

PART II

Designing Research

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This section relates the three designs—quantitative, qualitative, and mixed methods—to the steps in the process of research. Each chapter addresses a separate step in this process.





The Introduction

After having decided on a qualitative, quantitative, or mixed methods approach and after conducting a preliminary literature review and deciding on a format for a proposal, the next step in the process is to design or plan the study. A process of organizing and writing out ideas begins, starting with designing an introduction to a proposal. This chapter discusses the composition and writing of a scholarly introduction and examines the differences in writing an introduction for these three different types of designs. Then the discussion turns to the five components of writing a good introduction: (a) establishing the problem leading to the study, (b) reviewing the literature about the problem, (c) identifying deficiencies in the literature about the problem, (d) targeting an audience and noting the significance of the problem for this audience, and (e) identifying the purpose of the proposed study. These components comprise a *social science deficiency model* of writing an introduction, because a major component of the introduction is to set forth the deficiencies in past research. To illustrate this model, a complete introduction in a published research study is presented and analyzed.

THE IMPORTANCE OF INTRODUCTIONS

An introduction is the first passage in a journal article, dissertation, or scholarly research study. It sets the stage for the entire study. As Wilkinson (1991) mentions,

The introduction is the part of the paper that provides readers with the background information for the research reported in the paper. Its purpose is to establish a framework for the research, so that readers can understand how it is related to other research. (p. 96)

The introduction establishes the issue or concern leading to the research by conveying information about a problem. Because it is the initial passage

in a study or proposal, special care must be given to writing it. The introduction needs to create reader interest in the topic, establish the problem that leads to the study, place the study within the larger context of the scholarly literature, and reach out to a specific audience. All of this is achieved in a concise section of a few pages. Because of the messages they must convey and the limited space allowed, introductions are challenging to write and understand.

A **research problem** is the problem or issue that leads to the need for a study. It can originate from many potential sources. It might spring from an experience researchers have had in their personal lives or workplaces. It may come from an extensive debate that has appeared in the literature. It might develop from policy debates in government or among top executives. The sources of research problems are often multiple. Identifying and stating the research problem that underlies a study is not easy: For example, to identify the issue of teenage pregnancy is to point to a problem for women and for society at large. Unfortunately, too many authors do not clearly identify the research problem, leaving the reader to decide the importance of the issue. When the problem is not clear, it is difficult to understand the significance of the research. Furthermore, the research problem is often confused with the research questions—those questions that the investigator would like answered in order to understand or explain the problem.

To this complexity is added the need for introductions to carry the weight of encouraging the reader to read farther and to see significance in the study.

Fortunately, there is a model for writing a good, scholarly social science introduction. Before introducing this model, it is necessary to distinguish subtle differences between introductions for qualitative, quantitative, and mixed methods studies.

QUALITATIVE, QUANTITATIVE, AND MIXED METHODS INTRODUCTIONS

A general review of all introductions shows that they follow a similar pattern: The authors announce a problem and they justify why it needs to be studied. The type of problem presented in an introduction will vary depending on the approach (see Chapter 1). In a *qualitative* project, the author will describe a research problem that can best be understood by exploring a concept or phenomenon. I have suggested that qualitative research is exploratory, and researchers use it to explore a topic when the variables and theory base are unknown. For example, Morse (1991) says this:

Characteristics of a qualitative research problem are: (a) the concept is “immature” due to a conspicuous lack of theory and previous

research; (b) a notion that the available theory may be inaccurate, inappropriate, incorrect, or biased; (c) a need exists to explore and describe the phenomena and to develop theory; or (d) the nature of the phenomenon may not be suited to quantitative measures. (p. 120)

For example, urban sprawl (a problem) needs to be explored because it has not been examined in certain areas of a state. Alternatively, kids in elementary classrooms have anxiety that interferes with learning (a problem), and the best way to explore this problem is to go to schools and visit directly with teachers and students. Some qualitative researchers have a theoretical lens through which the problem will be examined (e.g., the inequality of pay among women and men or the racial attitudes involved in profiling drivers on the highways). Thomas (1993) suggests that "critical researchers begin from the premise that all cultural life is in constant tension between control and resistance" (p. 9). This theoretical orientation shapes the structure of an introduction. Beisel (1990), for example, proposed to examine how the theory of class politics explained the lack of success of an anti-vice campaign in one of three American cities. Thus, within some qualitative studies, the approach in the introduction may be less inductive while still relying on the perspective of participants, like most qualitative studies. In addition, qualitative introductions may begin with a personal statement of experiences from the author, such as those found in phenomenological studies (Moustakas, 1994). They also may be written from a personal, first-person, subjective point of view in which the researcher positions herself or himself in the narrative.

Less variation is seen in *quantitative* introductions. In a quantitative project, the problem is best addressed by understanding what factors or variables influence an outcome. For example, in response to worker cutbacks (a problem for all employees), an investigator may seek to discover what factors influence businesses to downsize. Another researcher may need to understand the high divorce rate among married couples (a problem) and examine whether financial issues contribute to divorce. In both of these situations, the research problem is one in which understanding the factors that explain or relate to an outcome helps the investigator best understand and explain the problem. In addition, in quantitative introductions, researchers sometimes advance a theory to test, and they will incorporate substantial reviews of the literature to identify research questions that need to be answered. A quantitative introduction may be written from the impersonal point of view and in the past tense, to convey objectivity.

A *mixed methods* study can employ either the qualitative or the quantitative approach (or some combination) to writing an introduction. In any given mixed methods study, the emphasis might tip in the direction of either quantitative or qualitative research, and the introduction will mirror that emphasis. For other mixed methods projects, the emphasis will be equal between qualitative and quantitative research. In this case, the

problem may be one in which a need exists to both understand the relationship among variables in a situation and explore the topic in further depth. A mixed methods project may initially seek to explain the relationship between smoking behavior and depression among adolescents, then explore the detailed views of adolescents and display different patterns of smoking and depression. With the first phase of this project as quantitative, the introduction may emphasize a quantitative approach with inclusion of a theory that predicts this relationship and a substantive review of the literature.

A MODEL FOR AN INTRODUCTION

These differences among the various approaches are small, and they relate largely to the different types of problems addressed in qualitative, quantitative, and mixed methods studies. It should be helpful to illustrate an approach to designing and writing an introduction to a research study that researchers might use regardless of their approach.

The **deficiencies model of an introduction** is a general template for writing a good introduction. It is a popular approach used in the social sciences, and once its structure is elucidated, the reader will find it appearing repeatedly in many published research studies. It consists of five parts, and a separate paragraph can be devoted to each part, for an introduction of about two pages in length:

1. The research problem
2. Studies that have addressed the problem
3. Deficiencies in the studies
4. The significance of the study for particular audiences
5. The purpose statement

An Illustration

Before a review of each part, here is an excellent example from a quantitative study published by Terenzini, Cabrera, Colbeck, Bjorklund, and Parente (2001) in *The Journal of Higher Education* and titled "Racial and Ethnic Diversity in the Classroom" (reprinted with permission). Following each major section in the introduction, I briefly highlight the component being addressed.

Since passage of the Civil Rights Act of 1964 and the Higher Education Act of 1965, America's colleges and universities have struggled to increase

the racial and ethnic diversity of their students and faculty members, and "affirmative action" has become the policy-of-choice to achieve that heterogeneity. (*Authors state the narrative hook.*) These policies, however, are now at the center of an intense national debate. The current legal foundation for affirmative action policies rests on the 1978 *Regents of the University of California v. Bakke* case, in which Justice William Powell argued that race could be considered among the factors on which admissions decisions were based. More recently, however, the U.S. Court of Appeals for the Fifth Circuit, in the 1996 *Hopwood v. State of Texas* case, found Powell's argument wanting. Court decisions turning affirmative action policies aside have been accompanied by state referenda, legislation, and related actions banning or sharply reducing race-sensitive admissions or hiring in California, Florida, Louisiana, Maine, Massachusetts, Michigan, Mississippi, New Hampshire, Rhode Island, and Puerto Rico (Healy, 1998a, 1998b, 1999).

In response, educators and others have advanced educational arguments supporting affirmative action, claiming that a diverse student body is more educationally effective than a more homogeneous one. Harvard University President Neil Rudenstine claims that the "fundamental rationale for student diversity in higher education (is) its educational value" (Rudenstine, 1999, p. 1). Lee Bollinger, Rudenstine's counterpart at the University of Michigan, has asserted, "A classroom that does not have a significant representation from members of different races produces an impoverished discussion" (Schmidt, 1998, p. A32). These two presidents are not alone in their beliefs. A statement published by the Association of American Universities and endorsed by the presidents of 62 research universities stated: "We speak first and foremost as educators. We believe that our students benefit significantly from education that takes place within a diverse setting" ("On the Importance of Diversity in University Admissions," *The New York Times*, April 24, 1997, p. A27). (*Authors identify the research problem.*)

Studies of the impact of diversity on student educational outcomes tend to approach the ways students encounter "diversity" in any of three ways. A small group of studies treat students' contacts with "diversity" largely as a function of the numerical or proportional racial/ethnic or gender mix of students on a campus (e.g., Chang, 1996, 1999a; Kanter, 1977; Sax, 1996) A second considerably larger set of studies take some modicum of structural diversity as a given and operationalizes students' encounters with diversity using the frequency or nature of their reported interactions with peers who are racially/ethnically different from themselves A third set of studies examines institutionally structured and purposeful programmatic efforts to help students engage racial/ethnic and/or gender "diversity" in the form of both ideas and people.

These various approaches have been used to examine the effects of diversity on a broad array of student educational outcomes. The evidence is almost uniformly consistent in indicating that students in a racial/ethnically or gender-diverse community, or engaged in a diversity-related activity, reap a wide array of positive educational benefits. *(Authors mention studies that have addressed the problem.)*

Only a relative handful of studies (e.g., Chang, 1996, 1999a; Sax, 1996) have specifically examined whether *the racial/ethnic or gender composition* of the students on a campus, in an academic major, or in a classroom (i.e., structural diversity) has the educational benefits claimed . . . Whether the degree of racial diversity of a campus or classroom has a *direct* effect on learning outcomes, however, remains an open question. *(Deficiencies in the studies are noted.)*

The scarcity of information on the educational benefits of the structural diversity on a campus or in its classrooms is regrettable because it is the sort of evidence the courts appear to be requiring if they are to support race-sensitive admissions policies. *(Importance of the study for an audience mentioned.)*

This study attempted to contribute to the knowledge base by exploring the influence of structural diversity in the classroom on students' development of academic and intellectual skills. . . . This study examines both the direct effect of classroom diversity on academic/intellectual outcomes and whether any effects of classroom diversity may be moderated by the extent to which active and collaborative instructional approaches are used in the course. *(Purpose of the study is identified.)* (pp. 510-512, reprinted by permission of *The Journal of Higher Education*)

The Research Problem

In the Terenzini et al. (2001) article, the first sentence accomplishes both primary objectives for an introduction: piquing interest in the study and conveying a distinct research problem or issue. What effect did this sentence have? Would it entice a reader to read on? Was it pitched at a level so that a wide audience could understand it? These questions are important for opening sentences, and they are called a **narrative hook**, a term drawn from English composition, meaning words that serve to draw, engage, or hook the reader into the study. To learn how to write good narrative hooks, study opening sentences in leading journals in different fields of study. Often, journalists provide good examples in the lead sentences of newspaper and magazine articles. Here follow a few examples of lead sentences from social science journals.

- “The transsexual and ethnomethodological celebrity Agnes changed her identity nearly three years before undergoing sex reassignment surgery.” (Cahill, 1989, p. 281)
- “Who controls the process of chief executive succession?” (Boeker, 1992, p. 400)
- “There is a large body of literature that studies the cartographic line (a recent summary article is Battenfield 1985), and generalization of cartographic lines (McMaster 1987).” (Carstensen, 1989, p. 181)

All three of these examples present information easily understood by many readers. The first two—introductions in qualitative studies—demonstrate how reader interest can be created by reference to the single participant and by posing a question. The third example, a quantitative-experimental study, shows how one can begin with a literature perspective. All three examples demonstrate well how the lead sentence can be written so that the reader is not taken into a detailed morass of thought, but lowered gently into the topic.

I use the metaphor of the writer lowering a barrel into a well. The *beginning* writer plunges the barrel (the reader) into the depths of the well (the article). The reader sees only unfamiliar material. The *experienced* writer lowers the barrel (the reader, again) slowly, allowing the reader to acclimate to the depths (the study). This lowering of the barrel begins with a *narrative hook* of sufficient generality that the reader understands and can relate to the topic.

Beyond this first sentence, it is important to clearly identify the issue(s) or problem(s) that leads to a need for the study. Terenzini et al. (2001) discuss a distinct problem: the struggle to increase the racial and ethnic diversity on U.S. college and university campuses. They note that policies to increase diversity are at “the center of an intense national debate” (p. 509).

In applied social science research, problems arise from issues, difficulties, and current practices. The research problem in a study begins to become clear when the researcher asks, “What is the need for this study?” or “What problem influenced the need to undertake this study?” For example, schools may not have implemented multicultural guidelines, the needs of faculty in colleges are such that they need to engage in professional development activities in their departments, minority students need better access to universities, or a community needs to better understand the contributions of its early female pioneers. These are all significant research problems that merit further study and establish a practical issue or concern that needs to be addressed. When designing the opening paragraphs of a proposal, which includes the research problem, keep in mind these **research tips**:

- Write an opening sentence that will stimulate reader interest as well as convey an issue to which a broad audience can relate.
- As a general rule, refrain from using quotations, especially long ones, in the lead sentence. Quotations raise many possibilities for interpretation and thus create unclear beginnings. However, as is evident in some qualitative studies, quotations can create reader interest.
- Stay away from idiomatic expressions or trite phrases (e.g., “The lecture method remains a ‘sacred cow’ among most college and university instructors.”).
- Consider numeric information for impact (e.g., “Every year, an estimated 5 million Americans experience the death of an immediate family member.”).
- Clearly identify the research problem (i.e., dilemma, issue) leading to the study. Ask yourself, “Is there a specific sentence (or sentences) in which I convey the research problem?”
- Indicate why the problem is important by citing numerous references that justify the need to study the problem. In perhaps a not so joking manner, I say to my students that if they do not have a dozen references cited on the first page of their proposal, they do not have a scholarly study.
- Make sure that the problem is framed in a manner consistent with the approach to research in the study (e.g., exploratory in qualitative, examining relationships or predictors in quantitative, and either approach in mixed methods inquiry).
- Consider and write about whether there is a single problem involved in the proposed study or multiple problems that lead to a need for the study. Often, multiple research problems are addressed in research studies.

Studies Addressing the Problem

After establishing the research problem in the opening paragraphs, Terenzini et al. (2001) next justify its importance by reviewing studies that have examined the issue. I must be careful as I talk about reviewing studies here, because I do not have in mind a complete literature review for the introduction passage. It is later, in the literature review section of a proposal, that students thoroughly review the literature. Instead, in the introduction, this literature review passage should summarize large groups of studies instead of individual ones. I tell my students to reflect on their literature maps (described in Chapter 2) and look at and summarize the broad categories at the top into which they assigned their literature. Mentioning these broad categories are what I mean by reviewing studies in an introduction to a proposal.

The purpose of **reviewing studies** in an introduction is to justify the importance of the study and to create distinctions between past studies and the proposed one. This component might be called “setting the research problem within the ongoing dialogue in the literature.” Researchers do not want to conduct a study that replicates exactly what someone else has studied. New studies need to add to the literature or to extend or retest what others have examined. Marshall and Rossman (2006) refer to this brief literature review in an introduction as a way to set the study within the context of other, related studies. The ability to frame the study in this way separates novices from more experienced researchers. The veteran has reviewed and understands what has been written about a topic or certain problem in the field. This knowledge comes from years of experience following the development of problems and their accompanying literature.

The question often arises as to what type of literature to review. My best advice would be to review research studies in which authors advance research questions and report data to answer them. These studies might be quantitative, qualitative, or mixed methods studies. The important point is that the literature provides studies about the research problem being addressed in the proposal. Beginning researchers often ask, “What do I do now? No research has been conducted on my topic.” Of course, in some narrowly construed studies or in new, exploratory projects, no literature exists to document the research problem. Also, it makes sense that a topic is being proposed for study precisely because little research has been conducted on it. To counter this statement, I often suggest that an investigator think about the literature, using an inverted triangle as an image. At the apex of the inverted triangle lies the scholarly study being proposed. This study is narrow and focused (and studies may not exist on it). If one broadens the review of the literature upward to the base of the inverted triangle, literature can be found, although it may be somewhat removed from the study at hand. For example, the narrow topic of at-risk African Americans in primary school may not have been researched; however, more broadly speaking, the topic of at-risk students generally in the primary school or at any level in education, may have been studied. The researcher would summarize the more general literature and end with statements about a need for studies that examine at-risk African American students at the primary school level.

To review the literature related to the research problem for an introduction to a proposal, consider these **research tips**:

- Refer to the literature by summarizing groups of studies, not individual ones (unlike the focus on single studies in the integrated review in Chapter 2). The intent should be to establish broad areas of research.
- To deemphasize single studies, place the in-text references at the end of a paragraph or at the end of a summary point about several studies.

- Review research studies that used quantitative, qualitative, or mixed methods approaches.
- Find recent literature to summarize, such as that published in the past 10 years. Cite older studies if they are valuable because they have been widely referenced by others.

Deficiencies in Past Literature

After advancing the problem and reviewing the literature about it, the researcher then identifies *deficiencies* found in this literature. Hence, I call this template a *deficiencies model* for writing an introduction. The nature of these deficiencies varies from study to study. **Deficiencies in past literature** may exist because topics not have been explored with a particular group, sample, or population; the literature may need to be replicated or repeated to see if the same findings hold, given new samples of people or new sites for study; or the voice of underrepresented groups has not been heard in published literature. In any given study, authors may mention one or more of these deficiencies. Deficiencies can often be found in the “suggestions for future research” sections of journal articles, and authors can reference these ideas and provide further justification for their proposed study.

Beyond mentioning the deficiencies, proposal writers need to tell how their planned study will remedy or address these deficiencies. For example, because past studies have overlooked an important variable, a study will include it and analyze its effect: For instance, because past studies have overlooked the examination of Native Americans as a cultural group, a study will include them as the participants in the project.

In the two examples that follow, the authors point out the gaps or shortcomings of the literature. Notice their use of key phrases to indicate the shortcomings: “what remains to be explored,” “little empirical research,” and “very few studies.”

Example 5.1 *Deficiencies in the Literature—Needed Studies*

For this reason, the meaning of war and peace has been explored extensively by social scientists (Cooper, 1965; Alvik, 1968; Rosell, 1968; Svancarova & Svancarova, 1967–68; Haavedsrud, 1970). What remains to be explored, however, is how veterans of past wars react to vivid scenes of a new war.

(Ziller, 1990, pp. 85–86)

Example 5.2 *Deficiencies in the Literature—Few Studies*

Despite an increased interest in micropolitics, it is surprising that so little empirical research has actually been conducted on the topic, especially from the perspectives of subordinates. Political research in educational settings is especially scarce: Very few studies have focused on how teachers use power to interact strategically with school principals and what this means descriptively and conceptually (Ball, 1987; Hoyle, 1986; Pratt, 1984).

(Blase, 1989, p. 381)

In summary, when identifying deficiencies in the past literature, proposal developers might use the following **research tips**

- Cite several deficiencies to make the case even stronger for a study.
- Identify specifically the deficiencies of other studies (e.g., methodological flaws, variables overlooked).
- Write about areas overlooked by past studies, including topics, special statistical treatments, significant implications, and so forth.
- Discuss how a proposed study will remedy these deficiencies and provide a unique contribution to the scholarly literature.

These deficiencies might be mentioned using a series of short paragraphs that identify three or four shortcomings of the past research or focus on one major shortcoming, as illustrated in the Terenzini et al. (2001) introduction.

Significance of a Study for Audiences

In dissertations, writers often include a specific section describing the **significance of the study** for select audiences, to convey the importance of the problem for different groups that may profit from reading and using the study. By including this section, the writer creates a clear rationale for the importance of the study. The more audiences that can be mentioned, the greater the importance of the study and the more it will be seen by readers to have wide application. In designing this section, one might include

- Three or four reasons that the study adds to the scholarly research and literature in the field
- Three or four reasons about how the study helps improve practice
- And three or four reasons as to why the study will improve policy.

In the example to follow, the author stated the significance of the study in the opening paragraphs of a journal article. This study by Mascarenhas (1989) examined ownership of industrial firms. He identified explicitly decision makers, organizational members, and researchers as the audience for the study.

Example 5.3 *Significance of the Study Stated in an Introduction to a Quantitative Study*

A study of an organization's ownership and its domain, defined here as markets served, product scope, customer orientation, and technology employed (Abell and Hammond, 1979; Abell, 1980; Perry and Rainey, 1988), is important for several reasons. First, understanding relationships among ownership and domain dimensions can help to reveal the underlying logic of organizations' activities and can help organization members evaluate strategies. . . . Second, a fundamental decision confronting all societies concerns the type of institutions to encourage or adopt for the conduct of activity. . . . Knowledge of the domain consequences of different ownership types can serve as input to that decision Third, researchers have often studied organizations reflecting one or two ownership types, but their findings may have been implicitly over generalized to all organizations.

(Mascarenhas, 1989, p. 582)

Terenzini et al. (2001) end their introduction by mentioning how courts could use the information of the study to require colleges and universities to support "race-sensitive admissions policies" (p. 512). In addition, the authors might have mentioned the importance of this study for admissions offices and students seeking admission as well as the committees that review applications for admission.

Finally, good introductions to research studies end with a statement of the purpose or intent of the study. Terenzini et al. (2001) ended their introduction by conveying that they planned to examine the influence of structural diversity on student skills in the classroom.

SUMMARY

This chapter provides advice about composing and writing an introduction to a scholarly study. The first element is to consider how the introduction incorporates the research problems associated with quantitative, qualitative,

or mixed methods research. Then, a five-part introduction is suggested as a model or template to use. Called *the deficiencies model*, it is based on first identifying the research problem (and including a narrative hook). Then it includes briefly reviewing the literature that has addressed the problem, indicating one or more deficiencies in the past literature and suggesting how the study will remedy these deficiencies. This section is followed by specifying the audiences that will profit from research on the problem, and the introduction ends with a purpose statement that sets forth the intent of the study.

Writing Exercises

1. Draft several examples of narrative hooks for the introduction to a study and share these with colleagues to determine if the hooks draw readers in, create interest in the study, and are presented at a level to which readers can relate.
2. Write the introduction to a proposed study. Include one paragraph each for the research problem, the related literature about this problem, the deficiencies in the literature, and the audiences who will potentially find the study of interest.
3. Locate several research studies published in scholarly journals in a particular field of study. Review the introductions and locate the sentence or sentences in which the authors state the research problem or issue.

ADDITIONAL READINGS

Bem, D. J. (1987). Writing the empirical journal article. In M. P. Zanna & J. M. Darley (Eds.), *The compleat academic: A practical guide for the beginning social scientist* (pp. 171–201). New York: Random House.

Daryl Bem emphasizes the importance of the opening statement in published research. He provides a list of rules of thumb for opening statements, stressing the need for clear, readable prose and a structure that leads the reader step by step to the problem statement. Examples are provided of both satisfactory and unsatisfactory opening statements. Bem calls for opening statements that are accessible to the nonspecialist yet not boring to the technically sophisticated reader.

Maxwell, J. A. (2005). *Qualitative research design: An interactive approach* (2nd ed.). Thousand Oaks, CA: Sage.

Joe Maxwell reflects on the purpose of a proposal for a qualitative dissertation. One of the fundamental aspects of a proposal is to justify the project—to help readers understand

not only what you plan to do but also why. He mentions the importance of identifying the issues you plan to address and indicating why they are important to study. In an example of a graduate student dissertation proposal, he shares the major issues the student has addressed to create an effective argument for the study.

Wilkinson, A. M. (1991). *The scientist's handbook for writing papers and dissertations*. Englewood Cliffs, NJ: Prentice Hall.

Antoinette Wilkinson identifies the three parts of an introduction: the derivation and statement of the problem and a discussion of its nature, the discussion of the background of the problem, and the statement of the research question. Her book offers numerous examples of these three parts, together with a discussion of how to write and structure an introduction. Emphasis is placed on ensuring that the introduction leads logically and inevitably to a statement of the research question.



CHAPTER SIX

The Purpose Statement

The last section of an introduction, as mentioned in Chapter 5, is to present a purpose statement that establishes the intent of the entire research study. It is the most important statement in the entire study, and it needs to be clearly and specifically presented. From it, all other aspects of the research follow. In journal articles, researchers write the purpose statement into introductions; in dissertations and dissertation proposals, it often stands as a separate section.

In this chapter devoted exclusively to the purpose statement, I address the reasons for developing it, key principles to use in its design, and examples of good models to use in crafting one for your proposal.

SIGNIFICANCE AND MEANING OF A PURPOSE STATEMENT

According to Locke et al. (2007), the purpose statement indicates “why you want to do the study and what you intend to accomplish” (p. 9). Unfortunately, proposal-writing texts give little attention to the purpose statement, and writers on method often incorporate it into discussions about other topics, such as specifying research questions or hypotheses. Wilkinson (1991), for example, refers to it within the context of the research question and objective. Other authors frame it as an aspect of the research problem (Castetter & Heisler, 1977). Closely examining their discussions, however, indicates that they both refer to the purpose statement as the central, controlling idea in a study.

This passage is called the *purpose statement* because it conveys the overall intent of a proposed study in a sentence or several sentences. In proposals, researchers need to distinguish clearly between the purpose statement, the research problem, and the research questions. The purpose statement sets forth the intent of the study, not the problem or issue leading to a need for the study (see Chapter 5). The purpose is also not the research questions, those questions that the data collection will attempt to

answer (discussed in Chapter 7). Instead and again, the **purpose statement** sets the objectives, the intent, or the major idea of a proposal or a study. This idea builds on a need (the problem) and is refined into specific questions (the research questions).

Given the importance of the purpose statement, it is helpful to set it apart from other aspects of the proposal or study and to frame it as a single sentence or paragraph that readers can identify easily. Although qualitative, quantitative, and mixed methods purpose statements share similar topics, each is identified in the following paragraphs and illustrated with fill-in scripts for constructing a thorough but manageable purpose statement.

A Qualitative Purpose Statement

A good **qualitative purpose statement** contains information about the central phenomenon explored in the study, the participants in the study, and the research site. It also conveys an emerging design and uses research words drawn from the language of qualitative inquiry (Schwandt, 2007). Thus, one might consider several basic design features for writing this statement:

- Use words such as *purpose*, *intent*, or *objective* to signal attention to this statement as the central controlling idea. Set the statement off as a separate sentence or paragraph, and use the language of research, such as “The purpose (or intent or objective) of this study is (was) (will be)” Researchers often use the present or past verb tense in journal articles and dissertations, and the future tense in proposals, because researchers are presenting a plan for a study not yet undertaken.
- Focus on a single phenomenon (or concept or idea). Narrow the study to one idea to be explored or understood. This focus means that a purpose does not convey relating two or more variables or comparing two or more groups, as is typically found in quantitative research. Instead, advance a single phenomenon, recognizing that the study may develop into an exploration of relationships or comparisons among ideas. None of these related explorations can be anticipated at the beginning. For example, a project might begin by exploring chairperson roles in enhancing faculty development (Creswell & Brown, 1992). Other qualitative studies might start by exploring teacher identity and the marginalization of this identity for a teacher in a particular school (Huber & Whelan, 1999), the meaning of baseball culture in a study of the work and talk of stadium employees (Trujillo, 1992), or how individuals cognitively represent AIDS (Anderson & Spencer, 2002). These examples all illustrate the focus on a single idea.
- Use action verbs to convey how learning will take place. Action verbs and phrases, such as *describe*, *understand*, *develop*, *examine the meaning of*, or *discover*, keep the inquiry open and convey an emerging design.

- Use neutral words and phrases—nondirectional language—such as, exploring the “experiences of individuals” rather than the “successful experiences of individuals.” Other words and phrases that may be problematic include *useful*, *positive*, and *informing*—all words that suggest an outcome that may or may not occur. McCracken (1988) refers to the need in qualitative interviews to let the respondent describe his or her experience. Interviewers (or purpose statement writers) can easily violate the “law of nondirection” (McCracken, 1988, p. 21) in qualitative research by using words that suggest a directional orientation.

- Provide a general working definition of the central phenomenon or idea, especially if the phenomenon is a term that is not typically understood by a broad audience. Consistent with the rhetoric of qualitative research, this definition is not rigid and set, but tentative and evolving throughout a study based on information from participants. Hence, a writer might use the words, “A tentative definition at this time for _____ (central phenomenon) is” It should also be noted that this definition is not to be confused with the detailed definition of terms section as discussed in Chapter 2 on the review of the literature. The intent here is to convey to readers at an early stage in a proposal or research study a general sense of the central phenomenon so that they can better understand information that unfolds during the study.

- Include words denoting the strategy of inquiry to be used in data collection, analysis, and the process of research, such as whether the study will use an ethnographic, grounded theory, case study, phenomenological, narrative approach, or some other strategy.

- Mention the participants in the study, such as whether there might be one or more individuals, a group of people, or an entire organization.

- Identify the site for the research, such as homes, classrooms, organizations, programs, or events. Describe this site in enough detail so that the reader knows exactly where a study will take place.

- As a final thought in the purpose statement, include some language that delimits the scope of participation or research sites in the study. For example, the study may be limited to women only, or Hispanics only. The research site may be limited to one metropolitan city or to one small geographic area. The central phenomenon may be limited to individuals in business organizations who participate in creative teams. These delimitations help to further define the parameters of the research study.

Although considerable variation exists in the inclusion of these points in purpose statements, a good dissertation or thesis proposal should contain many of them.

To assist you, here follows a script that should be helpful in drafting a complete statement. A **script**, as used in this book, contains the major

words and ideas of a statement and provides space for the researcher to insert information.

The purpose of this _____ (strategy of inquiry, such as ethnography, case study, or other type) study is (was? will be?) to _____ (understand? describe? develop? discover?) the _____ (central phenomenon being studied) for _____ (the participants, such as the individual, groups, organization) at _____ (research site). At this stage in the research, the _____ (central phenomenon being studied) will be generally defined as _____ (provide a general definition).

The following examples may not illustrate perfectly all the elements of this script, but they represent adequate models to study and emulate.

Example 6.1 *A Purpose Statement in a Qualitative Phenomenology Study*

Lauterbach (1993) studied five women who had each lost a baby in late pregnancy and their memories and experiences of this loss. Her purpose statement was as follows:

The phenomenological inquiry, as part of uncovering meaning, articulated “essences” of meaning in mothers’ lived experiences when their wished-for babies died. Using the lens of the feminist perspective, the focus was on mothers’ memories and their “living through” experience. This perspective facilitated breaking through the silence surrounding mothers’ experiences; it assisted in articulating and amplifying mothers’ memories and their stories of loss. Methods of inquiry included phenomenological reflection on data elicited by existential investigation of mothers’ experiences, and investigation of the phenomenon in the creative arts.

(Lauterbach, 1993, p. 134)

I found Lauterbach’s (1993) purpose statement in the opening section of the journal article under the heading, “Aim of Study.” Thus, the heading calls attention to this statement. “Mothers’ lived experiences” would be the central phenomenon, and the author uses the action word *portray* to discuss the *meaning* (a neutral word) of these experiences. The author further defined what experiences were examined when she identifies “memories” and “lived through” experiences. Throughout this passage, it is clear that Lauterbach used the strategy of phenomenology. Also, the passage conveys that the participants were mothers, and later in the article, the reader learns that the author interviewed a convenience sample of five

mothers, each of whom had experienced a perinatal death of a child in her home.

Example 6.2 *A Purpose Statement in a Case Study*

Kos (1991) conducted a multiple case study of perceptions of reading-disabled middle-school students concerning factors that prevented these students from progressing in their reading development. Her purpose statement read as follows:

The purpose of this study was to explore affective, social, and educational factors that may have contributed to the development of reading disabilities in four adolescents. The study also sought explanation as to why students' reading disabilities persisted despite years of instruction. This was not an intervention study and, although some students may have improved their reading, reading improvement was not the focus of the study.

(Kos, 1991, pp. 876-877)

Notice Kos's (1991) disclaimer that this study was not a quantitative study measuring the magnitude of reading changes in the students. Instead, Kos clearly placed this study within the qualitative approach by using words such as "explore." She focused attention on the central phenomenon of "factors" and provided a tentative definition by mentioning examples, such as "affective, social, and educational." She included this statement under a heading called "Purpose of the Study" to call attention to it, and she mentioned the participants. In the abstract and the methodology section, a reader finds out that the study used the inquiry strategy of case study research and that the study took place in a classroom.

Example 6.3 *A Purpose Statement in an Ethnography*

Rhoads (1997) conducted a 2-year ethnographic study exploring how the campus climate can be improved for gay and bisexual males at a large university. His purpose statement, included in the opening section, was as follows:

The article contributes to the literature addressing the needs of gay and bisexual students by identifying several areas where progress can be made in improving the campus climate for them. This paper derives from a two-year ethnographic study of a student subculture composed of gay and bisexual males at a large research university; the focus on men reflects the fact that lesbian and bisexual women constitute a separate student subculture at the university under study.

(Rhoads, 1997, p. 276)

With intent to improve the campus, this qualitative study falls into the genre of advocacy research as mentioned in Chapter 1. Also, these sentences occur at the beginning of the article to signal the reader about the purpose of the study. The needs of these students become the central phenomenon under study, and the author seeks to identify areas that can improve the climate for gays and bisexual males. The author also mentioned that the strategy of inquiry will be ethnographic and that the study will involve males (participants) at a large university (site). At this point, the author does not provide additional information about the exact nature of these needs or a working definition to begin the article. However, he does refer to identity and proffers a tentative meaning for that term in the next section of the study.

Example 6.4 *A Purpose Statement in a Grounded Theory Study*

Richie et al. (1997) conducted a qualitative study to develop a theory of the career development of 18 prominent, highly achieving African American Black and White women in the United States working in different occupational fields. In the second paragraph of this study, they stated the purpose:

The present article describes a qualitative study of the career development of 18 prominent, highly achieving African-American Black and White women in the United States across eight occupational fields. Our overall aim in the study was to explore critical influences on the career development of these women, particularly those related to their attainment of professional success.

(Richie et al., 1997, p. 133)

In this statement, the central phenomenon is career development, and the reader learns that the phenomenon is defined as critical influences in the professional success of the women. In this study, *success*, a directional word, serves to define the sample of individuals to be studied more than to limit the inquiry about the central phenomenon. The authors plan to explore this phenomenon, and the reader learns that the participants are all women, in different occupational groups. Grounded theory as a strategy of inquiry is mentioned in the abstract and later in the procedure discussion.

A Quantitative Purpose Statement

Quantitative purpose statements differ considerably from the qualitative models in terms of the language and a focus on relating or comparing variables or constructs. Recall from Chapter 3 the types of major variables: independent, mediating, moderating, and dependent.

The design of a **quantitative purpose statement** includes the variables in the study and their relationship, the participants, and the research site. It also includes language associated with quantitative research and the deductive testing of relationships or theories. A quantitative purpose statement begins with identifying the proposed major variables in a study (independent, intervening, dependent), accompanied by a visual model to clearly identify this sequence, and locating and specifying how the variables will be measured or observed. Finally, the intent of using the variables quantitatively will be either to relate variables, as one typically finds in a survey, or to compare samples or groups in terms of an outcome, as commonly found in experiments.

The major components of a good quantitative purpose statement include the following:

- Include words to signal the major intent of the study, such as *purpose*, *intent*, or *objective*. Start with “The purpose (or objective or intent) of this study is (was, will be) . . .”
- Identify the theory, model, or conceptual framework. At this point one does not need to describe it in detail; in Chapter 3, I suggested the possibility of writing a separate “Theoretical Perspective” section for this purpose. Mentioning it in the purpose statement provides emphasis on the importance of the theory and foreshadows its use in the study.
- Identify the independent and dependent variables, as well as any mediating, moderating, or control variables used in the study.
- Use words that connect the independent and dependent variables to indicate that they are related, such as “the relationship between” two or more variables, or a “comparison of” two or more groups. Most quantitative studies employ one of these two options for connecting variables in the purpose statement. A combination of comparing and relating might also exist, for example, a two-factor experiment in which the researcher has two or more treatment groups as well as a continuous independent variable. Although one typically finds studies about comparing two or more groups in experiments, it is also possible to compare groups in a survey study.
- Position or order the variables from left to right in the purpose statement, with the independent variable followed by the dependent variable. Place intervening variables between the independent and dependent variables. Many researchers also place the moderating variables between the independent and dependent variables. Alternatively, control variables might be placed immediately following the dependent variable, in a phrase such as “controlling for . . .” In experiments, the independent variable will always be the manipulated variable.
- Mention the specific type of strategy of inquiry (such as survey or experimental research) used in the study. By incorporating this information,

the researcher anticipates the methods discussion and enables a reader to associate the relationship of variables to the inquiry approach.

- Make reference to the participants (or the unit of analysis) in the study and mention the research site.

- Generally define each key variable, preferably using set and accepted established definitions found in the literature. General definitions are included at this point to help the reader best understand the purpose statement. They do not replace specific, operational definitions found later when a writer has a "Definition of Terms" section in a proposal (details about how variables will be measured). Also delimitations that affect the scope of the study might be mentioned, such as the scope of the data collection or limited to certain individuals.

Based on these points, a quantitative purpose statement script can include these ideas:

The purpose of this _____ (experiment? survey?) study is (was? will be?) to test the theory of _____ that _____ (compares? relates?) the _____ (independent variable) to _____ (dependent variable), controlling for _____ (control variables) for _____ (participants) at _____ (the research site). The independent variable(s) _____ will be defined as _____ (provide a definition). The dependent variable(s) will be defined as _____ (provide a definition), and the control and intervening variable(s), _____, (identify the control and intervening variables) will be defined as _____ (provide a definition).

The examples to follow illustrate many of the elements in these scripts. The first two studies are surveys; the last one is an experiment.

Example 6.5 *A Purpose Statement in a Published Survey Study*

Kalof (2000) conducted a 2-year longitudinal study of 54 college women about their attitudes and experiences with sexual victimization. These women responded to two identical mail surveys administered 2 years apart. The author combined the purpose statement, introduced in the opening section, with the research questions.

This study is an attempt to elaborate on and clarify the link between women's sex role attitudes and experiences with sexual victimization. I used

two years of data from 54 college women to answer these questions: (1) Do women's attitudes influence vulnerability to sexual coercion over a two-year period? (2) Are attitudes changed after experiences with sexual victimization? (3) Does prior victimization reduce or increase the risk of later victimization?

(Kalof, 2000, p. 48)

Although Kalof (2000) does not mention a theory that she seeks to test, she identifies both her independent variable (sex role attitudes) and the dependent variable (sexual victimization). She positioned these variables from independent to dependent. She also discussed linking rather than relating the variables to establish a connection between them. This passage identifies the participants (women) and the research site (a college setting). Later, in the method section, she mentioned that the study was a mailed survey. Although she does not define the major variables, she provides specific measures of the variables in the research questions.

Example 6.6 *A Purpose Statement in a Dissertation Survey Study*

DeGraw (1984) completed a doctoral dissertation in the field of education on the topic of educators working in adult correctional institutions. Under a section titled "Statement of the Problem," he advanced the purpose of the study:

The purpose of this study was to examine the relationship between personal characteristics and the job motivation of certified educators who taught in selected state adult correctional institutions in the United States. Personal characteristics were divided into background information about the respondent (i.e., institutional information, education level, prior training, etc.) and information about the respondents' thoughts of changing jobs. The examination of background information was important to this study because it was hoped it would be possible to identify characteristics and factors contributing to significant differences in mobility and motivation. The second part of the study asked the respondents to identify those motivational factors of concern to them. Job motivation was defined by six general factors identified in the educational work components study (EWCS) questionnaire (Miskel & Heller, 1973). These six factors are: potential for personal challenge and development; competitiveness; desirability and reward of success; tolerance for work pressures; conservative security; and willingness to seek reward in spite of uncertainty vs. avoidance.

(DeGraw, 1984, pp. 4, 5)

This statement included several components of a good purpose statement. It was presented in a separate section, it used the word *relationship*, terms were defined, and the population was mentioned. Further, from the

order of the variables in the statement, one can clearly identify the independent variable and the dependent variable.

Example 6.7 *A Purpose Statement in an Experimental Study*

Booth-Kewley, Edwards, and Rosenfeld (1992) undertook a study comparing the social desirability of responding to a computer version of an attitude and personality questionnaire to the desirability of completing a pencil-and-paper version. They replicated a study completed on college students that used an inventory, called Balanced Inventory of Desirable Responding (BIDR), composed of two scales, impression management (IM) and self-deception (SD). In the final paragraph of the introduction, they advance the purpose of the study:

We designed the present study to compare the responses of Navy recruits on the IM and SD scales, collected under three conditions—with paper-and-pencil, on a computer with backtracking allowed, and on a computer with no backtracking allowed. Approximately half of the recruits answered the questionnaire anonymously and the other half identified themselves.

(Booth-Kewley et al, 1992, p. 563)

This statement also reflected many properties of a good purpose statement. The statement was separated from other ideas in the introduction as a separate paragraph, it mentioned that a comparison would be made, and it identified the participants in the experiment (i.e., the unit of analysis). In terms of the order of the variables, the authors advanced them with the dependent variable first, contrary to my suggestion (still, the groups are clearly identified). Although the theory base is not mentioned, the paragraphs preceding the purpose statement reviewed the findings of prior theory. The authors also do not tell us about the strategy of inquiry, but other passages, especially those related to procedures, discuss the study as an experiment.

A Mixed Methods Purpose Statement

A **mixed methods purpose statement** contains the overall intent of the study, information about both the quantitative and qualitative strands of the study, and a rationale of incorporating both strands to study the research problem. These statements need to be identified early, in the introduction, and they provide major signposts for the reader to understand the quantitative and qualitative parts of a study. Several guidelines might direct the organization and presentation of the mixed methods purpose statement:

- Begin with signaling words, such as “The purpose of ” or “The intent of.”

- Indicate the overall intent of the study from a content perspective, such as “The intent is to learn about organizational effectiveness” or “The intent is to examine families with step-children.” In this way, the reader has an anchor to use to understand the overall study before the researcher divides the project into quantitative and qualitative strands.

- Indicate the type of mixed methods design, such as sequential, concurrent, or transformational, that will be used.

- Discuss the reasons for combining both quantitative and qualitative data. This reason could be one of the following (see Chapter 10 for more detail):

- To better understand a research problem by converging (or triangulating) broad numeric trends from quantitative research and the detail of qualitative research
- To explore participant views with the intent of building on these views with quantitative research so that they can be explored with a large sample of a population
- To obtain statistical, quantitative results from a sample and then follow up with a few individuals to help explain those results in more depth (see also O’Cathain, Murphy, & Nicholl, 2007)
- To best convey the trends and voices of marginalized groups or individuals

- Include the characteristics of a good qualitative purpose statement, such as focusing on a single phenomenon, using action words and nondirectional language, mentioning the strategy of inquiry, and identifying the participants and the research site.

- Include the characteristics of a good quantitative purpose statement, such as identifying a theory and the variables, relating variables or comparing groups in terms of variables, placing these variables in order from independent to dependent, mentioning the strategy of inquiry, and specifying the participants and research site for the research.

- Consider adding information about the specific types of both qualitative and quantitative data collection.

Based on these elements, four mixed methods purpose statement scripts follow (Creswell & Plano Clark, 2007). The first two are sequential studies with one type of data collection building on the other; the third is a concurrent study with both types of data collected at the same time and brought together in data analysis. The fourth example is a transformative mixed methods study script also based on a concurrent design.

1. A sequential study with a second quantitative phase building on an initial first qualitative phase:

The intent of this two-phase, sequential mixed methods study is to _____ (mention content objective of the study). The first phase will be a qualitative exploration of a _____ (central phenomenon) by collecting _____ (types of data) from _____ (participants) at _____ (research site). Findings from this qualitative phase will then be used to test _____ (a theory, research questions, or hypotheses) that _____ (relate, compare) _____ (independent variable) with _____ (dependent variable) for _____ (sample of population) at _____ (research site). The reason for collecting qualitative data initially is that _____ (e.g., instruments are inadequate or not available, variables are not known, there is little guiding theory or few taxonomies).

2. A sequential study with the qualitative follow-up phase building on and helping to explain the initial quantitative phase:

The intent of this two-phase, sequential mixed methods study will be to _____ (mention content objective of the study). In the first phase, quantitative research questions or hypotheses will address the _____ relationship or comparison of _____ (independent) and _____ (dependent) variables with _____ (participants) at _____ (the research site). Information from this first phase will be explored further in a second qualitative phase. In the second phase, qualitative interviews or observations will be used to probe significant _____ (quantitative results) by exploring aspects of the _____ (central phenomenon) with _____ (a few participants) at _____ (research site). The reason for following up with qualitative research in the second phase is to _____ (e.g., better understand and explain the quantitative results).

3. A concurrent study with the intent of gathering both quantitative and qualitative data and merging or integrating them to best understand a research problem:

The intent of this concurrent mixed methods study is to _____ (content objective of the study). In the study, _____ (quantitative instruments) will be used to measure the relationship between _____ (independent variable) and _____ (dependent variable). At the same time, the _____ (central phenomenon) will be explored using _____ (qualitative interviews or observations) with

_____ (participants) at _____ (the research site).

The reason for combining both quantitative and qualitative data is to better understand this research problem by converging both quantitative (broad numeric trends) and qualitative (detailed views) data.

4. This final script is one that a mixed methods researcher might use with a transformative mixed methods strategy of inquiry. The script is phrased for a concurrent study, but the mixed methods project might use either a concurrent (both quantitative and qualitative data collected at the same time) or a sequential (the two types of data collected in sequence or phases) strategy of inquiry. The elements that designate this script as transformational are that the intent of the study is to address an issue central to underrepresented or marginalized groups or individuals. Also, the outcome of such a study is to advocate for the needs of these groups or individuals, and this information is included in the purpose statement.

The intent of this concurrent mixed methods study is to _____ (state issue that needs to be addressed for group or individuals). In the study, _____ (quantitative instruments) will be used to measure the relationship between _____ (independent variable) and _____ (dependent variable). At the same time, the _____ (central phenomenon) will be explored using _____ (qualitative interviews or observations) with _____ (participants) at _____ (the research site). The reason for combining both quantitative and qualitative data is to better understand this research problem by converging both quantitative (broad numeric trends) and qualitative (detailed views) data and to advocate for change for _____ (groups or individuals).

Example 6.8 *A Concurrent Mixed Methods Purpose Statement*

Hossler and Vesper (1993) studied student and parent attitudes toward parental savings for the postsecondary education of their children. In this 3-year study, they identified the factors most strongly associated with parental savings and collected both quantitative and qualitative data. Their purpose statement was as follows:

In an effort to shed light on parental saving, this article examines parental saving behaviors. Using student and parent data from a longitudinal study employing multiple surveys over a three-year period, logistic regression was used to

(Continued)

(Continued)

Identify the factors most strongly associated with parental savings for postsecondary education. In addition, insights gained from the interviews of a small subsample of students and parents who were interviewed five times during the three-year period are used to further examine parental savings.

(Hossler & Vesper, 1991, p. 141)

This section was contained under the heading "Purpose," and it indicated that both quantitative data (i.e., surveys) and qualitative data (i.e., interviews) were included in the study. Both forms of data were collected during the 3-year period, and the authors might have identified their study as a triangulation or concurrent design. Although the rationale for the study is not included in this passage, it is articulated later, in the methods discussion about surveys and interviews. Here we find that "the interviews were also used to explore variables under investigation in greater detail and triangulate findings using quantitative and qualitative data" (Hossler & Vesper, 1993, p. 146).

Example 6.9 *A Sequential Mixed Methods Purpose Statement*

Ansorge, Creswell, Swidler, and Gutmann (2001) studied the use of wireless iBook laptop computers in three teacher education methods courses. These laptop computers enabled students to work at their desks and use the laptops to log directly onto Web sites recommended by the instructors. The purpose statement was as follows:

The purpose of this sequential, mixed methods study was to first explore and generate themes about student use of iBook laptops in three teacher education classes using field observations and face-to-face interviews. Then, based on these themes, the second phase was to develop an instrument and to survey students about the laptop use on several dimensions. The rationale for using both qualitative and quantitative data was that a useful survey of student experience could best be developed only after a preliminary exploration of student use.

In this example, the statement begins with the signal words, "the purpose of." It then mentions the type of mixed methods design and contains the basic elements of both an initial qualitative phase and a follow-up quantitative phase. It includes information about both types of data collection and ends with a rationale for the incorporation of the two forms of data in a sequential design.

Example 6.10 *A Transformative Concurrent Mixed Methods Purpose Statement*

With this study we hope to contribute to the general understanding of how perceptions of fairness are formed and how gender equality is conceptualized by Swedish women and men. The aim of this article is to study the importance of time use, individual resources, distributive justice and gender ideology for perceptions of fairness and understandings of gender equality. Two Swedish studies are used to do this, a survey study and a qualitative interview study.

(Nordenmark & Nyman, 2003, p. 185)

This purpose statement begins with the intent of the study and presents the issue of gender equality as an issue of concern. This passage comes at the end of the introduction, and the reader has already learned that Sweden has a political goal of working toward gender equality in which “the balance of work and power between the sexes is eliminated” (Nordenmark & Nyman, 2003, p. 182). The authors mention the two types of data to be collected (survey and interviews), and following this passage, they refer to the advantages of combining both methods and that the two data sets will complement each other. Thus, a concurrent design is suggested. The purpose statement mentioned the quantitative variables that were related in the study; later we learn that several of these variables were also formed into qualitative research questions. However, the authors might have been more explicit in their quantitative and qualitative procedures as well as specifying the type of mixed methods strategy they used. Also, there was no mention in this purpose statement as to how this study would help create greater equality in Sweden. In the final section of the published study, however, the authors do suggest that conflicting goals and contradictory behavior and ideas may all impact gender equality in Sweden, and they call for measures of fairness and gender equality for large-scale surveys.

SUMMARY

This chapter emphasizes the primary importance of a purpose statement—it advances the central idea in a study. In writing a qualitative purpose statement, a researcher needs to identify a single central phenomenon and to pose a tentative definition for it. Also, the researcher employs action words, such as *discover*, *develop*, or *understand*; uses nondirectional language; and mentions the strategy of inquiry, the participants, and the research site. In a quantitative purpose statement, the researcher states the theory being tested as well as the variables and their relationship or comparison. It is important to position the independent variable first and

the dependent variable second. The researcher conveys the strategy of inquiry as well as the participants and the research site for the investigation. In some purpose statements, the researcher also defines the key variables used in the study. In a mixed methods study, the type of strategy is mentioned as well as its rationale, such as whether the data are collected concurrently or sequentially. Many elements of both good qualitative and quantitative purpose statements are included.

Writing Exercises

1. Using the script for a qualitative purpose statement, write a statement by completing the blanks. Make this statement short; write no more than approximately three-quarters of a typed page.
2. Using the script for a quantitative purpose statement, write a statement. Also make this statement short, no longer than three-quarters of a typed page.
3. Using the script for a mixed methods purpose statement, write a purpose statement. Be sure to include the reason for mixing quantitative and qualitative data and incorporate the elements of both a good qualitative and a good quantitative purpose statement.

ADDITIONAL READINGS

Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: Sage.

Catherine Marshall and Gretchen Rossman call attention to the major intent of the study, the purpose of the study. This section is generally embedded in the discussion of the topic, and it is mentioned in a sentence or two. It tells the reader what the results of the research are likely to accomplish. The authors characterize purposes as exploratory, explanatory, descriptive, and emancipatory. They also mention that the purpose statement includes the unit of analysis (e.g., individuals, dyads, or groups).

Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

John W. Creswell and Vicki L. Plano Clark have authored an overview and introduction to mixed methods research that covers the entire process of research from writing an introduction, collecting data, analyzing data, and interpreting and writing mixed methods studies. In their chapter on the introduction, they discuss qualitative, quantitative, and mixed methods purpose statements. They provide scripts and examples for four types of mixed methods studies as well as overall guidelines for writing these statements.

Wilkinson, A. M. (1991). *The scientist's handbook for writing papers and dissertations*. Englewood Cliffs, NJ: Prentice Hall.

Antoinette Wilkinson calls the purpose statement the "immediate objective" of the research study. She states that the purpose of the objective is to answer the research question. Further, the objective of the study needs to be presented in the introduction, although it may be implicitly stated as the subject of the research, the paper, or the method. If stated explicitly, the objective is found at the end of the argument in the introduction; it might also be found near the beginning or in the middle, depending on the structure of the introduction.





Research Questions and Hypotheses

Investigators place signposts to carry the reader through a plan for a study. The first signpost is the purpose statement, which establishes the central direction for the study. From the broad, general purpose statement, the researcher narrows the focus to specific questions to be answered or predictions based on hypotheses to be tested. This chapter begins by advancing several principles in designing and scripts for writing qualitative research questions; quantitative research questions, objectives, and hypotheses; and mixed methods research questions.

QUALITATIVE RESEARCH QUESTIONS

In a qualitative study, inquirers state research questions, not objectives (i.e., specific goals for the research) or hypotheses (i.e., predictions that involve variables and statistical tests). These research questions assume two forms: a central question and associated subquestions.

The **central question** is a broad question that asks for an exploration of the central phenomenon or concept in a study. The inquirer poses this question, consistent with the emerging methodology of qualitative research, as a general issue so as to not limit the inquiry. To arrive at this question, *ask*, “What is the broadest question that I can ask in the study?” Beginning researchers trained in *quantitative* research might struggle with this approach because they are accustomed to the reverse approach: identifying specific, narrow questions or hypotheses based on a few variables. In qualitative research, the intent is to explore the complex set of factors surrounding the central phenomenon and present the varied perspectives or meanings that participants hold. The following are guidelines for writing broad, qualitative research questions:

- *Ask one or two central questions followed by no more than five to seven subquestions. Several subquestions follow each general central question; the*

subquestions narrow the focus of the study but leave open the questioning. This approach is well within the limits set by Miles and Huberman (1994), who recommended that researchers write no more than a dozen qualitative research questions in all (central and subquestions). The subquestions, in turn, can become specific questions used during interviews (or in observing or when looking at documents). In developing an interview protocol or guide, the researcher might ask an ice breaker question at the beginning, for example, followed by five or so subquestions in the study (see Chapter 9). The interview would then end with an additional wrap-up or summary question or ask, as I did in one of my qualitative case studies, "Who should I turn to, to learn more about this topic?" (Asmussen & Creswell, 1995).

- *Relate the central question to the specific qualitative strategy of inquiry.* For example, the specificity of the questions in ethnography at this stage of the design differs from that in other qualitative strategies. In ethnographic research, Spradley (1980) advanced a taxonomy of ethnographic questions that included a mini-tour of the culture-sharing group, their experiences, use of native language, contrasts with other cultural groups, and questions to verify the accuracy of the data. In critical ethnography, the research questions may build on a body of existing literature. These questions become working guidelines rather than truths to be proven (Thomas, 1993, p. 35). Alternatively, in phenomenology, the questions might be broadly stated without specific reference to the existing literature or a typology of questions. Moustakas (1994) talks about asking what the participants experienced and the contexts or situations in which they experienced it. A phenomenological example is, "What is it like for a mother to live with a teenage child who is dying of cancer?" (Nieswiadomy, 1993, p. 151). In grounded theory, the questions may be directed toward generating a theory of some process, such as the exploration of a process as to how caregivers and patients interact in a hospital setting. In a qualitative case study, the questions may address a description of the case and the themes that emerge from studying it.

- *Begin the research questions with the words what or how to convey an open and emerging design.* The word *why* often implies that the researcher is trying to explain why something occurs, and this suggests to me a cause-and-effect type of thinking that I associate with *quantitative* research instead of the more open and emerging stance of qualitative research.

- *Focus on a single phenomenon or concept.* As a study develops over time, factors will emerge that may influence this single phenomenon, but begin a study with a single focus to explore in great detail.

- *Use exploratory verbs that convey the language of emerging design.* These verbs tell the reader that the study will

- Discover (e.g., grounded theory)
- Seek to understand (e.g., ethnography)

- Explore a process (e.g., case study)
 - Describe the experiences (e.g., phenomenology)
 - Report the stories (e.g., narrative research)
- Use these more exploratory verbs that are nondirectional rather than directional words that suggest *quantitative* research, such as “affect,” “influence,” “impact,” “determine,” “cause,” and “relate.”
 - Expect the research questions to evolve and change during the study in a manner consistent with the assumptions of an emerging design. Often in *qualitative* studies, the questions are under continual review and reformulation (as in a grounded theory study). This approach may be problematic for individuals accustomed to *quantitative* designs, in which the research questions remain fixed throughout the study.
 - Use *open-ended questions* without reference to the literature or theory unless otherwise indicated by a qualitative strategy of inquiry.
 - Specify the participants and the research site for the study, if the information has not yet been given.

Here is a script for a qualitative central question:

_____ (How or what) is the _____ (“story for” for narrative research; “meaning of” the phenomenon for phenomenology; “theory that explains the process of” for grounded theory; “culture-sharing pattern” for ethnography; “issue” in the “case” for case study) of _____ (central phenomenon) for _____ (participants) at _____ (research site).

The following are examples of qualitative research questions drawn from several types of strategies.

Example 7.1 A Qualitative Central Question From an Ethnography

Finders (1996) used ethnographic procedures to document the reading of teen magazines by middle-class European American seventh-grade girls. By examining the reading of teen zines (magazines), the researcher explored how the girls perceive and construct their social roles and relationships as they enter junior high school. She asked one guiding central question in her study:

How do early adolescent females read literature that falls outside the realm of fiction?

(Finders, 1996, p. 72)

Finders's (1996) central question begins with *how*; it uses an open-ended verb, *read*; it focuses on a single concept, the literature or teen magazines; and it mentions the participants, adolescent females, as the culture-sharing group. Notice how the author crafted a concise, single question that needed to be answered in the study. It is a broad question stated to permit participants to share diverse perspectives about reading the literature.

Example 7.2 *Qualitative Central Questions From a Case Study*

Padula and Miller (1999) conducted a multiple case study that described the experiences of women who went back to school, after a time away, in a psychology doctoral program at a major Midwestern research university. The intent was to document the women's experiences, providing a gendered and feminist perspective for women in the literature. The authors asked three central questions that guided the inquiry:

- (a) How do women in a psychology doctoral program describe their decision to return to school? (b) How do women in a psychology doctoral program describe their reentry experiences? And (c) How does returning to graduate school change these women's lives?

(Padula & Miller, 1999, p. 328)

These three central questions all begin with the word *how*; they include open-ended verbs, such as "describe," and they focus on three aspects of the doctoral experience—returning to school, reentering, and changing. They also mention the participants as women in a doctoral program at a Midwestern research university.

QUANTITATIVE RESEARCH QUESTIONS AND HYPOTHESES

In quantitative studies, investigators use quantitative research questions and hypotheses, and sometimes objectives, to shape and specifically focus the purpose of the study. **Quantitative research questions** inquire about the relationships among variables that the investigator seeks to know. They are used frequently in social science research and especially in survey studies. **Quantitative hypotheses**, on the other hand, are predictions the researcher makes about the expected relationships among variables. They are numeric estimates of population values based on data collected from samples. Testing of hypotheses employs statistical procedures in which the investigator draws inferences about the population

from a study sample. Hypotheses are used often in experiments in which investigators compare groups. Advisers often recommend their use in a formal research project, such as a dissertation or thesis, as a means of stating the direction a study will take. Objectives, on the other hand, indicate the goals or objectives for a study. They often appear in proposals for funding, but tend to be used with less frequency in social and health science research today. Because of this, the focus here will be on research questions and hypotheses. Here is an example of a script for a quantitative research question:

Does _____ (name the theory) explain the relationship between _____ (independent variable) and _____ (dependent variable), controlling for the effects of _____ (control variable)?

Alternatively, a script for a quantitative null hypothesis might be as follows:

There is no significant difference between _____ (the control and experimental groups on the independent variable) on _____ (dependent variable).

Guidelines for writing good quantitative research questions and hypotheses include the following.

- The use of variables in research questions or hypotheses is typically limited to three basic approaches. The researcher may *compare* groups on an independent variable to see its impact on a dependent variable. Alternatively, the investigator may *relate* one or more independent variables to one or more dependent variables. Third, the researcher may *describe* responses to the independent, mediating, or dependent variables. Most quantitative research falls into one or more of these three categories.
- The most rigorous form of quantitative research follows from a test of a theory (see Chapter 3) and the specification of research questions or hypotheses that are included in the theory.
- The independent and dependent variables must be measured separately. This procedure reinforces the cause-and-effect logic of quantitative research.
- To eliminate redundancy, write only research questions or hypotheses, not both, unless the hypotheses build on the research questions (discussion follows). Choose the form based on tradition, recommendations from an adviser or faculty committee, or whether past research indicates a prediction about outcomes.

- If hypotheses are used, there are two forms: null and alternative. A **null hypothesis** represents the traditional approach: it makes a prediction that in the general population, no relationship or no significant difference exists between groups on a variable. The wording is, "There is no difference (or relationship)" between the groups. The following example illustrates a null hypothesis.

Example 7.3 *A Null Hypothesis*

An investigator might examine three types of reinforcement for children with autism: verbal cues, a reward, and no reinforcement. The investigator collects behavioral measures assessing social interaction of the children with their siblings. A null hypothesis might read,

There is no significant difference between the effects of verbal cues, rewards, and no reinforcement in terms of social interaction for children with autism and their siblings.

- The second form, popular in journal articles, is the alternative or **directional hypothesis**. The investigator makes a prediction about the expected outcome, basing this prediction on prior literature and studies on the topic that suggest a potential outcome. For example, the researcher may predict that "Scores will be higher for Group A than for Group B" on the dependent variable or that "Group A will change more than Group B" on the outcome. These examples illustrate a directional hypothesis because an expected prediction (e.g., higher, more change) is made. The following illustrates a directional hypothesis.

Example 7.4 *Directional Hypotheses*

Mascarenhas (1989) studied the differences between types of ownership (state-owned, publicly traded, and private) of firms in the offshore drilling industry. Specifically, the study explored such differences as domestic market dominance, international presence, and customer orientation. The study was a controlled field study using quasi-experimental procedures.

Hypothesis 1: Publicly traded firms will have higher growth rates than privately held firms.

Hypothesis 2: Publicly traded enterprises will have a larger international scope than state-owned and privately held firms.

Hypothesis 3: State-owned firms will have a greater share of the domestic market than publicly traded or privately held firms.

Hypothesis 4: Publicly traded firms will have broader product lines than state-owned and privately held firms.

Hypothesis 5: State-owned firms are more likely to have state-owned enterprises as customers overseas.

Hypothesis 6: State-owned firms will have a higher customer-base stability than privately held firms.

Hypothesis 7: In less visible contexts, publicly traded firms will employ more advanced technology than state-owned and privately held firms.

(Mascarenhas, 1989, pp. 585–588)

• Another type of alternative hypothesis is **nondirectional**—a prediction is made, but the exact form of differences (e.g., higher, lower, more, less) is not specified because the researcher does not know what can be predicted from past literature. Thus, the investigator might write, “There is a difference” between the two groups. An example follows which incorporates both types of hypotheses:

Example 7.5 *Nondirectional and Directional Hypotheses*

Sometimes directional hypotheses are created to examine the relationship among variables rather than to compare groups. For example, Moore (2000) studied the meaning of gender identity for religious and secular Jewish and Arab women in Israeli society. In a national probability sample of Jewish and Arab women, the author identified three hypotheses for study. The first is nondirectional and the last two are directional.

- H₁: Gender identity of religious and secular Arab and Jewish women are related to different sociopolitical social orders that reflect the different value systems they embrace.
- H₂: Religious women with salient gender identity are less socio-politically active than secular women with salient gender identities.
- H₃: The relationships among gender identity, religiosity, and social actions are weaker among Arab women than among Jewish women.
-

- Unless the study intentionally employs demographic variables as predictors, use nondemographic variables (i.e., attitudes or behaviors) as independent and dependent variables. Because quantitative studies attempt to verify theories, demographic variables (e.g., age, income level, educational level, and so forth) typically enter these models as intervening (or mediating or moderating) variables instead of major independent variables.
- Use the same pattern of word order in the questions or hypotheses to enable a reader to easily identify the major variables. This calls for repeating key phrases and positioning the variables with the independent first and concluding with the dependent in left-to-right order (as discussed in Chapter 6 on good purpose statements). An example of word order with independent variables stated first in the phrase follows.

Example 7.6 *Standard Use of Language in Hypotheses*

1. There is no relationship between utilization of ancillary support services and academic persistence for non-traditional-aged women college students.
 2. There is no relationship between family support systems and academic persistence for non-traditional-aged college women.
 3. There is no relationship between ancillary support services and family support systems for non-traditional-aged college women.
-

A Model for Descriptive Questions and Hypotheses

Consider a model for writing questions or hypotheses based on writing descriptive questions (describing something) followed by inferential questions or hypotheses (drawing inferences from a sample to a population). These questions or hypotheses include both independent and dependent variables. In this model, the writer specifies descriptive questions for *each* independent and dependent variable and important intervening or moderating variables. Inferential questions (or hypotheses) that relate variables or compare groups follow these descriptive questions. A final set of questions may add inferential questions or hypotheses in which variables are controlled.

Example 7.7 *Descriptive and Inferential Questions*

To illustrate this approach, a researcher wants to examine the relationship of critical thinking skills (an independent variable measured on an instrument)

to student achievement (a dependent variable measured by grades) in science classes for eighth-grade students in a large metropolitan school district. The researcher controls for the intervening effects of prior grades in science classes and parents' educational attainment. Following the proposed model, the research questions might be written as follows:

Descriptive Questions

1. How do the students rate on critical thinking skills? (A descriptive question focused on the independent variable)
2. What are the student's achievement levels (or grades) in science classes? (A descriptive question focused on the dependent variable)
3. What are the student's prior grades in science classes? (A descriptive question focused on the control variable of prior grades)
4. What is the educational attainment of the parents of the eighth-graders? (A descriptive question focused on another control variable, educational attainment of parents)

Inferential Questions

1. Does critical thinking ability relate to student achievement? (An inferential question relating the independent and the dependent variables)
 2. Does critical thinking ability relate to student achievement, controlling for the effects of prior grades in science and the educational attainment of the eighth-graders' parents? (An inferential question relating the independent and the dependent variables, controlling for the effects of the two controlled variables)
-

This example illustrates how to organize all the research questions into descriptive and inferential questions. In another example, a researcher may want to compare groups, and the language may change to reflect this comparison in the inferential questions. In other studies, many more independent and dependent variables may be present in the model being tested, and a longer list of descriptive and inferential questions would result. I recommend this descriptive-inferential model.

This example also illustrates the use of variables to describe as well as relate. It specifies the independent variables in the first position in the questions, the dependent in the second, and the control variables in the third. It employs demographics as controls rather than central variables in the questions, and a reader needs to assume that the questions flow from a theoretical model.

MIXED METHODS RESEARCH QUESTIONS AND HYPOTHESES

In discussions about methods, researchers typically do not see specific questions or hypotheses especially tailored to mixed methods research. However, discussion has begun concerning the use of mixed methods questions in studies and also how to design them (see Creswell & Plano Clark, 2007; Tashakkori & Creswell, 2007). A strong mixed methods study should start with a mixed methods research question, to shape the methods and the overall design of a study. Because a mixed methods study relies on neither quantitative or qualitative research alone, some combination of the two provides the best information for the research questions and hypotheses. To be considered are what types of questions should be presented and when and what information is most needed to convey the nature of the study:

- Both qualitative and quantitative research questions (or hypotheses) need to be advanced in a mixed methods study in order to narrow and focus the purpose statement. These questions or hypotheses can be advanced at the beginning or when they emerge during a later phase of the research. For example, if the study begins with a quantitative phase, the investigator might introduce hypotheses. Later in the study, when the qualitative phase is addressed, the qualitative research questions appear.
- When writing these questions or hypotheses, follow the guidelines in this chapter for scripting good questions or hypotheses.
- Some attention should be given to the order of the research questions and hypotheses. In a two-phase project, the first-phase questions would come first, followed by the second-phase questions so that readers see them in the order in which they will be addressed in the proposed study. In a single-phase strategy of inquiry, the questions might be ordered according to the method that is given the most weight in the design.
- Include a **mixed methods research question** that directly addresses the mixing of the quantitative and qualitative strands of the research. This is the question that will be answered in the study based on the mixing (see Creswell & Plano Clark, 2007). This is a new form of question in research methods, and Tashakkori and Creswell (2007, p. 208) call it a “hybrid” or “integrated” question. This question could either be written at the beginning or when it emerges; for instance, in a two-phase study in which one phase builds on the other, the mixed methods questions might be placed in a discussion between the two phases. This can assume one of two forms. The first is to write it in a way that conveys the *methods* or *procedures* in a study (e.g., Does the qualitative data help explain the results from the initial quantitative phase of the study? See

Creswell & Plano Clark, 2007). The second form is to write it in a way that conveys the *content* of the study (e.g., Does the theme of social support help to explain why some students become bullies in schools? (see Tashakkori & Creswell, 2007.)

● Consider several different ways that all types of research questions (i.e., quantitative, qualitative, and mixed) can be written into a mixed methods study:

- Write separate quantitative questions or hypotheses and qualitative questions. These could be written at the beginning of a study or when they appear in the project if the study unfolds in stages or phases. With this approach, the emphasis is placed on the two approaches and not on the mixed methods or integrative component of the study.
- Write separate quantitative questions or hypotheses and qualitative questions and follow them with a mixed methods question. This highlights the importance of both the qualitative and quantitative phases of the study as well as their combined strength, and thus is probably the ideal approach.
- Write only a mixed methods question that reflects the *procedures* or the *content* (or write the mixed methods question in both a procedural and a content approach), and do not include separate quantitative and qualitative questions. This approach would enhance the viewpoint that the study intends to lead to some integration or connection between the quantitative and qualitative phases of the study (i.e., the sum of both parts is greater than each part).

Example 7.8 *Hypotheses and Research Questions in a Mixed Methods Study*

Houtz (1995) provides an example of a two-phase study with the separate quantitative and qualitative research hypotheses and questions stated in sections introducing each phase. She did not use a separate, distinct mixed methods research question. Her study investigated the differences between middle-school (nontraditional) and junior high (traditional) instructional strategies for seventh-grade and eighth-grade students and their attitudes toward science and their science achievement. Her study was conducted at a point when many schools were moving away from the two-year junior high concept to the three-year middle school (including sixth grade) approach to education. In this two-phase study, the first phase involved assessing pre-test

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and post-test attitudes and achievement using scales and examination scores. Houtz then followed the quantitative results with qualitative interviews with science teachers, the school principal, and consultants. This second phase helped to explain differences and similarities in the two instructional approaches obtained in the first phase.

With a first-phase quantitative study, Houtz (1995, p. 630) mentioned the hypotheses guiding her research:

It was hypothesized that there would be no significant difference between students in the middle school and those in the junior high in attitude toward science as a school subject. It was also hypothesized that there would be no significant difference between students in the middle school and those in the junior high in achievement in science.

These hypotheses appeared at the beginning of the study as an introduction to the quantitative phase. Prior to the qualitative phase, Houtz raised questions to explore the quantitative results in more depth. Focusing in on the achievement test results, she interviewed science teachers, the principal, and the university consultants and asked three questions:

What differences currently exist between the middle school instructional strategy and the junior high instructional strategy at this school in transition? How has this transition period impacted science attitude and achievement of your students? How do teachers feel about this change process?

(Houtz, 1995, p. 649)

Examining this mixed methods study shows that the author included both quantitative and qualitative questions, specified them at the beginning of each phase of her study, and used good elements for writing both quantitative hypotheses and qualitative research questions. Had Houtz (1995) developed a mixed methods question, it might have been stated from a *procedural* perspective:

How do the interviews with teachers, the principal, and university consultants help to explain any quantitative differences in achievement for middle-school and junior high students?

Alternatively, the mixed methods question might have been written from a *content* orientation, such as:

How do the themes mentioned by the teachers help to explain why middle-school children score lower than the junior high students?

Example 7.9 *A Mixed Methods Question Written in Terms of Mixing Procedures*

To what extent and in what ways do qualitative interviews with students and faculty members serve to contribute to a more comprehensive and nuanced understanding of this predicting relationship between CEEPT scores and student academic performance, via integrative mixed methods analysis?

(Lee & Greene, 2007)

This is a good example of a mixed methods question focused on the intent of mixing, to integrate the qualitative interviews and the quantitative data, the relationship of scores and student performance. This question emphasized what the integration was attempting to accomplish—a comprehensive and nuanced understanding—and at the end of the article, the authors presented evidence answering this question.

SUMMARY

Research questions and hypotheses narrow the purpose statement and become major signposts for readers. Qualitative researchers ask at least one central question and several subquestions. They begin the questions with words such as *how* or *what* and use exploratory verbs, such as *explore* or *describe*. They pose broad, general questions to allow the participants to explain their ideas. They also focus initially on one central phenomenon of interest. The questions may also mention the participants and the site for the research.

Quantitative researchers write either research questions or hypotheses. Both forms include variables that are described, related, categorized into groups for comparison, and the independent and dependent variables are measured separately. In many quantitative proposals, writers use research questions; however, a more formal statement of research employs hypotheses. These hypotheses are predictions about the outcomes of the results, and they may be written as alternative hypotheses specifying the exact results to be expected (more or less, higher or lower of something). They also may be stated in the null form, indicating no expected difference or no relationship between groups on a dependent variable. Typically, the researcher writes the independent variable(s) first, followed by the dependent variable(s). One model for ordering the questions in a quantitative proposal is to begin with descriptive questions followed by the inferential questions that relate variables or compare groups.

I encourage mixed methods researchers to construct separate mixed methods questions in their studies. This question might be written to emphasize the procedures or the content of the study, and it might be placed at different points. By writing this question, the researcher conveys the importance of integrating or combining the quantitative and qualitative elements. Several models exist for writing mixed methods questions into studies: writing only quantitative questions or hypotheses and qualitative questions, or writing both quantitative questions or hypotheses and qualitative questions followed by a mixed methods question, or writing only a mixed methods question.

WRITING EXERCISES

Writing Exercises

1. For a qualitative study, write one or two central questions followed by five to seven subquestions.
2. For a quantitative study, write two sets of questions. The first set should be descriptive questions about the independent and dependent variables in the study. The second set should pose questions that relate (or compare) the independent variable(s) with the dependent variable(s). This follows the model presented in this chapter for combining descriptive and inferential questions.
3. Write a mixed methods research question. Write it first as a question incorporating the procedures of your mixed methods study and then rewrite it to incorporate the content. Comment on which approach works best for you.

ADDITIONAL READINGS

Creswell, J. W. (1999). Mixed-method research: Introduction and application. In G. J. Cizek (Ed.), *Handbook of educational policy* (pp. 455–472). San Diego: Academic Press.

In this chapter, I discuss the nine steps in conducting a mixed methods study. These are as follows:

1. Determine if a mixed methods study is needed to study the problem;
2. Consider whether a mixed methods study is feasible;
3. Write both qualitative and quantitative research questions;

4. Review and decide on the types of data collection;
5. Assess the relative weight and implementation strategy for each method;
6. Present a visual model;
7. Determine how the data will be analyzed;
8. Assess the criteria for evaluating the study; and
9. Develop a plan for the study.

In writing the research questions, I recommend developing both qualitative and quantitative types and stating within them the type of qualitative strategy of inquiry being used.

Tashakkori, A., & Creswell, J. W. (2007). Exploring the nature of research questions in mixed methods research. Editorial. *Journal of Mixed Methods Research*, 1(3), 207–211.

This editorial addresses the use and nature of research questions in mixed methods research. It highlights the importance of research questions in the process of research and discusses the need for a better understanding of the use of mixed methods questions. It asks, "How does one frame a research question in a mixed methods study?" (p. 207). Three models are presented: writing separate quantitative and qualitative questions, writing an overarching mixed methods question, or writing research questions for each phase of a study as the research evolves.

Morse, J. M. (1994). Designing funded qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 220–235). Thousand Oaks, CA: Sage.

Janice Morse, a nursing researcher, identifies and describes the major design issues involved in planning a qualitative project. She compares several strategies of inquiry and maps the type of research questions used in each strategy. For phenomenology and ethnography, the research calls for meaning and descriptive questions. For grounded theory, the questions need to address process, whereas in ethnomethodology and discourse analysis, the questions relate to verbal interaction and dialogue. She indicates that the wording of the research question determines the focus and scope of the study.

Tuckman, B. W. (1999). *Conducting educational research* (5th ed.). Fort Worth, TX: Harcourt Brace.

Bruce Tuckman provides an entire chapter on constructing hypotheses. He identifies the origin of hypotheses in deductive theoretical positions and in inductive observations. He further defines and illustrates both alternative and null hypotheses and takes the reader through the hypothesis testing procedure.