" (p. 17). Thus, one of purposes of research grounded in this paradigm is to summon the reader to act in response to the inequities.

## REFLECTIVE OPPORTUNITY 1.3

As a practitioner-scholar it is important to spend time thinking through your own assumptions about the world, as this shapes how you conduct your own research and interpret research results/findings. Take a few moments to consider the following questions:

1. Which research paradigm(s) is most aligned or consistent with your beliefs?
2. Considering the research paradigm you most align with, what are your ontological and epistemological beliefs?
3. How might your ontological and epistemological beliefs relate to the way you go about conducting and evaluating research?

A **poststructuralist paradigm** includes multiple perspectives and is therefore a bit difficult to unpack within the confines of a paragraph. Nonetheless, individuals who align with this paradigm generally assume that there is no single truth to be known. In other words, they claim that truth with a capital T does not exist. So, poststructuralists often begin their qualitative research by critiquing the notion of a universal truth (that is, statements or views that have historically been unchallenged and assumed to be fact). Their analyses often reveal how larger social narratives support these truths and how power structures benefit from particular social narratives. For instance, a researcher might study how students with disabilities have been historically described in the language adopted in special education policies. The aim of their qualitative study might be to highlight the ways in which the language of special education policies have historically defined the identities of students with disabilities as incapable of academic achievement or independent living. Quite often, one of the purposes of research grounded within this paradigm is to offer a counter-narrative that challenges what we have traditionally assumed to be true.

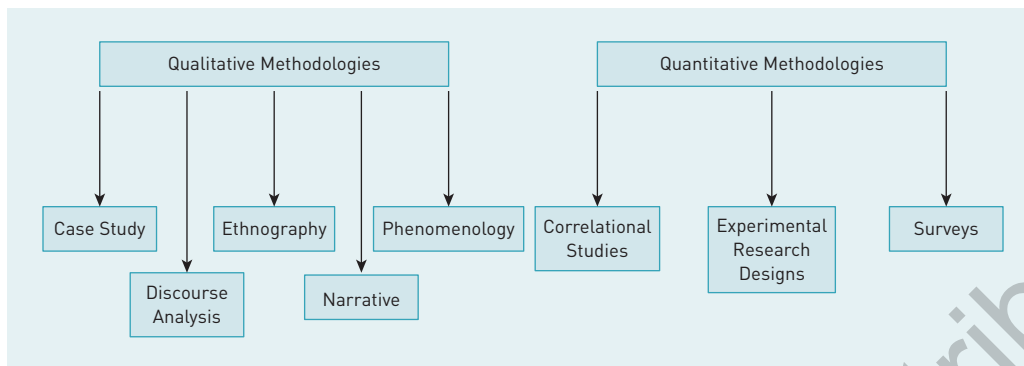
As you likely noted, particular paradigms are typically aligned with particular research traditions (qualitative or quantitative). As such, when you are conducting or consuming research, it is important to consider whether there is alignment between one's paradigm (including one's ontological and epistemological assumptions) and one's research methodology and methods. These concepts are all tightly linked.

### DEFINING RESEARCH METHODOLOGIES AND RESEARCH METHODS

Research methodology and research method are two different, but interrelated concepts (Maxwell, 2013). Your **research methodology** (for example, ethnography, survey, grounded theory, and so on) is the stance or perspective that you adopt in order to understand a particular problem of practice. In other words, your methodology is how you frame your study, which brings with it particular ontological and epistemological assumptions. Your methodology will typically be defined as either qualitative or quantitative.

Historically, there have been two broad methodological approaches to the study of human life and social experience: qualitative methodologies and quantitative methodologies. Figure 1.1 illustrates

**Figure 1.1 Qualitative and Quantitative Research Methodologies**



how both qualitative and quantitative methodologies can be thought of as umbrella terms that capture a variety of unique, empirical approaches to the study of problems of practice.

**Qualitative methodologies** represent a variety of interpretative, inductive approaches to the study of human experience. These methodologies are inherently exploratory, with the qualitative researcher being positioned as the primary research instrument. As such, even though two researchers may use the same qualitative methodology to study the same research phenomena, the iterative and emergent nature of qualitative research will likely lead the two researchers to different (but likely related) conclusions. Some qualitative methodologies include: case study, discourse analysis, ethnography, narrative, phenomenology, and many more. So, the term qualitative methodologies is an umbrella term that brings together methodologies that share *some* assumptions about how to make sense of the world and the types of data that help a researcher interpret the world. In Chapter 5, we discuss some of these qualitative methodologies in greater detail.

**Quantitative methodologies** represent a variety of deductive approaches to the study of human experience typically represented by numerical data. Much like qualitative methodologies, quantitative methodologies encompass a variety of approaches, many of which share similar ontological and epistemological assumptions about making sense of the world. These methodologies are typically presumed to follow a positivist paradigm, meaning that the purpose of the research is intended to uncover the truth rather than construct truth, as in qualitative research, through the interpretation of data. Some of these quantitative methodologies include: correlational studies, experimental research designs, surveys, and many more. In Chapter 6, we discuss some of these quantitative methodologies in greater detail.

While both qualitative and quantitative researchers attempt to make warranted claims about the social world (Johnson & Onwuegbuzie, 2004), there are important distinctions between these two research traditions. These distinctions relate to paradigmatic differences, as quantitative methodologies typically take up a more positivistic paradigm whereas qualitative methodologies take up paradigms that range from postpositivism to poststructuralism. In addition, the very language that a qualitative researcher uses to write up their research study is unique from a quantitative researcher, with the researcher's language often marking their article or book as being either qualitative or quantitative in scope. For instance, many qualitative researchers write in the first person, as they are making explicit that they are the primary research instrument and

the (subjective) interpreter of the phenomenon they study. On the other hand, a quantitative researcher often writes in a way that conveys their objective stance, something that many qualitative researchers do not claim to maintain in their research. Table 1.2 highlights some of the unique characteristics of qualitative and quantitative research traditions.

In more recent years, **mixed methods** approaches to educational research have been heralded as a third-chair research tradition, with “qualitative research sitting on the left side and quantitative research sitting on the right side” (Johnson & Onwuegbuzie, 2004, p. 15). This emerging research approach is typically positioned as pragmatic, as a mixed-methods researcher combines qualitative and quantitative research methods to answer a research question of interest. While some qualitative and quantitative researchers argue for a purist position, with mixing methods across research traditions viewed as incompatible (Howe, 1988), other education researchers suggest that mixed methods approaches allow you to pragmatically understand contemporary problems of practice and further unbind researchers from purist positions, which may have in the past prevented researchers from having a comprehensive understanding of everyday challenges. The advantage to mixed methods research is that these mixed methods allow researchers to generate a comprehensive understanding rather than an understanding that is potentially limited by methodological traditions (Johnson & Onwuegbuzie, 2004). We view mixed methods research as less of a methodology and more of a set of methods, which we discuss further in Chapter 10.

In contrast to research methodologies, **research methods** are those specific tools and procedures used to complete the research study. For instance, quantitative methods may include carrying out statistical tests on large quantities of numeric achievement data or developing an instrument to survey a large population of students about their experiences in school. Alternatively, qualitative methods may include conducting interviews with a small population of students about their experiences in school or entail making observations of classroom teachers in professional development settings. Quite often, there are particular methods associated with particular

**Table 1.2 Distinctive Characteristics of Qualitative and Quantitative Research Traditions**

	Research Tradition	
	Qualitative	Quantitative
<b>Purpose</b>	Explore, understand, and discover human behavior	Describe, explain, and predict patterns of human behavior
<b>Research Paradigm(s)</b>	Postpositivist, Constructivist, Critical/Feminist, and/or Poststructuralist (among others)	Positivist
<b>Analytic Approach</b>	Inductive	Deductive
<b>Types of Data</b>	Uses contextual details, words, and narratives to generate meaning	Uses numeric data to generate understanding
<b>Research Role</b>	Subjective stance; primary research instrument	Objective stance; formal instruments used



## LINK TO PRACTICE 1.2

### CONSIDERING RESEARCH PARADIGMS AND RESEARCH METHODOLOGIES

After deciding that your research will be a basic research study designed to both describe and explain how district central offices support principals in implementing new teacher evaluation criteria, your next consideration is how a given research paradigm influences your selection of a methodology. For this study, your instinct tells you there is unlikely to be a single explanation for the way(s) that the district has supported principals in implementing new teacher evaluation criteria. Rather, you recognize that there are likely multiple interpretations and thus your interpretation will be only one of many that might be offered. Thus, as you consider the various research paradigms, you quickly realize that you will likely be constructing an interpretation of the support provided and that this ultimately means you will be adopting a constructivist paradigm in your research. As you reflect on this, you realize that you will be relying on what other people in the district (for example, principals and central office staff) tell you about their work and the support provided.

Continuing to reflect, you also realize that your interests are primarily exploratory and you are most interested in the perceptions of the people involved in supporting principals in implementing the new teacher evaluation criteria. While it would be nice to confirm that supports for principals exist and/or that specific types of assistance are provided, you realize that what is more important to you (at least right now) is to explore how principals think about and experience the support they receive, and what support ultimately means to them. Thus, recognizing that you have adopted a constructivist paradigm, you also believe that a qualitative methodology is the best approach for understanding support.

#### Focus Questions

1. What should inform how you choose to align with a particular research paradigm?
2. How might the research paradigm(s) that you align with inform the methodology that you ultimately use?

methodologies. Ideally, the methods that you choose to complete your study should align with your methodology, as this will create consistency in your research design.

A **research design** is your overall plan to study a problem of practice. It articulates your research methodology, the research methods that you will use, the research questions you will pose, and your approach to the analysis of the data. Other aspects of the research process include practices such as conducting a literature review, carrying out the research study, and reporting your findings.

### SUMMARY

We began this chapter by discussing one of the core concepts of this textbook—practitioner-scholarship—which both informed how we developed the book and

informed how we orient to you as a reader. We also used this chapter as an opportunity to introduce four problems of practice that, throughout the textbook,

we use to inform and illustrate the research process, as well as highlight the underlying steps involved in carrying out a research study. Finally, we focused on distinguishing between research paradigms, research

methodologies, and research methods. Throughout the discussion, we operationalized key concepts, such as ontology and epistemology, using Links to Practice to illustrate some of these big ideas.

## KEY TERMS

Action Research 5  
Applied Research 9  
Basic Research 9  
Constructivist Paradigm 13  
Critical/Feminist Paradigm 13  
Descriptive Research 9  
Epistemology 12  
Explanatory Research 9  
Improvement-Oriented Research 10

Mixed Methods 16  
Mixed Methods Researchers 4  
Ontology 11  
Positivist Paradigm 12  
Post-Positivist Paradigm 12  
Poststructuralist Paradigm 14  
Practitioner-Scholar 3  
Predictive Research 9  
Problems of Practice 3  
Qualitative Methodologies 15

Qualitative Researchers 4  
Quantitative Methodologies 15  
Quantitative Researchers 4  
Research 4  
Research Design 17  
Research Methodology 14  
Research Methods 16  
Research Paradigm 11

## QUESTIONS TO CONSIDER

1. How would you define what it means to be a practitioner-scholar?
2. How do you define research?
3. How might the four problems of practice presented in this chapter relate to your work as a practitioner-scholar?
4. What are the purposes of educational research?
5. What are some of the primary distinctions across the various research paradigms?
6. How do one's ontological and epistemological assumptions shape the research process?
7. What is the relationship between a research methodology and a research method?
8. What are the basic characteristics of qualitative, quantitative, and mixed methods research?

## CHAPTER EXERCISES

1. Make a list of the various ways in which you use research in your daily work.
2. As a practitioner-scholar, you likely have multiple topics of interest (for example student motivation) that you want to explore further. List several of the topics that you would be interested in exploring further and share why you think these topics are of interest to you.
3. Based on your current understanding, develop a T-chart that lists out the distinctions between qualitative and quantitative approaches to research.

4. Find two to three articles in a journal within your field (such as the *Journal of Research in Leadership Education* or the *American Educational Research Journal*). Read the articles you identified and

determine: (1) what methodology (that is, qualitative, quantitative, mixed methods, or action research) was used, and (2) what research methods were used (for example, data collection, data analysis, and so forth).

## LEARNING EXTENSIONS

To further your understanding of the four problems of practice, we encourage you to review the following articles. First, Desimone and Long's (2010) discussion of the effects that teachers and teaching quality have on persistent inequities in student achievement serves as a useful article to understand how you might present a study examining the achievement gap that relies on a primarily quantitative design. Second, McDonnell and Weatherford's (2013) discussion of the development and subsequent unraveling of the Common Core State Standards offers an intriguing example of a qualitative

study focused on the difficulties of implementing educational policies. Third, Honig's (2003) analysis of central office administrators' work in Oakland depicts how you might examine issues related to the improvement of educational organizations by drawing upon existing theoretical perspectives of organizational theory. Finally, Calhoun's (2002) action research study demonstrates how research can be used to directly inform and improve school practices, particularly among classroom teachers, teacher leaders, and school principals.



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