RESEARCH DESIGN

Qualitative, Quantitative, and mixed methods approaches

SECOND EDITION

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Brief Contents

CHAPTER ONE
A Framework
For design

In the past two decades, research approaches have multiplied to a point at which investigatory or inquires have many choices. For those designing a proposal or plan, I recommend that a general framework be adopted to provide guidance about all facets of the study, from assessing the general philosophical ideas being the inquiry to the detailed data collection and analysis procedures. Using an extant framework also allows researchers to lodge their plans in ideas well grouped in the literature and recognized by audiences (e.g., faculty committee) that read and support proposals for research.

What frameworks exist for designing a proposal. Although different types and terms abound in the literature, I will focus on three: quantitative, qualitative, and mixed methods approaches. The first has been available to the social and human scientist for years, the second has emerged primarily during the last three or four decades, and the lasts is new and still developing in form and substance.

This chapter introduces the reader o the three approaches to research, I suggest that to understand them, the proposal developer needs to consider three framework elements: philosophical assumptions about what constitutes knowledge claims; general procedures of research called strategies of inquiry, and detailed procedures of data collection, analysis, and writing, called methods. Qualitative, quantitative, and mixed methods approaches frame each of these elements differently, and these differences are identified and discussed in this chapter. Then typical scenarios that combine he three elements are advanced, followed by the reasons whey one would choose one approach over another in

designing a study. This discussion will not be a philosophical treatise on the nature of knowledge, but it will provide a practical g rounding in some of the philosophical ideas behind research.

THREE ELEMENTS OF INQUIRY

In the first edition of this book, I used two approaches – qualitative and quantitative. I described each in terms of different philosophical assumptions about the nature of reality, epistemology, values, the rhetoric of research, and methodology (Creswell, 1994). Several development in the last decade have caused a reexamination of this stance.

- Mixed methods research has come of age. To include only quantitative and qualitative methods falls short of the major approaches being used today in the social and human sciences.

- Other philosophical assumptions beyond those advanced in 1994 have been widely discussed in the literature. Most notably, critical perspectives, advocacy/participatory perspectives, and pragmatic ideas (e.g., see Lincoln and Guba, 2000; Tashakkori and Taddile, 1998) are being extensively discussed. Although philosophical ideas remain largely "hidden" in research (Slife and Williams, 1995), they still influence the practice of research and need to be identified.

- The situation today is less quantitative versus qualitative and more how research practices lie some where on a continuum between the tow (e.g., Newman and Benz, 1998). The best that can be said is that studies tend to be more quantitative or qualitative in nature. Thus later in the chapter I introduce typical scenarios of quantitative, qualitative, and mixed methods research.

- Finally, the practice of research (such as writing a proposal) involves much more than philosophical assumptions. Philosophical ideas must be combined with broad approaches to research (Strategies) and implemented with specific procedure (methods). Thus, a framework is needed that combines the elements of philosophical ideas, strategies, and method into the three approaches to research.

Crotty's (1998) ideas established the ground work for this frame work. He suggested that in designing a research **proposal,** we consider four questions:

1. What epistemology --- theory of knowledge embedded in the theoretical perspective --- informs the research (e.g., objectivism, subjectivism, etc.)?
2. What theoretical perspective –-- philosophical stance-lies behind the methodology in questions (e.g., objectivism, subjectivism. etc)?
3. What methodology --- strategy or plan of action that links methods to outcomes --- governs our choice and use of methods) e.g., experimental research, survey research, ethnography, etc.)?
4. What methods --- techniques and procedures --- do we propose to use (e.g., questionnaire, interview, focus group, etc).

These four questions show the interrelated levels of decisions that go into the process of designing research. Moreover, these are aspects that inform a choice of approach, ranging from the broad assumptions that are brought to a project to the more practical decisions made about how to collect and analyze data.

With these ideas in mind, I conceptualized Crotty's model to address three questions central to the design of research:

1. What knowledge claims are being made by the researcher (including a theoretical perspective)?
2. What strategies of inquiry will inform the procedures?

3. What methods of data collection and analysis will be used?

Next, I drew a picture, as shown in Figure 1.1. This display how three elements of inquiry (i.e., knowledge claims, strategies, and methods) combine to form different approaches to research. These approaches, in turn, are translated into processes in the design of research. Preliminary steps in designing a research proposal, then, are to assess the knowledge claims brought to the study, to consider the strategy of inquiry that will be used, and to identify specific methods. Using these three elements, a researcher can then identify either the quantitative, qualitative, or mined methods approach to inquiry.

Alternative knowledge Claims

Setting a knowledge claim means that researchers start a project with certain assumptions about how they will learn and what they will learn during their inquiry. These claims might be called paradigms (Lincoln and Guba, 2000; Martens, 1998); or broadly conceived research methodologies (Neuman, 2000). Philosophically, researchers make claims about what is knowledge (ontology), how we know it (epistemology), what values go into it (axiology), how we write about it (rhetoric), and the processes for studying it (methodology) (Creswell, 1994). Four schools of thought about knowledge claims will be discussed: post positivism, constructivism, advocacy participatory, and pragmatism. The major elements of each position are presented in Table 1.1. In discussions to follow, I will attempt to translate the broad philosophical ideas of these positions into practice.

Postpositive knowledge claims

Traditionally, the psotpositvist assumptions have governed claims about what warrants knowledge. This position is sometimes called the "scientific method" or doing "science" research. It is also called quantitative research, positivist/postpositivist research, empirical science, and postpostivism. The last term, "postpositivism," refers to the thinking after positivism, challenging the traditional notion of the absolute truth of knowledge (Phiillips and Burbules, 2000) and recognizing that we cannot be "positive" about our claims of knowledge when studying the behavior and actions of humans. The postpositive tradition comes from 19th century writers such as Comte, mil, Durkheim, Newton, and Locke (Smith, 1983), and it has been most recently articulated by writers such as Phillips and Burbules (2000).

Postpositivism reflects ad deterministic philosophy in which causes probably determine effects or outcomes. Thus, the problems studied by psotpositivits reflect a need to examine causes that influence outcomes, such as issues examined in experiments. It is also reductionistic in that the intent is to reduce he ideas into a small, discrete set of ides to test, such as the variable that constitute hypotheses and research questions. The knowledge that develops through a postpositivist lens is based on careful observation and measurement of the objective reality that exists "out there" in the world. Thus, developing numeric measures of observations and studying the behavior of individual become paramount for a psotpositviist. Finally, there are laws or theories that govern the world, and these need to be tested or verified and refined so that we can understand the world. Thus, in the scientific method – the accepted approach to research by psotpostivists- an individual begins with a theory, collects data that either supports or refutes the theory, and then makes necessary revisions before additional tests are conducted.

In reading Phillips and burbles (2000), one can gain a sense of the key assumptions of this position, such as the following.

1. That knowledge is conjectural (an anti-foundational)- absolute truth can never be found. Thus, evidence established in research is always imperfect and fallible. It is for this reason that researchers do not proved hypotheses and it stead indicate a failure to reject.

2. Research is the process of making claims and then refining or abandoning some of them for other claims more strongly war ranted. Most quantitative research, for example, starts with the test of a theory.

3. Data, evidence, and rational considerations shape knowledge. In practice, the researcher collects information on instruments based on measures completed by the participants or by observations recorded by the researcher.

4. Research seeks to develop relevant true statements, ones that can serve to explain the situation that is   of concern or that descries the causal relationships of interest. In quantitative studies, researchers advance the relationship among variables and pose this in terms of questions or hypotheses.

5. Being objective is an essential aspect of competent inquiry, and for this reason researchers must examine methods and conclusions for bias. For example, standards of validity and reliability are important in quantitative research.

Socially Constructed knowledge claims

Others claim knowledge through an alternative process and set of assumptions. Social constructivism (often combined with itnerpetivism; se Mertens, 1998) in such a perspective. The ideas came from Mannheim and from works such as Berger and Luckmann's The Social construction of Reality (1967) and Lincoln and Guba's Naturalistic Inquiry (1985). More recent writers who have summarized this position are Lincoln and Guba (2000), Schwandt (2000), Neuman (2000), and Crotty (1998),

among others. Assumptions identified in these works hold that individuals seek understanding of the world in which they live and work. They develop subjective meanings of their experiences-meanings directed toward certain objects or things. These meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a few categories or ideas. The goal of research, then, is to rely as much as possible on the participants views of the situation being studied. The questions become broad and general so hat the participants can construct the meaning of a situation, a meaning typically forged in discussions or interactions with other persons. The more open-ended he questioning, the better, as the researcher listens carefully to what people say or do in their life setting. Often these subjective meanings are negotiated socially and historically. In other words, they are not simply imprinted on individuals but are formed through interaction with others (hence social constructivism) and through historical and cultural norms that operate in individuals' lives. Thus, constructivist researchers often address the "process" of interaction among individuals. They also focus on the specific contexts in which people live and work in order to understand the historical and cultural settings of the participants. Researchers recognize that their own background shapes their interpretation, and they "position themselves" in the research to acknowledge how their interpretation flows from their own personal, cultural, and historical experiences. The researcher's intent, then, is to make sense of (or interpret) the meanings others have about the world. Rather than starting with a theory (as in postpostivism) inquirers generate or inductively develop a theory or pattern of meaning.

For example, in discussing constructivism Crotty (1998) identified several assumptions:

1. Meanings are constructed by human beings as they engage with the world they are interpreting. Qualitative researchers tend to use open-ended questions so that participants can express their views.

2. Humans engage with their world and make sense of it based on their historical and social perspective-we are all born into a world of meaning bestowed upon us by our culture. Thus, qualitative researchers seek to understand the context or setting of the participants through visiting this context and gathering information personally. They also make an interpretation of what they find, an interpretation shaped by the researchers' own experiences and backgrounds.

3. The basic generation of meaning is always social, arising in and out of interaction with a human community. The process of qualitative research is largely inductive, with the inquire generating meaning from the data collected in the field.

Advocacy/participatory knowledge claims

Another group of researchers claims knowledge through an advocacy/participatory approach. This position arose during the 1980s and 1990s from individuals who felt that the psotpostivist assumptions imposed structural laws and theories that did not fit marginalized individuals or groups or did not adequately address issues of social justice, historically, some of the advocacy/participatory (or emacipatory) writers have drawn on the works of Marx, Adorno, Marcuse, Habermas, and Freire (Neuman, 2000). More recently, works by Fay (1987), Heron and Reason (1997), and Kemmis and Wilkinson (1998) can be read for this perspective. In the main, these inquires felt that the constructivist stance did not go far enough in advocating for an action agenda to help marginalized people. These researchers believe that inquiry needs to be intertwined with politics and a political agenda. Thus, the research

should contain an action agenda for reform that may change the lies of the participants, the institutions in which individuals work or live, and the researcher's life. Moreover, specific issues needed to be addressed that speak to important social issues of the day, issues such as empowerment, inequality, oppression, domination, suppression, and alienation. The advocacy researcher often begins with one of these issues as the focal point of research. This research also assumes that the inquirer will proceed collaboratively so as to not further marginalize the participants as a result of the inquiry. In this sense, the participants may help design questions, collect data, analyze information, or receive rewards for participating in the research. The "voice" for the participants becomes a united voice for reform and change. This advocacy may mean providing a voice for these participants, raising their consciousness, or advancing an agenda for change to improve the lives of the participants.

With these knowledge claims are stances for groups and individuals in society that may be marginalized or disenfranchised. Therefore, theoretical perspectives may be integrated with the philosophical assumptions that construct a picture of the issues being examined to the people to be studied, and the changes that are needed. Some of these theoretical perspectives are listed blow.

- Feminist perspectives center and make problematic women's diverse situations and the institutions that frame those situations. Research topics may include policy issues related to realizing social justice for women in specific contexts or knowledge about oppressive situations for women (Olesen, 200).
- Racialized discourses raise important questions about5 the control and production of knowledge, particularly knowledge about people and communities of color (Ladson-Billings, 2000).

- Critical theory perspectives are concerned with empowering human beings to transcend the constraints placed on them by race, class, and gender (Fay, 1987).

- Queer theory focuses on individuals calling themselves lesbians, gay, bisexuals, or transgender people. The research can be less objectifying, can be more concerned with cultural and political means, and can convey the voices and experiences of individuals who have been suppressed (Gamson, 2000).

- Disability inquiry addresses the meaning of inclusion in schools and encompasses administrators, teachers, and parents who have children with disabilities (Mertens, 1998).

These are diverse groups and topics, and my summaries here are inad3equate generalizations. It is helpful to view the summary by Kemmis and Wilkinson (1998) of key features of the advocacy or participatory forms of inquiry:

1. Participatory action is recursive or dialectical and is focused on brining about change in practices. Thus, at the end of advocacy/participatory studies, researchers advance an action agenda for change.

2. It is focused on helping individuals free themselves form constraints found in the media, in language, in work procedures. and in the relationships of power in educational settings. Advocacy/participatory studies often being with an important issue or stance about the problems in society, such as the need for empowerment.

3. It is emancipator in that it helps unshackle people form the constraints of irrational and unjust structures that limit self development and self-determination. The aim of advocacy/participatory studies is to create a political debate and discussion so that change will occur.

4. It is practical and collaborative because it is inquiry completed "with" other rather than "on" or "to" others. In this spirit, advocacy/participatory authors engage the participants as active collaborators in their inquires.

Pragmatic Knowledge claims

Another position about claims on knowledge comes form the pragmatist. Pragmatism derives form the work of Peirce, James, Mead, and Dewey (Cherryholmes, 1992). Recent writers include Rorty (1990). Murphy (1990), Patton (1990), and cherrholmes (1992). there are many forms of pragmatism. For many of them, knowledge claims arise out of actions, situations, and consequences rather than antecedent conditions (as in post positivism).there is a concern with applications-"what works" - and solutions to problems (Patton, 1990). Instead of methods being imp0rotant, the problem is most important, and researchers use all approaches to understand the problem, (see Rossman and Wilson, 1985). As a philosophical underpinning for mixed methods studies, Tashakkori and Teddlie (1998) and Patton (19990) convey the importance for focusing attention on the research problem is social science research and then using pluraistick approaches to derive knowledge about the problem. According to Cherrholmes (1992), Murphy (1990), and my own 9nterpretaions of these writers, pragmatism provides a basis for the following knowledge claims:

1. Pragmatism is not committed to any one system of philosophy and reality. This applies to mixed methods research in that assumptions when they engage in their research.
2. Individual researchers have a freedom of choice. They are " free" to choose the methods, techniques, and procedures of research that best meet their needs and purposes.
3. Pragmatists do not see the world as an absolute unity. In a similar way, mixed methods researchers look to many approaches to

collecting and analyzing data rather than subscribing to only one way (e.g. quantitative or qualitative).

4. Truth is what works at the time: it is not based in a strict dualism between the mind and reality completely independent of the mind. Thus, in mixed methods research, investigators use both quantitative and qualitative data because they work to provide the best understanding of a research problem.

5. Pragmatist researchers look to the "what" and "how" to research based on its intended consequences---where they want to go with it. Mixed methods researchers need to establish a purpose for their "mixing," a rational for the reasons why quantitative and qualitative data need to be mixed in the first place.

6. Pragmatists agree that research always occurs in social, historical, political, and other contexts. In this way, mixed methods studies may include a postmodern turn, a theoretical lens that is reflexive of social justice and political aims.

7. Pragmatists belives (Cherrolmes, 1992) that we need to stop asking questions about reality and the laws of nature. "they would simply like to change the subject" (Rorty, 1983, P. xiv)

Thus, for the mixed methods researcher, pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as to different forms of data collection and analysis in the mixed methods study.

Strategies of Inquiry

The researcher brings to the choice of a research design assumptions about knowledge claims. In additions, operating at a more applied level are strategies of inquiry (or traditions of inquiry, Creswell, 1998; or methodologies, Mertens, 1998) that provide specific direction for procedures in a research design. Like knowledge claims, strategies have multiplied over the years as computer technology has pushed forward

data analysis and the ability to analyze complex models, and as individuals have articulated new procedures for conducting social science research. These strategies of inquiry contribute to our overall research approach

The major strategies employed in the social sciences are discussed in chapters 9, 10, and 11 of this book. Rather than cover all or a large number of strategies, these chapter focus on those frequently used in the social sciences. Here I will introduce those that will be discussed later and that are cited in examples of research throughout the book. An overview of these strategies is shown in Table 1.2.

Strategies Associated with the quantitative Approach

During the late 19th century and throughout the 20th, strategies of inquiry associated with quantitative research were those that invoked the post positivist perspectives. These include the true experiments and the less rigorous experiments called quasi-experiments and correlation studies (Campbell and stanley, 1963), and specific single-subject experiments (cooper, Heron, and Heward, 1987: Neuman and Mc McCormick, 1995). More recently, quantitative strategies involved complex experiments with may variables and treatments (e.g. factorial designs and repeated measure designs). They also included elaborate structural equation models that incorporated causal paths and the identification of the collective strength of multiple variables. In this book, we will focus on two strategies of inquiry: experiments and surveys.

- Experiments include true experiments, with the random assignment of subjects to treatment conditions, as well as quasi-experiments that use nonrandomized designs (Keppel, 1991). Included within quasi-experiments are single-subject designs.

- Surveys include cross-sectional and longitudinal studies using questionnaires or structured interviews for data collection, with

the intent of generalizing from a sample to a population (Babbie, 1990)

Strategies Associated with the Qualitative Approach

In qualitative research, the numbers and types of approaches also become more clearly visible during the 1990s. Books have summarized the various types (such as the 19 strategies identified by Wolcott, 2001). And complete procedures are now available anon specific qualitative inquiry approaches. For example, clandinin and Connelly (2000) have constructed a picture of what "narrative researchers do," Moustakas (1994) discussed the philosophical tents and the procedures of the phenomenological method, and Strauss and Corbin (1990, 1998) have explicated the procedures of grounded theory. Wolcott (1999) has summarized ethnographic procedures, and Stake (19950 has identified the processes of case study research. In this book, illustrations will be drawn from the following strategies:

- Ethnographies, in which the researcher studies an intact cultural group in a natural setting over a prolonged period of time by collecting, primarily, observational data (Creswell, 1998). The research process is flexible and typically evolves contextually in response to the lived realties encountered in the field setting (Lecompte and Schensul, 1999).

- Grounded theory, in which the researcher attempts to derive a general, abstract theory of a process, action, or interaction grounded in the views of participants in a study. This process involves using multiple stages of data collection and the refinement and interrelationship of categories of information (Strauss and Corbin, 1990, 1998). Two primary characteristics of this design are the constant comparison of data with emerging categories and theoretical sampling of different groups to maximize the similarities and the differences of information

- Case studies, in which the researcher explores in depth a program, and event, and activity, a process, or one or more individuals. The case (s) are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1995).

- **Phenomenological research**, in which the researcher identifies the "essence" of human experiences concerning a phenomenon, as described by participants in a study. Understanding the "lived experiences" marks phenomenology as a philosophy as well as a method, and the procedure involves studying a small number of subjects through extensive and prolonged engagement to develop patterns and relationships of meaning (Moustaas, 1994). In this process, the researcher "brackets" this or her own experiences in order to understand those of the participants in the study (Nieswiadomy, 1993.

- Narrative research, a form of inquiry in which the researcher studies the lives of individuals and asks one or more individuals to provide stories about their4 lives. This information is then retold or restoried by the researcher into a narrative chronology. In the end, the narrative combines views form the participant's life with those of the researcher's life in a collaborative narrative (clandinin and Connelly, 2000).

Strategies Associated with the Mixed Methods Approach

Less well known than either the quantitative or qualitative strategies are those that involve collecting and analyzing both forms of data n a single study. The concept of mixing different methods probably originated in 1959, when Campbell and Fiske used multiple methods to study validity of psychological traits. They encouraged other to employ their "multi method matrix" to examine multiple approaches to data collection in a

study. This prompted others to mix methods, and soon approaches associated with field methods such as observations and interviews (qualitative data) were combined with traditional surveys 9quantiative data) (S.D. Sieber, 1973). Recognizing that all methods have limitations, researchers felt that biases inherent in any single method could neutralize or cancel the biases of other methods. Triangulating data sources-a means for seeking convergence a cross qualitative and quantitative methods -were born (Jack, 1979). From the original concept of triangulation emerged additional reasons for mixing different types of data. For example, the results form one method can help develop or ifnrom the other method (Green, Caracelli, and Graham, 1989). Alternatively, one method can be nested within another method to provide insight into different levels or units of analysis (Tashakkori and Teddlie, 1989). Or the methods can serve a larger, transformative purpose to change and advocate for marginalized groups, such as women, ethnic/racial minorities, members of gay and lesbian communities people with disabilities, and those who are poor (Mertens, 2003).

These reasons for mixing methods have led writers from around the world to develop procedures for mixed methods strategies of inquiry and to take he numerous terms found in the literature, such as multi method, convergence, integrated, and combine (Creswell, 1994) and shape procedures for research (Tashakkori and Teddle, 2003).

In particular, there general strategies and several variations within them will be illustrated in this book:

- Sequential procedures, in which the researcher seeks to elaborate on or expand the findings of one method with another method. This may involve beginning with a qualitative method for exploratory purposes and following up with a quantitative method with a large sample so that the researcher can generalize results to

a population. Alternatively, the study may begin with a quantitative method in which theories or concepts are tested, to be followed by a qualitative method involving detailed exploration with a few cases or individuals.

- Concurrent procedures, in which the researcher converges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. In this design, the investigator collects both forms of data at the same time during the study and then integrates the information in the interpretation of the overall results. Also, in this design, the researcher nests one form of data within another, larger data collection procedure in order to analyze different questions or levels or units in an organization.

- Transformative procedures, in which the researcher uses a theoretical lens (see chapter 7) as an overarching perspectives within a design that contains both quantitative an qualitative data. This lens profiles a framework for topics of interest, methods for collecting data, and outcomes or changes anticipated by the study. Within this lens could be a data collection method that involves a sequential or a concurrent approach.

Research Methods

The third major element that goes into a research approach is the specific methods of data collection and analysis. As shown in Table 1.3, it is useful to consider the full range of possibilities for data collection in any study, and to organize these methods by their degree of predetermined nature, their use of closed-ended versus open-ended questioning, and their focus for numeric versus non-numeric data

analysis. These method will be developed further in Chapters 9 through 11 as quantitative, qualitative, and mixed methods.

Researchers collect data on an instrument or test (e.g., a set of questions bout attitudes toward self-esteem) or gather information on a behavioral checklist (e.g., where researchers observe a worker engaged in using a complex skill). On the other end of the continuum, it might involve visiting a research site and observing the behavior of individuals without predetermined questions or conducting an interview in which the individual is allowed to talk openly about a topic largely without the use of specific question. The choice of methods by a researcher turns on whether the intent is to specify the type of information to be collected in advance of the study or to allow it to emerge from participants in the project. Also, the type of data may be numeric information gathered on scales of instruments or more text information, recording and reporting the voice of the participants. In some forms of data collection, both quantitative and qualitative data are collected. Instrument data may be augmented with open-ended observations, or census data may be followed by in-depth exploratory interviews.

THREE APPROACHES TO RESEARCH

The knowledge claims, the strategies, and the method all contribute to a research approach that tends to be more quantitative, qualitative or mixed. Table 1.4 creates distinction that may be useful in choosing an approach for a proposal. This table also includes practices of all three approaches that will be emphasized in the remaining chapters of this book.

Definitions can help further clarify the three approaches:

- A quantitative approach is one in which the investigatory primarily uses postpositive claims for developing knowledge (i.e., cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of the ories), employs strategies of inquiry such as experiments and surveys, and collect data on predetermined instruments that yield statistics data.

- Alternatively, a qualitative approach is one in which the inquirer often makes knowledge claims based primarily on constructivist perspectives (i.e., the multiple meanings of individual experiences meanings socially and historically constructed, with an intent of developing a theory or pattern) or advocacy/participatory perspectives (i.e., political, issue-oriented, collaborative, or change oriented) or both. It also sues strategies of inquiry such as narratives, phenomenologies, ethnographies, grounded theory studies, or case studies. The researcher collect open-ended, emerging data with the primary intent of developing themes from the data.

- Finally, a mixed methods approach is one in which the researcher tends to base knowledge claims on pragmatic grounds (e.g., consequence-oriented, problem-centered, and pluralistic). It employs strategies of inquiry that involve collecting data either simultaneously or sequentially to best understand research problem. The data collection also involves gathering both numeric information (e.g., on instruments) as well as text information (e.g., on interviews) so that the final database represents both quantitative and qualitative information.

To see how these three elements (knowledge claims, strategies, and methods) combine in practice. I have drafted several typical scenarios of research, as shown in Figure 1.2.

- Quantitative approach: postpositive knowledge claims, experimental strategy of inquiry, and pre-and posttest measures of attitudes.

In this scenario, the researcher tests a theory by specifying narrow hypotheses and the collection of data to support or refute the hypotheses. An experimental design is used in which attitudes are assessed both before and after an experimental treatment. The data are collected on an instrument that measures attitudes, and he information collected is analyzed using statistical procedures and hypothesis testing.

- Qualitative approach: constructivist knowledge claims, ethnographic design, and observation of behavior.

In this situation the researcher seeks to establish the meaning of a phenomenon from the view of participants. This means identifying a culture-sharing group and studying how it developed shared patterns of behavior over time (i.e., ethnography). One of the key elements of collecting data is to observe participants' behaviors by participating in their activities.

- Qualitative approach: participatory knowledge claims, narrative design, and open-ended interviewing.

For this study, the inquirer seeks to examine an issue related to oppression of individuals. To study this, the approach is taken of collecting stories of individuals oppression using a narrative approach. Individuals are interviewed at some length to determine how they have personally experienced oppression.

- Mixed methods approach: pragmatic knowledge claims, collection of both quantitative and qualitative data sequentially.

The researcher bases the inquiry on the assumption that collecting diverse types of data best provides on understanding of a research problem. The study begins with a broad survey in order to generalize

results to a population and then focuses, in a second phase, on detailed qualitative, open-ended interviews to collect detailed views from participants.

CRITERIA FOR SELECTING AN APPROACH

Given these three approaches, what factors affect a choice of one approach over another for the design of a proposal? Thee considerations play into this decision: the research problem the personal experiences of the researcher, an the audience (s) for whom the report will be written.

Match Between Problem and Approach

Certain types of social research problems call for specific approaches. A research problem, as discussed in Chapter 4, is an issue or concern that needs to be addressed (e.g., whether one type of intervention works better than another type of intervention). For example, if the problem better than another type of intervention). Fro example, if the problem is identifying factors that influence an outcome, the utility of an intervention, or understanding the best predictors in outcomes, then a quantitative approach is best. It is also the best approach to sue o test a theory or explanation. On the other hand, if a concept or phenomenon needs to be understood because little research has been done on it, then it merits a qualitative approach. Qualitative research is exploratory and is useful when the researcher does not know the important variable to examine. This type of approach may be needed because the topic is new, the topic has never been addressed with a certain sample or group of people, or existing theories do not apply with the particular sample or group   under study (Morse, 1991).

A mixed methods design is useful to capture the best of both quantitative and qualitative approaches. Fro example, a researcher may want to both generalize the findings to a population and develop a detailed view of the meaning of a phenomenon or concept for individuals. In this research, the inquirer first explores generally to learn about what variables to study and then studies hose variables with a large sample of individuals. Alternatively, researchers may first survey a large number of individuals, then follow up with a few of them to obtain their specific language and voices about the topic. In these situations the advantages of collecting both closed-ended quantitative data and open-ended qualitative data prove advantageous to best understand a research problem.

Personal Experiences

Into this mix of choice also comes the researcher's own personal training and experiences. An individual trained in technical, scientific writing, statistics, and computer statistical programs who is also familiar with quantitative journals in the library would most likely choose the quantitative design. The qualitative approach incorporates much more of a literary form of writing, computer text analysis programs, and experience in conducting open-ended interviews and observations.

The mixed methods researcher needs to be familiar with both quantitative and qualitative research. This personals needs un understanding of the rationales for combining both forms of data so that they can be articulated in a proposal. The mixed methods approach also requires knowledge about the different mixed methods designs that help organize procedures for a study.

Because quantitative studies are the traditional mode of research, carefully worked out procedures and rules exist for the research. This means that researchers may be more comfortable with the highly

systematic procedures of quantitative research. Also, for some individuals, it can be uncomfortable to challenge accepted approaches among some faculty by using qualitative and advocacy/participatory approaches to inquiry. On the other hand, qualitative approaches allow room to be innovative and to work more within researcher-designed frameworks. They allow more creative, literary-style writing, a form that individuals may like to use. For advocacy/participatory writers, there is undoubtedly a strong personal stimulus to pursue topics that are of personal interest- issues that relate to marginalized people and an interest in creating a better society for them and everyone.

For the mixed methods researcher, a project will take extra time because of the need to collect and analyze both quantitative research and the flexibility of qualitative inquiry.

Audience

Finally, researchers are sensitive to audiences to whom they report their research. These audiences m be journal editors, journal readers, graduate committees, conference attendees, or colleagues in the field. Students should consider the approaches typically supported and used by their advisers. The experiences of these audiences with quantitative, qualitative, or mixed methods studies will shape the decision made about this choice.

Summary

One preliminary consideration before designing a proposal is to identify a framew2ork for the study. Three approaches to research are discussed in this chapter: quantitative, qualitative, and mixed methods research. They contain philosophical assumptions about knowledge claims, strategies of inquiry, and specific research methods. When philosophy, strategies, and methods are combined, they provide different frameworks for conducting research. The choice of which approach to use is based on the research

problem, personal experiences, and the audiences for whom one seeks to write.

Additional Readings

Cherry Holmes, C.H. (1992). Notes on pragmatism and scientific realism. Educational researcher, 14 August-September, 13-17

Cleo cherry Holmes contrasts pragmatism with traditional scientific research. The strengths of this article are the numerous citations to writers about pragmatism and a clarification of the alternative versions of pragmatism. Cherry Holmes clarifies his own stance by indicating that pragmatism is driven by anticipated consequences, a reluctance to tell a true story, and the idea that there is an external world independent of our minds.

Crotty, M. (1998). The foundations of social research: meaning and perspective in the research process. London: Sage.

Michale cortty offers a useful framework for tying together the many epistemological issues theoretical perspectives, methodology, and methods of social research. He interrelates the four components of the research process and shows in Table 1 a representative sampling of topics of each component. He then goes on to discuss nine different theoretical orientation in social research, such as postmodernism, feminism, critical inquiry, interpretivism, constructions and positivism.

Kemmis, S., And Wilkinson, M. (1998). Participatory aciton researcha nd the study of practice. In B. Atweh, S. Kemmis, and P. Weeks (Eds.) , Action research in practice: partnerships for social justice in education (pp. 21-36). New York: Routledge.

Stephen kemmis and Mervyn Wilkinson provide an excellent overview of participatory research. In particular, they note the six major features of this inquiry approach and then discuss how action research is practiced at the individual, the social, or both levels.

Lincoln, Y. S., & Guba, E. G. (2000). Paradigmatic controversies, contradictions, and emerging confluences In N.K. Denzin, Y.S. Lincoln, & E. G. Guba (Eds.), Handbook of qualitative research (2nd ed.,pp.163-188). thousand Oaks, CA: Sage.

Uvonna Lincoln and Egon Guba have provided the basic beliefs of five alternative inquiry paradigms in social science research. These extend the earlier analysis provided in the first edition of the Handbook and include positivism, psotopsitivism, critical theory, constructivism, and participatory paradigms. Each is presented in terms of ontology (i.e., nature of reality), , epistemology (i.e., how we know what we know), and methodology (i.e., the process of research). The participatory paradigm adds another alternative paradigm to those originally advanced in the first edition. After briefly presenting these five ap0praches, the authors contrast them in terms of seven issues, such as the nature of knowledge and how knowledge accumulates.

Neuman, W,L. (2000). Social research methods: Qualitative and quantitative approaches (4th ed.). Boston: Allyn and Bacon.

Lawrence Neumann provides a comprehensive research methods text as an introduction to social science research. Especially helpful in understanding the alternative manning of methodology is chapter 4, title "The meanings of methodology" in which he contrasts three methodologies- positivist social science, interpretive social science, and critical social science - in terms of eight questions (e.g., What constitutes an explanation or theory of social reality? What does good evidence of factual information look like?)

Phillips, D, C., and Burbules, N. C. (2000). Post positivism and educational research. Lanham, MD: Rowman and Littlefield.

D. C. Phillips and Nicholas Burbules summarize the major ideas of postpositivist thinking. Through two chapters. "What is Post positivism?"

and "Philosophical commitments of Post positivist Researchers," the authors advance major ideas about post positivism, especially those that differentiate it from positivism. These include knowing that human knowledge is conjectural rather than unchallengeable, and that our warrants for knowledge can be withdrawn in light of further investigations.

CHAPTER TWO

REVIEW OF THE LITERATURE

In addition to selecting a quantitative, qualitative, or mixed methods approach, the proposal designer also needs to begin reviewing the scholarly literature. Literature reviews help researchers limit the scope of their inquiry, and they convey the impotence to studying a topic to readers.

This chapter continues the discussion about preliminary choices to e made before launching into a proposal. it begins with a discussion about selecting a topic and writing this topic down so that he researcher can continually reflect on it. At this point, researchers also need to consider whether the topic can and should be researched. Then, the discussion moves into the actual process of reviewing the literature. It begins by addressing the general purpose for using literature in a study, then turns to principles helpful in providing a literature review in qualitative, quantitative, and mixed methods studies.

IDENTIFYING A TOPIC

Before considering what literature to sue in a project, first identify a topic to study and reflect on whether it is practical and useful thunder take the study. Describe the topic in a few words or in a short phrase. The topic becomes the central idea to learn about or to explore in a study.

There are several ways in which researchers often gain some insight into their topic when they are beginning their research. My assumption will be that the topic is chosen by the researcher and not be an adviser or committee member. Several strategies can help start the process of identifying a topic.

One way is to draft a brief title for the study, I am surprised at how often researchers fail to draft a title early in their projects. In my opinion, the "working title" becomes a major road sign in research- a tangible idea to keep refocusing on and changing as the project goes on (see Glesne and Peshkin, 1992). I find that in my research, this topic grounds me and profiles a sign of that I am studying, as well as a sign often used in conveying to others the central notion of my study. When students first provide their prospectus of a research study to me, I ask them to supply a working title if they do not already have one on the paper.

How would this working title be written? Try completing this sentence: "My study is about . . . ." A response might bone "My study is about at-risk children in the junior high" or "my study is about helping college faculty become better researchers." At this stage in the design, frame the answer to the question so that another scholar might easily grasp the meaning of the project. A common shortcoming of beginning researchers is that they frame their study in complex and erudite language. This perspective may result from evading published article that have undergone numerous revisions before being set in print. Good, sound research project begin with straightforward, uncomplicated thoughts, easily read and understood.

These easily understood tiles should also reflect principles of good titles. Wilkinson (1991) provides useful advice for creating a title: Be brief and avoid wasting words, Eliminate unnecessary words such as "An Approach to" or "A study of." Use a single title or a double title. An example of a double title is "an Ethnography: Understanding a Child's Perception of War." In addition to Wilkinson's thoughts, consider a title no longer than 12 words, eliminate most articles and prepositions, and make sure that it includes the focus or topic of the study.

Another strategy for topic development is to pose the topic as a brief question. What question needs to be answered in the proposed

study? A researcher might ask "What treatment is best for depression?" "What does it mean to be Arabic in American society today?." or "What brings people to tourist sites in the Midwest?" When drafting questions such as these, focus on the key topic in the question as the major signpost for the study. Consider how this question night be expanded later (see chapters 5 and 6, on the purpose statement and on research question and hypotheses, respectively) to be more descriptive of you study.

A Researchable topic

To actively elevate this topic to a research study calls also for reflecting on whether the topic can and should be researched. A topic can be researched if researchers have participants willing to serve in the study, It also can be researched if investigators have resources at key points in the study, such as resources to collect data over a sustained period of time and resources to analyze the information, such as through data analysis or text analysis programs.

The question of should is more complex, Several factors might to into this decision. Perhaps the most important is whether the topic adds to the pool of research knowledge available on the topic. A first step in any project is to spend considerable time in the library examining the research on a topic (see later in this chapter for strategies for effectively using the library and library resources). This point cannot be overemphasized. Beginning researchers may advance a great study that is complete in every way, such as in the clarity of research questions, the comprehensiveness of data collection, and the sophistication of statistical analysis. After all that, the researcher may garner little support from faculty committees or conference planners because the study does not add "anything new" to the body of research on a topic. Ask, "How does this project contribute to the literature?" Consider how the study might

address a topic that has yet to be examined, extend the discussion by incorporating new elements, or replicate (or repeat) a study in new situations or with new participants.

The issue of whether the topic should be studied also relates to whether anyone outside the researcher's own immediate institution or area would be interested in the topic. Given two topics, one that might be of limited, regional interest and one of national interest, I would opt or the latter because its appeal to a general audience will help readers appreciate the worth of the study. Journal editors, committee members, conference planners, and funding agencies all like research that will reach a board audience. Finally, the should issue also relates to the researcher's personal goals. Consider the time it takes to complete a project, revise it, and disseminate the results. Any researcher should consider how the research study and its heavy input of the researcher's time will pay off in enhancing career goals, whether these goals relate to doing more research, obtaining a future position, or advancing toward a degree.

Before proceeding with a proposal or a study, one needs to weigh these factors and ask others for their reaction to a topic. Seek reactions from colleagues, noted authorizes in the field, academic advisers and faculty committee members, and colleagues.

PURPOSE OF THE LITERATURE REVIEW

The literature review in a research study accomplishes several purposes. It shares with the reader the results of other studies that are closely related to the study being reported. it relates a study to the larger ongoing dialogue in the literature about a topic, filling in gaps and extending prior studies (Coopera, 1984; Marshall and Rossman, 1999). It provides a frame work for establishing the impotence of the study as well

as a benchmark for comparing the results of a study with other findings. All or some of these reasons may be the foundation for writing the scholarly literature into a study (see Miller, 1991, for a more extensive list of purposes for using literature in a study). Beyond the question of why it is used is the issue of how it use might differ in the three approaches to research.

LITERATURE REVEIWS IN QUALITATIVE, QUANTITATIVE, AND MIXED METHODS RESEARCH

In qualitative research, inquirers use the literature in a manner consistent with the assumptions of learning from the participant, and not prescribing the questions that need to be answered from the researcher's stand point. One of the chief reasons for conducting a qualitative study is that the study is exploratory. This means that not much has been written about the topic or the population being studied, and the researcher seeks to listen to participants and build an understanding based on their ideas.

However, the use of the literature in qualitative research varies considerably. In theoretically oriented qualitative studies such as ethnographies or critical ethnographies, the literature on a cultural concept or a critical theory from the literature is introduced by researchers early in a study as an orienting framework. In grounded theory studies, case studies, and phenomenological studies, literature will serve less to set the stage for the study.

With an approach grounded in learning from participants and variation by type of qualitative research, we see several models for incorporating the literature in a qualitative study. I offer three placement locations. A literature review can be used in any or all of these locations. As shown in Table 2.1, you might include the literature in the introduction to a study. In this placement, the literature provides a

useful backdrop for the problem or issue that has led to the need for the study, such as who has been writing about it, who has studied ti, and who has indicated the impotence of styding the issue. This "framing" of the problem is, of course, contingent on available studies. One can find illustrations of this model in many qualitative studies employing different strategies of inquiry.

A second from is to reviews the literature in a separate section, a model typically used in quantitative research. This approach often appears when the audience consists of individuals or readers with a quantitative orientation. Moreover, in theory-oriented qualitative studies, such as ethnographies and critical theory studies or studies with an advocacy or emancipator aim, the inquirer might locate the theory discussion and literature in a separate second, typically towards the beginning of the study. Third, the research may incorporate the related literature in the final section of the study, where it is used to compare and contrast with the result (or themes or categories) that emerged from the study. This model is especially popular in grounded theory studies. I recommend it because it uses the literature inductively.

Quantitative research, on the other hand, includes a substantial amount of literature at the beginning of a study to provide direction for the research questions or hypotheses. In planning a quantitative study, the literature is often used at the beginning of a study to introduce a problem or to describe in detail the existing literature in a section titled "related literature" or "review of literature," or something similar. In addition, the literature is included in the end of a study in which the researcher compares the results of the study with the existing finds in the literature. In this model, the end of a study in which the researcher compares the results of the study with the existing finds in the literature. In this model, the quantitative researcher uses the literature deductively as a framework for the research questions or hypotheses.

A separate section on the "review of the literature" deserves special mention because it is a popular form for writing literature into a study. This literature review might take several different forms, and little consensus exists about a preferable form. Cooper (1984) suggests that literature reviews can be integrative, with the researchers summarizing broad themes in the literature. This model is popular in dissertation proposal and dissertation. A second form recommended by Cooper is a theoretical review, in which the researcher focuses on extant theory that relates to the problem under study,. This form appears in journal articles in which the author integrates the theory into the introduction to the study. A final form suggested by cooper is a metrological review, in which the researcher focuses on methods and definition. These reviews may provide not only a summary of studies but also an actual critique of the strengths and weaknesses of the method sections. Some authors use this form in dissertations and in "reviews of related literature" seconds in journal articles.

In a mixed methods study, the researcher uses either a qualitative or a quantitative approach to the literature depending on the type of mixed method design being used. In a sequential design, he literature is presented in each phase in a way consistent with the type of design being used in that phase. For example, if the study begins with a quantitative phase, then the investigator is likely to include a substantial literature review that helps to establish a rational for the research questions or hypotheses. If the study begins with a qualitative phase, then the literature is substantially less, and the researcher may incorporate it more into the end of the sty- an inductive approach to literature use. If the researcher advance a concurrent study with an equal weight and emphasis on both qualitative and quantitative data, then the literature may take either qualitative or quantitative forms. Ultimately, the approach to literature use in mixed methods project will depend on the

type of strategy and the relative weight given to the qualitative or quantitative research in the study.

My suggestions, then, for planning to use the literature in a qualitative, quantities, or mixed methods study are as follows.

- In a qualitative study, use the literature sparingly in the beginning of the plan in order to convey an inductive deign, unless the qualitative strategy-type requires a substantial literature orientation at the outset.

- Consider the most appropriate place for the literature in a qualitative study and base the decision on the audience for he project. Keep in mind placing it at the beginning to "frame" the problem, placing it in a separate section, and using it at the end of a study to compare and contrast with the findings of the current study.

- Use the literature in a quantitative study deductively as a basis for advancing research questions or hypotheses.

- Use the literature to introduce the study, describe related literature in a separate section, or compare extant literature with findings in a quantitative study plan.

- If a separate "review of the literature" is use, consider whether the review will consist of integrative summaries, theoretical reviews, or methodological reviews. A typical practice in dissertation writing is to advance an integrative review.

- In a mixed methods study, use the literature in a way that is consistent with the major type of strategy and the approach-qualitative or quantitative-that is most prevalent in the design.

DESIGN TECHNIQUES

Regardless of whether you write the literature into a qualitative, quantitative, or a mixed methods study, several steps are useful in conducting a literature review.

STEPS IN CONDUCTING A LITERATURE REVIEW

A literature review for a proposal or a research study means locating and summarizing the studies about a topic. Often these summaries are research studies (because you are conducting a research study), but they may also include conceptual articles or thought pieces that provide fireworks for thinking about topics. There is no one way to conduct a literature review, but many scholar proceed in a systematic fashion to capture, evaluate and summarize the literature.

Step1: Being by identifying key works useful in locating material in an academic library at a college or university. These key words may emerge in identifying and topic, or they may result form preliminary readings in the library.

Step 2: with these key words in mind, next go to the library and begin searching the library catalog for holdings (i.e. journals and books). Mot major libraries have computerized data bases of their holdings, I suggest focusing initially on journals and books related to the topic. Also. I suggest beginning to search the computerized databases typically reviewed by social science researcher, such as ERIC, PsycINPO, sociofile and the social science Citation index (later, these will be reviewed in some detail). These databases are available online using the library's Web site, or they may be available on CD-ROM in a library.

Step 3: I would initially try to locate about 0 reports of research in article or books related to research on my topic, I would set a priority on the search for journal article and books because hey are easy to

locate and obtain. I would determine whether these articles and books are held in my academic library or whether I need to send for them by interlibrary loan or purchase them through a bookstore.

Step 4: Using this initial group of articles, I would them look at the articles and photocopy those that are central to my topic. IN the selection process, I would look over the abstract and skim the article or chapter. Throughout this process, I would try simply to obtain a sense of whether the article or chapter will make a useful contribution to my understanding of the literature.

Step 5: As I identify useful literature, I begin designing my literature map, a visual picture of the research literature on my topic. Several possibilities exist for drawing this map (to be discussed later). This picture provides a useful organizing device for positioning my own study within the larger body of the literature on a topic.

Step 6: At the same time that I am organizing the literature into my literature map, I am also beginning to draft summaries of the mot relevant articles. These summaries are combined into the final literature review that I write for my proposal or research study. In addition, I am including precise references to the literature using an appropriate style, such as that contained in the American Psychological Association style manual (American Psychological Association, 2001), So that I have a complete reference to use at the end of my proposal or study.

Step 7: After summarizing the literature, I then assemble the literature review, in which I structure the literature thematically or organize it by important concepts addressed in the study. I would end my literature review with a summary of the major themes found in

the literature and suggest that we need further research on the topic along the lines of my proposed study.

To build on key points in these seven process steps, we will first consider techniques useful in accessing the literature quickly through databases.

Computerized Databases

Information retrieval has become the next frontier of scientific development for social and human science researcher. Suing search engines, researchers can locate on line literature for a review. Moreover, library holdings can be scanned quickly using the computerized on line catalog system. A survey of academic libraries reported that 98% of 119 academic research libraries had bibliographic records of books and journals "online" for computer accessing (Krol 1993). Using the internet, catalog holdings of libraries across the country are also available, an example of which would be the CARL (Colorado Association of Research Libraries) system in Colordo. It provides a wide assortment of online text, indices of model school programs, online book reviews, facts about the metropolitan Denver area, and a datable on environmental education (Krol, 1993).

Databases now available in libraries provide an opportunity for researchers to access thousands of journals, conference papers, and materials quickly. Several databases form the took it of resources for the social science researcher today.

The ERIC (Educational Resource Information Center) system is available on CD-ROM and online (see www.accesseric.org). The data base provides access to nearly 1 million abstracts of documents and journal articles on educational research and practice. ERIC contains two parts: EIJE, the Current index to Journals in Education (Educational Resources Information Cetter, 1975). To best utilize ERIC, it is important

to identify appropriate "descriptors" for the topic, Researchers can search through a dictionary of terms using the ERIC Thesaurus (Educational Resources Information Center, 1975). However, a random search through the Thesaurus for descriptors may be time consuming and futile. Alternatively, you might use the following procedure:

1. Look through the subject index found at the back of each CIJE and RIE or run an ERIC computer search using key words that seem close to your topic. Look for a research study as similar as possible to your project.

2. When you find a study, examine the descriptors used for that article. Select the major descriptors used to describe that article (see descriptor terms in the abstract).

3. Use these major descriptors in your computer search. In this way, you utilize the descriptors that individuals at the ERIC Clearinghouses have used to catalog articles for the ERIC system. This, in turn, maximizes the possibility of locating articles relevant for the planned study.

The Social Sciences Citation Index (institute for Scientific Information, 1969) is also available on CD-ROM and held in may academic libraries. The SSCI covers about 5,700 journals that represent virtually every discipline in the social sciences. It can be used to locate articles and authors how have conducted research on a topic. It is especially useful in locating studies that have referenced an important study. The SSCI enables you to race all studies since the publication of the key study that have cited the work. Using this system, you can develop a chronological list of references that document the historical evolution of an idea or study.

Another CD-Rom database is Dissertation Abstract international (University Microfilms, 1938). This database contains abstract of doctoral

dissertations submitted by nearly 500 participating institutions throughout the world. In a full literature review for a dissertation, identify all references, including dissertations, in the search. Look for a few good dissertations from respected institutions that address a topic as close as possible to your topics of study.

To locate research in sociology or on topics that address sociological concepts, search Sociological Abstracts (1953), available on a CD ROM title Sociofile. Sociological Abstracts is available from Cambridge Scientific Abstract (see its Web site at http://infoshare1. princeton.edu:2003/databases/about/tips/htm1/sociofile.htm1). this database contains abstracts to articles in more than 2,500 journals as well as book reviews and abstracts for dissertations and books. For psychological studies, examine PsycINFO (see www.apa.org/psyinfo/about/). The guide to psychological Abstracts (1927-). This database nixes more than 850 journals under 16 different categories of information. It is available in academic libraries in CD-ROM form and as a web site version.

In summary, I recommend the following:

- Use computerized resources available in your academic library, such as CD-Rom or Web site versions to access literature about your topic.
- Access multiple databases to conduct thorough review of he literature. Search databases such as ERIC, SSCI, psycINFO, Sociofile, and Dissertation Abstracts International.

A priority for Resources in the Literature

I recommend that researchers establish a priority in a search of the literature. What types of literature might be reviewed, and in what priority? Consider the following:

1. Especially if you are examining a topic for the first time and are unaware of the research on it, start with broad syntheses of the literature, such as overviews found in encyclopedias (e.g., Aikin, 1992;Keeves, 1988). You might also look for summaries of the literature on your topic presented in journal articles or abstract series (e.g., Annual Review of Psychology, 1950).

2. next turn to journal articles in respected, national journals, especially those that report research studies. By research, I mean that the author or authors pose a question or hypothesis, collect data, and try to answer he question or support the hypothesis,. Start with the most recent studies about the topic and then work backward in time. In these journal articles, follow up on references at the end of the articles for more sources to examine.

3. Turn to books related to the topic. Begin with research monographs that summarize the scholarly literature, then consider entire books that are on a single topic or contain chapters written by different authors.

4. Follow this search by looking for recent conference papers on a topic, often conference papers report the latest research developments. Look for major, national conferences and the papers delivered at them. Mot major conferences either require or request that authors submitted their papers for inclusion in computerized indexes. Make contact with authors of studies. Seek then out at conferences. Write or phone the asking if they know of studies related to the proposed study and inquire if hey have an instrument hat might be used or modified for use in your study.

5. If time permits, look at the abstract of dissertations in Dissertation. Abstracts internalities (University Microfilms, 1938). Dissertations vary immensely in quality, and one needs to be selective in examining these studies. As search of the Abstracts

might result in one or two relevant dissertations. Once you identify these dissertations, request copies of them through interlibrary loan or through the university of Michigan Microfilm Library.

I placed journal articles first on the list because hey are he easiest to locate and duplicate. They also report the "research" about a topic, Dissertation are listed last because they vary considerably in quality and are the most difficult material to locate and reproduce.

Web site articles and research studies also are useful materials. The easy access and ability to capture entire articles makes the resources of *materials* attractive. However, reviewers may not have evaluated and screened these articles for quality, and one needs to be cautious bout whether they represent rigorous, thoughtful and systematic research for use in a literature review. On line journals, which are becoming more popular, often include articles that have been examined for standards of quality and researchers might check to se if the journal has a refereed review board that has published standards of quality used in accepting article for publication.

A Literature Map of the Research

One of the first tasks for a researcher working with a new topic is to organize the literature about the topic. This enables a researchers understand how his or her study of the topic adds, to, extends, or replicates research already completed.

A useful tools for this task is a literature map of the research about a topic. This map is a visual summary of the research that has been conducted by other, and it is typically represented in a figure. Literature maps are organized in different ways. One is a hierarchical structure, with a top down presenting of the literature ending at the button with a proposed study that will extend the literature. Another might be similar

to a flow chart in which the reader understands the literature unfolding from left to right, with the studies furthest to the right advancing a proposed study that adds to the literature. A third model might be composed of circle, with each circle representing a body of literature and the intersection of the circles indicting the place at which future research I needed. I have seen examples drawn by students of all of these possibilities.

The central idea is hat the researcher begins o build a visual picture of existing research about a topic. This literature map presents an overview of existing literature. It will help others-such as a dissertation or master's thesis committee, a group of participants assembled at a conference, or journal reviewers-visualize how the study relates to the larger literature on the topic.

To illustrate a literature map and the process involved in generating one, I will first show a complete map and then discuss some general guidelines for designing this map. See figure 2.1, which shows the literature found on the topic of procedural justice in organizations (Janovec, 2001), janovec's ma illustrates a hierarchical design for a map. She used several principles of good map design.

- She placed the topic of the literature review in the box at he top of the hierarchy.
- Next, she took the studies that she found in computer searches, located copies of these studies, and organized them into three broad subtonics (i.e., Justice perceptions formation, justice effects, and justice in organizational change). For another map, the researcher may have more or less than four major categories, depending on the extent of publications on the topic.
- Within each box are labels that describe the nature of the studies in the box (i.e., "outcomes").

- Also, within each box are references to major citations illustrating the content of the box. It is useful to sue reference that recurrent and illustrative of the topic of the box, an to briefly state the reference in an appropriate style manual form for an in-tax reference (e.g., Smith,xxxx).
- Consder several levels for the literature map. In other words, major topics leads to subtaopics, and hen other sub-subtopics.
- Some branches of hechart are more development than other branches. This depth will depend on the amount of literature available and the depth of he exploration of the literature by the researcher.
- After organizing the literature into a diagram, Janovec considered the branches of the figure hat provide a springboard for her proposed study. She placed a "need to study" (or "proposed study") box at the bottom of he map, she briefly identified the nature of this proposed study ("Procedural justice and culture"), and the drew lines to past literature that her project would extend. She proposed this study based on ideas suggested by other authors in the "future research" sections of heir studies.

Abstracting Studies

When reviewing the content of researcher studies, researchers record essential information from them for a review of the literature. In this process, researchers need to consider what material to extract from a research study and to summarize in a "review of related literature" section. This is important information when reviewing perhaps dozens if not hundreds of studies. A good literature review summary of a research article reported in a journal might include the following points:

- Mention the problem being addressed.
- State he central purpose or focus of the study.

- Briefly state information about the sample, population, or participants.

- Review key results that relate to the study.

- Depending on whether the review is a methodological review (Cooper, 1984), point out technical and methodological flaws in the study.

When examining an article to develop a summary, there are places in research studies to look for these parts. In well-crafted journal articles, the problem and purpose statements are found and clearly stated in the introduction to the article. Information about the sample, population, or participants is found midway through the article in a method (or procedure) section, and he results are often reported toward the end of the article. In the results sections, look for passages in which the researchers report information to answer or address each research question or hypothesis. For book-length research studies, look for the same points. Consider the following example.

Example 2.1 Review of a Quantitative Study

In this example, I will present a paragraph summarizing the major components of quantitative study (Creswell, Seagren, and Henry, 1979), much like the paragraph might appear in a "review of the literature" section of a dissertation or a journal article. In this passage, I have chosen key components to be abstracted.

Creswell, seagren, and Henry (1979) tested the began model, a three-dimensional model clustering thirty-six academic areas into hard or soft, pure or applied, life or non-life areas, as a predictor of chairpersons' professional development needs. Eighty department chairpersons located in for stated colleges and one university of a Midwestern stated participated the study. Results showed that chairpersons in different academic areas differed in term of their

professional development needs. Based on the fingers, the authors recommended that those who develop in-service programs need to consider differences among disciplines when they plan for programs.

I began with an "in-text" reference in accord with the format in the America Psychological Association style manual, publication manual of he American psychological association (American Psychological Association, 2001). Next, I reviewed the central purpose of the study, I followed the review with information about the data collection. I ended by stating the major results of the study and presenting the practical implication of these results.

How are studies that are not research studies-essays, options typologies, and syntheses of past research-abstracted? When abstracting these non-empirical studies, the research should

- Mention the problem being addressed by the article or book
- Identify the central them of the study
- State the major conclusions related to this theme
- Mention flaws in reasoning, logic, force of argument, and so forth if the review type is methodological.

Consider the following example that illustrates the inclusion these aspects

Example 2.2. Review of a study Advancing a Typology

Sudduth (1992) completed a quantitative dissertation in political science on the topic of the use of strategic adaptation in rural hospitals. Her reviewed the literature in several chapters at the beginning of the study. In an example of summarizing a single study advancing a typology. Sudduth summarized the problem, the theme, and the typology.

Giner, Duncan, Ricardson, and Swayne (1991) recognize the impact of the external environment on a hospital's ability to adapt to

change. They advocate a process that they call environmental analysis which allows the organization to strategically determine the best response the change occurring in the environment. However, after examining he multiple techniques used for environmental analysis, it appears thane comprehensive conceptual scheme or computer model has been developed to provide a complete analysis of environmental issues (Ginter et al, 1991). The result is an essential part of strategic hanger that relies heavily on anon-quantifiable and judgmental process of evaluation. To assist the hospital manager to carefully assess the external environment, Ginter etal. (1991) have developed the typology give in Figure 2.1. (P.44).

Style Manuals

A basic tenet in reviewing the literature is to use an appropriate and consistent reference style. When identifying a useful reference for a literature review, make a complete reference to the source using an appropriate style. Fir dissertation proposals, graduate students should seek guidance from faculty, dissertation committee members, or department of village officials about the appropriate style manual to use for citing references.

The publication manual of the American psychological Association (5th ed.) (American Psychological Association, 2001) is widely used in the fields of education and psychology. The university of Chicago's manual (A manual of style, 1982). Turabian (Turbian, 1973), and capbell and Ballou (1977) are also extensively used in the social sciences. Some journals have even developed their own variation of he popular styles. I recommend adoption a style manual early in the planning process and identifying one that is acceptable for your writing audiences.

The most important style manual considerations involve use of in-text citations, end-of-text references, headings, and figures and tables. Some suggestions for scholarly writing using style manuals follow.

- When writing in-text citations, keep in mind the appropriate form for types of citations and pay close attention to the format for multiple citations.

- When writing the end-of-text references, not whether the style manual calls for then to be alphabetized or numbered. Also, cross-check that each in-text citation is matched by an end-of-text reverence.

- The heading are ordered in a scholarly paper in terms of levels. First, note how many levels of headings you will have in your research study. Then, refer to he type manual for the appropriate format for each level that you use. Typically, research reports contain between two and four levels of headings.

- If footnotes are used, consult he style manual for heir proper placement. Footnotes are used less frequently in scholarly papers today than they were a few years ago. If you include then, not whether they go at the bottom of he page of at the end of the paper.

- Tables and figures have a specific form in each style manual. Note such aspects as bold lines, titles, and spacing in the examples given in the style manual.

In summary, the most important aspect of using a style manuals is to be consistent in the approach throughout the manuscript.

A MODEL FOR WRITINGTHE LITERATURE REVIEW

When compositing review of the literature, it is difficult to determine how much literature to review. To address this problem, I have developed a model that provides parameters for he literature review,

especially as it might be designed for a quantitative of mixed methods study that employees a standard literature review section. For quantitative study, the literature review might explore aspects of the central phenomenon being addressed and divide in into topical areas.

For a quantitative or mixed methods review, write a review of the literature that contains sections about the literature related to major independent variable, major dependent variables and studies that related the independent and dependent variables (more material no variables will appear in chapter 4). This approach seems appropriate for dissertations and for conceptualizing the literature to be introduced in a journal article. Consider literature review (in a dissertation or proposal) to be composed for five components; an introduction, topic 1 (about the in dependent variable), topic 2 (about the dependent variable), topic 3(studies that address both the in dependent and dependent variables), and a summary. Here is more detail about each section.

1. Introduce the section by telling the reader about the sections included in the literature review. This passage is a statement about the organization of the section.

2. Review topic 1, which addresses the scholarly literature about the independent variable or variables. With several independent variables, consider subsections or focus on the single most important variable. Remember to address only the literature about the independent variable; Keep the literature about the independent and dependent variable separate in this model.

3. Review topic 2, which incorporates the scholarly literature about the dependent variable or variables. With multiple dependent variables, write subsections about each variable of focus on a single, important dependent variable.

4. Review topic 3, which include she scholarly literature that relates the independent variable (s) to the dependent variable (s). Here we are at the crux of the propose study. Thus, this section should be relatively short and contain studies that are extremely close in topic to the proposed study. Perhaps nothing has been written on the topic. Construct a section that is a close as possible to he topic, or review studies that address the topic at a more general level.

5. Provide summary of the review that highlights the most important studies, captures major themes in the review, and suggest why we need more research on the topic

The model focused the literature review, relates it closely to the variables in the research questions and hypotheses, and sufficiently narrows the study. It becomes a logical point of departure for the method section.

Summary

Before searching the literature, identify your topic using such strategies as drafting a brief title or stating the central research question to be addressed. Also consider whether this topic can and should be researched by reviewing whether there is access to participants and resources and whether the topic will add to social science knowledge, be of interest to others, and be consistent with personal goals.

Researchers use the scholarly literature in a study to present results of similar studies, to elate the represent study to the ongoing dialogue in the literature, and top provide a framework for comparing results of a study with other studies. For qualitative, quantitative, and mixed methods designs, the literature serves different purposes. In qualitative

research, the literature helps substantiate the research problem, but it does not contain the views of participants. A popular approach is to include more literature at the end of a qualitative study than at the beginning. In quantitative research, the literature not only helps to substantiate the problem but also suggests possible questions or hypotheses that need to be addressed. A searte "literature review" section typically is found in quantitative studies. In mixed methods research, the use of literature will depend on the type of strategy of inquiry and the weight given to qualitative or quantitative research in the study.

When conducting a literature review, identify key words for searching the literature, then search the library resources, relying on computerized databases in the library and for fields of study, such as ERIC, PsycINFO, Sociofile, and the Social Science Citation index. Then, locate articles or books based on a priority of searching first for journal articles and hen books. Identify references that will make a contribution to your literature review. Group these studies into a literature map that shows he major categories of studies and positions your proposed study within those categories. Begin writing summaries of the studies, noting complete reference according to a style manual (e.g., American psychological Association, 2001) and extracting information about the research that includes the research problem, the questions, the data collection and analysis, and the final results. Finally, consider the overall structure for organizing these studies. One models in to divide the review into sections according to major variables (a quantitative approach) or major subthemes of he central phenomenon (a qualitative approach) that you are studying.

Writing Exercises

1.   Develop a visual map of the literature related to the topic, Include in the map the proposed study, and draw lines from the

proposed study to other categories f studies so that a reader can easily see how he study will expend existing literature.

2. organize a "Review of the Literature" for a quantitative study and follow the model for delimiting the literature to reflect the variables in the study. As an alternative, organize a review of literature for a qualitative study and include it in an introduction as a rational for the research problem in the study.

3. Identify the number of heading levels in a published journal article. Do this by creating an outline of the levels using appropriate APA (5th ed.) for,.

4. Run an ERIC search on a topic by identifying key terms, combining them and using the Web site www. accesseric.org. As an extension of this exercise, select on or he search results that is close to the type of literature being sought, note the descriptors used, and re-run the ERIC search to obtain literature more central to the literature review.

ADDITIONAL READINGS

Locke, L.F., Spirduso, W.W., and Silverman, S.J., (2000). Proposals that work: A guide for planning dissertations and gant proposal (4th ed). Thousand Oadks, CA: Sage.

Lawrence locke, Wanee Spirduso, and Stephen Siverman describe 15 steps in the process overdeveloping review of literature. These 15 steps involve here stages: developing the concepts that provide he rational for the study, developing the subs topics for each major concept, and adding the most important references that support each subtopic. These steps involve stages such as identifying the concepts that provide recreational for he study, selecting he subtopics for each major concept, and adding the mot important references that our each subtopic. They also provide a

"diagrammatic overview of he related literature" as a model for visualizing the literature.

Merriam, S.B. (1998), qualitative research and case study applications in education. San Francisco; Jossey_bass.

Sharan Merriam provides an extensive discussion about the use of literature in qualitative studies. She identifies steps in reviewing the literature and poses useful criteria for selecting references. These include checking to see if the author is an authority on the topic, how recent the work was polished, whether the resource is relevant o the proposed research topic, and the quality of the resource. Merriam further suggests that the literature review is not a liner process of reading the literature, identifying the theoretical framework, and then writing the problem statement. Instead, the process in highly interactive among these steps.

Punch, K. F. (1998). Introduction to social research: Quantitative and qualitative approaches. London: Sage.

Keith Punch provides a guide to social research that equally addresses quantities and qualitative approaches. He conceptualizes key differences between the two approaches in several ways. When writing a literature review, Punch notes that the point to concentrate on in the literature varies in different style of research. Factors that affect when to concentrate on the literature will depend on the style of research, the overall research strategy, and how closely the study will address the directions in the literature.

CHAPTER HREE

Writing Strategies And

Ethical Considerations

Before designing a proposal, it is important to consider how to write it. Those considerations should include which topics will convey the best argument for the need and quality of the study. Now is the best time to adopt writing practices that will ensure a consistent and highly readable proposal (and research project). It is also timely to anticipate the ethical issues that will surface during a study and to incorporate good practices into the research proposal,. This chapter focuses on arguments and topics to include in a proposal, the adoption of writing strategies for the process of research, and anticipating ethical issues likely to arise in a study.

WRITING THE PROOSAL

Central Arguments to make

It is helpful to consider he topics hat will go into a proposal., All the topics need to be interrelated so that they provide cohesive picture of the entire proposed project. An outline of topics will be helpful, but he topics will differ depending on whether the proposal is for a qualitative, quantitative, or mixed methods study. Overall, however, there are central arguments that frame any proposal. They are introduced as nine central

arguments by Maxwell (1996). I pose them here as questions to be addressed in a scholarly proposal.

1. What do we need to better understand your topic?
2. What do we know little about in term of your topic?
3. What do you propose to study?
4. What are the settingand thepeople that you will study/
5. What methods do you plan to sue to provide data?
6. How will you analyze the data?
7. How will you validate your findings?
8. What ethical issues will your study present?
9. What do preliminary results show about the practicability and value of he proposed study?

These nine questions, if adequately addressed in one section for each question, constitute the foundation of good research, and they could provide the overall structure for a proposal. The inclusion of validating finding, ethical considerations (to be addressed shortly), the need for preliminary results, and early evidence of practical significance of the proposed study focus a reader's attention on key elements often overlooked in discussions about proposed projects.

Format for a Qualitative proposal

Besides these nine question, it is often helpful to conceptualize in more detail the topics that are include in proposal. Knowledge of these topics is useful at the beginning of proposal development so that you can conceptualize the entire process.

No commonly accepted format exists for a qualitative proposal, although authors such as Berg (2001), Marshall and Rossaman 9199), and Maxwll (1996) advance recommendations for topics. A fundamental characteristic should be that the design is consistent with he constructivism/interpretive and advocacy/participatory knowledge

claims as mentioned in Chapter 1. With qualitative research now represented by distinct strategies of inquiry, the proposal should also contain he type of inquiry being used as well as detailed procedures of data collection and analysis.

In the light of these points, I propose two alternative models. Example 3.1 is drawn from a constructivist/interpretivist respective, whereas Example 3.2 is based more on an advocacy/participatory model of qualitative research.

Example 3.1 A qualitative Constructivit/interpretivist format

Introduction

Statement of the problem (including existing literature about the problem)

Purpose of the study

The research questions

Delimitations and limitations

Procedures

Characteristics of qualitative research (optional)

Qualitative research strategy

Role of the researcher

Data collection procedures

Data analysis procedures

Strategies for validating findings

Narrative structure

Anticipated ethical issues

Significance of the study

Preliminary pilot findings

Expected outcomes

Appendices: interview questions, observational forms, timeline, and proposed budget

In this example, the writer includes only two major sections, the introduction and the procedures. A review of the literature may be included, but it is optional, and, as discussed in Chapter 2, the literature may be included to a greater tent at the end of the study or in the expected out comes section. This for at does include a special section on the researcher's role in the study. As described by Marshall and Rossamn (1999), this section would address decision about gaining access to the participants and site and negotiating entry to the site and/or participants. It also includes mentioning the interpersonal skills the research brings to the project and the researcher's sensitivity to reciprocity or giving back to the people in the study.

Example 3.2. A qualitative Advocacy/Participatory For at

Introduction

Statement of the problem 9includingexisting literature about he problem)

The advocacy/participatory issue
Purpose of the study
The research questions
Delimitations and limitations
Procedures
Characteristics of qualitative research (optional)
Qualitative research strategy
Role of the researcher
Data collection procedures (including the collaborative
Approaches used with participants)
Data recording procedures
Data analysis procedures
Strategies for validating findings
Narrative structure
Anticipated ethical issues
Significance of the study
Preliminary pilot findings
Expected advocacy/participatory changes
Appendices: interview question, observational forms, timeline, and
proposed budget

This format is similar to the constructivist/interpretivist format except hat the inquire is specific about head vacancy /participatory issue

being explored in the study (e.g., marginalization, empowerment). Advances a collaborative form of data collection, and motions the anticipated changes that the research study will likely bring.

Format for a Quantitative proposal

For a quantitative study, the format conforms to standards easily identified in journal articles and research studies. The form generally follow the model of an introduction a literature review, methods, results, and discussion. In planning a quantitative study and designing a dissertation proposal, consider the following format to sketch the overall plan.

Example 3.3 A Quantitative Format
Introduction
  Statement of the problem
  Purpose of he study
  Theoretical perspective
  Research question or hypotheses
  Definition of terms
  Delimitations and limitations
Review of the literature
Methods
  Type of research design
  Sample, population and participants
  Data collection instruments, variables, and materials
  Data analysis procedures
Anticipated ethical issues in the study
Preliminary studies or pilot tests
Significance of the study
Appendixes: Instruments, timeline, and proposed budget

Example 3.3 is a standard format for a social science study, although the order of the sections, especially in the introduction, may vary from study to study (see, for example, Miller, 1991; Rudestam and Newton, 1992). It presents a useful model for designing the sections for a plan for a dissertation or sketching the topics for a scholarly study.

Format for a Mixed Method Proposal

In a mixed methods design format, the research brings together approaches that the included in both the quantitative and qualitative formats (see Creswell, 1999). An example of such a format appears in Example 3.4.

Example 3.4 *A Mixed Method format*

Introduction
      Statement of the problem
      Purpose of the study (include both quantitative and quantitative
      Statements and a relational for mixing methods)
      Research questions(include both qualitative and quantitative)
      Review of the literature (separate section, if quantitative)
Procedures or methods
      Characteristics of mixed methods research
      Type of mixed methods design (including decision involved in its
choice)
      Visual model and procedures of the design
      Data collection procedures
          Types of data
          Sampling strategy
      Data analysis and validity procedures
      Report presentation structure
Role of the researcher
Potential ethical issue
      Significance of the study
      Preliminary pilot findings
      Expected outcomes
      Appendixes: instruments or protocols, outline for chapters, and
       proposed budge

This format shows that the researcher poses both a purpose statement and research questions for quantitative and qualitative components. Further, it is important to specify a rational for the mixed method approach in the study. The researcher also identifies key elements of this design, such as the type of mixed methods study, a visual picture of the procedures, and both he quantitative and qualitative data collection procedures and analysis.

WRITNG TIPS

Writing as Thinking

Beyond the more general format, proposal developers need to consider the writing process involved in research. One sign of inexperienced writers is that they prefer to discuss their proposed study rather than write about it. All experienced writers is thinking and conceptualizing a topic. I recommend the following:

- Early in the process of research, write ideas down rather than talk about hem. Writing specialists see writing as thinking (Bailey, 19845). Zinsser (1983) discusses the need to get words out of our heads and onto paper. Advisers react better when they read the printed text on paper than when they hear and discuss a research topic with a students or colleague. When a researcher renders ideas on paper, a reader can visualize he final product, actually "see" how it looks, and begin to clarify ideas. The concept of working ideas out on paper has saved many experienced writers well.

- Work through several drafts of a paper rather than trying to polish the first draft. It is illuminating to see how people think on paper, Zinsser (1983) identified two types of writers: The "bricklayer," who makes every paragraph just right before going on the next paragraph, and the "let-it-all-hang-out-on-the-first-draft" writer, who writers an entire first draft not caring how sloppy it looks ro how badly it is written. In between would be someone like Peter Elbow (Elbow, 1973), who recommends that one should go through the iterative process of writing, reviewing, and rewriting. For example he cites this exercise: With only 1 hour to write a passage, write four drafts (one every 15 minutes) rather than one draft

(typically in the last 15 minutes) during the hour. Most experienced researchers write the firth draft carefully but do not work for a polished draft; the polish comes relatively late in the writing process. I use Franklin's (1986) three-state model in my writing:

1. Develop on outline – is could be a sentence or word outline or a visual map of ideas.
2. Write out a draft and then shift and sort ideas, moving around entire paragraphs in the manuscript.
3. Finally, edit and polish each sentence.

The Habit of Writing

Establish the discipline of writing on a continuous and regular basis. Setting the manuscript aside for a long period results in a loss of concentration and effort. The actual writing of words on a page is only part of a more extended process of thinking, collecting information, reviewing that goes into manuscript production.

Select a time of day to work that is best for you, then used discipline to write at this time each day. Choose a place free of distractions. Boice (1990,pp.77-78) offers ideas about establishing good writing habits:

- With the aid of the priority principle, make writing a daily activity regardless of mood, regardless of readiness to write.
- If you feel you do not have time for regular writing, begin by charting your daily activities for a week or two in half-hour blocks.
- Write while you are fresh.
- Avoid writing in binges.
- Write in small, regular amounts.
- Schedule writing takes so that you plan to work on specific, manageable units of writing in each session.

- Keep daily charts. Graph at least the things: (a) time spent writing, (b) page equivalents finished, and (c) percentage of planned task completed.

- Plan beyond daily goals.

- Share your writing with supportive, constructive friends before you feel ready to go public.

- Try to work on two or three writing projects concurrently.

In addition to these thoughts, one needs to acknowledge that writing moves along slowly and that a writer must ease into writing. Like the runner who stretches before a road race, the writer needs warm-up exercises for both the mind and the fingers. Some leisurely writing activity, such as writing a latter to a friend, brainstorming on the computer, reading some good writing, or studding a favorite poem, can make that actual task of writing easier. I am reminded of John Steinbeck's (1969) "warm-up period" (p.42) described in detail in Journal of a Novel: The East of Eden Letters, Steinbeck began each writing day by writing a letter to his editor and close friend, Pascal Covici, in a large notebook supplied by Covici.

Other exercises may rove useful. Carroll (1990) provides examples of exercises to improve a writer's control over descriptive and emotive passages:

- Describe an object by its parts and dimensions, without first telling the reader its name.

- Write a conversation between two people on ay dramatic or intriguing subject.

- Write a set of directions for a complicated task.

- Take a subject and write about it here different ways. (Carroll, 1990,pp 11-116).

This last exercise seems appropriate for qualitative researchers who analyze their data for multiple codes and themes (see Chapter 10 for qualitative data analysis).

Consider also the implements of writing and the physical location that aids the process of disciplined writing. The implements of writing a computer, a yellow legal-sized pad, a favorite pen, a pencil, even coffee and Triscuits (Wolcott, 2001) – offer the writer options for ways to be comfortable when writing. The physical setting for writing can also help. Annie Dillard, the Pulitzer prize-winning novelist, avoided appealing workplaces:

One wants a room with no view, so imagination can meet memory in the dark. When I furnished this study seven years ago, I pushed the long desk against a blank wall, so I could not see from either window. Once, fifteen years ago, I wrote in a cinder-block cell over a parking lot. It overlooked a tar-and-gravel roof. This pine shed under trees is not quite so good as the cinder-block study was, but it will do. (dillard, 1989, pp.26-27).

Readability of the Manuscript

Before beginning the process of writing a proposal, consider how you will enhance the readability of it for other people. It is important to use consistent terms, a staging and foreshadowing of ideas, and coherence built into the plan.

- Use consistent terms throughout he manuscript. Use he same term each time a variable is mentioned in a quantitative study or dental phenomenon is motioned in a qualitative study. Refrain from using synonyms for these terms, a problem that causes the reader to work at understanding the meaning of ideas and to monitor subtle shifts in meaning.

- Consider how narrative "thoughts" of different types guide a reader. This concept was advanced by Tarshis (1982), who recommended that writers stage "thoughts" to guide readers. These were of four types:

1. Umbrella thoughts- the general or core ideas one is trying to get across

2. Big thoughts – specific ideas or images that fall within the realm of umbrella thoughts and save to reinforce, clarify, or elaborate upon the umbrella thoughts.

3. Little thoughts – ideas or images whose chief function is to reinforce big thoughts

4. Attention or interest thoughts – ideas whose purposes are to keep the reader on track, organize ideas, and keep an individual's attention.

Beginning researchers, I believe, struggle most with "umbrella" thoughts and "attention" thoughts. A manuscript may include too Many "umbrella" ideas, with the content not sufficiently detailed to support large ideas. A clear mark of this problem is a continual shift of ideas from one major idea to another in a manuscript. Often, one will see short paragraphs, like those found written by journalists in newspaper article. Thinking in terms of a detailed narrative o support "umbrella" ideas may help this problem. Goldberg (1968) not only talks about the power of detail but also illustrates it using the example of the Vietnam memorial in Washington, D.C., where names – even middle names – of 50,000 killed American soldiers are listed.

- Use coherence to add to the readability of the manuscript. In presenting the topics in this book, I introduce components of the research process to present a systematic whole. For example, the repetition of variables in the title, the purpose statement, the research questions, and the review of the literature headings in a

quantitative project illustrates this thinking. This approach builds coherence into the study. Furthermore, emphasizing consistent order of variable whenever independent and dependent variables are mentioned in quantitative studies also reinforces this idea.

On a more detailed level, coherence builds through connecting sentences and paragraphs in the manuscript. Zinsser (1983) suggests that every sentence should be a logical sequel to the one that preceded it. A useful exercise is the "hook-and-eye" exercise (Wilkinson, 1991) for connecting thoughts from sentence to sentence (or paragraph to paragraph).

The following passage from a draft of a student's paper shows a high level of coherence. It comes from the introductory section not a draft of a qualitative dissertation project about at-risk students. In this passage, I have taken the liberty of drawing "hooks" and "eyes" to connect the ideas from sentence to sentence and from paragraph to paragraph. The objective of "hook-and-eye" exercise (Wilkinson, 1991) is t connect major thoughts of each sentence and paragraph. If such a connection cannot easily be made, the written passage lacks coherence and the writer needs to add transitional words, phrases, or sentence to establish a clear connection.

Example 3.5 *A Sample Passage illustrating the Hook-and-Eye Technique*

They sit in the back of he room not because hey want to but because it was the place designated to them. Invisible barriers that ext in most classrooms divide he room and separate he students. At the from of the room are he "good" students, who wait with their hands poised ready to fly into the air of a monument's notice. Slouched down like giant insects caught in education traps, the athletes and heir following occupy the center of the room. Those less sure of themselves and their position within the room sit in the back and around he edge of the student body.

The students seated in the out encircle make up a population whom for a variety of reasons are not succeeding in the American public education system. The have always been part of the student population. In the past they have been called disadvantaged, low achieving, retards, impoverished, laggards and a variety of other titles (Cuban, 1989l Presseisen, 1988). Today they are called students-at-risk. Their faces are changing and in urban settings their numbers are growing (Hodgkinson, 1985).

In the past eight years there has been an unprecedented amount of \research on he need for excellence in education and he at-risk student, in 1983 the government released a document entitled A Nation At-Risk that identified problem within the American education system and called for major reform. Much of the early reform focused on more vigorous course of study and higher standards of students achievement (Barber, 1987). In the midst of attention to excellence, it became apparent the needs of the marginal student were not being met. The equation of what it world take to guarantee that all students have afire chance at a quality education was receiving little attention (Hamiltion, 1987). In the midst of attention to excellence, it became apparent the needs of the marginal student were not being et. The question of what it would take to guarantee that all student have a fir chance at a quality education was receiving little attention (Hamiton, 1987; Toch, 1984). As the push for excellence in education increased, the needs of the at-risk student became more apparent.

Much of the early research focused on identifying characteristics of the at-risk student (OERI, 1987: Barber and McClellan, 1987; Hahn, 1987; Rumberger, 1987). While others in educational research called for reform and developed program for at-risk student (Mann, 1987; Presseisen,1988; Whelage, 1988; Whelege and Lipman, 1988; Stocklinski, 1991; and Levin, 1991). Studies and research on this topic

have included experts within the field of education, business and industry as well as many government agencies.

Although progress has been made in identifying characteristics of the at-risk students and in developing programs to meet their needs, the essence of heat-risk issue continues to plahue he American school system. Some educators feel that we do not need further research (DeBlois, 1989; Hann, 1987). Others call for a stronger network between business and education (DeBlois, 1989; Mann, 1987; whelege, 1988) still others call for total restructuring four education system (OERI, 1987; Gainer, 1987; Levin, 1988; McCune, 1988).

After all the research and studies by the experts, we still have students happing on to the fringe of education. The uniqueness of this study will shift the focus from causes and curriculum to the student. It is time to question the students and to listen to their responses. This added dimension should bring further understanding to research already available and lead to further areas of reform. Dropouts and potential dropouts will be interviewed in depth to discover if there are common factors with in the public school setting that interfere with their learning process. This information should be helpful to both the researcher who will continue to look for new approaches in education and the practitioner who works with these students everyday.

Voice, Tense, and "Fat"

From working with broad thoughts and paragraphs, I move on to the level of writing sentence and words. In Franklin's (1986) terms, one is new working at the "polish" level of writing, a stage addressed late in the writing process. One can find an abundance of writing books about rules and principles to follow concerning good sentence construction and word choice, Wolcott (2001), for example ,talks about honing editorial skills to

eliminate unnecessary words, delete the passive voice, scale down qualifiers, eliminate over used phrases, and reduce excessive quotations, use of italics, and parenthetical comments. The following additional ideas about active voice, verb tense, and reduced "fat' can strengthen and invigorate scholarly writing.

- Use the active voice as much as possible in scholarly writing. According to Ross-Larson (1982), "if the subject acts, the voice is active. If the subject is acted on, the voice is passive" (p.29). In addition, a sign of passive construction is some variation of an auxiliary verb, such as "was." Examples include "will be," "have been," and "is being, "Writers can use the passive construction when the person citing can logically be left out of the sentence and when what is acted on is he subject of the rest of the paragraph (Ross-Larson 1982).

- Use strong verbs and verb tenses appropriate for the passage in the study. Lazy verbs are those that lack action ("is" or "was," for example) or those used as adjectives or adverbs.

- A common practice is to sue the past tense to review the literature and report results of a study. The future tense would be appropriate at all other times in research proposals and plans. For completed studies, use the present tense to add vigor to a study, especially in the introduction.

- Expect to edit and revise drafts of a manuscript to trim excess words, the "fat," from the prose. Writing multiple drafts of a manuscript is standard practice for most writers. The process typically consists of writing, reviewing, and edition. In the editing process, trim excess words from sentences, such as piled-up modifiers, excessive prepositions and "the . . . of" constructions (for example, "the study of"), that add unnecessary verbiage to a study

(Ross-Larson, 1982). I was reminded of the unnecessary prose that comes into writing by the example mentioned by Bunge (1985):

Nowadays you can almost see bright people struggling o reinvent the complex sentence before your eyes. A friend of mine who is a college demonstrator every now and then has to say a complex sentence, and the will get into one of those morasses that begins, "I would hope that we would be able . . ." he never talked that way when I first met him, but younger people ,he's been to some extent alienated from easy speech, (Bunge, 1985, p.172).

Begin studying good writing that uses qualitative, quantitative, and mixed methods designs. In good writing, the eye does not pause and the mind does not stumble on a passage. In this present book, I have attempted to draw examples of good prose from human and social scenic journals such as the American Journal of Sociology. The American Cartographer, Journal of applied Psychology. Administrative Science quarterly, American Educational Research Journal, Sociology of Education, and Image: Journal of Nursing Scholarship. In the qualitative area, good literature serves to illustrate clear prose and detailed passage. Individuals who teach qualitative each assign classical literature such as Moby Dick, The Scarlet Letter, and The Bonfire of the Vanities as reading assignments in qualitative course (Web and Glesne, 1992). Journals such as Qualitative Inquiry. Qualitative Research, Symbolic Interaction, qualitative Family Research, and Journal of Cotemporary Ethnography represent good, scholarly journals to examine. In mixed methods research, examine Journals that report studies with combined qualitative and quantitative data, including many social accidence journals, such as Field Methods, Examine the numerous journal articles cited in the Handbook of Mixed Methods in the social and Behavioral Science (Tashakkori and Teaddlie, 2002).

ETHICAL ISSUES TO ANTICIPATE

In addition to conceptualizing the writing process for a proposal, researchers need to anticipate he ethical issues that may arise during their studies. As mentioned earlier, writing about these issues is required in making an argument for a study as well as being an important topic in the format for proposal.

In the literature, ethical issue arise in discussions about codes of professional conduct for researchers and in commentaries about ethical dilemmas and their potential solutions (Punch, 1998). May national associations have published standards or codes of ethics on their Web sites for professionals in their fields. For example, see

- The American Psychological association's Ethical principles of Psychologists and Code of Conduct, written in 1992, available at www.apa.org/ethics/code.htm1
- The American sociological Association Code of Ethics, adopted in 1997 and available at www.asanet.org/members/ecoderev.html
- The American anthropological Association's Code of Ethics, approved in June 1998, available at ww.aaanet.org/committees/ethics/ ethcode.htm
- The American Educational Research Association Ethical Standards, undated in November 2001, available at www.aera.net/about/policy/-vit-ccnf/ethcs.htm.
- The American Nurses Association code of Ethics for Nurses-provisions, approved in June 2001, and available aw www.ana.org/ethic/chcode.htm.

In addition to these codes of ethical practice, writers detail ethical dilemmas for investigators and inquirers (e.g., see Berg, 2001; Punch, 1998; and Sieber, 1998). These issues apply to qualitative, quantitative, and mixed methods research. Moreover, proposal writers need to anticipate them and specify them in their research plans. In the chapters

to follow, in part II, I refer to ethical issues in many stages of the process of research. By foreshadowing them at this point, I hope to encourage the proposal writer to actively design them into sections of a proposal. Although this discussion will not comprehensively cover all ethical issues, it addresses major ones. These issues arise primarily in specifying the research problem (Chapter 4), identifying a purpose statement and research questions (Chapters 5 and 6), and collecting, analyzing, and writing up the results of data (Chapters 9, 10, and 11).

Ethical issues in the
Research Problem Statement

In writing an introduction to a study, the researcher identifies a significant problem or issue to study and presents a rational for its importance. During the identification of the research problem, it is important to identify a problem that will benefit individuals being studied. A core idea of action/participatory research is that the inquirer will not further marginalize or disempwor the study participants. To guard against this, proposal developers can conduct a pilot project to establish trust and respect with the participants so that inquirers can detect any marginalization before the proposal is developed and the study begun.

Ethical Issues in the Purpose
Statement and Research Questions

In developing the purpose statement or the central intent and questions for a study, proposal developers need to convey the purpose of the study that will be described to the participants. Deception occurs when participants understand one purpose for a study but the researcher has a different purpose in mid. It is also important for researchers to specify the sponsorship of their study. For example, in designing cover letter for survey research, sponsorship will be an

important element in establishing trust and credibility for a mailed survey instrument.

Ethical Issues in Data Collection

As researchers anticipate data collection they need o respect the participants and the sites for research. Many ethical issues arise during this stage of the research.

- Do not put participants at risk, and respect vulnerable populations, Researchers need to have their research plans reviewed by the Institutional Review Board (IRB) on their college and university campuses. IRB committees exist on campuses because of federal regulations that provide protection against human rights violations. For a researcher, the IRB process requires assessing the potential for risk, such as physical, psychological, social, economic, or legal harm (Sieber, 1998) to participants in a study. Also, the researcher needs to consider the special needs of Vulnerable populations, such as minors under the age of 19, mental incompetent participants, victims, persona with neurological impairments, pregnant women or fetuses, prisoners, and individuals with AIDS. Investigators file research proposal containing the procedures and information about the participants with the IRB campus committee so that the boards can review the extent to which the research being proposed subjects individuals to risk. In addition to his proposal, the researcher develops an informed consent form for participants to sign before they engage in the research. This form acknowledges that participants' rights have been protected during data collection. Elements of this consent form include the following (Creswell, 2002).

- The right to participate voluntarily and the right to withdraw at any time, so hat the individual is not being coerced into participation.
- The propose of the study, so that individuals understand the nature of the research and its likely impact on them.
- The procedures of the study, so that individuals can reasonably expect what to anticipate in the research.
- The right to ask questions, obtain a copy of the results, and have their privacy respected.
- The benefits of the study that will accrue to the individual
- Signatures of both the participant and the researcher agreeing to these provisions

- Other procedures during data collection involve gaining the permission of individuals in authority (e.g., gatekeepers) to provide access to study participants at research sites. This often invoices writing a letter that identifies the extent of time, the potential impact, and he outcomes for the research.

- Researchers need to respect research sites so that the sites are left undisturbed after a research study. This requires that inquirers, especially in qualitative studies involving prolonged observation or interviewing at a site be cognizant of their impact and minimize their disruption of the physical setting. For example, they might time visits so that they intrude little on the flow of activities of participants.

- In experimental studies, investigators need to collect data so that all participants, and not only an experimental group, benefit from the treatments. This issue may require providing some treatment to all groups or staging the treatment so that ultimately all groups receive the beneficial treatment.

- Means need to be considered for reciprocating between the researcher and the participants. In some research situations, power can easily be abused and participants can be coerced into a project. Involving individuals collaboratively in the design and research questions prior to data collection, as we as actively seeking their support during all phases of the research, can help reduce these issues.

- Researchers also need to anticipate the possibility of harmful information being disclosed during the data collection process. For example, a student may discuss parental abuse or prisoners may talk about an escape. In these situations, the ethical code for researchers is to protect the privacy of the participants and to convey this protection to all individuals involved in a study.

Ethical Issues in the Data Analysis and Interpretation

When the researcher analyzes and interprets both quantitative and qualitative data, issues emerge the call for good ethical decisions. In anticipating a research study, consider the following:

- How the study will protect the anonymity of individuals, roles, and incidents in the project. For example, in survey research, investigators disassociate names from responses during the coding and recording process. In qualitative research, inquirers use aliases or pseudonyms for individuals and places to protect identities.

- Data once analyzed, need to be kept for a reasonable period of time (e.g., Sieber, 1998, recommends 5-10 years). Investigators should then discard data so hat it does not fall into the hands of other researchers who might appropriate it for other purposes.

- Who owns the data once it is collected and analyzed also can be an issue that splits research teams and divides individuals against each other. A proposal might mention this issue of ownership and discus how it will be resolved, such as through the development of a clear understanding between the researcher, the participants, and possibly the faculty advisor, Berg (2001) recommends the use of "Personal agreements" to designate ownership of research data. An extension of this idea is to guard against sharing the data with individuals not involved in the project.

- In the interpretation of data, researchers need to provide an accurate account of the information. This accuracy may require "debriefing" between the researcher and participants in quantitative research (Berg, 2001). It may include, in qualitative research, using one or ore of the strategies (see validation strategies in Chapter 10) to check the accuracy of he data with participants or across different data sources.

Ethics in Writing and
Disseminating the Research

The ethical issues do not stop with data collection and analysis; they also extend into the actual writing and dissemination of the final research report, For example:

- Discuss how the research will not use language or words that are biased against persons because of gender, sexual orientation, racial or ethnic group, disability, or age. The publication Manual of he American Psychological Association (5th ed.) (American Psychological Association, 2001) suggests three guidelines. First, present unbiased language at an appropriate level of specificity (e.g., rather than say, "the client's behavior was typically male," state, "the client's behavior was _____ [specify]"). Second, use

language that is sensitive to labels (e.g., rather than "400 Hispanics," indicate "400 Mexicans, Spaniards, and Puerto Rcians"). Third, acknowledge participants in a study (e.g., rather than "subject," use the word "participant," and rather than "woman doctor" use "doctor" or "physician").

- Other ethical issues in writing the research will involve the potential of suppressing, falsifying, or inventing findings to meet a researcher's or an audience's needs. These fraudulent practices are not accepted in professional research communities, and they constitute scientific misconduct (Neuman, 2000). A proposal might contain a proactive stance by the researcher to not engage in these practices.

- In planning a study, it is important to anticipate the repercussions of conducting the research on certain audiences and not to misuse the results to the advantage of one group or another.

- Finally, it is important to release he details of the research with the study design so that readers can determine for themselves the credibility of the study (Neuman, 2000). The emphasis on detailed procedures for quantitative, qualitative, and mixed methods research will be emphasized in the chapters to follow.

Summary

It is helpful to consider how to write a research proposal before actually engaging in the process. Consider the nine arguments advanced by Maxwll (1996) as the key elements to include and hen use one of the four topical outlines provide to craft a though qualitative, quantitative, or mixed methods proposal.

During the writing process, begin putting words down on think through ideas, establish the habit own writing on a regular use strategies such as applying consistent terms, different level of positive thoughts,

and coherence to strengthen writing. Writing in the voice, using strong verbs, and revising and editing will help as well.

Before writing the proposal, it is useful to consider the ethical that can be anticipated and described in the proposals. These issue to all phases of the research process. With consideration for pants, research sites, and potential readers, studies can be design contain ethical practice.

Writing Exercises

1. Develop a topic outline for a quantitative, qualitative, or mixed methods proposal. Include the major topics in the examples included in this chapter.

2. Locate a journal article that reports qualitative, quantitative, or mixed methods research. Examine the introduction to the article, and, using the "hook-and-eye method illustrated in this chapter, identify the deficiencies in the flow of ideas from sentence to sentence and from paragraph to paragraph.

3. Consider one of the following ethical dilemmas that may face a researcher. Describe ways you might anticipate the problem and activity address it in your research proposal

   a. a prisoner you are interviewing tells you about a potentional breakout at the prison that night. What do you do.

   b. A researcher on you tem copies sentence from another study and incorporates them into the final written report for your project. What do you do?

   c. A student collects data for her project from several individuals she has interviewed in families in your city. After the fourth interview, she tell you that she has not received

approvals for he project from the Institutional Review Board. What do you do?

ADDITIONAL READINGS

Maxwell, J. (1996). Qualitative research design: an interactive approach. Thusand Oaks, CA:Sage.

Joe Maxwell provided as a good overview of the proposal development process fro qualitative research that, in may ways, is applicable to quantitative and mixed methods research as well. He states that proposal is an argument to conduct a study and presents an examp0le that describes nine necessary steps. Moreover, he includes a complete qualitative proposal and analyze it as an illustration of a good model to follow.

Sleber, J.E. (1998). Planning ethically responsible research. In L. Bickman and D.J. Rog (Eds.), Handbook of applied social research methods (p.127-156). Thousand Oaks, CA: Sage.

Joan Sieber discusses the importance of ethical planning as integral to the process of research design. In this chapter, she provides a comprehensive review of many topics related to ethical issues, such as institutional review boards, informed consent, privacy, confidentiality, and anonymity, as well as elements of research risk and vulnerable populations. Her coverage is extensive, and her recommendations for strategies are numerous.

Wolcott, H.E. (2001). Writing up qualitative research (2nd ed.). Thusand Oadks, CA:Sage.

Harry Wolcott, and educational ethnographer, has compiled an excellent resource guide addressing numerous aspects of the writing process in qualitative research. It surveys techniques useful in getting started in

writing; developing details; linking with the literature, theory and method; tightening up with revising and editing; and finishing the process by attending to such aspects as the title and appendices. For all aspiring writers, this is an essential book, regardless of whether a study is qualitative, quantitative, or mixed methods.

PART II

Designing Research

■ Chapter 4

The introduction

■ Chapter 5

The purpose statement

■ Chapter 6

Research questions and Hypotheses

■ Chapter 7

The use of Theory

■ Chapter 8

Definitions, Limitations, and significance

■ Chapter 9

Quantitative methods

■ Chapter 10

Qualitative procedures

■ Chapter 11

Mixed method Procedures

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

CHAPTER FOUR

The Introduction

After having completed a framework and a preliminary literature review, and having given consideration to writing and ethics, a proposal developer turns to the actual design of a study. A process begins of organizing ideas, starting with design in an introduction to a proposal. This chapter discusses the composition and writing of a scholarly introduction to a qualitative, quantitative, or mixed methods proposal. It examines the differences in writing an introduction to these three different types of proposals. Then, to provide a working model of a good introduction, complete introduction from a published research study is presented. After this, the model is analyzed, section by section, using a framework for writing a good introduction. This framework is based on five key components found in all introductions, regardless of approach to research. This framework consists of establishing the problem leading to the study, reviewing the literature about the problem identifying

deficiencies in the literature about he problem targeting an audience and noting the significance of the problem for this audience, and identifying the purpose of the proposed study. Because this approach relies on stating the deficiencies of past literature, it will be called a social science deficiencies model for an introduction.

THE IMRTANCE 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 chapter hat 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).

Setting the stage for a study, the introduction establishes the issue or concern leading to the research by conveying information about a research problem. Because it is the initial passage in a study or proposal, special care must be given to writing it. Unfortunately, too many authors of research studies do not clearly identify the research problem, leaving he reader to decide for himself or herself the importance of the issue that motivates a study. Further, the research problem is often fused with the research question-those questions that the investigator would like answered in order to understand or explain the problem.

A research problem 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 hat has appeared in the literature for several years. It might develop from policy debates in government or among top executives. The sources of research problem are often multiple.

To this complexity is added the need for introductions to carry the weight to encouraging the reader to read further and to begin to see significance in the study. This facet along makes introductions difficult to write. 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.

Fortunately, there is a template or structure 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 introduction shows that they follow a similar pattern: The authors announce a problem and they justify whey it needs to be studied. Because problem differ for qualitative, quantitative, and mixed methods studies (as discussed in Chapter 1), the type of problem presented in an introduction will vary depending on the approach. In a qualitative project, the author will describe a research problem that can best be understood by exploring concept or phenomenon. I suggested that qualitative research is exploratory and research 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, the problem of 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 he 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 delivers on the highways). Thomas 91993) suggests that "critical researchers begin from the premise that all cultural life is in constant tension between control and resistance" (1993) suggest 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. In the introduction to a study, Beisel (1990), for example, proposed to examine how the theory of class politics explained the lack of success of an anti-vie campaign in one of three American cities. Thus, writing 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 between from a personal, first-per self or himself in the narrative.

Less variation is seen in quantitative introductions. In a quantities project, the problem is best addressed by understating what factors or variables influence an outcome. For example in response to worker cutbacks (a problem for all employees), an investigatory 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 related 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. The writing of a quantitative introduction may be from the impersonal point of view and the past tense to proved "objectivity" to the language of research.

A MODEL FOR AN INTRODUCTIN

These difference among the various approached are small, and they relate largely to the different types of problems associated with qualitative, quantitative, and mixed methods studies. It should be helpful to illustrate an approach to designing and writing n introduction to a research study.

The deficiencies model is a general template for writing a solid introduction to a proposal or research study. It is a popular approach used in the social sciences, and once its structure is elucidated, the reader will find it apparent in many scholarly studies. It consists of five parts:

1. The research problem
2. Studies that have addressed the problem,
3. Deficiencies in the studies,
4. The importance of the study for an audience, and
5. The purpose statement.

An Illustration

Before a review of each component, an illustration will be presented. The example used here is 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 structure of the introduction being addressed by the authors.

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 Appeal 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 study body is more educationally effective than a more homogeneous one. Harvard University president Neil Rudenstine claims that he 'fundamental rational for student diversity in higher education [is] its educational

value" (Rudenstine, 1999, p.1). Lee Bollinger, Rudenstine's counterpart at he 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 for most 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 out comes tend to approach the way students encounter "diversity" in an of three ways. A small group of studies treat students' contacts with "diversity" largely as a function of the numerical or proportional racia/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 operationalize 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 he 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 he 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 and used in the course. [Purpose of the study identified.] (pp. 510-512, reprinted by permission of The Journal of Higher Education).

The Research Problem in the Study

When researchers begin their studies, they start with one or more paragraphs that convey the specific research problem or issues. They also present, in the first sentence, information to create reader interest. In the sentences that follow the first sentence, authors identify a distinct research problem that needs to be addressed.

In the Terenzini et al. (2001) article, the first sentence accomplishes both objectives: piquing interest in he 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 called narrative hooks, a term drawn from English composition, to draw or "hook" the reader into the study. To learn how to write good narrative hooks, study opening sentence in leading journals in different fields of study. Often, journalists provide good examples in their lead sentence of newspaper and magazine articles. Here are a few examples of lead sentences for social science journals.

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

All three of these examples present information easily understood by many readers. The first two – introduction in qualitative studies – demonstrate how reader interest can be created by use of 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 thee examples demonstrate well how the lead sentence can be written so that the reader is not taken into a detailed morass of though, but lowered gently into the topic.

I use he metaphor of the writer lowering a barrel into a well. The beginning writer plunges he barrel (the reader) into the depth of the well (the article). The reader sees only unfamiliar material. The experience writer lowers the barrel (the reader, again) slowly, allowing the reader to

acclimate to the study. This lowering of the barrel begins with a narrative hook of sufficient generality that the reader understand (and can relate to0 the topic.

Beyond this first sentence, it is important to clearly identify for the reader the issue or problem 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 American 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. 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 problem that merit further study and establish a practical issue or concern that needs to be addressed. A research problem is the issue that exits in the literature, in theory, or in practice that leads to a need for the study. 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?"

When designing the opening paragraphs of a proposal, keep in mind these guidelines:

- 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.e., "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. Researchers might ask themselves. "Is there a specific sentence (or sentences) in which I convey the research problem?"

- Indicate why the problem is important by citing references that justify the need to study the problem.

- Make sure hat the research 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).

Review Studies Addressing the Problem

After establishing the research problem in the opening paragraphs, Terenzini et al. (2001) next justify the importance of the research problem by reviewing studies that have examined the problem. They discussed three "sets of studies" (p.510) almost as if they had a literature map (as discussed in Chapter 2) in front of them and were simply presenting the major categories of studies about the impact of student diversity on educational outcomes. It is useful to note in their example that they did not review single, isolated studies; is stead, the introduced larger groups of studies so that at this point in the article they could present the broader picture of the literature. It is in the "literature

review" section, which typically follows an introduction in a quantitative study (sometimes in a qualitative study and in a mixed methods study), that one finds detailed reviews of studies.

The purpose of reviewing studies that have addressed the problem is to justify the importance of the study and to create distinctions between past studies and a proposed study. 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 explicates 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 Rossaman (1999) talk about setting a study "within a tradition of inquiry and a context of related studies" (p.43). The ability to freame the study in this way separates novices from more experienced researchers. The veteran understands what has been written about a topic orcertain problem in the frield. This knowledge comes from years of experience following the development of problems and their accompanying literature.

The equation often develops as 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. Another q2uestion is "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. To counter this statement, I often suggest that an investigator thing about the literature as an inverted triangle. At the apex of the inverted triangle lies the scholarly study being propped. This study is narrow and focused (and studies may not exist on it). If one broadens the review of the literature

out to the base of the triangle, literature can be found, although it may be only indirectly related to the study at hand. This broad-based literature is reviewed to cast the problem within the literature.

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

- Refer to the literature by summarizing groups of studies (unlike the focus on single studies in the integrated review in Chapter 2), not individual studies. The intent should be to establish broad areas of research at this juncture in the study.
- To de-emphasize single studies, place the in-text references at he end of a paragraph or at the end of a summary point about several studies.
- Review research studies that used a quantitative, qualitative, or mixed methods approach.
- Find recent literature to summarize (such as the published in the last 10 years) unless an older study exists that has been widely cited by others.

Deficiencies in Past Literature

After advancing the problem and reviewing the literature about the problem, the researcher then identifies deficiencies found in this literature. Hence, I use a deficiencies model for this template for writing an introduction to a study. The nature of these deficiencies varies from study to study. The literature may be deficient because he authors have not studied specific variables. They may not have explored the topic with a particular group, shape, 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. In nay given study, authors may mention one or more of these deficiencies. If other authors have also

mentioned these deficiencies-typically in the "suggestions for future research" sections at the end of research studies – then this section can include references to these studies as further justification for the proposed study.

Beyond mentioning the deficiencies, proposal writers need to ell how their planned study will remedy or address these deficiencies. For example, because past studies have overlooked an important variable, a study will include I and analyze its effect. 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 below, the authors point out the gaps or short comings of he literature. Notice their use of key phrases to indicate the shortcoming: "What remains to be explored," "little empirical research, and "very few studies."

Example 4.1 *deficiencies in the Literature – needed Explorations*

For this reason, the meaning of war and peace has been explored extensively by social scientists (Cooper, 1965; Alvik 1968; Rosell, 1968; Svancarova and Svancarova, 1967-68; Haavedsrud, 1970). What remains to be explore, however, is how veterans of past wars react to vivid scene of a new war.(Ziller, 1990, p.85-86).

Example 4.2 *Deficiencies in the Literature – Few studies*

Despite an increased interest in micropolitic, 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). (Blasé, 1989, p.381.

In summary, when identifying deficiencies in the past literature, proposal developers might do the following:

- 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, signicant implications, and so forth.
- Discus how a proposed study will remedy these deficiencies and provide a unique contribution to the scholarly literature.

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

Importance of a Study for an Audience

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

The point is that authors need to identify the audiences that will likely profit from a study of the research problem. The more audiences that can be mentioned, the greater he importance of the study and the more it will be seen by readers to have wide application. These audiences will differ from one project to another, and they might include diverse audiences of policy makers, organizations, other researchers, an

individuals in work organizations. Reaching out to an audience in an introduction might be accomplished by briefly mentioning the audience (such as the courts in the Terenzini et al. [2001] study) or detailing information for several audiences.

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 this way, and they conveyed that they planned to examine the influence of structural diversity on student skills in the classroom. The purpose statement, a major guiding element of any research study, is the focus of attention in the next chapter.

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 method research. Then model, called the deficiencies model, is based on first identifying the research problem (and including a narrative hook). Then it includes reviewing the literature that has addressed the problem, indicating one or more deficiencies in the past literature and suggesting how a study will remedy these deficiencies. It typically ends by identifying one or more audiences that will profit from proposed study and by advancing the purpose or major intent of the project. Guidelines are provided for writing each component in this introduction to a study.

Writing Exercise

1. Draft several examples of narrative hooks for the introduction to a study and share these with colleagues to determine if the hooks present an issue to which readers can relate.

2. Write the introduction to a proposed study. Include paragraphs setting forth the problem in the study, the related literature about his problem, the deficiencies in the literature, and the audience who would find the study of interest.

3. Locate several research studies published in scholarly journals in a field of study. Review the introductions to the studies and locate the sentence or sentence in which the authors state the research problem or issue in their studies.

ADDITIONAL READINGS

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

Dearly 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 fro 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 no specialist, yet not boring to the technically sophisticated reader.

Maxwell, J.A. (1996). Qualitative research design: an interactive approach. 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 issues to study.

In an example of a dissertation proposal, the shares the major issues addressed by the author to create an effective argument for he study.

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

Antoninette 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 he research question. Her book offers numerous examples of these here parts together with a discussion of how to write and structure the introduction. Emphasis is placed on ensuring that the introduction leads logically and inevitably to a statement of the research question.

CHAPTER FIVE

The Purpose Statement

Whereas introductions focus on the problem leading to he study, he purpose statement establishes the direction for the research, in fact, the purpose statement is the most important statement in an entire research study, it orients the reader to the central intent of the study, and 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. The purpose statement needs to be written as clearly and concisely as possible.

This entire chapter focused on the purpose statement because of its significance in a study. I address the reasons for developing purpose statement, advance key principles to use in designing them, and provide example that illustrate good models.

SIGNIFICANCE AND MEANING OF A PURPOSE STATEMENT

According to Locke, Spriduso, and Silverman (2000), the purpose statement indicates "why you want to do the study and what you intend to accomplish" (p.9). Unfortunately, method and proposal – writingexts give little attention to the purpose statement, and writers on method often incorporate the purpose statement 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 and Heisler, 1977). Closely examining their discussions indicates that they both are referring to the purpose statement as the central, controlling idea in a study.

For this discussion, I will call this passage the "purpose statement" because it conveys the overall intent of a proposed study. In proposals, researchers need to distinguish clearly between the purpose, the problem in the study, and the research questions. The purpose sets forth the intent of the study and not the problem or issue leading to a need for the study (see Chapter 4). The purpose is also not the research questions – those questions that the data collection will attempt to answer – to be discussed in Chapter 6. Instead, the purpose set the objectives, the intent, and the major idea of a proposal or a study. This idea builds on a need (the problem and is refined into specific question (the research questions).

Given the impotence of the purpose statement, it is helpful to set it a part 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 will be identified below and illustrated with "scripts" for constructing a thorough but manageable purpose statement for a proposal or study.

A QUALITATIVE PURPSOE STATEMENT

A good qualitative purpose statement contains important elements of qualitative research, uses research words drawn from the language of that inquiry (Schwandt, 2001), and employs the procedures of an emerging design based on experiences of individuals in a natural setting. 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 in a study. Set the statement off as a separate sentence or paragraph and use the language of research by employing words such as "The

purpose (or intent or objective) or 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.

- 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 to study, recognizing that the study may evolve into an exploration of relationships or comparisons among ideas. None of thee related explorations can be anticipated at the beginning of a qualitative study. For example, a project might begin by exploring "chairperson roles" in enhancing faculty development (Crewell and Brown, 1992). Other qualitative studies might start by exploring "teacher identity" and the marginalization of this identity for a teacher in her school (Huber and Whelan, 1999) or the meaning of "baseball culture" in a study of the work and talk of stadium employees (Trujillo, 1992). These examples all illustrate he 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 he meaning of," or "discover," keep the inquiry open and convey an emerging design.

- An emerging design is also enhanced by no directional language rather than predetermined outcomes. Use neutral words and phrases, such as exploring the "experiences of individuals" rather than the "successful experiences of individual." 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) violate the "law of no direction" in qualitative research (McCracken, 1988, p.21) by using words that suggest a directional orientation.

- Provide general working definition of the central phenomenon or idea. 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 found later in some qualitative proposals. 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 will unfold in the study.

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

- Mention the participants in the study, such as whether the participants might be one or more individuals, a group of people, or on 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 will know exactly where a study will take place.

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

To assist in designing a purpose statement, I include here a "script" that should be helpful in drafting a complete statement. A "script," as used in this book, contains the major works and ideas of a statement and provides space for the researcher to insert information that relates to a project. The "script" for a qualitative purpose statement is this:

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 n the research, the _____(central phenomenon being studied) will be generally defined as _____ (provide a general definition).

Example 5.1 A purpose statement in a qualitative phenomenology study
Lauterbach (1993) studied five women who had lsota 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" or meaning in mothers' lived experiences when their wished-for bables 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 others' 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 he phenomenon in the creative arts. (lauterbach, 1993, p. 134).

I found lauterbach's 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 he "meaning" (a neutral word) of these experiences. The author further defines what experiences will be examined when she identifies "memories" and "lived through" experiences. Throughout this passage, it is clear that Leatherback will use the strategy of phenomenology. Also, the passage conveys that the participants will be mothers, but later in the article the reader learns that the author interviewed a convenience sample of five mothers, each of whom had experienced a prenatal death of a child in her home.

Example 5.2 *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 follow.

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 sty and, although some students may have improved their reading, reading improvement was not the focus of the study. (Kos, 1991, pp.876-877).

Notick Kos's disclaimer that this study was not a quantitative study measuring of 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 of this phenomenon by mentioning examples, such as "affective, social, and educational" She included this statement under a heading called "Purpose of the study" to cal latten tin to the statement, and she mentioned the participants who participated in the study. 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.

Examples 5.3. *A Purpose Statement in an Ethnographic Study*

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, include in the opening section, was as follows.

The article contributes to the literature addressing the needs of goy 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 proved additional information about the exact nature of these "needs" or a working definition to begin the article. However the does refer to "identity" and probes a tentative meaning for that term in the next section of the study.

Example 5.4. A Purpose statement in a Grounded theory study

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

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. (Richle etal., 1997, p. 133).

In this statement, the central phenomenon is "career development," and the reader learns that the phenomenon will be defined as "critical influences" in the "professional success" of the women. In this study, "success," a directional words, 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.

AQUANTITATIVE PURPOSE STATEMENT

Quantitative purpose statements differ considerably from the qualitative models in terms of he language and a focus on relating or

comparing variables or constructs. A variable refers to a characteristic or attribute of an individual or an organization that can be measured or observed and that varies among the people or organization being studied (Crewswell, 2002). A variable typically will "vary" in two or more categories or on a continuum of scores. Psychologists prefer to sue the term construct (rather than variable), which carries the connontation ofmore of an abstractidea than a specifically defined term. However, social scientists typically use the term variable, and it will be employed in this discussion. Variable often measured in studies include gener, age, sociaoeconomic status (SES), and attitudes or behavirors such as racism, social control, political peorr, or leadership. Several texts provide detailed discussions about the types of variables one can use and their scale of measurement (e.g., Isaac and Michael, 1981; Keppel, 1991; Kerlinger, 1979; Thorndike, 1997). Variables are distinguished by two characteristics; temporal order and their measurement (or observation).

Temporal order means that one variable precedes another in time. Because of this time ordering, it is said that one variable affects or "causes" another variable, though amore accurate statement would indicate "probable causation." When dealing with studies in the natural setting and it humans, researchers cannot absolutely "prove" cause and effect (Rosenthal and rosnow, 1991). This time ordering causes research in quantities approaches to think "left to right" (Punch, 1998) and order the variables in purpose statements, research questions, and visual models into left-to-right, cause and effect, presentations. Thus,

- independent variables are variables that (probably) cause, influence, or affect outcomes. They are also called treatment, manipulated, antecedent, or predictor variables.
- Dependent variable are variable that depend on the impendent variables; they are he outcomes or results of he influence of the

independent variables. Other names for dependent variable are criterion, outcome, and effete variables.

- Intervening or mediating variables "stand between" the independent and dependent variable, and they mediate the effect of the independent variable on the dependent variable. Fro example, if students do will on a research method test (dependent variable), that result may be due to (a)their study preparation (independent variable) and/or (b) their organization of study ideas into a framework (intervening variable) that influenced their grade on the test. The mediating variable, "organization of study," stands between the independent and dependent variables.

- Two other types of variable are control variables and confounding variables. Control variables play an active role n quantities studies. These variables are a special type of independent variable that are measured in a study because they potentially influence the dependent variable. Researchers use statistical procedures (e.g., analysis of covariance) to control for these variables. They may be demographic or persona variables that need to be "controlled" so that the true influence of the independent variable on the dependent can be determined. Another type of variable, a confounding (or spurious) variable, is not actually measured or observed in as study. It exists, but its influence cannot be directly detected in a study. Researchers comment on the influence of confounding variables, after the study has been complete, because these variables may have operated to explain the relationship between the independent variable and dependent variable, but the were not or could not be easily assessed.

The design of a quantities purpose statement, therefore, begins with identifying the proposed variables for a study (independent, intervening, dependent, control), drawing 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 variable 9as one typically finds in a survey) or to compare samples or groups in terms of an out come (as commonly found in experiments).

This knowledge helps in the design of he quantities purpose statement. The major components of a good quantitative purpose statement include a brief paragraph that contains the following:

- 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 (w) (will be) . . ."

- Identification of the theory, model, or conceptual framework to test in the proposal or study. At this point one does not need to describe it in detail; in Chapter 7 I suggest 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.

- Identification of the independent and dependent variables, as well as any mediating or control variables used in the study.

- Words that connect the independent and dependent variable to indelicate hat they are being related. Use "the relationship between" two or more variables or a "comparison of" two or more groups. Most quantitative studies fall into one of these to options for connecting variable 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 variable as an independent variable in the study. Although one typically finds studies about comparing two or more groups in experiments. It is also possible o compare groups in a survey study.

- A position or ordering of the variable from left to right in the purpose statement, beginning with the independent variable, followed by the dependent variable. Place intervening variables between the independent and dependent variable. Researchers also place the control variables between the independent and dependent variables. Alternatively: control variables might be place 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 used in the study. By incorporating this information, the researcher will anticipate the methods discussion and enable a reader to associated the relationship of variables to the inquiry approach.
- Reference to the participant (or the unit of analysis) in the study and mention of the research site for the study.
- A general definition for each key variable in the study, preferably using established definitions. In quantities research, investigators use set and accepted definitions for variables. The definitions included here are intended to provide a general definition of variables to help the reader best understand the purpose statement. They do not replace specific, operational definitions (detail about how variables will be measured) found later in a "Definition of terms" section in proposals (see chapter 8).

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 variable) for _____ (participants) at _____ (the

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research site). The independent variable (s) _____ will be generally defined as _____ (provide a general definition), and he control and intervening variable (s), _____, (identify the control and intervening variables) will be statistically controlled in the study.

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

Example 5.5. *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 coercion. 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 tow years of data from 54 college women to answer these question: (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? (Kalor, 2000, p,48).

Although kalofdoes 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 the severable from independent to dependent. She also discussed "linking" rather than "relating" the variables on establish a connection between them. This as sage also 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 dos not define the major variables, she provides specific measure of the research questions.

Example 5.6 *A Purpose Statement in a dissertation Survey Study*
DeGraw (1984) completed a doctor a doctor dissertation in the field of education on he topic of educators working adult correctional institutions. Under a section titled "Statement of the problem," he advance 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 correction alisntitutions in the united states personal characteristic were divided into background information about the respondent (i.e., institutional information, education level, prior training, etc.) and information about the respondents' thought of changing jobs. The examination of background information was important to this study because it was hoped it would be possible to identify characterizes and factors contributing to significant difference in mobility and motivation. The second apart 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 (Miske and Heller, 1973). These six factors are: potential for personal challenge and development; competitiveness; desirability and reward of success; tolerance for woke pressures; conservative security; and willingness to seek reward in site of uncertainty vs. avoidance. (DeGraw, 1984, pp.4,5).

The statement included several components of a good purpose statement. It was resented 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 5.7 *A Purpose Statement in an Experimental Study*

Booth-Kewly, 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 variation. They replicated 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.

(W e 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 theq2uestionnaire anonymously and the other half identified themselves. (Booth-kewley et al., 1992 p.563).

This statement also reflected may properties of a good purpose statement. The statement was separated from other ideas in the introduction as a separate paragraph, it mentioned that comparison would be made, and it identified the participant 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 he strategy of inquiry, but other passages, especially those related to procedures, discuss the study as an experiment.

A MIXED METHODS PURPSOE STATEMENT

A mixed methods proposal or study needs to convey both quantitative and qualitative purpose statements. These statements need to be identified early in the study in an introduction, and they provide a major sign post for the reader to understand the qualitative and qualitative parts of a study. Several guidelines might direct the organization and presentation of the mixed methods purpose statement:

- Being with signaling words, such as "The purpose of" or "The intent of."
- Indicate the type of mixed methods design, such as sequential, concurrent, or transformational.
- Discuss a rationale for combining both quantitative and qualitative data in the proposed study. This rationale could be
  - to better understand a research problem by converging (or triangulating) both broad numeric trends from quantitative research and the detail of qualitative research:
  - to explore participant views with the intent of using these views to develop and test an instrument with a sample from a population;
  - to obtain statistical, quantitative results from a sample and then follow up with a few individuals to probe or explore those results in more depth:
  - to best convey the needs of a marginalized group 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, three mixed methods purpose statement "scripts" are as follows. The first two are sequential studies, and the third is a concurrent study.

The purpose of this two-phase, sequential mixed methods study will be to explore participant views with the intent of using this information to develop and testan instrument with a sample from a population. The first phase will be a qualitative exploration of a _____ (central phenomenon) by collecting _____-- (date). Themes from this qualitative dcata will then be developed into an instrument so that _____ (theory, research questions or hypotheses) can be tested that _____ (relate, compare)

_____ (independent variable0 with _____ (dependent variable) for _____ (sample of population) at _____ (research site).

The purpose of this two-Phase, sequential mixed methods study will be to obtain statistical, quantitative results from a sample and then follow up with a few individuals to probe or explore those results in more depth. 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). 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 participants0 at _____ (research site).

The purpose of this concurrent mixed methods study is to better understand a research problem by converging both quantitative (broad numeric trends0 and qualitative (detailed views) data. In the study, _____ (dquantiative 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).

Example 5.8 A Mixed methods purpose statement, convergent strategy of inquiry

Hossler and Vesper (1993) studied student and parent attitudes toward parental savings for the postsecondary education of their children. In this 3-yearstudy, 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 perlad, logistic regression was used to identify the factors most strongly associated with parental savings for postsecondary education, insights gained from the interviews of a small subsample of students and parents who were intervewed five times during the three-year period are used to further examine parental savings. (hossler & vesper, 1993, 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 convergence 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 uder investigation in greater detail and triangulate findings using quantitative and qualitative data" (Hossler & vesper, 1993, P.146).

Example 5.9 A Mixed Methods Purpose statement, Sequential Strategy of inquiry

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 a laptop to log directly onto web sites recommended by the instructors. The purpose statement wasas follows.

The purpose of this sequential, mixed methods study was to for explore and generate themes about student use of iBook loptaps in three teacher education classes usijng 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 ofter 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 the qualitative data and the quantitative data collection and ends with a rationale for the incorporation of the two forms of data in a sequential design.

Summary

This chapter emphasizes the importance of a purpose statement in a scholarly study. This statement advances the central idea in a study, and as such it is the most important statement in a research proposal or 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." In the process, nondirectional language is used, and the inquirer mentions the strategy of inquiry, the participants, and the research site for the study. In a quantitative purpose statement, the researcher mentions 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 mentions 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 a rationale for the type of strategy, such as whether the data are collected concurrently or sequentially. Further, many elements of both good qualitative and quantitative purpose statements are included in the statement.

Writing Exercises

1. Using the "script" for a qualitative purpose statement, write the statement by completing the blanks. Make this statement short; write no more than approximately three-dquarters of a typed page.

2. Using the "script" for a quantitative purpose statement, write the 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 rationale for mixing quantitative and qualitative data, and incorporate the elements of both a good qualitative and a good quantitative purpose statement.

Additional Readings

Creswell, J. W. (2002). Educational research: planning, conducting and evaluating quantitative and quantitative research. Upper Saddle river, NJ: Merrill/Pearson.

In this methods text, I devote a section of one chapter to the topic of writing a purpose statement. The text includes a "script" for both quantitative and qualitative purpose statements. For identifying types of quantitative variables, the discussion provides a conceptual framework called the "family" of variables. The book provides several examples of both quantitative and qualitative purpose statements from the literature of education.

Marshall, C., & Rossman, G. B. (1999). Designing qualitative research (3rd ed.). Thousand OIaks, 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 ore two. It tells the reader what the results of the research are likely to accomplish. The authors characterize purposes as exploratory, explanatory, descriptive, and emancipator. They also mention that the purpose statement includes the unit of analysis (e.g., individuals, dyads, or groups).

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

Antoinette Wilkinson call 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 to a study, 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.

CHAPTER SIX
Research Questions and Hypotheses

Investigators place signposts in their research 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 (i.e., hypotheses) to be tested. This chapter addresses the second signpost- the research questions, or hypotheses – in a proposal. The discussion begins by advancing several principles involved in designing qualitative research questions; quantitative research questions, objectives, and hypotheses; and finally, 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 sub questions.

The central question is a statement of the question being examined in the study in its most general form. The inquirer poses this question, consistent with the emerging methodology of qualitative research, as a general issue so as to not limit the inquiry. One might ask "What is the broadest question that can be asked in the study?" beginning researchers trained in quantitative research might struggle with this

approach because they are accustomed to the reverse logic: identifying specific questions or hypotheses. The following are guidelines for writing borad, qualitative research questions:

- I recommend that a researcher ask one or two central questions followed by no more than five to seven subquestions. Several sub-questions follow each general central question, and the subquestion 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 recommend that researchers write no more than a dozen research questions in all. These questions, in turn, become topics specifically explored in interviews, observations, and documents and archival material. For example, they might be used as key questions the researcher will ask himself or herself in the observation procedure or during an open-ended interview.
- 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 questions that included mini-tour, experience, native-langauge, contrast, and verification questions. Similarly, 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 a questions. An 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 related to procedures in the data analysis

such as open coding ("What are the categories to emerge from interactions between caregivers and patients?") or axial coding ("How does categiving relate to actions by nurses?").

- Begin the research questions with the words "what" or "how" to convey an open and emerging design. "Why" suggests cause and effect, an approach consistent with quantitative research.

- Focus on a single phenomenon or concept.
- Use exploratory verbs that convey the language of emerging design of research. 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 nondirectional language. Delete words that suggest or infer a quantitative study, words with a directional orientation such as "affect," "influence," "impact," "determine," "cause," and "relate."

- Expect the research questions to evolve and to 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.

- If the information is not redundant with the purpose statement, specifiy the participants and the research site for the study.

The following are examples of qualitative research questions drawing on several types of strategies.

Example 6.1 A Qualitative Central Question From an Ethnography

Finders (1996) used ethnographic procedures to document the reading of teen magazines by middle-class Euro-American seventh-grade girls. By examining the reading of teen zines (magazines), the researcher could explore 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 fictions? (Finders, 1996, p.72)

This 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, in the study. Notice how the author crafted a concise, single question that needed to be answered in the study.

Example 6.2 *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 ducment the women's experiences, with those experiences intended as aids for feminists and feminist researchers. 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 school change these women's lives? (Padula and Miller, 1999, P. 328)

These three central question all begin with the words "How," they include open-ended verbs such as "describe," and they focus on three areas of the doctoral experience – returning to school, reentering, and

changing. They also mention the participants as women in a single doctoral program at a Midwestern research university.

QUANTITIATIVE RESEARCH
QUESTIONS AND HYPOTHESES

In quantitative studies, investigators use research questions and hypotheses to shape and specifically focus the purpose of the study. Research questions and interrogative statements or questions that the investigator seeks to answer. They are used frequently in social science research and specially in survey studies. hypotheses, on the other hand, are predictions the research holds about the relationship 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 typically are used in experiments in which investigators compare groups. Advisers often recommend their use in a formal research project, such as a dissertation of 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 are used infrequently in social science research. As such, the focus here will be on research questions and hypotheses.

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 a dependent variable. Third, the research may describe responses to the independent, mediating, or dependent variables.

- The most rigorous form of quantitative research follows from a test of a theory (see chapter 7) 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 (as discussed below). 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 to writing hypotheses. It makes a prediction that in the general population, no relationship or no 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 6.3 *A Null Hypothesis*

An investigator might examine three types of reinforcement for children with autism: verbal cues, a reward, and no reinforcement. Then the investigator collects behavior 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 of hypothesis, popular in journal articles, is the alternative hypothesis. The investigator makes a prediction about the expected outcome for the population of the study. This

prediction often comes from prior literature and studies on the topic that suggest a potential outcome that the researcher may expect. For example, the researcher may predict that "Scores will be higher for Group A than for Group B" on the outcome. These examples illustrate a directional hypothesis, because an expected prediction (e.g., higher, change more) is made. Another type of alternative hypothesis is nondirectional – a prediction is made, but the exact form of differences (e.g., higher, lower, more, or 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. The following illustrates a directional hypothesis.

Example 6.4 *Directional Hypotheses*

Mascarenhas (1989) studied the differences between type of ownership (state-owned, 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 films 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 customer overseas
>
> Hypothesis 6: state-owned firms will have a higher sustomer-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)

Example 6.5 *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 hypothesis is nondirectional and the last two are directional.

H_1: 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.

H_2: Religious women with salient gender identity are less socio-politically active than secular women with salient gender identities.

H_3: The relationships among gender identity, religiosity, and social actions are weaker among Arab women than among jewish women.

- Unless the study internationally employs demographic variables as predictors, use nondemographic variables (i.e., measuring attitudes or behaviors) rather than personal demographics as independent variables. Because quantitiate studies attempt to verify a theory, demographic variables (e.e., age, income level, educational level, and so forth) typically enter these models as intervening or control 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 beginning with the independent and concluding with the dependent variables (as also discussed in Chapter 5 on good purpose statements). An example of word order independent variables stated first in the phrases follows.

Example 6.6 *Standard Use of Language in Hypotheses*
1. There is no relationship between utilization of ancillary support services and academic persistence for non-traditional women college student.
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 college women.

A Model for Descriptive Questions and Hypotheses

Consider a model for writing questions or hypotheses based on writing descriptive questions that are followed by inferential questions or hypotheses. 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 control or intervening variables) in the study. Inferential questions (or hypotheses) that relate variables or compare groups follow these descriptive questions. A final set of question, then, may add inferential question or hypotheses in which variables are controlled.

Example 6.7 *Descriptive and Inferential Questions*

To illustrate this approach, assume that 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 eight-grade students in a large metropolitan school district. Further, this researcher controls for the intervening effects of prior grades in science classes and parents' educational attainment. Following the model proposed above, 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 students' 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 eight-graders? (A descriptive question focused on another control variable, educational attainment of parents)

Inferential Questions

5. Does critical thinking ability relate to student achievement? (An inferential question relating the independent and the dependent variables)
6. Does critical thinking ability relate to student achievement, controlling or the effects of prior grades in science and the educational attainment of the eight-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 question into descriptive and inferential questions. In another example, a researcher may want to compere 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 would 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 question, the dependent in the second, and the control variables in the third position. 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

Mixed methods research presents challenges in writing research questions (or hypotheses) because so little of the literature has addressed this design step (Creswell, 1999). Authors prefer to make purpose statements rather than specify their research questions. Thus, there is a distinct lack of models on which to base guidelines for writing research questions into mixed methods studies. by examining a number of these studies, however, it is possible to identify some characteristics that might guide the design of the questions.

- Mixed methods studies need to have both qualitative and quantitative research questions (or hypotheses) included in the studies to narrow and focus the purpose statements.

- These questions and hypotheses need to incorporate the elements of good questions and hypotheses already addressed in the quantitative and qualitative approaches.

- In a two-phase, sequential project in which the second phase elaborates on the first phase, it is difficult to specify the second-phase questions in a proposal or plan. After the study is completed, the researcher can state the questions of both phases in the final report. In a single-phase project, it is possible to identify the qualitative and quantitative research questions in the proposal because one set of questions is not contingent on the other set of questions.

- Some attention should be given to the order of the research questions and hypotheses. In a two-phase project, the order would consist of the first-phase questions 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.

- A variation often seen in sequential mixed methods studies is to introduce the questions at the beginning of each phase. For example, assume that 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.

Example 6.8. *Hypotheses and Research Questions in a Mixed Methods Study*

Houtz (1995) provides an example of a two-phase study with the research hypotheses and questions stated in sections introducing each phase. Her study investigated the differences between middle-school (nontraditional)

and junior high (traditional) instructional strategies for seventh – and eight-grade students and their attitudes toward science and their science achievement. In this two-phase study, the first phase involved assessing pre- and posttest 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 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 thos in the junior high in achievement in science. (Houtz, 1995, p.630)

These hypotheses appeared at the beginning of the study as an introduction to the quantitative phase of the study. Prior to the qualitative phase, Houtz raised questions to explore the quantitative results. Focusing in on the achievement test results, Houtz 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 of 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 qualitative hypotheses and qualitative research questions.

Summary

Research questions and hypotheses narrow the purpose statement and become major signposts for readers of research. 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 mention the participants and the site for the research.

Quantitative researchers write either research questions or hypotheses. These questions or hypotheses include variables that are described, related, categorized into groups for comparison, and measured separately for the independent and dependent variables. 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 difference or no relationship between groups on a dependent variable. Typically in questions and hypotheses, the researcher writes the independent variable9s) first, followed by the dependent variable(s). one model for ordering all the questions in a quantitative proposal is to begin with descriptive questions, followed by the inferential questions that relate variables or compare groups.

Mixed methods research questions should address both the qualitative and the quantitative components in a study. In a proposal, it is difficult to be specific about the second-phase questions. Typically, if both qualitative and quantitative questions are introduced in a study, their order of sequence in the study suggests their priority in the study. Also, the weight given to the

qualitative and quantitative phases will dictate the order of the questions. Finally, one model found in mixed methods studies involves writing the research questions as an introduction to each phase in the study rather than presenting them all at the beginning of the study.

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 research questions for a two-phase, sequential mixed methods project. Include the elements of good questions in both the qualitative and quantitative questions.

4. Return to the working draft of your title. Retitle your study to reflect a qualitative or quantitative approach to the study. To write a qualitative title, consider the suggestions in Chapter 2 and be sure to include the central phenomenon. Use a literary style such as a question. To write quantitative title, include the major independent and dependent variables and separate them with the conjunction "and." Order the variables from independent to dependent so that they are consistent with the purpose statement and research questions/hypotheses.

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 questions, and stating within the questions the type of qualitative strategy of inquiry being used.

Morse, J. M. (1994). Designing funded qualitative research. In N.K. Denzin and 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 the planning of 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 "procerss" questions, 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 College Publishers.

Bruce Tukman 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.

CHAPTER SEVEN

The Use of Theory

In quantitative research, the hypotheses and research questions are often based on theories that the researcher seeks to test. In qualitative research, the use of theory is much more varied. Thus, this book introduces the use of theory at this time in the design process because theyr provides an explanation for the variables in questions and hypotheses in quantitative research. In contrast, in a quantitative dissertation, an entire section of a research proposal might be devoted to explicating the theory for the study. Alternatively, in a qualitative study, the inquirer may generate a theory during a study and place it at the end of a project, such as in grounded theory. In other qualitative studies, it comes at the beginning and provides a lens that shpes what is looked at and the questions asked, such as in ethnographies or in advocacy research. In mixed methods research, researchers may both test theories and generate them. Moreover, mixed methods research may contain a theoretical lens, such as a focus on feminist, racial, or class issues, that guides the entire study.

The chapter begins by focusing on theory-use in a quantitative study. It reviews a definition of a theory, the placement of it in a quantitative study, and the alternative forms it might assume in a

written plan. Procedures in identifying a theory are next presented followed by a "script" of a "theoretical perspective" section of a quantitative research proposal. Then the discussion moves to use of theory in a qualitative study. Qualitative inquirers use different terms, such as theories, patterns, and naturalistic generalizations, to describe the understandings developed in their studies. sometimes these understandings occur at the beginning of a study; at other times, they appear at the end. Examples illustrate the alternatives available in qualitative researchers. Finally, the chapter turns to the use of theories in mixed methods research and the use of theory in a type of strategy of inquiry – the transformative strategy – that emerged recently in the literature.

QUANTITATIVE THEORY-USE

Definition of a Theory

In quantitative research, some historical precedent exists for viewing a theory as a scientific prediction or explanation (see G. Thomas, 1997, for different ways of conceptualizing theories and how they might constrain thought). for example, the definition of a theory, such as the one by Kerlinger (1979), is still valid today. A theory is "a set of interrelated constructs (variables), definitions, and propositions that presents a systematic view of phenomena by specifying relations among variables, with the purpose of explaining natural phenomena" (p. 64).

In this definition, a theory is an interrelated set of constructs (or variables) formed into propositions, or hypotheses, that specify the relationship among variables (typically in terms of magnitude or direction). The systematic view might be an argument, a discussion, or a rationale, and it helps to explain (or predict) phenomena that occur in the world. Labovitz and Hagedorn (1971) add to this definition the idea of a theoretical rational, which they define as "specifying how and why the

variables and relational statements are interrelated" (p.17). Why would an independent variable, X, influence or affect a dependent variable, Y? the theory would provide the explanation for this expectation or prediction. A discussion about this theory, then, would appear in a section of a proposal title a theory-base, a theoretical rationale, or a theoretical perspective. I prefer the term theoretical perspective because it has been popularly used as a required section for a proposal for research when one submits an application to present a research aper at the American Educational Research Association Conference.

The metaphor of a rainbow can help to visualize how a theory operates. Assume that the rainbow bridges the independent and dependent variables and provides an overarching explanation for how and why one would expect the independent variable to explain or predict the dependent variable.

Theories develop when researchers test a prediction many times. Recall that investigators combine independent, mediating, and dependent variable based on different forms of measures into hypotheses or research questions. These hypotheses or questions provide information about the type of relationship (positive, negative, or unknown) and its magnitude (e.g., high or low). The hypothesis might be written, "The greater the centralization of power in leaders, the greater the disenfranchisement of the followers." When researchers test hypotheses such as this over and over in different settings and with different populations (e.g., the Boy Scouts, a Presbyterian church, the Rotary Club, and a group of high school students), a theory emerges and someone gives it a name (e.g., a theory of attribution). Thus, theory develops as explanation to advance knowledge in particular fields (G. Thomas, 1997).

Another aspect of theories is that they vary in their breadth of coverage. Neuman (2000) reviews theories at three levels: micro-level, meso-level, and macro-level. Micro-level theories provide explanations limited to small slices of time, space, or numbers of people, such as Goffman's theory of "face work" that

explans how people engage in rituals during face-to-face interactions. Meso-level theories link the micro and macro levels. These are theories of organizations, social movement, or communities, such as Collins's theory of control in organization. Macro-level theories explain larger aggregates, such as social institutions, cultural systems, and whole societies. Lenski's macro-level theory of social stratification, for example, explains how the amount of surplus a society produces increases with the development of the society.

Theories are found in the social science disciplines of psychology, sociology, anthropology, education, and economics, as well as within many subfields. To locate and read about these theories requires searching literature databases (e.g., Psychological Abstracts, Sociological Abstracts) or reviewing guides to the literature about theories (e.g., see Webb, Beals, & White, 1986).

Form of Theories

Researchers state their theories in several ways, such as a series of hypotheses, "if ... then" logic statements, or visual models. First, some researchers state theories in the form of interconnected hypotheses. For example, Hopkins (1964) conveyed his theory of influence processes as a series of 15 hypotheses (slightly altered to remove all the male-specific pronouns). For any member of a small group, some hypotheses are:

1. The higher her rank, the greater her centrality
2. The greater his centrality, the greater his absorbability.
3. The higher her rank, the greater her absorbability.
4. The greater his centrality, the greater his conformity.
5. The higher her rank, the greater her conformity.
6. The greater his observability, the greater his conformity.

7. The greater her conformity, the greater her observability. (p. 51)

A second form is to state a theory as a series of "if ... then" statements that explain why one would expect the independent variables to influence or cause the dependent variable. For example, Homans (1950) explains a theory of interaction:

If the frequency of interaction between two or more persons increases, the degrees of their liking for one another will increase, and vice versa ... persons who feel sentiments of liking for one another will express those sentiments in activities over and above the activities of the external

system, and these activities may further strengthen the sentiments of liking. The more frequently persons interact with one another, the more alike in some respects both their activities and their sentiments tend to become. (pp. 112, 118, 120).

Third, an author may present a theory as a visual model. It is useful to translate variables into a visual picture. Blalock (1969, 1985, 1991) advocates causal modeling and recasts verbal theories into causal models so that a reader can visualize the interconnections of variables.

Two simplified examples are presented here. As shown in Figure 7.1, three independent variables influence a single dependent variable mediated by the influence of two intervening variables. Setting up a diagram such as this one shows the possible causal sequence among variables, leading to path analytic modeling and more advanced analyses using multiple measures of variables as found in structural equation modeling (see Kline, 1998). At an introductory level, Duncan (1985) provides useful suggestions about the notation for constructing these visual, causal diagrams:

- Position the dependent variables on the right in the diagram and the independent variables on the left.
- Use one-way arrows leading from each determining variable to each variable dependent on it.
- Indicate the "strength" of the relationship among variables by inserting valence signs on the paths. Use positive or negative valences that postulate or infer relationships.
- Use two-headed arrows connected to show unanalyzed relationship between variables not dependent upon other relationships in the model.

Though more complicated causal diagrams can be constructed with additional notation, the model presented here portrays a basic model of limited variables, such as typically found in a survey research study.

A variation on this theme is to have two independent variables in which one variable compares a control and experimental group and a second variable simply measures an attribute or characteristic. As shown in Figure 7.2, two groups on variable X_1 (X_a and X_b) are compared, along with variable X2 (a control variable) as they influence Y1, the dependent variable. This design is a between-groups experimental design. The same rules of notation discussed above apply.

These two visual models are meant only to introduce possibilities for connecting independent and dependent variables to build theories. More complicated designs employ multiple independent and dependent variables inm elaborate models of causation (Blalock, 1969, 1985). For example, Jungnickel (1990), in a doctoral dissertation proposal about research productivity among faculty in pharmacy schools, presented a complex visual model as shown in Figure 7.3. Jungnickel asked what factors influence a faculty member's scholarly research performance,

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│         Researcher Tests or Verifies a Theory         │
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┌─────────────────────────────────────────────────────┐
│   Researcher Tests Hypotheses or Research Questions   │
│                    from the Theory                    │
└─────────────────────────────────────────────────────┘
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                          ▼
┌─────────────────────────────────────────────────────┐
│    Researcher Defines and Operationalizes Variables   │
│                  Derived from the Theory              │
└─────────────────────────────────────────────────────┘
                          │
                          ▼
┌─────────────────────────────────────────────────────────────┐
│ Researcher Measures or Observes Variables Using an Instrument │
│                    to obtain Scores                          │
└─────────────────────────────────────────────────────────────┘
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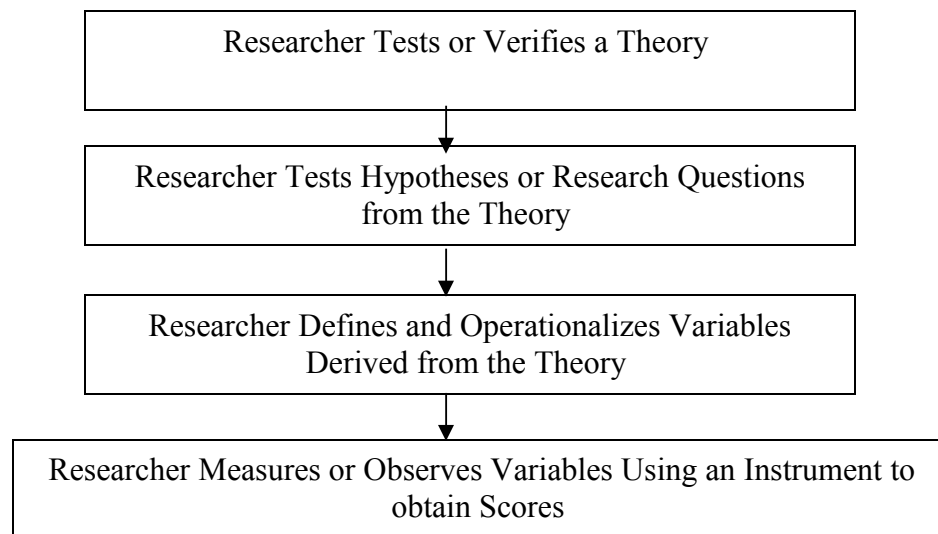
Figure 7.4 The Deductive Approach Typicall Used in Quantitative Research

After identifying these factors in the literature, he adapted a theoretical framework found in nursing research (Megel, Langston, and Creswell, (1988). He developed a visual model portraying the relationship among these factors. The model follows the rules for constructing a visual model introduced earlier. He listed the independent variables on the far left, the intervening variables in the middle, and the dependent variables on the right. He direction of influence flowed from the left to the right, and he used "+" and "_" valences to indicate the hypothesized direction.

Placement of Quantitative Theories

In quantitative studies, one uses theory deductively and places it toward the beginning of the plan for a study. With the objective of testing or verifying a theory rather than developing it, the researcher advances a theory, collects data to test it, and reflects on the confirmation or disconfirmation of the theory by the results. The theory becomes a framework for the entire study, an organizing model for the research questions or hypotheses and for the dat collection procedure. The deductive model of thinking used in a quantitative study is shown in The researcher tests or verifies a theory by examining

Table 7.1 Options for Placing Theory in a Quantitative Study

Placement	Advantages	Disadvantages
In the introduction	An approach often found in journal articles, it will be familiar to readers, it convey a deductive approach	It is difficult for a reader to isolate and separate theory base from other components of the research process
In the literature review	Theories are found in the literature, and their inclusion in a literature review is a logical extension or part of the literature	It is difficult for a reader to see the theory in isolation from the scholarly review of the literature

14

After hypotheses or research questions	The theory discussion is a logical extension of hypotheses or research questions because it explains how and why variables are related	A writer may include a theoretical rationale after hypotheses and question, and leave out an extended discussion about the origin and use of the theory
In a separate section	This approach clearly separates the theory from other components of the research process, and it enables a reader to better identify and to understand the theory base for the study	The theory discussion stands in isolation from other components of the research process and, as such, and reader may not easily connect it with other components of the research process

Hypotheses or questions derived from the theory. These hypotheses or questions contains variables (or constructs) that the researcher needs to define. Alternatively, an acceptable definition might be found in the literature. From here, the investigator locates an instrument to use in measuring or observing attitudes or behaviors of participants in a study. Then the investigator collects scores on these instruments to confirm or disconfirm the theory.

This deductive approach to research in the quantitative approach has implications for the placement of a theory in a quantitative research study (see Table 7.1). A general guide is to introduce the theory early in a planor study. This means that the researcher presents it in the introduction, in the literature review section, immediately after hypotheses or research questions (as a rationale for the connections among the variables), or in a separte section of the study. Each placement has its advantages and disadvantages.

I prefer to write the theory into a separate section so that readers can clearly identify the theory from other components of the research process. Such a separate passage provides a complete explication of the theory section, its use, and how it relates to the study I am proposing.

A Model for Writing a

Quantitative Theoretical Perspective

Using these ideas, the following presents a model for writing a quantitative theoretical perspective section into a research plan. Assume that the task is to identify a theory that explains the relationship between independent and dependent variables. The following procedure might be used:

1. Look in the discipline-based literature for a theory. If the unit of analysis for variables is individuals, look in the psychology literature; to study groups or organizations, look in the sociological literature. If the project exasmines individuals and groups, consider the social psychology literature. Of course, theories from other discipline theories may be useful, too (e.g., to study an economic issue, the theory may be found in economics).

2. look also at prior studies that address the topic or a closely related topic. What theories were used by other authors? Limit the number of theories and try to identify one overarching theory that explains the central hypothesis or research question in the study.

3. as mentioned earlier, ask the rainbow question that bridges the independent and dependent variables.: Why would the independent variable(s) influence the dependent variables?

4. script out the theory section. Follow these lead sentences: "The theory that I will use will be _____ (name the theory). It was developed by _____ (identify the origin or source for the theory), and it was used to study _____ (identify the topics where one finds the theory being applied). This theory indicates that _____ (identify the propositions or hypotheses in the theory). As

applied to my study, this theory holds that I would expect my independent variable(s) _____ (state independent variables) to influence or explain the dependent variable(s) _____ (state) dependent variable) because _____ (provide a rationale based on the logic of the theory)."

Thus, the topics to include in a quantitative theory discussion are the theory to be used, the central hypotheses or propositions of the theory, information about past use of the theory and its application, and statements that reflect how the theory relates to a proposed study. This model is illustrated in the example by Crutchfield (1986) below.

Example 7.1. A Quantitative Theory Section

Crutchfield (1986) wrote a doctoral dissertation titled locus of control, Interpersonal Trust, and Scholarly Productivity. Surveying nursing educators, her intent was to determine if locus of control and interpersonal trust affected the levels of publications of the faculty. Her dissertation included a separate section in the introductory chapter titled "Theoretical Perspective." What follows is this section, including the following points:

- The theory she planned to use

- The central hypotheses of the theory

- Information about who has used the theory and its applicability

- An adaptation of the theory to variables in her study using the "if … then" logic

Here is a section of her study, reproduced in its entirety. I added annotations (in bold type) to mark key passages.

Theoretical Perspective

In formulation of a theoretical perspective for studying the scholarly productivity of faculty, social learning theory provides a useful prototype. This conception of behavior attempts to achieve a balanced synthesis of cognitive psychology with the principles of behavior modification (Bower & Hilgard, 1981). Basically, this unified theoretical framework "approaches the explanation of human behavior in terms of a continuous (reciprocal) interaction between cognitive, behavioral, and environmental determinants" (Bandura, 1977, p. Vii). (Author identifies the theory for the study.)

While social learning theory accepts the application of reinforcements such as shaping principles, it tends to see the role of rewards as both conveying information about the optimal response and providing incentive motivation for a given act because of the anticipated reward. In addition, the learning principles of this theory place special emphasis on the important roles played by vicarious, symbolic, and self-regulating processes (Bandura, 1971).

Social learning theory not only deals with learning, but seeks to describe how a group of social and personal competencies (so-called personality) could evolve out of social conditions within which the learning occurs. It also addresses techniques of personality assessment (Mischel, 1968), and behavior modification in clinical and education settings (Bandura, 1977; Bower & Hilgard, 1981; Rotter, 1954). (Author describes social learning theory.)

Further, the principles of social learning theory have been applied to a wide range of social behavior such as competitiveness, aggressiveness, sex roles, deviance, and pathological behavior (Bandura & Walters, 1963; Bandura, 1977; Mischel, 1968; Miller & Dollard, 1941; Rotter, 1954; Staats, 1975). (Author describes the use of the theory.)

Explaining social learning theory, Roter (1954) indicated that four classes of variables must be considered: behavior, expectancies, reinforcement, and psychological situations. A general formula for behavior was proposed which states: "the potential for a behavior to occur in any specific psychological situation is the function of the expectancy that the behavior will lead to a particular reinforcement in that situation and the value of that reinforcement" (Rotter, 1975, p.57).

Expectancy within the formula refers to the perceived degree of certainity (or probability) that a causal relationship generally exists between behavior and rewards. This construct of generalized expectancy has been defined as internal lous of control when an individual believes

that reinforcements are a function of specific behavior, or as external locus of control when the effects are attributed to luck, fate, or powerful others. The perceptions of causal relationships need not be absolute positions, but rather tend to vary in degree along a continuum depending upon previous experiences and situational complexities (Rotter, 1966). (Author Explains variables in the theory.)

In the application of social learning theory to this study of scholarly productivity, the four classes of variables identified by Roter (1954) will be defined in the following manner.

1. Scholarly productivity is the desired behavior or activity.
2. Locus of control is the generalized expectancy that rewards are or are not dependent upon specific behaviors.
3. Reinforcements are the rewards from scholarly work and the value attached to these rewards.
4. the educational institution is the psychological situation which furnishes many of the rewards for scholarly productivity.

With these specific variables, the formula for behavior which was developed by Rotter (1975) would be adapted to read: the potential for scholarly behavior to occur within an education institution is a function of the expectancy that this activity will lead to specific rewards not of the value that the faculty member places on these rewards. In addition, the interaction of interpersonal trust with locus of control must be considered in relation to the expectancy of attaining rewards through behaviors as recommended in subsequent statements by Rotter (1967). Finally, certain characteristics, such as educational preparation, chronological age, post-doctoral fellowships, tenure, or full-time versus part-time employment may be associated with the scholarly productivity of nurse faculty in a manner similar to that seen within other disciplines. (Author applied the concepts to her study.)

The following statement represents the underlying logic for designing and conducting this study. If faculty believe that: (a) their efforts and actions in producing scholarly works will lead to rewards (locus of control,) (b) others can be relied upon to follow through on their

promises (interpersonal trust), (c) the rewards for scholarly activity are worthwhile (reward values), and (d) the rewards are available within their discipline or institution (institutional setting), then they will attain high levels of scholarly productivity (pp. 12-16).

(Author concluded with the "if ... then" logic to relate the independent variables to the dependent variables.)

QUALITATIVE THEORY-USE

Variation in Theory-Use in Qualitative Research

Qualitative inquirers use theory in their studies in several ways. They employ theory as a broad explanation, much like in quantitative research. This theory provides an explanation for behavior and attitudes, and it may be complete with variables, constructs, and hypotheses. For example, ethnographers employ cultural themes or "aspects of cultre" (Wolcott, 1999, p. 113) to study in their qualitative projects. These might be themes such as social control, language, stability and change, or social organization such as kinship or families (see Wolcott'sa 1999 discussion about texts that address cultural topics in anthropology). Themes in this context provide a ready-made series of hypotheses to be tested from the literature. Although researchers might not refer to them as theories, they provide broad explanations that anthropologists use to study the cultre-sharing behavior and attitudes of people.

Alternatively, qualitative researchers increasingly use a theoretical lens or perspective to guide their study and raise the questions of gender, class, and race (or some combination) they would like to address. The case could easily be made that qualitative research of the 1980s underwent a transformation to braden its scope of inquiry to include these theoretical lenses. These are the theories mentioned earlier in this book, contained in Chapter 1. they provide a lens (even a theory) to guide the researchers as to what issues are important to examine (e.g., marginalization, empowerment) and the people that need to be studied (e.g., women, homeless, minority groups). They also indicate how the researcher positions himself or herself in the qualitative study (e.g., up front or biased from personal, cultural, and historical contexts) and how the final

written accounts need to be written (e.g., without further marginalizing individuals, by collaborating with participants). In critical ethnography studies, researchers begin with a theory that informs their studies. this causal theory might be a theory of emancipation or repression (J. Thomas, 1993). Rossman and Rallis (1998) capture, in a few words, the sense of theory as critical and postmodern perspectives in qualitative inquiry:

As the 20th century draws to a close, traditional social science has come under increasing scrutiny and attack as those espousing critical and postmodern perspectives challenge objectivist

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┌─────────────────────────────────────┐
│  Generalizations, or Theories to Past│
│     Experiences and Literature       │
└─────────────────────────────────────┘
                   ▲
┌─────────────────────────────────────┐
│  Researcher Looks for Broad Patterns,│
│ Generalizations, or Theories from    │
│      Themes or Categories            │
└─────────────────────────────────────┘
                   ▲
┌─────────────────────────────────────┐
│ Researcher Analyzes Data to Form     │
│      Themes or Categories            │
└─────────────────────────────────────┘
                   ▲
┌─────────────────────────────────────┐
│ Researcher Asks Open-Ended Questions │
│ of Particpants or Records Field notes│
└─────────────────────────────────────┘
                   ▲
┌─────────────────────────────────────┐
│ Researcher Gathers information (e.g., │
│      interviews, observation)        │
└─────────────────────────────────────┘
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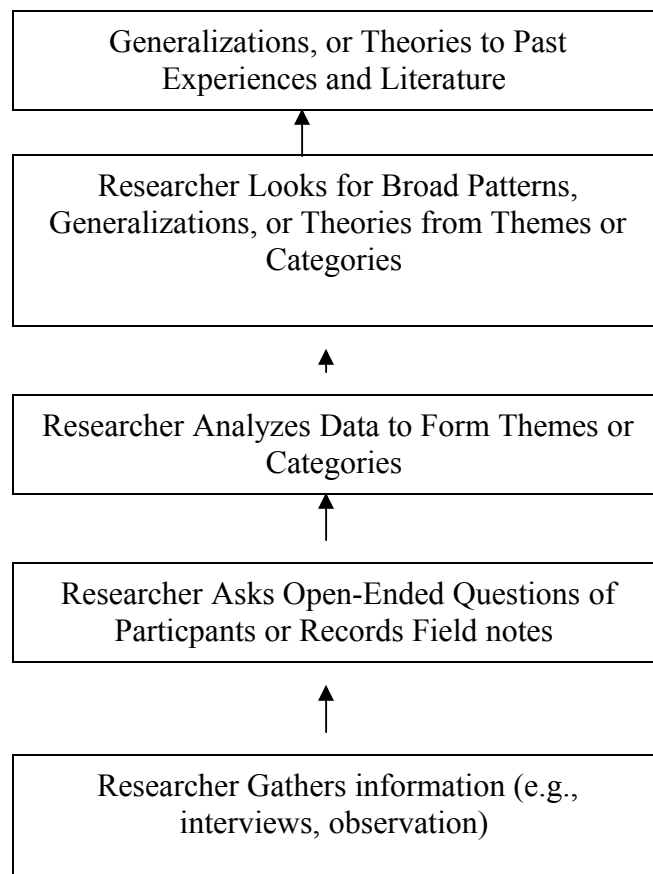
Figure 7.5. The Inductive Logic of Research in a Qualitative Study

Assumptions and traditional norms for the conduct of research. Central to this attack are four interrelated notions: (a) Research fundamentally involves issues of power; (b) the research report is not transparent but rather it is authored by

a raced, gendered, classed, and politically oriented individual; (c) race, class, and gender are crucial for underanding experience; and (d) historic, traditional research has silenced members of oppressed and marginalized groups. (p.66)

Distinct from this theoretical orientation and qualitative studies in which theory 9or some other broad explanation) becomes the end point for a study. It is an inductive process of building from the data to broad themes to a generalized model or theory (see Punch, 1998). The logic of this inductive approach is shown in Figure 7.5. The researcher begins by

Gathering detailed information from participants and forms this information into categories or themes. These themes or categories are developed into broad patterns, theories, or generalizations that are then compared with personal experiences or with existing literature on the topic.

The development of themes and categories into patterns, theories, or generalizations suggests a varied end point for qualitative studies. for example, in case study research, Stake (1995) refers to an assertion as a propositional generalization – the researcher's summary of interpretations and claims – to which is added the researcher's own personal experiences, called "naturalistic generalizations" (p.86). As another example, grounded theory that is grounded in information from participants (Strauss & Corbin, 1998). Lincoln and Guba (1985)) refer to "pattern theories" as an explanation that develops during naturalistic or qualitative research. Rather than the deductive form found in quantitative studies, these "pattern theories" or "generalizations" represent interconnected thoughts or parts linked to a whole. W.L. Neuman (1991) provides additional information about "pattern theories":

> Pattern theory does not emphasize logical deductive reasoning. Like causal theory, it contains an interconnected set of concepts and relationships, but it does not require causal statements. Instead, pattern theory use metaphor or analogies so that relationship "makes sense." Pattern theories are systems of ideas that inform. The concepts and

relations within them form a mutually reinforcing, closed system. They specify a sequence of phases or link parts to a whole. (p.38).

Finally, some qualitative studies do not employ any explicit theory. However, the case can be made that no qualitative study begins from pure observation and that prior conceptual structure composed of theory and method provides the starting point for all observations (Schwandt, 1993). Still, one sees qualitative studies that contain no explicit theoretical orientation, such as in phenomenology, in which inquirers attempt to build the essence of experience from participants (e.g., see Riemen, 1986). In these studies, the inquirer constructs a rich, detailed description of a central phenomenon.

My advice on theory-use in a qualitative proposal is this:
- Decide if theory is to be sued in the qualitative proposal.
- If it is used, then identify how the theory will be used in the study, such as un up-front explanation, as an end point, or as an advocacy lens.
- Locate the theory in the proposal in a manner consistent with its use.

Locating the Theory or Pattern in Qualitative Research

How theory is used affects its placement in a qualitative study. In those studies with a cultural theme or a theoretical lens, the theory occurs in the opening passages of the study. Consistent with the emerging design of qualitative inquiry, the theory may appear at the beginning and be modified or adjusted based on partipant views. Even in the most theory-oriented qualitative design, such as critical ethnography, Lather (1986) qualifies the use of theory:

Building empirically grounded theory requires a reciprocal relationship between data and theory. Data must be allowed

to generate propositions in a dialectical manner that permits use of a priori theoretical frameworks, but which keeps a particular frame-work from becoming the container into which the data must be poured. (p.267)

Example 7.2 An Example of Theory-Use Early in a Qualitative Study

Murguia, Padilla, and Pavel (1991) studied the integration of 24 Hispanci and Native American students into the social system of a college campus. They were curious about how ethnicity influenced social integration, and they began by relating the participants' experiences to a theoretical model, the Tinto model of social integration. They felt that the model had been "incompletely conceptualized and, as a consequence, only imprecisely understood and measured" (p.433).

Thus, the model was not being tested in the study as one would find in a quantitative project, but modified in the study. At the end of the study, the authors refined Tinto's model and advanced their modification that described the rootedness and functions of ethnicity. In contrast to this approach. In qualitative studies with an end point of a theory (e.g., a grounded theory), a pattern, or a generalization, the theory emerges at the end of the study. This theory might be presented as a logic diagram, a visual representation of relationships among concepts.

Example 7.3 *A Theory at the End of a Qualitative Study*

Using a national database of 33 interviews with academic department chairpersons, we (Creswell and Brown, 1992) developed a grounded theory interrelating variables (or categories) of chair influence on scholarly performance of faculty. The theory section come into the article as the last section, where the authors presented a visual model of the theory developed inductively from categories of information supplied by interviewees. In addition, the authors also advanced directional

hypotheses that logically followed from the model. Moreover, in the section on the model and the hypotheses, the authors compared their results with findings from other studies and theoretical speculations in the literature. For example, the authors stated:

This proposition and its sub-propositions represent unusual, even contrary evidence, to our expectations. Contrary to proposition 2.1, we expected that the career stages would be similar not in type of issue but in the range of issues. Instead we found that the issues for post-tenure faculty covered almost all the possible problems on the list. Why would this group's needs be more extensive? The research productivity literature suggests that one's research performance does not decline with the award of tenure (Holley 1977). Perhaps diffuse career goals of post-tenure faculty expand the possibilities for "types" of issues. In any case, this sub-proposition focuses attention on the understudied career group that Furiss (1981) reminds us needs to be examined in more detail. (p.58)

As this example shows, we developed a visual model that interrelated variables, derived this model inductively from informant comments, and placed the model at the end of the study, where the central propositions in it could be contrasted with the existing theories and literature.

Mixed Methods Theory-Use

Mixed methods studies may include theory deductively in theory testing and verification, or inductively as in an emerging theory or pattern. In either situation, the use of theory may be directed by the emphasis on either quantitative or qualitative approaches in the mixed methods research. Another way to think about theory in mixed methods research is the use of a theoretical lens or perspective to guide the study. Here we

have limited information about the procedures involved in using a theoretical lens to study gender, race/ethnicity/disability, sexual orientation, and other bases of diversity (Mertens, 2003). Several authors, however, have begun the discussion.

The first were Greene and Caracelli (1997), who mentioned the use of a "transformative design" as a distinct form of mixed methods research. This design gave primacy to value-based, action-oriented research such as in participatory action research and empowerment approaches. In this design, they suggest mixing the value commitments of different traditions in research (e.g., bias-free from quantitative and bias-laden from qualitative), the use of diverse methods, and a focus on action solutions in research. Unfortunately, they do not specify the procedures involved in incorporating this theoretical perspective into the practice of research.

More information on procedure has appeared in a chapter written by Creswell, Plano Clear, Gutmann, and Hanson (2003). They identify the use of theoretical perspectives such as gendered, feminist perspectives; cultural/racial/ethnic perspectives, lifestyle perspectives, critical perspectives, and class and social status perspectives. In Creswell et al.'s view, these perspectives represent one of the major decisions to be made in the selection of mixed methods strategies. They further develop visual models of these strategies for both sequential and concurrent mixed methods approaches, and they indicate some of the strengths and seaknesses (e.g., it is appealing to those interested in change despite limited discussions about procedures (also see chapter 11 of this book).

Mertens (2003) continues the discussion. As outlined in Box 7.1, she advocates for the importance of a theory-lens in mixed methods

Box 7.1 Transformative-Emancipatory Questions for Mixed Methods Researchers Throughout the Research process

Defining the problem and searching the Literature

- Did you deliberately search the Literature for concerns of diverse groups and issues of discrimination and oppression?
- Did the problem definition arise from the community of concern?
- Did your mixed methods approach arise from spending quality time with these communities? (i.e., building trust? Using an appropriate theoretical framework other than a deficit model? Developing balanced – positive and negative – questions? Developing questions that lead to transformative answers, such as questions focused on authority and relations of power in institutions and communities?

Identifying the research design

- Are the participants of groups associated with discrimination and oppression?
- Are the participants appropriately labeled?
- Is there a recognition of diversity within the target population?
- What can be done to improve the inclusiveness of the sample to increase the probability that traditionally marginalized groups are adequately and accurately represented?

Identifying or constructing Data Collection

Instruments and methods

- Will the data collection process and outcomes benefit the community being studied?
- Will the research findings be credible to that community?

- Will communication with that community be effective?
- Will the data collection open up avenues for participation in the social change process?

Analyzing, interpreting, and reporting and using results

- Will the results raise new hypotheses?

- Will the research examine subgroups (i.e., multilevel analyses) to analyze the differential impact on diverse groups?

- Will the results help understand and elucidate power relationships?

- Will the results facilitate social change?

Source: Adapted from D.M. Mertens (2003), "Mixed Methods and the Politics of Human Research: The Transformative-Emancipatory Perspective," in A.Tashakkori & C. Teddlle (EDs.), Handbook of Mixed Methods in the Social and Behavioral Sciences. Adapted will permission.

research. In detailing a "transformative/emancipatory paradigm" and specific procedures, she emphasizes the role that values play in studying feminist, ethnic/racial, and disability issues. Her "transformative theory" is an umbrella term for research that is emancipatory, ant discriminatory, participative, Freirian, feminist, racial/ethnic, for individuals with disabilities, and for all marginalized groups.

Mertens identifies the implication of these transformative theories for mixed methods research. These involve integration of the transformative-emancipatory methodology into all phases of the research process. Reading through the questions in Box 7.1, one gains a sense of the importance of studying issues of discrimination and oppression and of recognizing diversity among study participants. These questions also address treating individuals respectful through gathering and communicating data collection and through reporting results that lead to changes in social processes and relationships.

In using theory in a mixed methods proposal
- Determine if theory is to be used
- Identify its use in accord with quantitative or qualitative approaches.

- If theory is used as in a transformational strategy of inquiry, define this strategy and discuss the points in the proposed study in which the emancipatory ideas sill be used.

Example 7.4 *A Transformative-Emancipatory Mixed Methods Study*

Hopson, Lucas, and Peterson (2000) studied issues in a urban, predominantly African American HIV/AIDS community. consistent with a transformative-emancipatory framework, they examined the language of participants with HIV/AIDS within the participants' social context. They first conducted 75 open-ended ethnographic interviews to identify "language themes" (p.31), such as blame, ownership, and acceptance or non-acceptance. They also collected 40 semistructred interviews that addressed demographics, daily routine, drug use, knowledge of HIV/AIDS risks, and drug and sexual sociobehavioral characteristics. From this qualitative data, the authors used concepts and questions to refine follow-up questions, including the design of a quantitative postintervention instrument. The authors suggested that empowerment approaches in evaluation can be useful, with researchers listening to the voices of real people and acting on what program participants say.

The design in this study gave "primacy to the value-based and action-oriented dimensions of different inquiry traditions" (Greene & Caracelli, 1997, p.24) in a mixed methods study. The authors used a theoretical lens for reconfiguring the language and dialogue of participants, and they advanced the importance of empowerment in research.

Summary

Researchers use theory in a quantitative study to provide an explanation or prediction about the relationship among variables in the study. A theory explains how and why the variables are related, acting as a bridge

between or among the variables. Theory may be brad or narrow in scope, and researchers state their theories in several ways, such as a series of hypotheses, "if … then" logic statements, or visual models. Using theories deductively, investigators advance the theories at the beginning of the study in the literature review. They also include them with the hypotheses or research questions or place them in a separate section. A script can help design the theory section for a research proposal.

In qualitative research, inquirers employ theory as a broad explanation much like in quantitative research, such as in ethnographies. It may also be a theoretical lens or perspective that raises questions related to gender, class, or race, or some combination. Theory also appears as an end point of a qualitative study, a generated theory, a pattern, or a generalization that emerges inductively from data collection and analysis. Grounded theories, for example, generate a theory "grounded" in the views of participants and place it as the conclusion or their studies. some qualitative studies do not include an explicit theory and present descriptive research of the central phenomenon.

Mixed methods researchers used theory either deductively (as in quantitative research) or inductively (as in qualitative research). Writers also are beginning to identify the use of theoretical lenses or perspectives (e.e., related to gender, lifestyle, race/ethnicity, and class) in their mixed methods studies. a transformational-emancipatory design incorporates this perspective, and recent developments have identified procedures for incorporating this perspective into all phases of the research process.

Writing Exercises

1. Write a "theoretical perspective" section for your research plan following the script for a quantitative theory discussion presented in this chapter.
2. For a quantitative proposal you are planning, draw a visual model of the variables in the theory using the procedures for causal medel design advanced in this chapter.

3. locate qualitative journal articles that (a) use an a priori theory that is modified during the process of research, (b) generate or develop a theory at the end of the study, and (c) represent descriptive research without the use of an explicit theoretical model.
4. Locate a mixed methods study that uses a theoretical lens, such as a feminist, ethnic/racial, or class perspective. Identify specifically in the article how the lens shapes the steps taken in the research process using Box 7.1 as a guide.

ADDITIONAL READINGS
Flinders, D. J., & Mills, G.E. (Eds.). (1993). Theory and concepts in qualitative research: Perspectives from the field. New York: Teachers College Press, Teachers College, Columbia University.

> David Flinders and Geoffrey Mills have edited a book about perspectives from the field – "theory at work" – as described by different qualitative researchers. The chapters illustrate little consensus about defining theory and whether it is a vice or virtue. Further, theory operates at many levels in research, such as formal theories, epistemological theories, methodological theories, and metatheories. Given this diversity, it is best to see actual theory at work in qualitative studies, and this volume illustrates practice from critical, personal, formal, and educational criticism.

Mertens, D. M. (1998). Reserch methods in education and psycholgiy: Integrating diversity with quantitative and qualitative approaches. Thousand Oaks, CA: Sage.

> Throughout this research methods text, Donna Mertens provides an integration of the "emancipatory paradigm" of research. Her brief overview of this paradigm or theoretical perspective is excellent. The paradigm, according to Mertens, places central importance on the lives of individuals who have been marginalized. It analyzes the inequalities based on gender, race, ethnicity, or disability, and it is linked to social action. It uses an "emancipatory theory" – a set of beliefs about the ways a program

works or why a problem occurs. It also relates theory to the questions asked and the recommendations for action.

Thomas, G. (1997). What's the use of theory? Harvard Educational Review, 67(1), 75-104.

Gary Thomas presents a reasoned critique of the use of theory in educational inquiry. He notes the various definitions of theory and maps out four broad uses of theory: as thinking and reflection, as tighter or looser hypotheses, as explanations for adding to knowledge in different fields, and as formally expressed statements in science. Having noted these uses, he then embraces the thesis that theory unnecessarily structures and contains thought. Instead, ideas should be in a constant flux, and should be 'ad hocery" as characterized by Toffler.

CHAPTER EIGHT

Definitions, Limitations, and Significance

The use of a theory in effect delimits the scope of the study if researchers use it at the beginning, and it draws parameters around the interpretation if it is used at the end. A researcher needs to delimit the proposal so that readers understand its parameters. Four topics convey these parameters in a proposal: the definitions, the delimitations, the limitations, and the significance of the study. With these boundaries, the investigator clarifies terms used, narrows the scope of a study, suggests potential weaknesses, and identifies the importance of a project for different audiences. In many dissertation and thesis proposals, students include these elements in a distinct section of the proposal. In journal articles. Definitions are often contained in introductions to a research study. Researchers writing journal articles may include the delimitations and limitations in method sections and significance discussion in an

introduction. Though these components may not be necessary in all studies, may vary in structural placement, and may not be presented within separate sections, it is important to consider essential decisions for designing them into a study.

THE DEFINITION OF TERMS

Researchers define terms so that readers can understand their precise meaning. In chapter 5, the "scripts" for a purpose statement included a brief definition of the major variables or the central phenomena. Now, the definitions can be elaborated in a separate section of the research proposal

Terms to Define

Define terms that individuals outside the field of study may not understand and that go beyond common language (Locke et al., 2000). Clearly, whether a term should be defined is a mater of judgment. A rule of thumb is to define a term if there is likelihood that readers will not know its meaning. Also, define terms when they first appear, so that a reader does not read ahead in the proposal operating with one set of definitions only to find out later that the author is using a different set. As Wilkinson (1991) commented, "scientists have sharply defined terms with which to think clearly about their research and to communicate their findings and ideas accurately" (p.22). Defining terms also adds precision to a scientific study, as Firestone (1987) stated:

The words of every day language are rich in multiple meanings. Like other symbols their power comes from the combination of meaning in a specific setting … Scientific language ostensibly strips this multiplicity of meaning from words in the interest of precision. This is the reason common terms are given "technical meanings" for scientific purposes. (p.17)

In consideration of this need for precision, one finds terms stated early in the introduction to articles. In dissertations and thesis proposals, terms typically are defined in a special section of the study. The rationale is that in formal research, students must be precise in how they use language and terms. The need to ground thoughts in authoritative definitions constitutes good science.

Define terms as they are introduced in all sections of the research plan. Define terms not understood by readers as found in these sections:

- The title of the study

- The purpose statement

- The research questions, hypotheses, or objectives

- The literature review

- The theory-base of the study

- The methods section

Special terms that need to be defined appear in qualitative, quantitative, and mixed methods studies.

In qualitative studies, because of the inductive, evolving methodological design, inquirers may define few terms in the proposal. Instead, in the final study they define terms that arose during data collection. In qualitative research plan, a writer may advance "tentative" definitions. For example, in a qualitative case study, themes (or perspectives or dimensions) emerge through the data analysis. In the procedure section, authors define these terms as they emerge in the studies. This approach, then, is to delay the definition of terms until they appear in the study. This makes a priori defections in qualitative studies difficult to include in research proposals. For this reason, qualitative proposals often do not include separate sections on a "definition of terms," but the writers pose tentative qualitative definitions that they use before their entry into the file setting to gather information.

On the other hand, quantitative studies – operating more within the deductive model methodology of fixed and set research objectives includes extensive definitions early in the research proposal. Investigators place them

in separate sections in research proposals and precisely define them. The researchers try to comprehensively define all relevant terms at the beginning of studies and to use accepted definitions found in the literature.

In mixed methods studies, the approach to definitions might be to include a separate section if the study begins with quantitative data collection. If it begins with qualitative data collection, then the terms will emerge during the research and will be defined in the findings or results section of the final research study. If both quantitative and qualitative data collection occur at the same time, then the priority given to an approach will govern whether the researcher uses a qualitative or quantitative approach for definitions. All mixed methods studies contain terms that may be unfamiliar to readers. For example, include the definition of a mixed methods study in a procedural discussion (see Chapter 11). Also, clarify terms related to the type of mixed methods research strategy used in the study, such as concurrent or sequential, and the specific name for the strategy (e.g., concurrent triangulation model, as discussed in Chapter 11).

No one approach governs how one defines the terms in a study, but several suggestions follow building on recommendations found in Locke et al. (2000):

- Define a term when it first appears in the proposal. In the introduction, for example, a term may require definition to help the reader understand the research problem and the question or hypotheses in the study.
- Write definitions at a specific operational or applied level. operational definitions are written in specific language rather than being abstract and conceptual. Because the definition section in a dissertation provides an opportunity for the author to be specific about the terms used in the study, a preference exists for operational definitions, especially in dissertation proposals.
- Do not define the terms in everyday language rather than being abstract and conceptual. Because the definition section in a

dissertation provides an opportunity for the author to be specific about the terms used in the study, a preference exists for operational definitions of a term is not available in the literature and definitions created from everyday language will need to be used. In this case, provide a definition and use it consistently throughout the plan and the study (Wilkinson, 1991).

- Researchers might define terms with different intents. A definition may describe a common language word (e.g., "organization"). It may also be paired with a limitation, such as "The curriculum will be limited to those after school activities that the current school District Manual lists as approved for secondary school students" (Locke et al., 2000, p. 124). It may establish a criterion that will be used in the study, such as "High grade point average means a cumulative GPA of 3.7 or above on a 4.0 scale." It could also define a term operationally with respect to its use in the study, such as "Reinforcement will refer to the procedure of listing all club members in the school newspaper, providing special hall passes for members, and listing club memberships on school transcripts" (Locke et al., 2000, p.124).

- Although no one format exists for defining terms, one approach is to develop a separate section (called the "Definition of Terms") and clearly set the terms and their definitions off by highlighting each term. In this way, the word is assigned an invariant meaning (Locke et al., 2000). Typically, this separate section is not more than two or three pages in length.

Two examples below illustrate varied structures for defining terms in a research study.

Example 8.1. Terms Defined in a Mixed Methods Dissertation

This first example illustrates a lengthy definition of terms presented in a mixed methods study. It was placed in a separate section of chapter 1, which introduced the study. VanHorn-Grassmeyer (1998) studied how 119 new professionals in student affairs in colleges and universities engaged in reflection, either individually or collaboratively. She both surveyed the new professionals and conducted in-depth interviews with them. Because she studied individual and collaborative reflection among student affairs professionals, she provided detailed definitions of these terms in the beginning of the study. I illustrate two of her terms below. Notice how she referenced her definitions in meanings formed by other authrtos in the literature.

Individual Reflection

Schon (1983) devoted an entire book to concepts he named reflective thinking, reflection-in-action, and reflective practice: this after an entire book was written a decade earlier with ARgyris (Argyris & Schon, 1978) to introduce the concepts. Therefore, a concise definition of this researcher's understanding of individual reflection that did justice to something that most aptly had been identified as an intuitive act, was difficult to reach. However, the most salient characteristics of individual reflection for the purposes of this study were these three: a) an "artistry of practice (Schon, 1983)," b) how one practices overtly what one knows intuitively, and c) how a professional enhances practice through thoughtful discourse within the mind.

Student Affairs Professional

A professional has been described in many ways. One description identified an individual who exhibited "a high degree of independent judgment, based on a collective, learned body of ideas, perspectives, information, norms, and habits (and who engage (d) in) professional knowing (Baskett & Marsick, 1992, p.3)." A student affairs professional has exhibited such traits in service to students in a higher education

environment, in any one of a number of functions which support academic and co-curricular success. (VanHorn-Grassmeryer, 1998, pp. 11-12)

Example 8.2 *Terms Defined in an independent Variables Section in a Quantitative Dissertation*

This second example illustrates an abbreviated form of writing definitions for a study. Moreover, the first definition illustrates a specific operational definition of a key term in the study, and the second the procedural definition of a key term. Vernon (1992) studied how divorce in the middle generation impacts grandparents' relationships with their grandchildren (Vernon, 1992). These definitions were included in a section on independent variables.

Kinship Relationship to the Grandchild

Kinship relationship to the grandchild refers to whether the grand parents are maternal grandparents or paternal grandparents. Previous research (e.g., Cherlin & Furstenberg, 1986) suggests that maternal grandkparents tend to be closer to their grandchildren.

Sex of Grandparent

Whether a grandparent is a grandmother or grandfather has been found to be a factor in the grandparent/grandchild relationship (i.e., grandmothers tend to be more involved than grandfathers which is thought to be related to the kinkeeping role of women within the family (e.g., Hagestad, 1988). Vernon, 1992, pp. 35-36)

DELIMITATIONS AND LIMITATIONS

Two more parameters for a research study establish the boundaries, exceptions, reservations, and qualifications inherent in every study: delimitations and limitations (Castetter & Heisler, 1977). They are found in proposals for qualitative, quantitative, and mixed methods studies.

- Use delimitations to narrow the scope of a study. For example, the scope may focus on specific variables or a central phenomenon, delimited to specific participants or sites, or narrowed to one type of research design (e.g., ethnography or experimental research)

- Provide limitations to identify potential weaknesses of the study. At the proposal stage, it is often difficult to identify weaknesses in the study before it has begun. However, advisers like students to anticipate the potential weaknesses in their studies, and student can identify limitations related to the research methods of data collection and analysis. For example, all statistical procedures have limitations; so also do research strategies, such as surveys or grounded theory studies. in introductory discussions about these strategies, authors typically mention both their strengths and their weaknesses (e.g., see Creswell, 2002)

In journal articles, researchers incorporate delimitations into the method or procedure sections, and they write limitations into the final section of their studies. in proposals, authors may include them in a separate section: they also may separate them into two subsections, one on delimitations and the other on limitations. Doctoral and master's committees vary in the extent to which they require these sections to be included in proposals.

Example 8.3 A Delimitation and a limitation of a Doctoral Dissertation Proposal

The following is an example taken from a dissertation proposal in nursing (Kunes, 1991), and it illustrates passages stating the delimitations and limitations. In the first passage – the delimitations –

kunes suggests how the plans to narrow the scope of her study. In the second passage – a limitation – she indicates a potential weakness in the design of the study. Both points were included in the "introduction" section of the proposal.

A delimitation:
Initially, this study will confine itself to interviewing and observing the psychiatric staff nurse in a Midwest private psychiatric hosptical
A limitation:
The purposive sampling procedure decreases the generalizability of findings. This study will not be generalizable to all areas of nursing
A limitation:

In this qualitative study, the findings could be subject to other interpretations. (Kunes, 1991, pp. 21-22).

SIGNIFICANCE OF THE PROPOSED STUDY

In dissertations, writers often include a specific section describing the significance of the study for select audiences. By including this section, the writer creates a rational for conducting the study and a statement why the results will be important. It expands on introduction (i.e., statement of the problem), in which the writer briefly mentions the importance of the problem for audiences. In contrast, a significance section elaborates on the importance and implications of a study for researchers, practitioners, and policy makers. In designing this section, one might include

- Three or four ways in which the study adds to the scholarly research and literature in the field
- Three or four ways in which the study helps improve practice
- Three or four reasons why the study will improve policy.

In the example to follow, the author stated the significance of the study in the opening paragraphs of the journal article. This study, by Mascarenhas (1989), examined ownership of industrial firms. The author

explicitly identified decision makers, organizational members, and researchers as the audience for the study.

Example 8.4 *Significance of the Study Stated in an Introduction to 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 relationship 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 overgeneralized to all organizations. (Mascarenhas, 1989, p,582)

Summary

Researchers use definitions, delimitations and limitations, and statements about significance to place boundaries on their study plans. Researches need to define terms to give precise and clear meaning to words use in the proposal. These definitions need to appear when the words are fist introduced; should be created using accepted definitions in the literature; should be presented in a detailed, operational way; and should be clearly specified, such as by setting them off in a separate section in the proposal. In qualitative research, the inquirer provides tentative definitions in order to permit definitions to emerge from participants in the study. Also, these terms are few and typically and defined throughout the proposed study. In quantitative research,

investigators define many terms in their studies so that the researcher and the readers share a common and consistent definition. In mixed methods research, terms may be specified in an approach consistent with either qualitative or quantitative research; however, mixed methods inquiry presents its own terms about strategies, and these need to be identified for readers not familiar with this form of research.

Turning to delimitations and limitations, delimitations address how the study will be narrowed in scope, whereas limitations identify potential weaknesses of a study. Their placement varies from separate sections (as in a proposal) to their incorporation into the methods and discussion sections (as in a journal article).

Finally, the significance of the study should describe the importance of the study for select audiences. Consider writing statements about the importance of the study for researchers, practitioners, and policy makers.

Writing Exercises

1. Write a definition section for your research plan. As much as possible, use definitions provided by authors in the literature.
2. identify how your study will be limited in scope. Write three or four of these reasons, including how you will delimit the scope of focus on a specific problem, to certain variables or central phenomena, and to a particular set of study participants.
3. Identify potential limitations for your study. Focus these limitations on methodological weaknesses inherent in all study designs.
4. write about the significance of your study. Identify how various audiences will profit from the study. Include comments about the

significance for other researchers, for practitioners, and for policy makers.

Additional Readings

Locke, L. F., Spirduso, W.W., & Silverman, S.J. (2000). Proposals that work: A guide for planning dissertations and grant proposals (4th ed.). Thousand Oaks, CA: Sage.

Lawrence Locke, Wanneeen Spirduso, and Stephen silverman discuss the importance in a dissertation proposal of using clear and precise words that have invariant definitions and meanings. They comment about how words in research typically invoke a system language of the discipline or field rather than a common language of everyday vocabulary. Whether researchers use common or system language words, the words need to have a single meaning for the researcher and the reader. Words should have only one referent and need to be used consistently in a proposal. A problem for novice researchers arises when they extend langue into the new ter4ritory of their project. Locke, Spirduso, and Silverman recommend that a proposal contain a section devoted to the precise definitions used in a proposed study.

Punch, K. F. (2000). Developing effective research proposals. London: Sage.

Keith punch discusses the limitations, delimitations, and significance of the study as part of the written research proposal. He describes the limitations as limiting conditions or restrictive weaknesses, which are unavoidably present in a study's design. He notes that researchers should note them in a proposal without slighting the importance of the work. He describes the significance of a study as its justification, importance, or contribution. The arguments made for significance should address its contribution to knowledge, to policy considerations, and to practitioners.

Rossman, G. B., & Rallis, S. F. (1998). Learning in the field: An introduction to qualitative research. Thousand Oaks, CA: Sage.

Gretchen Rossman and Sharon Rallis discuss the importance of identifying the significance of a study when planning research. They note that formal proposals typically include a section in which the qualitative researcher indicates the potential significance of the study. They recommend that several domains should be included in this section: scholarly research and literature, recurring social policy issues, concerns of practice, and the interests of participants. Further, if the proposal goes to a funding agency, the writer should include statements about the project's match with the needs and priorities of that agency.

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

Antoinette Wilkinson devotes an entire chapter to the use of scientific terminology. Social scientist, she suggests, must take a less-than-adequate word from general vocabulary and craft a definition that delimits the exact meaning intended by the researcher. She recommends that social scientists use standard language rather than substitute synonyms for terms. When gathering information through interview schedules, questionnaires, and analyses of texts, language becomes a direct instrument of measurement and terms must be applied uniformly and consistently.

CHAPTER NINE

Quantitative Methods

For many proposal writers, the method section, of all sections discussed thus far, is the most concrete, specific part of a proposal. This chapter presents essential steps in designing a quantitative method for a research proposal or study, with specific focus on survey and experimental modes of inquiry. These modes reflect alternative knowledge claims, as discussed in chapter 1. For example, determinism suggests that examining the relationships between and among variables is central to answering questions and hypotheses through surveys and

experiments. The reduction to a parsimonious set of variables, tightly controlled through design or statistical analysis, provides meansres or observations for testing a theory. Objective data result from empirical observations and measures. Validity and reliability of scores on instruments, additional standards for making knowledge claims, lead to meaningful interpretations of data.

In relating these assumptions and the procedures that implement them, this discussion does not exhaustively treat quantitative research methods. Excellent, detailed texts provide information about survey research (e.g., see Babbie, 1990, 2001; fink, 1995; Salant & Dillman, 1994). For experimental procedures, some traditional books (e.g., D. T. Campbell & Stanley, 1963; Cook & Campbell, 1979), as well as some newer texts, extend ideas presented here (e.g., Bausell, 1994; Boruch, 1998; Keppel, 1991; Lipsey, 1990; Reichardt & Mark, 1998). In this chapter, the focus will be on the essential components of a method section in a proposal for a survey and an experiment.

DEFINING SURVEYS AND EXPERIMETNS

A survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. From sample results, the researcher generalizes or makes claims about the population. In an experiment, investigators may also identify a sample and generalize to a population; however, the basic intent of an experiment is to test the impact of a treatment (or an intervention) on an outcome, controlling for all other factors that might influence that outcome. As one form of control, researchers randomly assign individuals to groups. When one group receives a treatment and the other group does not the experimenter can isolate whether it is the treatment and not the characteristics of individuals in a group (or other factors) that influence the outcome.

Components of A survey method plan

The design of a survey method section follows a standard format. Numerous examples of this format appear in scholarly journals, and these examples provide useful models of this strategy of inquiry. The following sections of this chapter detail typical components. In preparing to design these components inot a proposal, consider the questions on the checklist shown in table 9.1 as a general guide.

The survey Design

In a proposal or plan, one of the first parts of the method section can introduce readers to the basic purpose and rationale for survey research. Begin the discussion by reviewing the purpose of a survey and the rationale for its selection as a design in the proposed study. This discussion can

- Identify the purpose of survey research. This purpose is to generalize from a sample to a population so that inferences can be made about some characteristic, attitude, or behavior of this population (Babbie, 1990). Provide a reference to this purpose from one of the survey method texts identified in this chapter.
- Indicate why a survey is the preferred type of data collection procedure for the study. In this rationale, consider the advantages of survey designs, such as the economy of the design and the rapid turnaround in data collection. Discuss the advantage of identifying attributes of a large population from a small group of individuals (Babbie, 1990; Fowler, 1988).

Table 9.1 *A checklist of Questions for Designing a survey Method*

_____ is the purpose of a survey design stated?

_____ Are the reasons for choosing the design mentioned?

_____ is the nature of the survey (cross-sectional vs. longitudinal) identified?

_____ Are the population and size of the population mentioned?

_____ Will the population be stratified? If so, how?

_____ How many people will be in the sample? On what basis was this size chosen?

_____ What will be the procedure for sampling these individuals (e.g., random, nonrandom)?

_____ What instrument will be used in the survey? Who developed the instrument?

_____ What are the content areas addressed in the survey? The Scales?

_____ What procedure will be used to pilot or field test the survey?

_____ What is the time line for administering the survey?

_____ What are the variables in the study?

_____ How do these variables cross-reference with the research questions and items on the survey? What specific steps will be taken in data analysis to

(a) _____ analyze returns?

(b) _____ analyze returns?

(c) _____ conduct a descriptive analysis?

(d) _____ collapse items into scales?

(e) _____ check for reliability of scales?

(f) _____ run inferential statistics to answer the research questions?

- Indicate whether the survey will be cross-sectional, with the data collected at one point in time, or whether it will be longitudinal, with data collected over time.
- Specify the form of data collection. Fin (1995) identifies four types: self-administered questionnaires; interviews; structured record reviews to collect financial, medical, or school information;

and structured observations. The data collection may also involve creating a web-based or internet survey and administering it online (Nesbary, 2000). Regardless of the form of data collection, provide a rationale for the data collection procedure using arguments based on its strengths and weaknesses, costs, data availability, and convenience.

The population and sample

Specify the characteristics of the population and the sampling procedure. Methodologists have written excellent discussions about the underlying logic of sampling theory (e.g., Babbie, 1990, 2001). This discussion will focus on essential aspects of the population and sample to describe in a research plan.

- Identify the population in the study. Also state the size of this population, if size can be determined, and the means of identifying individuals in the population. Questions of access arise here, and the researcher might refer to availability of sampling frames-mail or published lists- of potential respondents in the population.

- Identify whether the sampling design for this population is single or multistage (called clustering). Cluster sampling is idea when it is impossible or impractical to compile a list of the elements composing the population (Babbie, 2001). A single-stage sampling procedure is one in which the researcher has access to names in the population and can sample the people (or other elements) directly. In a multistage, clustering procedure, the researcher first samplgroups or organizations (or clusters), obtains names of individuals within groups or clusters, and then samples within the clusters.

- Identify the selection process for individuals. I recommend selecting a random sample in which each individual in the population has an equal probability of being selected (a systematic or probabilistic sample). Less desirable is a nonprobability sample (or convenience nience and availability (Babbie, 1990). With randomization, a epresentative sample from a population provides the ability to generalize to a population.

- Identify whether the study will involve stratification of the population before selecting the sample. Stratification means that specific characteristics of individuals (e.g., both females and males) are represented in the sample and the sample reflects the true proportion of individuals with certain characteristics of the population (jfowler, 1988). When randomly selecting people from a population, these characteristics may or may not be present in the sample in the same proportions as in the population; stratification exures their representation. Aslo identify the characteristics used in stratifying the population (e.g., gender, income levels, education). Within each stratum, identify whether the sample contains individuals with the characteristic in the same proportion as the characteristic appears in the entire population (Babbie, 1990; Miller, 1991).

- Discuss the procedures for selecting the sample from available lists. The most rigorous method for selecting the sample is to choiose individuals using a random numbers table, a table available in many introductory statistics texts (e.g., Gravetter & Wallnau, 2000).

- Indicate the number of people in the sample and the procedures used to compute this number. In survey research, I recommend that one use a sample size formula available in many survey texts (e.g., see babbie, 1990; Fowler, 1988).

Instrumentation

As part of rigorous data collection, the proposal developer also provides detailed information about the actual survey instrument to be used in the proposed study. Consider the following:

- Name the survey instrument used to collect data in the research study. Discus whether it is an instrument designed for this research, a modified instrument, or an intact instrument developed by some one else. If it is a modified instrument, indicate whether the developer has provided appropriate permission to use it. In some survey projects, the researcher assembles an instrument from components of several instruments. Again, permission to use any part of other instruments needs to be obtained.

- To use an existing instrument, describe the established validity and reliability of scores obtained from past use of the instrument. This means reporting efforts by authors to establish validity-whether one can draw meaningful and useful inferences from scores on the instruments. The three traditional forms of validity to look for are content validity (i.e., Do the items measure the content they were intended to measure?), Predictive or concurrent validity (i.e., Do scores predict a criterion measure? Do results correlate with other results?), and construct validity (i.e., do items measure hypothetical constructs or concepts?). In more recent studies, construct validity has also included whether the scores serve a useful purpose and have positive consequences when used (Humbley & Zumbo, 1996). Also discuss whether scores resulting rom past use of the instrument demonstrate reliability. Look for whether authors report measures of internal consistency (i.e., Are the items' responses consistent across constructs?) and

test-retest correlations (i.e., Are scores stable over time when the instrument is administered a second time?). Also determine whether there was consistency in test administration and scoring (i.e., Were errors caused by carelessness in administration or scoring?) (borg, Gall, & Gall, 1993). When one modifies an instrument or combines instruments in a study, the original validity and reliability may not hold for the new instrument, and it becomes important to re-establish validity and reliability during data analysis in a survey study.

- Include sample items frodm the instrument so that readers can see the actual items used. In an appendix to the proposal, attach sample items from the instrument or the entire instrument.

- Indicate the major content sections in the instrument, such as the cover letter (Dillman, 1978, provides a useful list of items to include in cover letters0, the items (e.g., demographics, attitudinal items, behavioral items, factual items), and the closing instructions. Also mention the type of scales used to measure the items on the instrument, such as continuous scales (e.g., strongly agree to strongly disagree) and categorical scales 9e.g., yes/no, rank from highest to lowest importance).

- Discuss plans for plot testing or field testing the survey and provide a rationale for these plans. This testing is important to establish the content validity of an instrument and to improve questions, format, and the scales. Indicate the number of people who will test the instrument and the plans to incorporate their comments into final instrument revisions.

- For a mailed survey, identify steps for administering the survey and for following up to ensure a high response rate. Salant and Diliman (1994) suggest a four-phase administration process. The first mail out is a short advance-notice letter to all members of

the sample, and the second mail-out is the actual mail survey, distributed about 1 week after the advance-notice letter. The third mail-out consists of a postcard follow-up sent to all members of the sample 4 to 8 days after the initial questionnaire. The fourth mail-out consists of a personalized cover letter with a handwritten signature, questionnaire, and preaddressed return envelope with postage. This mailing is sent to all no respondents. Researchers send this fourth mail-out 3 weeks after the second mail-out. Thus, in total, the survey researcher concludes the administration period 4 weeks after its start (providing the returns meet project objectives).

Variables in the study

Although readers of a proposal learn about the variables in earlier sections of the proposal, it is useful in the method section to relate the variables to the specific questions on the instrument. At this stage in a research plan, one technique is to relate the variables, the research questions, and items on the survey instrument so that a reader can easily determine how the researcher will use the questionnaire items. Plan to include a table and a discussion that cross-reference the variables, the questions or hypotheses, and specific survey items. This procedure is especially helpful in dissertations in which investigators test large-scale models. Table 9.2 illustrates such a table using hypothetical data.

Data Analysis

In the proposal, present information about the steps involved in analyzing the data. I recommend presenting them as a series of steps They are:

Step 1 Report information about the number of members of the sample who did and did not return the survey. A table with numbers and percentages describing respondents and nonrespondents is a useful tool to present this information.

Step 2 discuss the method by which response bias will be determined. Response bias is the effect of nonresponses on survey estimates (Fowler, 1988). Bias means that if nonrespondents had responded, their responses would have substantially changed the over all results of the survey. Mention the procedures used to check for response bias, such as wave analysis or a respondent/nonrespondent analysis. In wave analysis, the researcher examines returns on select items week by week to determine if average responses change 9Leslie, 1972). Based on the assumption that those who return surveys in the final weeks of the those who return surveys in the final weeks of the response period are nearly norespondents, if the responses begin to change, a potential exists for response bias. An alternative check for response bias is to contact by phone a few nonrespondents and determine if their responses differ submbstantially from respondents. This constitutes a respondent nonrespondent check for response bias.

Step 3 Discuss a plan to provide a descriptive analysis of data for all independent and dependent variables in the study. This analysis should indicate the means, standard deviations, and range of scores for these variables.

Step 4 If the proposal contains an instrument with scales or a plan to develop scales (Combining items into scales), identify the statistical procedure (i.e., factor analysis) for accomplishing this./ Aslo mention reliability checks for the internal consistency of the scales (i.e., the Cronbach alpha statistic).

Step 5 Identify the statistics and the statistical computer program for testing the major questions or hypotheses in the proposed study. Provide a rationale for the choice of statistical test and mention the assumptions associated with the statistic. Base this choice on the nature of the research question 9e.g., relating variables or comparing groups as the most popular), the number of independent and dependent variables, and the number of covariates 9e.g., see rudestam & Newton, 1992). Also note that the measurement of the variables (as continuous or categorical) and the type of distribution of scores (normal, non normal) affect the choice of statistical test (creswell, 2002).

Example 9.1 *A survey Method section*

Below is an example of a survey method section that illustrates many of the steps mentioned above. This excerpt 9used with permissidon) comes from a journal article reporting a study of factors affecting student attrition in one small liberal arts college 9Bean & Creswell, 1980, pp. 321-322).

Methodology

The site of this study was a small (enrollment 1,000), religious, coeducational, liberal arts college in a Midwestern city with a population of 175,000 people. (Authors identified the research site and population.) The dropout rate the previous year was 25%. Dropout rates tend to be highest among freshmen and sophomores, so and attempt was made to reach as many freshmen and sophomores as possible by distribution of the questionnaire through classes. Research on attrition indicates that males and females drop oust of college for different reasons (Bean, 1971). Therefore, only women were analyzed in this study.

During April 1979, 169 women returned questionnaires. A homogeneous sample of 135 women who were 25 years old or younger, unmarried, full-time U.S. citizens, and Caucasian was selected for this analysis to exclude some possible confounding variables (Kerlinger, 1973).

Of these women, 71 were freshm,en, 55 were sophomores, and 9 were juniors. Of the students, 95% were between the ages of 18 and 21. This sample is biased toward higher-ability students as indicated by scores on the ACT test. (Authors presented descriptive information about the sample)

Data were collected by means of a questionnaire containing 116 items. The majority of these were likert-like items based on a scale from "a very small extent" to "a very great extent" Other questions asked for factual inroamtion, such as Act Scores, high school grades, and parents' educational level. All information used in this analysis was derived from questionnaire data. This questionnaire had been developed and tested at three other institutions before its use at this college. (Authors discussed the instrument)

Concurrent and convergent vailidity (D.T. Campbell & fiske, 1959) of these measures was established through factor analysis and was found to be at an adequate level. Reliablikty of the factors was established through the coefficient alpha. The constructs were represented fbyf 25 measures- multiple items combined on the basis of factor analysis to make indices-and 27 measures were single item indicates. (validity and reliability were addressed.)

Multiple regression and path analysis (Heise, 1969; Kerlinger & Pedhazur, 1973) were used to analyze the data.

In the causal model... intent to leave was regressed on all variables which preceded it in the casual sequence. Intervening variables significantly related to intent to leave were then regressed on

organizational variables, personal variables, environmental variables, and background variables. (Data analysis steps were presented.)

COMPONENTS OF AN EXPERIMENTAL METHOD PLAN

An experimental method discussion follows a standard form: participants, materials, procedures, and measures. These four topics generally.

Table 9.3 A checklist of questions for Designing an experimental procedure

_____ Who are the participants in the study? To what populations do these participants belong/

_____ How were the participants selected? Was a random selection method used?

_____ how will the participants be randomly assigned? Will they be matched? How?

_____ How many participants will be in the experimental and control group (s)?

_____ What is the dependent variable(s) in the study? How will it be measured? How many times will it be measured?

_____ What is the treatment condition(s)? How was it operationalized?

_____ Will variables be covaried in the experiment? How will they be measured?

_____ What experimental research design will be used? What would visual model of this design look like?

_____ What instrument(s) will be used to measure the outcome in the study? Why was it chosen? Who developed it? Does it have

established validity and reliability? Has permission been sought to use it/

_____ What are the steps in the procedure (e.g., random assignment of participants to groups, collection of demographic information, administration of pretest, administration of treatment(s), administration of posttest)?

_____ What are potential threats to internal and external validity for the experimental design and procedure? How will they be addressed?

_____ Will a pilot test of the experiment be conducted?

_____ will a pilot test of the experiment be conducted?

_____ What statistics will be used to analyze the data 9e.g., descriptive and inferential)?

are sufficient. In this section of the chapter, I review these components are well as information about the experimental design and statistical analysis. As with the section on surveys, the intent here is to highlight key topics to be addressed in an experimental method proposal. An over-all guide to these topics is found by answering the questions on the checklist shown in Table f9.3.

Participants (Formerly Called Subjects)

Readers need to know about the selection, assignment, and number of participants who will participate in the experiment. Consider the following suggestions when writing the method section fro an experiment:

- Describe the selection process or participants as either random or nonrandom (e.g., conveniently selected). The participants might be selected by random selection or random sampling. With

random selction or random sampling, each individual has an equal probability of being selected from the population, ensuring that the sample will be representative of the population (Keppel, 1991). In many experiments, however, only a convenience sample is possible because the investigator must use naturally formed groups (e.g., a classroom, an organization, a family unit) or volunteers as participants in the study.

- A convenience sample also makes it difficult to randomly assign individuals to groups, a hallmark of a true experiment. If random assignment is made, discuss how the project will involve randomly assigning individuals to the treatment groups. This means that of the pool of participants, individual #1 goes to group 1, individual #2 to group 2, and so forth so that there is no systematic bias in assigning the individuals. This procedure eliminates the possibility of systematic differences among participants and the environment of the experiment that could affect the outcomes, so that any differences in outcomes can be attributed to the experimental treatment (Keppel, 1991).

- Identify other controls ion the experimental design that will systematically control the variables that might influence the outcome, One approach is to match participants in terms of a certain trait or characteristic and then assign one individual from each matched set to each group. For example, scores on a pretest might be obtained. Individuals might then be assigned to groups, with each group having the same numbers as all the other groups of high, medium, and low scorers on the pretest. Alternatively, the criteria for matching might be ability levels or demographic variables. A researcher may decide not to match, however, because it is expensive, takes time (Salkind, d1990), and leads to incomparable groups if participants leave the experiment

(Rosenthal & Rosnow, 1991). Other procedures to place control into experiments involve using convariates (e.g., pretest scores) and controlling statistically, selecting homogeneous samples, or blocking the participants into subgroups or categories and analyzing the impact of each subgroup on the outcome (Creswell, 2002).

- Tell the reader about the number of participants in each group. For experimental research, investigators use a power analysis (Lipsey, 1990) to identify the appropriate sample size for groups. This calculation involves
  - A consideration of the level of statistical significance for the experiment, or alpha
  - The amount of power desired in a study – typically presented as high, medium, or low-for the statistical test of the null hypothesis with sample data when the null hypothesis is, in fact, false
  - The effect size, the expected differences in the means between the control and experimental groups expressed in standard deviation units

Researchers se values for these three factors 9e.g.,alpha =.05, power =.80, and effect size =.50) and can look up in a table the size needed for each group (see cohen, 1977; Lipsey, 1990). In this way, the experiment is planned so that the size of each treatment group provides the greatest sensitivity that the effect on the outcome actually is due to the experimental manipulation in the study.

Variables

- Clearly identify the independent variables in the experiment (recall the discussion of variables in Chapter 5). One independent variable must be the treatment variable. One or more groups receive the experimental manipulation, or treatment, from the

researcher. Other independent variables mya simple be measured variables in which no manipulation occurs (e.g., attitudes or personal characteristics of participants). Still other independent variables can be statistically controlled in the experiment, such as demogrphics (e.g., gender or age). The method section must list and clearly identify all the independent variables in an experiment.

- Identify the dependent variable or variables in the experiment. The dependent variable is the response or the criterion variable that is presumed to be caused by or influenced by the independent treatment conditions (and any the independent variables). Rosenthal and rosnow 91991) advanced three prototypic outcomes measures in experiments: the direction of observed change, the amount of this change, and the ease with which the participant changes (e.g., the subject reacquires the correct response as in a single-subject design).

Instrumentation and materials

During an experiment, one makes observations or obtains measures using instruments at a pre-or posstes (or both) stage of the procedures. As with the selection of all instruments, a sound research plan calls for a through discussion about the instrument or instruments- their development, their items, their scales, and reports of reliability and validity of scores on past uses. The researcher also should report on the materials used for the experimental treatment in the study (e.g., the special program or specific activities given to the experimental group).

- Describe the instrument or instruments participants complete in the experiment, typically completed before the experiment begins and at its end. Indicate the established validity and reliability of

the scores on instruments, the individuals who developed them, and any per missions needed to use them.

- Thoroughly discuss the materials used for the experimental treatment. One group, for example, may participate in a special computer-assisted learning plan used by a teacher in a classroom. This plan might involve handouts, lessons, and special written instructions to help students in this experimental group learn how to study a subject using computers. A pilot test of these materials may also be discussed, as well as any training required of indicials to administer the materials in a standard way. The intent of this pilot test is to ensure that materials can be administered without variability to be treatment group.

Experimental procedures

The specific experimental design procedures also need to be identified. This discussion involves indicating the overall experiment type, citing reasons for the design, and advancing visual model to help the reader understand the procedures.

- Identify the type of experimental design to be used in the proposed study. The types available in experiments are pre-experimental designs, true experiments, quasi-experiments, and single-subject designs. With pre-experimental designs, the researcher studies a single group and provides an intervention during the experiment. This design does not have a control group to compare with the experimental group. In quasi-experiments, the investigatoir uses control and experimental groups but does not randomly assign participants to groups 9e.g., they amy be intact groups available to the researcher). In a true experiment, the investigator randomly assigns the participants to treatment groups. A single-subject design or N of 1 design involves

observing the behavior of a single individual (or a small number of individuals) over time.

- Identify what is being compared in the experiment. In many experiments, those of a type called between-subject designs, the investigator compares two ro more groups (Keppel, 1991; Rosenthal & Rosnow, 1991). For example, a factorial design experiment, a variation on the between-group design, involves using two or more treatment variables to examine the independent and simultaneous effects of these treatment variables on an outcome (Vogt, 1999). This widely used behavioral research design explores not only the effedts of each treatment separately but also the effects of variables used in combination, thereby providing a rich and revealing multidimensional view (Keppel, 1991). In other experiments, the research studies only one group in what is called a within-group design. For example, in a repeated measures design, participants are assigned to different treatment at different times during the experiment. Another example of a writhing - group design would be a study of the behavior of a single indicial over time in which the experimenter both provides and withholds a treatment, at different times in the experiment, to determine its impact.

- Provide a diagram or a figure to illustrate the specific research design to be used. A standard notation system needs to be used in this figure. I recommend using a classic notation system, the notations provided by Campbell and Stanley (1963, p.6). this notation is as follows:

- X represents and exposure of a group to an experimental variable or event, the effects of whichf are to be measured.

- O represents an observation or measurement recorded on an instrument.

- X's and O's in a given row are applied to the same specific persons. X's and O's in the same column, or placed vertically relative to each other, are simultaneous.
- The left-to-right dimension indicates the temporal order of procedures in the experiment (sometimes indicated with an arrow).
- The symbol R indicates random assignment.
- Separation of parallel rows by a dashed horizonatal line indicates that comparison groups re not equal (or equaated0 by random assignment. No dashed horizontal line between the groups displays random assignment of individuals to treatment groups.

In the examples below, this notation is used to illustrate pre experimental, quesi-experimental, true experimental, and single subject designs

Example 9.2*. pre-Experimental Designs*

One-shot Case study

     Group A   X _____ O

One-Group pretest-Posttest Design

This design includes a pretest measure followed by a treatment and a posttest for a single group.

     Group A O_1 _____x_____O_2

Static Group comparison or posttest-Only With Nonequivalent Groups

Experimenters use this design after implementing a treatment. After the treatment, the researcher selects a comparison group and provides a posttest to both the experimental groups(s) and the comparison groups(s).

     Group A   X _____ O

     Group B   _____O

Alternative Treatment Posttest-Only With Nonequivalent Groups Design

This design uses the same procedure as the Static Group comparison, With the exception that the nonequivalent comparison group received a different treatment.

Group A X_1 _____ O

Group B X_2 _____O

Example 9.3 *Quasi-Experimental Designs*

Nonequivalent (Pretest and Posttest) Control-Group Design

In this design, a popular approach to quasi-experiments, the experimental group A and the control group B are selected without random assignment. Both groups take a pretest and posttest. Only the experimental group receives the treatment.

Group A   X _____ X_____O

Group B   O_____O

Single-Group interrupted Time-Series Design

In this design, the researcher records measures for asingle group both before and after a treatment.

Group A   O – O – O – O - X- O- O – O – O

Control-Group interrupted Time-Series Design

A modification of the single-Group interrupted time-series design in which two groups of participants, not randomly assigned, are observed over time. A treatment is administered to only one of the groups (e.e., Group A).

Group A   O – O – O – O - X- O- O – O – O

Group A   O – O – O – O - X- O- O – O – O

Example 9.4 *True Experimental Designs*

Pretest-posttest Control-Group Design

A traditional, classical design, this procedure involves random assignment of participants to two groups. Both groups are administered both a pretest and posttest to both groups, but the treatment is provided only to experimental Group A.

Group A   R _____ O _____ X_____ O
Group B   R _____ O _____ O

Posttest-Only Control-Group Design

This design controls for any confounding effects of a pretest and is a popular experimental design. The participants are randomly assigned to groups, a treatment is given only to the experimental group, and both groups are measured on the posttest.

Group A   R _____ X_____ O
Group B   R _____ O

Solomon Four-Group Design

A special case of a 2x2 factorial design, this procedure involves the random assignment of participants to four groups. Pretests and treatments are varied for the four groups. All groups receive a posttest.

Group A   R _____ O _____ X_____ O
Group B   R _____ O _____ O
Group C   R _____ X_____ O
Group D   R _____ O _____ O

Example 9.5 *Single-subject Designs*

A-B-A single-subject Design

This design involves multiple observations of a single individual. The target behavior of a single individual is established over time and is referred to as the baseline behavior. Once this baseline is established, the researcher administers a treatment. Observations continue over time after the treatment has been removed.

Baseline A   Treatment B   Baseline A

X-X-X-X-X-X

O – O – O – O – O – O – O – O – O – O – O – O – O – O – O – O

THREATS TO VALIDITY

There are several threats to validity that will raise potential issues about an experimenter's ability to conclude that the intervention affects an outcome. Experimental researchers need to identify threats to the internal validity of the experiment and relate these threats to the ype of design proposed for the study. Internal validity threats are experimental procedures, treatments, or experiences of the participants that threaten the researcher's ability oto draw correct inferences form the data in an experiment. The threats involve using inadequate procedures (e.g., changing the instrument during the experiment) or aspects or problems in applying treatments (e.g., a diffusion effect when members of the experimental and control groups talk to each other). The threats also can arise from characteristics of the participants 9e.g., participants mature during an experiment and change their views or become wiser or more experienced).

Potential threats to external validity also must be identified. External validity threats arise when experimenters draw incorrect inferences form the sample data to other persons, other settings, and past or future situations. For example, a threat to external validity arises when the researcher generalizes beyond the groups in the experiment to other racial or social groups not under study.

Other threats that might be mentioned in the method section are the threats to statistical conclusion validity that arise when experimenters draw inaccurate inferences from the data because of inadequate statistical power or the violation of statistical assumptions. Threats to

construct validity occur when investigators use inadequate definitions and measures of variables.

To write these threats into a proposal, as well as threats to internal and external validity, requires first identifying them by consulting methods texts such as Cook and Campbell (1979) or discussions such as found in Reichardt and Mark (1998). Many research methods texts identify and discuss these threats 9e.g., Creswell, 2002; Tucman, 1999).

The Procedure

One needs to describe in detail the procudere for conducting the experiment. A reader should be able to see the design being used, the observations, the treatment, and the timeline of activities.

- Discuss a step-by-step approach for the procedure in the experiment. For example, Borg and Gall (1989, p. 679) outlined six steps typically sued in the procedure for a pretest-posttest control-group design with matching:

1. Administer measures of the dependent variable or a variable closely correlated with the dependent variable to the research participants.
2. Assign participants to matched pairs on the basis of their scores on the measures described in Step 1.
3. Randomly assign one member of each pair to the experimental group and the other member to the control group.
4. Expose the experimental group to the experimental treatment and administer no treatment or an alternative treatment to the control group.
5. Administer measures of the dependent variables to the experimental and control groups.
6. Compare the performance of the experimental and control groups on the posttest (s) using tests of statistical significance.

Statistical Analysis

Tell the reader about the types of statistical analysis that will be used during the experiment.

- Report the descriptive statistics calculated for observations and measures at the pretest or posttest stage of experimental designs. These statistics are means, standard deviations, and ranges.

- Indicate the inferential statistical tests used to examine the hypotheses in the stud. For experimental designs with categorical information (groups) on the independent variable and continuous information on the dependent variable, researchers use test or unvieriate analysis of variance (ANOVA), or multivariate analysis of variance (MABIVA - multiple dependent measures). In factorial designs, both interaction and main effects of ANOVA are used. When data on a pretest or postest show marked deviation from a normal distribution, use nonparametric statistical tests.

- For single-subject research designs, use line graphs for baseline and treatment observations for abscissa (horizontal axis) units of time and the ordinate (vertical axis) target behavior. Each data point is plotted separately on the graph, and the data points are connected by lines (e.g., see S.B. Neuman and McCromick, 1995). Occasionally, test of statistical significance, such as tests, are used to compare the polled mean of the baseline and the treatment phases, although such procedures may violate the assumption of independent measures (Borg and Gall, 1989).

Example 9.6 *An Experimental Method Section*

The following is a selected passage (used with permission) from an quasi-experimental study by Enns and Hackett (1990) that demonstrates many of the components in an experimental design.

Their study addressed the general issue of matching client and counselor interests along the dimensions of attitudes toward feminism. They hypothesized that feminist participants would be more receptive to a radical feminist counselor than would non feminist participants and that no feminist counselor. Except for a limited discussion about data analysis, their approach in the method section contains the elements of a good method section for an experimental study.

Method

Participants

The participants were 150 undergraduate women enrolled in both lower-and upper-division courses in sociology, psychology, and communications at a midsized university and a community college, both on the west coast . . . (The authors described the participants in this study).

Design and Experimental Manipulation

This study used a 3x2x2 factorial design: orientation of counselor (nonsexist-humanistic, liberal feminist, or radical feminist) x statement of values (implicit or explicit) x participants' identification with feminism (feminist or no feminist). Occasional missing data on particular times were handled by a pair wise deletion procedure, (authors identified the overall design.)

The three counseling conditions, nonsexist-humanistic, liberal, and radical feminist, were depicted by 10 min videotape vignettes of a second counseling session between a female counselor and a female client . . . The implicit statement of values condition used the sample interview only; the counselor's values were therefore implicit in her responses. The explicit statement of values condition was created by

adding to each of the three counseling conditions a 2-min leader that portrayed the counselor describing to the client her counseling approach and associated values including for the two feminist conditions a description of her feminist philosophical orientation, liberal or radical . . . Three counseling scripts were initially developed on the basis of distinction between nonsexist-humanistic, liberal, and radical feminist philosophies and attendant counseling implications. Client statements and the out come of each interview were held constant, whereas counselor responses differed by approach . . . (Authors described the three treatment conditions variables manipulated in the study.)

Instruments

Manipulation checks. As a check on participants' perception of the experimental manipulation and as an assessment of participants' perceived similarity to the three counselors, two subscales of Berryman-Fink and Verderber's (1985) Attributions of the Term Feminist Scale were revised and used in this study as the Counselor Description Questionnaire (CDQ) and the personal Description Questionnaire (PDQ@) . . . Berryman-Fink and Verderber (1985) reported internal consistency reliabilities of .86 and .89 for the original version of these two subscales . . . (Authors discussed the instruments and the reliability of the scales for the dependent variable in the study.)

Procedure

All experimental sessions were conducted individually. The experimenter, and advanced doctoral student in counseling psychology, greeted e4ach subject, explained the purpose of the study as assessing students' reactions to counseling, and disinterred the ATF. The ATF was then collected and scored while each subject completed a demographic data form and reviewed a set of instructions

for viewing the videotape. The first half of the sample was randomly assigned to one of the twelve videotapes (3 Approaches x 2 statements x2 Counselors), and a median was obtained on the ATF. The median for the first half of the sample was then used to categorize the second half of the group as feminist or no feminist, and the reminder of the participants were randomly assigned to conditions separately from each feminist orientation group to ensure nearly equal cell sizes. The median on the final sample was checked and a few participants recategorized by the final median split, which resulted in 123 or 13 participants per cell.

After viewing the videotape that corresponded to their experimental assignment participants completed the dependent measures and were debriefed. (pp.35-36) (Authors described the procedure used in the experiment.)

Source: Enns and Hackett (1990). 1990 by the American psychological Association, Reprinted with permission.

Summary

This chapter identified essential component in designing a method procedure for a survey or experimental study. The outline of steps for a survey study began with a discussion about the purpose of a survey, study began with a discussion about the purpose of a survey, the identification of the population and sample for the study, the survey instruments to be used, the relationship between the variables, the research questions, specific items on the survey, and steps to be taken in the analysis of data for the survey. In the design of an experiment, the researcher identifies participants in the study, the variables - the treatment conditions and the outcome variables, and the instruments used for pre-and posttests and the materials to be used in the treatments. The design also includes the specific type of experiment,

such as a pre-experimental, quasi-experimental true experiment, or single-subject design. Then a figure can illustrate the design using appropriate notation. This is followed by comments about potential threats to internal and external validity (and possibly statistical and construct validity) that relate to the experiment and to the statistical analysis used to test the hypotheses or research questions.

Writing exercises

1. Design a plan for the procedures to be used in a survey study. Review the checklist in table 9.1 after you write the section to determine if all components have been addressed.

2. Design a plan for procedures for an experimental study. Refer to Table 9.3 after you complete your plan to determine if all questions have been addressed adequately.

ADDITIONAL READINGS

Babbie, E. (2991). Survey research methods (9th ed.). Belmont, CA: Wadsworth.

Earl Babbie provides a thorough, detailed text about all aspects of survey design. He reviews the types of study designs, the logic of sampling, and examples of designs. He also discusses the conceptualization of a survey instrument and its scales. He then provides useful ideas about administering a questionnaire and processing the results. Also included is a discussion about data analysis with attention to constructing and understanding tables and writing a survey report. This book is detailed, informative, and technically oriented toward students at the intermediate or advanced level of survey research.

Campbell, D. T., & Stanley, J.C. (1963). Experimental and quasi experimental designs for research. In N.L. Gage (Ed.), Handbook of research on teaching (pp.1-76). Chicago: Rand-McNally.

This chapter in the Gage Handbook is the classical statement about experimental designs. Campbell and Stanley designed a notation system for experiments that is used today; they also advanced the types of experimental designs, beginning with factors that Jeopardize internal and external validity, the pre-experimental design types, true experiments, quai-experimental designs, and correlation and ex post facto designs. The chapter presents an excellent summary of types of designs, their threats to validity, and statistical procedures to test the designs. This is an essential chapter for students beginning their study of experimental studies.

Fink, A. (1995). The survey handbook (vol. 1). Thousand Oaks, CA: Sage.

This is the first volume of a nine-volume set called "The survey Kit," edited by Arlene Fink. As an introduction to the nine volumes. Fink discusses all aspects of survey research, including how to ask questions, How to conduct surveys, how to engage in telephone interviews, how to sample, and how to measure validity and reliability. Much of the discussion is oriented toward the beginning survey researcher, and the numerous examples and excellent illustrations make it a useful kit to learn the basics of survey research.

Fowler, F. J. (2992). Survey research methods. (3rd ed.). thousand Oaks, CA: Sage.

Floyd Fowler provides a useful text about the decisions that go into the design of a survey research project. He addresses use of alternative sampling procedures, ways of reducing no response rates, data

collection, design of good questions, employing sound interviewing techniques, preparation of surveys for analysis, and ethical issues in survey designs.

Keppel, G. (1991). Design and analysis: A researcher's handbook 3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Geoffrey Keppel provides a detailed, thorough treatment of the design of experiments from the principles of design to the statistical analysis of experimental data. Overall, this book is for the mid-level to advanced statistics student who seeks to understand the design and statistical analysis of experiments. The introductory chapter presents an informative overview of the components of experimental designs.

Lipsey, M.W. (1990). Design sensitivity: Statistical power for experimental research. Newbury Park, CA: Sage.

Mark Lipsey has authored a major book on the topics of experimental designs and statistical power of those designs. Its basic premise is that an experiment needs to have sufficient sensitivity to detect those effects it purports to investigate. The book explores statistical power and includes a table to help researchers identify the appropriate size of groups in an experiment.

Neuman, S. B., & McCormick, S. (Eds.) (1995). Single-subject experimental research: Applications for literacy. Newark, DE: International Reading Association.

Susan Neuman and Sandra McCormick have edited a useful, practical guide to the design of signing of single-subject research. They present many examples of different types of designs, such as reversal designs and multiple-baseline designs, and they enumerate the statistical procedures that might be involved in analyzing the single-subject data. One chapter, for example, illustrates the conventions for displaying data on line graphs. Although this book cites many applications in literacy, it has broad application in the social and human sciences.

CHAPTER TEN

Qualitative Procedures

Qualitative procedures stand in stark contrast to the methods of quantitative research. Qualitative inquiry employs different knowledge claims, strategies of inquiry, and methods of data collection and analysis. Although the processes are similar, qualitative procedures rely on text and image data, have unique steps in data analysis, and draw on diverse strategies of inquiry.

In fact, the strategies of inquiry chosen in a qualitative project will have a dramatic influence on the procedures. These procedures, even within strategies, are anything but uniform. Looking over the landscape of qualitative procedures shows perspectives ranging from postmodern thinking (Denzin & Lincoln, 2000), to ideological perspectives (Lather, 1991), to philosophical stances (Schwandt, 2000), to systematic procedural guidelines (Creswell, 1993: Strauss & corbin, 1998). All perspectives vie for center stage in this unfolding model of inquiry called "Qualitative" research.

This chapter will attempt to strike a middle ground, provide general procedures, and use examples liberally to illustrate strategy variations. This discussion draws on thoughts provided by several authors writing about qualitative proposal design (e.g., see Berg, 2001; Marshall & Rossman, 1999; Maxwell, 1996; Rossoman & Rallis, 1998). The topics in a proposal section on procedures are characteristics of qualitative research, the research strategy, the role of the researcher, steps in data collection and analysis, strategies for validity, the accuracy of findings, and narrative structure. Table 10.1 shows a checklist of questions for designing qualitative procedures.

THE CHARACTERISTICS OF QUALITATIVE RESEARCH

For many years, a proposal writer had to discuss the characteristics of qualitative research and convince faculty and audiences as to their

Table 10.1 A checklist of Questions for Designing a Qualitative procedure

_____ Are the basic characteristics of qualitative studies mentioned?

_____ is the specific type of qualitative strategy of inquiry to be used in the study mentioned? Is the history of, a definition of, and applications for the strategy mentioned?

_____ Does the reader gain an understanding of the researcher's role in the study (past experiences, personal connections to sites and people, steps in gaining entry, and sensitive ethical issues)?

_____ is the purposeful sampling strategy for sites and indiuals identified?

_____ re the specific forms of data collection mentioned and a rationale given for their use?

_____ Are the procedures for recording information (such as protocols) during the data collection procedure mentioned?

_____ Are the data analysis steps identified?

_____ is there evidence that the researcher has organized the data for analysis?

_____ Has the researcher reviewed the data generally to obtain a sense of the information?

_____ Has coding been used with the data?

_____ Have the codes been developed to form a description or to identify themes?

_____ Are the themes interrelated to show a higher level of analysis and abstraction?

_____ Are the ways that the data will be represented such as in tables, graphs, and figures mentioned?

_____ Have the bases for interpreting the analysis (personal experiences, the literature, questions, action agenda) been specified?

_____ Has the researcher mentioned the outcome of the study? (develop a theory? Provide a complex picture of themes)

_____ Have multiple strategies been cited for validating the findings?

Legitimacy. Now, there seems to be some consensus as to what constitutes qualitative inquiry and such a discussion is not needed (Finders& Mills [1993], would dissent on this point). Thus, my suggestions about this section of a proposal are

• Review the needs of potential audiences for the proposal. Decide whether audience members are knowledgeable enough about the characteristics of qualitative research that this section is not necessary.

• If there is some question about their knowledge, present the basic characteristics of qualitative research in the proposal and possibly discuss a recent qualitative research Journal article (or study0 to use as an example to illustrate the characteristics.

• Several lists of characteristics might be used (e.g., Bogdan & Biklen. 1992; Eisner, 1991; Marshall & Rossman, 1999), but I like the characteristics advanced by Rossdman and Rallis (198) because they capture both traditional perspectives and the newer advocacy, participatory, and self-reflective perspectives of qualitative inquiry. Building on the thoughts of rossman and Rallis (1998) are the characteristics I would recommend:

  - Qualitative research takes place in the natural setting. The qualitative researcher often goes to the site (home, office) of the participant to conduct the research. This enables the researcher to develop a level of detail about the a individual or place and to be highly involved in actual experiences of the participants.

- Qualitative research uses multiple methods that are interactive and humanistic. The methods of data collection are growing, and they increasingly involve active participation by participants and sensitivity to the participants in the study. Qualitative researchers look for involvement of their participants in data collection and seek to build rapport and credibility with the individuals in the study. They do not disturb the site any more than is necessary. In addition, the actual methods of data collection, traditionally based on open-ended observations, interviews, and documents, now include a vast array of materials, such as sounds, e-mails, scrapbooks, and other emerging forms (see the section on data collection later in this chapter0. the data collected involve text (or word) data and images (or picture) data.
- Qualitative research is emergent rather than tightly prefigured. Several aspects emerge during a qualitative study. The research questions may change and be refined as the inquirer learns what to ask and to whom it should be asked. The data collection process might change as doors open and close for data collection, and the inquirer learns the best sites at which to learn about the central phenomenon of interest. The theory or general pattern of understanding will emerge as it begins with initial codes, developos into broad themes, and coalesces into a grounded theory or broad interpretation. These aspects of an unfolding research model make it difficult to prefigure qualitative research tightly at the proposal or early research stage.
- Qualitative research is fundamentally interpretive. This means that the researcher makes an interpretation of the data. This includes developing a description of an individual or setting, analyzing data for themes or categories, and finally making an interpretation or drawing conclusions about its meaning personally and

theoretically, stating the lessons learned, and offering further questions to be asked (Wolcott, 1994). It also means that the researcher filters the data through a personal lens that is situated in a specific sociopolitical and historical moment, One cannot escape the personal interpretation brought to qualitative data analysis.

- The qualitative researcher views social phenomena holistically. This explains why qualitative research studies appear as road, panoramic views rather than micro-analyses. The more complex, interactive, and encompassing the narrative, the better the qualitative study. Visual models of many facets of a process or a central phenomenon aid in establishing this holistic picture (see, for example, Creswell & Brown, 1992).

- The qualitative researcher systematically reflects on who he or she is in the inquiry and is sensitive to his or her personal biography and how it shapes the study. This introspection and acknowledgment of biases, values, and interests (or reflexivity0 typifies qualitative research today. The personal-self becomes inseparable from the researcher-self. It also represents honesty and openness to research, acknowledging that all inquiry is laden with values (Mertens, 2003). Procedurally, statements of personal reflection emerge in the "role of the researcher" section (see the discussion of this topic later in the chapter) or an epilogue (see Asmussen & Creswell, 1995), or are embedded throughout a proposal or a study.

- The qualitative researcher uses complex reasoning that is multi faceted, iterative, and simultaneous. Although he reasoning is largely inductive, both inductive and deductive processes are at work. The thinking process is also iterative, with a cycling back and forth room data collection and analysis to problem

reformulation and back. Added to this are the simultaneous activities of collection, analyzing, and writing p data.

- The qualitative researcher adopts and uses one or more strategies of inquiry as a guide for the procedures in the qualitative study. For beginning researchers, it is enough to use only one strategy and to look in recent procedural books for guidance as to how to design a proposal and conduct the procedures of the strategy.

STRATEGIES OF INQUIRY

Begyond these general characteristics are more specific strategies of inquiry. These strategies focus on data collection, analysis, and writing, but they originate out of disciplines and flow throughout the process of research (e.g., types of problems, ethical issues of importance) (Creswell, 1998). Many strategies exist, such as the 28 approaches identified by Tesch (1990), the 19 types in Wolcott's tree (2001), and the 5 "traditions" of inquiry by Creswell (1998). As discussed in Chapter 1, I recommend now that qualitative researchers choose from among five possibilities, including narrative, phenomenology, ethnography, case study, and grounded theory. I have no authoritative basis for these five, but I do see them used frequently today, and they represent an encompassing focus from narrow to broad. For example, researchers might study individuals (narrative, phenomenology); explore processes, activities, and events (case study, grounded theory); explore processes, activities, and events (case study, grounded theory); or learn about broad culture-sharing behavior of individuals or groups (ethnography).

In writing a procedure for a qualitative proposal, the tasks listed below are recommended.

- Identify the specific strategy of inquiry that will be used

- Provide some background information about the strategy, such as its discipline origin, the applications of it, and a brief definition of it (see chapter 1 for the five strategies of inquiry I illustrate)
- Discuss why it is an appropriate strategy to use in the proposed study
- Identify how the use of the strategy will shape the types of questions asked (see Morse, 1994, for questions that relate to strategies), the form of data collection, the steps of data analysis, and the final narrative.

THE RESEARCHER'S ROLE

As mentioned in the list of characteristics, qualitative research is interpretative research, with the inquirer typically involved in a sustained and intensive experience with participants. This introduces a range of strategic, ethical, and personal issues in to the qualitative research process (Locke et al., 2000). With these concerns in mind, inquirers explicitly identify their biases, values, and personal interests about their research topic and process. Gaining entry to a research site and the ethical issues that might arise are also elements of the researcher's role.

- In clued statements about past experiences that provide background data through which the audience can better understand the topic, the stting, or the participants.
- Comment on connections between the researcher and the participants and on the research sites. "Backyard" research (Glesne & peashkin, 1992) involves studying the researcher's own organization, or friends or immediate work setting. This often leads to compromises in the researcher's ability to disclose information and raises difficult power issues. Although data collection may be convenient and easy, the problems of reporting data that are bias cussed, incomplete, or compromised are

legend. If studying the "backyard" is necessary, employ multiple strategies of validity (as discussed later) to create reader confidence in the accuracy of the findings.

- Indicate stes taken to obtain permission from the Institutional Review Board 9see Chapter 1) to protect the rights of human participates. Attach, as an appendix, the approval letter from the IRB and discuss the process involved in securing permission.

- Discuss steps taken to gain entry to the setting and to secure permission to study the information's or situation (Marshall & rossman, 1999). It is important to gain access to research or archival sites by seeking the approval of "gatekeepers." A brief proposal might need to be developed and submitted for review by "gatekeepers." Bogdan and Biklen (1992) advance topics that could be addressed in such a proposal:

- Why was the site chosen for study?
- What activities will occur at the site during the research study?
- Will the study be disruptive?
- How will the results be reported?
- What will the "gatekeeper" gain from the study?

- Comment about sensitive ethical issues that may arise 9see chapter 1 of this volume and Berg, 2001). For each issue raised, discuss how the research study will address it, for example, when studying a sensitive topic, it is necessary to mask names of people, places, and activities. In this situation, the process for masking information requires discussion in the proposal.

DATA COLLECTION PROCEDU8RES

Comments about the role of the researcher set the stage for discussion of issues involved in collecting data. The data collection steps include setting the boundaries for the study, collecting information through

unstructured (or semi-structured0 observations and interviews, documents, and visual materials, as well as establishing the protocol for recording information.

- Identify the purposefully sele3cted sites or individuals for the proposed study. The idea behind qualitative research is to purposefully select participants or sites (or documents or visual material0 that will best help the researcher understand the problem and the research question. This does not necessarily suggest random sampling or selection of a large number of participants and sites, as typically found in quantitative research. A discussion about participants and site might include four aspects identified by Miles and Huberman (1994): the setting (Where the research will take place), the actors (who will be observed or interviewed), the events (what the actors will be observed or interviewed doing), and the process 9the evolving nature of events undertaken by the actors within the setting).

- Further, indicate the type or types of data to be collected. In many qualitative studies, inquirers collect multiple forms of data and spend a considerable time in the natural setting gathering information. The collection procedures in qualitative research involve four basic types, as shown in Table 10.2.

1. Observations, in which the research takes field notes on the behavior and activities of individuals at the research site. In these field notes, the researcher records, in an unstructured or ²=l Ò`186 187 ,wM ƒe] ¾cMi¬" ²MÁKG< semistructured (using some prior questions that the inquirer wants to know) way, activities at the research site. The qualitative observer may also engage in roles varying from a non participant to a complete participant.

2. In interviews, the researcher conducts face-to-face interviews with participants, interviews participants by telephone, or engages in

focus group interviews with six to eight interviewees in each group. These interviews involve unstructured and generally open-ended questions that are few in number and intended to elicit views and opinions from the participants.

3. During the process of research the qualitative investigator may collect documents. these may be public documents (e.g., newspapers, minutes of meetings, official reports0 or private documents (e.g., personal journals and diaries, letters, e-mails).

4. A final category of qualitative data consists of audio and visual material. This data may take the form of photographs, art objects, videotapes, or any forms of sound.

- In a discussion about data collection forms, be specific about the types and include arguments concerning the strengths and weaknesses of each type, as discussed in Table 10.2

- Include data collection types that go beyond typical observations and interviews. These usual forms create reader interest in a proposal and can capture useful information that observations and types of data in Table 10.3 that can be used to stretch the imagination about possibilities, such as gathering sounds or tastes, or using cherished items to elicit comments during an interview.

DATA RECORDING PROCEDURES

Before entering the field, qualitative researchers plan their approach to data recording. The proposal should identify what data the researcher will record and the procedures for recording data.

- Use an observational protocol for recording observational data. Researchers often engage in multiple observations during the course of a qualitative study and use a protocol or form for recording

Table 10.3 *A use of Qualitative Data collection Approaches*

- Gather abservationmal notes by conducting on observation as a participant
- Gather observational notes by conducting on observation as an observer
- Conduct an unstructured, open-ended interview and take interview notes
- Conduct an unstructured, open-ended interview, audiotape the interview, and transcribe the interview
- Keep a journal during the research study
- Have a participant keep a journal during the research study
- Optically scan newspaper accounts
- Collect personal letters from participants
- Analyze public documents (e.g., official memos, minutes, records, archival material)
- Examine autobiographies and biographies
- Have a participant write her or his autobiography
- Write your own (the researcher's) autobiography
- Have participants take ph0tographs or videotapes (i.e., photo elicitation)
- Examine physical trace evidence (e.g., footprints in the snow)
- Videotape a social situation or an individual/group
- Examine photographs or videotapes
- Collect sounds (e.g., musical sounds, a child's laughter, car homes honking)
- Collect e-mail or electronic messages
- Examine possessions or ritual objects to elicit views during an interview

- Collect smells, tastes, or sensations through touch

Information. This observational protocol may be a single page with a dividing line down the middle to separate descriptive notes (portraits of the participants, a reconstruction of dialogue, a description of the physical setting, accounts of particular events, or activities0 from reflective notes (the researcher's personal thoughts, such as "speculation, feelings, problems, ideas, hunches, impressions, and prejudices") 9Bogdan & Biklen, 1992,P. 121). Also written on this form might be demographic information about the time, place, and data of the field setting where the observation takes place.

- Use an interview protocol for recording information during a qualitative interview. This protocol includes the following components; a heading, instructions to the interviewer (opening statements0, the key research questions, probes to follow key questions, transition messages for the interviewer, space for recording the interviewer's comments, and space in which the researcher records reflective notes.

- Researchers record information from interviews using handwritten notes, audio taping, or videotaping. During the interview, the researcher should take notes in the event that recording equipment fails. Planning in advance whether a transcriptions will be used is important.

- The recording of documents nd visual materials can be based on the researcher's structure for taking notes. Typically, notes reflect information about the document or other material as well as key ideas in the documents. For documents, it is helpful to note whether the information represents primary material (i.e., information directly from the people or situation under study) or secondary material (i.le., secondhand accounts of the people or situation written by others).

Data Analysis And interpretation

Discussion of the plan for analyzing the data might have several components. The process of data analysis involves making sense out of text and image data. It involves preparing the data for analysis, moving deeper and deeper into understanding the data, representing the data, and making an interpretation of the larger meaning of the data. Several generic processes might be stated in the proposal that convey a sense of the overall activities of qualitative data analysis, such as the following drawn from my own thoughts and those of Rossman and Rallis (1998):

- It is an ongoing process involving continual reflection about the data, asking analytic questions, and writing memos throughout the study. It is not sharply divided from the other activities in the process, such as collecting data or formulating research questions.

- It involves using open-ended data, for the most part. This requires asking general questions and developing an analysis from the information supplied by participants.

- Researchers need to taller the data analysis beyond the more generic approaches to specific types of qualitative research strategies (see also Creswell, 1998). Grounded theory, for example, has systematic steps (Strauss & Corbin, 1990. 19988). These involve generating categories of information (open coding). Selecting one of the categories and positioning it within a theoretical model (axial coding), and then explicating story from the interconnection of these categories (selective coding). Case study and ethnographic research involve a detailed description of the setting or intervals, followed by analysis of the data for themes or issues (\see Stake, 1995; Wolcott, 1994), phenomenological research uses the analysis of significant statements, the generation of meaning units, and the development of an "essence" description

(moustaas, 1994). Narrative research employs restoring the participants' stories using structural devices such as plot, setting, activities, climax, and denouement 9Clandinin & Connelly, 2000). As these examples illustrate, the processes as well as the terms differ from one analytic strategy to another.

Despite these analytic differences depending on the type of design used, qualitative inquirers often convey a generic process of data analysis into a proposal. An idel situation is to blend the generic steps with the specific research design steps. The generic steps involve the following the specific research design steps. The generic steps involve the following steps:

Step 1 Organize and prepare the data for analysis. This involves transcribing interviews, optically scanning material, typing up field notes, or sorting and arranging the data into different types depending on the sources of information.

Step 2 Read through all the data. A first general step is to obtain a general sense of the information and to reflect on its overall meaning. What general ideas are participants saying? What is the tone of the ideas? What is the general impression of the overall depth, credibility, and use of the information? Sometimes qualitative researchers write notes in margins or start recording general thoughts about the data at this stage.

Steps 3 Begin detailed analysis with a coding process, Coding is the process of organizing the material into "chjunks" before bringing meaning to those "Chunks" (Rossman & Rallis, 1998, p.171). It involves taking text data or plctures, segmenting sentences (or paragraphs) or impages into categories, and labeling those categories with a term, often a term based in the actual language with a term, often a term based in the actual language of the participant (called an in vivaterm).

Before proceeding to Step 4, consider some remarks that will provide detailed guidance for the coding process. Tesch (1990, pp. 142-145) provides a useful analysis of the process in eight steps:

1. Get a sense of the whole. Read all the transcriptions carefully. Perhaps jot down some ideas as they come to mind.
2. Piuck one document (i.e., one interview)- the most interesting one, the shortest, the one on the top of the pile. Go through it, asking yourself "What is this about?" Do not think about the "Substance" of the information but its underlying meaning. Write thoughts in the margin.
3. When you have completed this task for several informants, make a list of all topics. Cluster together similar topics. Form these topics into columns that might be arrayed as major topics, unique topics, and leftovers.
4. Now take this list and go back to your data. Abbreviate the topics as codes and write the codes next to the appropriate segments of the text. Try this preliminary organizing scheme to see if new categories and codes emerge.
5. find the most descriptive wording for your topics and turn them into categories. Look for ways of reducing your total list of categories by grouping topics that relate to each other. Perhaps draw lines between your categories to show interrelationships.
6. make a final decision on the abbreviation for each category and alphabetize these codes.
7. Assemble the data material belonging to each category in one place and perform a preliminary analysis.
8. If necessary, recode your existing data.

These eight steps engage a researcher in a systema5tic process of analyzing textual data. Variations exist in this process. For example,

some researchers have found it useful to color code different categories on transcripts or cut text segments and place them on note cards.

I encourage qualitative researchers to analyze their data for material that can yield codes that address topics that readers would expect to find, codes that are surprising, and codes that address a larger theoretical perspective in the research. Bogdan and Biklen (1992, pp.166-172) have their own list of possible types of codes:

- Setting and context codes
- Perspectives held by subjects
- Subjects' ways of thinking about people and objects
- Process codes
- Activity codes
- Strategy codes
- Relationship and social structure codes
- Preassigned coding schemes

One further note about coding: the process can be enhanced by the use of computer qualitative software programs. These programs are now widely available (see ww. Sagepub.com for software products), and they are useful when the quantitative database is large (e.g., more than 500 pages of transcription) and when the researcher wants to quickly locate useful quotations and multiple perspectives on a category or theme. As with only software program, qualitative software programs require time and skill to learn and employ effectively, although books for learning the programs are widely available (e.g., Weitzman & Miles, 1995).

Step 4 use the coding process to generate a description of the setting or people as well as categories or themes for analysis. Description involves a detailed rendering of information about people, places, or events in a setting. Researchers can generate codes for this description. This analysis is useful in designing detailed

descriptions for case studies, ethnographies, and narrative research projects. Then, use the coding to generate a small number of themes or categories, perhaps five to seven categories for a research study. These themes are the ones that appear as major findings in qualitative studies and are stated under separate headings in the findings sections of studies. They should display multiple perspectives from individuals and be supported by diverse quotations and specific evidence.

Beyond identifying the themes during the coding process, qualitative researchers can do much with them to build additional layers of complex analysis. For example, researchers interconnect themes into a storyline (as in narraties) or develop them into a the oretical model (as in grounded theory). Themes are analyzed for each individual case and across different cases (as in case studies), or shaped into a general description (as in phenomenology). Sophisticated qualitative studies go beyond description and theme identification and into complex theme connections.

Step 5 Advance how the description and themes will be represented in the qualitative narrative. The most popular approach is to use a narrative passage to convey the findings of the analysis. This might be a discussion that mentions a chronology of events, the detailed discussion of several themes (complete with sub-themes, specific illustrations, multiple perspectives from individuals, and quaotations), or a discussion with interconnecting themes. Many qualitative researchers also use visuals, figures or tables as adjuncts to the discussions. They present a process model (as in grounded theory), they advance a drawing of the specific research sitwe (as in ethnography), or they convey descriptive information

about each participant in a table (as in case studies and ethnographies).

Step 6 A final step in data analysis involves making an interpretation or meaning of the data. "What were the lessons learned" captures the essence of this idea (Lincoln & Guba, 1985). These lessons could be the researcher's personal interpretation, couched in the individual understanding that the inquirer brings to the study from her or his own culture, history, and experiences, It could also be a meaning derived from a comparison of the findings with information gleaned from the literature or extant theories. In this way, authors suggest that the findings confirm past information or diverge from it. It can also suggest new questions that need to be asked-questions raised by the data and analysis that the inquirer had not foreseen earlier in the study. One way ethnographyers can end a study, says Wolcott 91994), is to ask further questions. The questioning approach is also used in advocacy and participatory approaches to qualitative research. Moreover, when qualitative researchers use a theoretical lens, they can form interpretations that call for action agendas for reform and change. Thus, interpretation in qualitative research can take many forms, be adapted for different types of designs, and be flexible to convey personal, research-based, and action meanings.

VALIDATING THE ACCURACY OF FINDINGS

Although validation of findings occurs through the steps in the process of research, this discussion singles it out in order to emphasize its importance. Proposal developers need to convey the steps they will take in their studies to check for the accuracy and credibility of their findings.

Validity does not carry the same connotations as it does in quantitative research, nor is it a companion of reliability (examining stability or consistency of responses, as discussed in Chapter 9) or generalizability (the external validity of applying results to new settings, people, or samples, also as discussed in Chapter 9). In a limited way, qualitative researchers can use reliability to check for consistent patterns of theme development among several investigators on a team. They can also generalize some facets of multiple case analysis (Yin, 1989) to other cases. Overall, however, reliability and generalizability play a minor role in qualitative inquiry.

Validity, on the other hand, is seen as a strength of qualitative research, but it is used to suggest determining whether the findings are accurate from the standpoint of the researcher, the participant, or the readers an account (Creswell & Miller, 2000). Terms abound in the qualitative literature that speak to this idea, terms such as "trustworthiness," "authenticity," and "credibility" (creswell & Miller, 2000), and it is a highly debated topic (Lincoln & Guba, 2000).

A procedural perspective that I recommend for research proposals is to identify and discuss one or more strategies available to check the accuracy of the findings. There are eight primary strategies, organized from those most frequently used and easy to implement to those occasionally used and difficult to implement:

- Triangulate different data sources of information by examining evidence from the sources and using it to build a coherent justification for themes.
- Use member-checking to determine the accuracy of the qualitative findings through taking the final report or specific descriptions or themes back to participants and determining whether these participants feel that they are accurate.

- Use rich, thick description to convey the findings. This may transport readers to the setting and give the discussion an element of shared experiences.

- Clarify the blast the researcher brings to the study. This self-reflection creates an open and honest narrative that will resonate well with readers.

- Also present negative or discrepant information that runs counter to the themes. Because real life is composed of different perspectives that do not always coalesce, discussing contrary information adds to the credibility of an account for a reader.

- Spend prolonged time in the field. In this way, the researcher develops an in-depth understanding of the phenomenon under study and can convey detail about the site and the people that lends credibility to the narrative account.

- Use peer debriefing to enhance the accuracy of the account. This process involves locating a person (a peer debrief) who reviews and asks questions about the qualitative study so that the account will resonate with people other than the researcher.

- Use an external auditor to review the entire project. As distinct from a peer debriefed, this auditor is new to the researcher and the project and can provide an assessment of the project throughout the Process of research or at the conclusion of the study. The role is similar to that of a fiscal auditor, and specific questions exist that auditors might ask (Lincoln & guba, 1985),

THE QUALITATIVE NARRATIVE

A plan for a qualitative procedure should end with some comments about the narrative that emerges from the data analysis, Numerous varities of narratives exist, and examples from scholarly journals will illustrate

models. In a plan for a study, consider advancing several points about the narrative.

First, indicate the forms to be used in the narrative. These might be an objective account, fieldwork experiences (Van Maanen, 1988). A chronology, a process model, an extended story, an analysis by cases or across cases, or a detailed descriptive portrait (Creswell, 1998).

At the specific level, the conventions might be

- Varying the use of long, short, and text-embeddedqotations
- Scripting conversation and stating the conversation in different languages to reflect cultural sensity
- Presenting text information in tabular form (e.g., matrices)
- Using the wording from participants
- Intertwining quotations with (the author's0 interpretations
- Using indents or other special formatting of the manuscript to call attention to quotations from participants
- Using the first person "I" or collective "we" in the narrative form
- Using metaphors (see, for example, Richardson, 1990, who discusses some of these forms)
- Use the narrative approach typically used within a qualitative strategy of inquiry (e.g., description in case studies and ethnographies, a detailed story in narrative research0. also, describe how the narrative outcome will be compared with theories and the general literature on the topic. In many qualitative articles, researchers discuss the literature at the end of the study (see the discussion in chapter 2)

Example 10.1 *qualitative procedures*

The following is an example of a qualitative procedure written as part of a doctoral proposal (D. Miller, 1992). Miller's project was an ethnographic study of first-year experiences of the president of a 4-year college. As I

present this discussion, I will refer back to the sections addressed in this chapter and highlight them in boldfaced type. Als. I have maintained Miller's use of the term informant, although today, the more appropriate term, participant, should be used.

The qualitative research Paradigm

The qualitative research paradigm has its roots in cultural anthropology and American sociology (Kirk & Miller, 1986). If has only recently been adopted by educational researchers (Borg & Gall, 1989). The intent of qualitative research is to understand a particular social situation, event, role, group, or interaction (LKocke. Spirduso, & Silverman, 1987). It is largely an investigative process where the researcher gradually makes sense of a social phenomenon by contrasting, comparing, replicating cataloguing and classifying the object of study (Miles & Huberman, 1984). Marshall and Rossman (1989) suggest that this entails immersion in the everyday life of the setting chosen for the study; the researcher enters the information's' world and through ongoing interaction, seeks the informants' perspectives and meanings. (Qualitative assumptions are mentioned.)

Scholars contend that qualitative research can be distinguished from quantitative methodology by numerous unique characteristics that are inherent in the design. The following is a synthesis of commonly articulated assumptions regarding characteristics presented by various researchers.

1. Qualitative research occurs in natural settings. Where human behavior and events occur.

2. Qualitative research is based on assumptions that are very different from qualitative designs. Theory or hypotheses are not established a period.

3. The researcher is the primary instrument in data collection rather than some inanimate mechanism (Eisner. 1991; Frankel & Wallen, 1990; Linconn & Guba, 1985: Merriam, 1988).

4. The data emerge from a qualitative study are descriptive. That is, data are teported in words (primarily the participant's words0 or pictures, rather than in numbers (Fraenkel & Wallen, 1990; Locke et al., 1987; Marshall & Rossman, 1989: Merriam, 1988).

5. The focus of qualitatives research is on participants' perceptions and experiences, and the way they make sense of their lives (Fraenkel & Wollen, 1990; Locke et al., 1987; Merriam, 1988). The attempt is therefore to understand not one, but multiple realities (Uncoin & Guba, 1985).

6. Qualitative research focuses on the process that is occurring as well as the product or outcome. Researchers are particularly interested in understanding how things occur (Fraenkel & Wallen, 1990; Mrriam, 1988).

7. Idiographic interpretation is utllized, in other words, attention is pald to particulars; and data is interpreted in regard to the particulars of a case rather than generalizations.

8. Qualitative research is on emergent design in the negotiated outcomes. Meanings and interpretations are negotiated with human data sources because if is the sublects' realities that the researcher attempts to reconstruct (Uncoin & Guba, 1985; Merriam, 1988).

9. this research tradition relies on the utilization of facit knowledge (intuitive and felt knowledge) because often the nuances of the multiple realities can be appreciated most in this way (Uncoin &

Guba, 1985). Therefore, data are not quantifiable in the traditional sense of the word.

10.   Objectivity and truthfulness are critical to both research traditions. However, the criteria for judging a qualitative study differs from quantitative research. First and foremost, the researcher seeks believability, based on coherence, insight and instrumental utility (Eisnet, 1991) and trustworthiness (uncoin & Guba. 1985) through a process of verification rather than through traditional validity and reliability measures. (Qualitative characteristics are mentioned.)

The Ethnographic Research Design

This study will utilize the ethnographic research tradition. This design emerged from the field of anthropology, primarily from the contributions of Bronsilaw Malinowsk, Robert Park and Franz Boas (Jacob, 1987; Kirk & Miller, 19086). The intent of ethnographic research is to obtain a holistic picture of the subject of study with emphasis on partying the everyday experiences of individuals by observing and interviewing them and relevant others (Fraenkel 7 Wallen, 1990). The ethnographic study includes in-depth interviewing and continual and ongoing participant observation of a situation (Jacob, 1987) and in attempting to capture the whole picture reveals how people describe and structure their world (Fraenkel & Wallen, 1990). (The author used the ethnographic approach.)

The Researcher's Role

Particularly in qualitative research, the role of the researcher as the primary data collection instrument necessitates the identification of personal values, ssumptions and blases at the outset of the study. The investigator's contribution to the research setting can be useful and positive rather than detrimental (Locke et al., 1987). My perceptions of higher educaitona nd the college presidency have been shaped by my

personal experiences. From August 1980 to may 1990 I served as a college administrator on private campuses of 600 to 5,000. Most recently (1987-1990) I was Dean for student life at a small college in the Midwest. As a member of the president's cabinet, I was involved with all top level administrative cabinet activities and decisions and worked cosely with the faculty, cabinet officers, president and board of trustees. In addition to reporting to the president, I worked with him through his first year in office. I believe this understanding of the context and role enhances my awareness, knowledge and sensitivity to many of the challenges, decisions and issues encountered as a first year president and will assist me in working with the information in this study. I bring knowledge of both the structure of higher education and of the role the college presidency. Particular attention will be paid to the role of the new president in initating change, relationship building, decision making, and providing leadership and vision.

Due to previous experiences working closely with a new college president, I bring certain blases to this study. Although every effort will be made to ensure objectivity, these biases may shape the way I view and understand the data I collect and the way I interpret my experiences. I commence this study with the perspective that the college presidency is a diverse and often difficult position. Though expectations are immense, I question how much power the president has to initiate change and provide leadership and vision. I view the first year as critical; filled with adjustments, frustrations, unanticipated surprises and challenges. (Author reflected on there role in the study.)

Bounding the study
Setting

This study will be conducted on the campus of a state college in the Micdwest. The college is situated in a rural Midwestern community. The

institution's 1.700 students nearly triple the tawn's population of 1.000 when classes are in session. The institution awards associate, bachelor and master's degrees in 51 majors.

Actors

The information in this study is the new president of a state college in the Midwest. The primary informant in this study is the president. However, I will be observing him in the context of administrative cabinet meetings. The president's cabinet includes three vice presidents (Academic Affairs, Administration, Student Affairs) and two Deans (Graduate studies and Continuing education).

Events

Using ethnographic research methodology, the focus of this study will be the everyday experiences and events of the new college president, and the perceptions and meaning attached to those experiences as expressed by the informant. This includes the assimilation of surprising events or information, and making sense of critical events and issues that arise.

Processes

Particular attention will be paid to the role of the new president in initiating change, relationship building, decision making, and providing leadership and vision. (Author mentioned data collection boundaries.)

Ethical Considerations

Most authors who discuss qualitative research design address the importance of ethical considerations (locke et al., 1982; Marshall & rossman, 1989; Merriam, 1988; Spradiey, 1980). First and foremost, the researcher has an obligation to respect the rights, needs, values, and desires of the informant(s). to an extent, ethnographic research is always is always obtrusive. Particiupant observation invades the life of the

informationt (Spradiey, 1980) and sensitive information is frequently revealed. This is of particular concern in this study where the informatant's position and institution are highly visible. The following safeguards will be employed to protect the informant's rights: 1) the research objectives will be articulated verbally and in writing so that they are clearly understood by the informant (including a description of how data will be used). 2) written permission to proceed with the study as articulated will be received from the informant, 3) a research exemption form will be filed with the institutional Review Board (Appendixes B1 and B2), 40 the informant will be ifnroaed of all data collection devices and activities, 5) verbatim transcriptions and written interpretations and reports will be made available to the informant, 6) the information's rights, interests and wishes will be considered first when choices are made regarding reporting the data, and 7) the final decision regarding informant anonymity will rest with the informant. (IAuthor addressed ethical issues and IRB review.)

Data Collection strategies

Dta will be collected from February through May, 1992. this will include a minimum of bi-monthly, 45 minute recorded interviews with the informant (initial intendew questions. Appendix C) bimonthly two hour observations of administrative cabinet meetings, bi-monthly two hour observations of daily activities and bi-monthly analysis of the president's calendar and documents (meeting agreed to record impressions of his experiences, thoughs and feelings in taped diary (guidelines for recorded reflection. Appendix D). Two follow-up interviews will be scheduled for the end of may 1992 (see Appendix E for proposed timeline and activity schedule0. (The author proposed to use face-to-face interviews, participate as observer, and obtain private documents.)

To assist in the data collection phase I will utilize a field log, providing a detailed account of ways I plan to spend my time when I am on-site, and in the transcription and analysis phase (also comparing is record to how time is actually spent). I intend to record details related to my observations in a feled notebook and keep a field diary to chronicle my awn thinking, feeling, experiences and perceptions throughout the research process. (The author recorded descriptive and reflective information.)

Data Analysis procedures

Meriam (1988) and marshal and Rossman (1989) contend that data collection and data analysis must be a simultaneous process in qualitative research, Schwartzman and Strauss (19730 claim that qualitative data analysis primarily entails classifying things, per sons, and events and the properties which characterize them. Typically throughout the data analysis process ethnographers index or code their data using as many categories as possible (Jacob, 1987). They seek to identify and describe patterns and themes from the perspective of the participant(s), then attempt to understand and explain these patterns and themes (Agar, 1980). During data analysis the data will be organized categorically and chronologically, reviewed repeatedly, and continually coded. A list of major ideas that surface will be chronicled (as suggested by mettiam, 1988). Taped interviews and the participant's taped diary will be transcribed verbatim. Field notes and diary entries will be regularly reviewed. (Author described steps in data analysis).

In addition, the data analysis process will be aided by the use of a qualitative data analysis computer program called hyper qual. Raymond Padilla (Arizana State university designed HyperQual in 1987 for use with the Macintosh computer. HyperQual utilizes HyperCard software

and facilitates the recording and analysis of textual and graphic data. Special stacks are designated to hold and organize data. Using HyperQual the researcher can directly enter field data, including interview data, observations, researcher's memos, and illustrations... (and) tag (or code) all or part of the source data so that chunks of data can be pulled out and then be reassembled in a new and illuminating configuration" (Padilla, 1989, pp. 69-70). Meaningul data chunks can be identified, retrieved, isolated, grouped and regrouped for analysis. Categories or code names can be entered initially or at a later date. Codes can be added, changed or deleted with HyperQual editor and text can be searched for key categories, themes, words or phrases. (Author mentions the proposed use of computer software for data analysis).

Verification

In ensuring internal validity, the following strategies will be employed:

1. Traingulation of data-Data will be collected through multiple sources to include interviews, observations and document analysis;
2. Member checking-The informant will serve as a check throughout the analysis process. An ongoing dialogue regarding my interpretations of the informant's reality and meanings will ensure the truth value of the data;
3. Long terms and repeated observations at the research site-Regular and repeated observations of similar phenomena and settings will occur on-site over a four month period of time;
4. Peer examination-a doctoral student and graduate assistant in the Educational Psychology Department will serve as a peer examiner;
5. Participatory modes of research-The informant will be involved in most phases of this study, from the design of the project to checking interpretations and conclusions; and

6. Clarification of researcher bias-At the outset of this study researcher bias will be articulated in writing in the dissertation proposal under the heading, "The Researcher's Role."

The primary strategy utilizes in this project to ensure external validity will be the provision of rich, thick, detailed descriptions so that anyone interested in transferability will have a solid framework for comparison (Merriam, 1988). Three techniques to ensure reliability will be employ dint his study. First, the researcher will provide a detailed account of the focus of the study, the researcher's role, the informant's position and basis for selection, and the context from which data will be gathered (KeCompte & Goetz, 1984). Second, triangulation or multiple methods of data collection and analysis will be used, which strengthens reliability as well as internal validity (Merriam, 1988). Finally, data collection and analysis strategies will be reported in detail in order to provide a clear and accurate picture of the methods used in this study. All phases of this project will subject to scrutiny by an external auditor who is experienced in qualitative research methods. (Author identified strategies of validity to be used in the study.)

Reporting the Findings

Lofland (1974) suggests that although data collection and analysis strategies are similar across qualitative methods, the way the findings are reported is diverse. Miles and Huberman (1984) address the importance of creating a data display and suggest that narrative text has been the most frequent form of display for qualitative data. This is a naturalistic study. Therefore, the results will be presented in descriptive narrative form rather than as a scientific report. Thick description will be the vehicle for communicating a holistic picture of the experiences of a new college president. The final project will be a construction of the

informant's experiences and the meanings he attaches to them. This will allow readers to vicariously experience the challenges he encounters and provide a lens through which readers can view the subject's world. **(Outcomes of the study were mentioned.)**

SUMMRY

This chapter explored the steps that go into developing and writing a qualitative procedure. Recognizing the variation that exists in qualitative studies, the chapter advances a general guideline for procedures. This guideline includes a discussion about the general characteristics of qualitative research if audiences are not familiar with this approach to research. These characteristics are that the research takes place in the natural setting, employs multiple methods of data collection, is emergent rather than prefigured, is based on the interpretations of the researcher, is viewed holistically, is reflective, uses both inductive an ddeductive reasoning processes, and employs a strategy of inquiry. The guideline recommends mentioning a strategy of inquiry, such as the study of individuals (narrative, phenomenology), the exploration of processes, activities and event s(case study, grounded theory), or the examination of broad culture-sharing behavior of individuals or groups(ethnography). The choice of strategy needs to be presented and defended. Further, the proposal needs to address the role of the researcher: past experiences, personal connections to the site, steps to gain entry, and sensitive ethical issues. Discussion of data collections should include the purposeful sampling approach and the forms of data to be collected (i.e., observations, interviews, documents, audiovisual materials). It is useful to also indicate the types of data recording protocols that will be used. Data analysis is an ongoing process during research. It involves analyzing participant information, and researchers typically employ the analysis steps found within a specific strategy of inquiry. More generic

steps include organizing and preparing the data, an initial reading through the information, coding the data, developing from the codes a description and thematic analysis, and representing the findings in tables, graphs, and figures. It also involves interpreting the data in the light of personal lessons learned, comparing the findings with past literature and theory, raising questions, and/or advancing an agenda for reform. The proposal should also contain a section on the expected outcomes for the study. Finally, an additional important step in planning a proposal is to mention the strategies that will be used to validate the accuracy of the findings.

Writing Exercise

1. Write a plan for the procedure to be sued in your qualitative study. After writing the plan, use Table 10.1 as a checklist to determine the comprehensiveness of you plan.

2. Develop a table that lists, in a column on the left, the steps you plan to take to analyze your data. In a column on the right, indicate the steps as they apply directly to your project, the research strategy you plan to use, and data that you have collected.

ADDITIONAL READINGS

Bogdan, R.C., & Biklen, S.K. (1992). Qualitative research for education: An introduction to theory and methods. Boston: Allyn and Bacon.

> Robert Bogdan and Sari Biklen provide chapters on collecting qualitative data, analyzing it, and writing up the results. The chapter on collecting data details the procedures involved in compiling fieldnotes: their types, contents, and formant. They

suggest useful compositional techniques in writing research in another chapter. Examples of these techniques are the use of quotations, mixing analysis and examples, interpretations, and the use of multiple methods of presentations.

Marshall, C., & Rossman, G.B (1999). Designing qualitative research (3rd ed.). Thousand Oaks, CA:Sage.

Catherine Marshall and Gretchen Rossman introduce the procedures for a qualitative proposal. In addition to addressing issues concerning sample selection, they enumerate the researcher's role, involving entry, reciprocity, personal biography, and ethics. Several additional chapters review both primary and secondary methods of data collection, as well as advancing the generic procedures in analyzing qualitative data. This book is an excellent introduction to qualitative research as well as to preparing a proposal.

Tesch, R. (1990). Qualitative research: Analysis types and software tools. New York: Falmer.

Reneta tesch has compiled a text on qualitative data analysis that spans broad topics such as the types of qualitative designs, the mechanics of coding textual data, and computer software programs available for textual analysis. Her chapter on "Types of Qualitative Research," complete with a graphic overview of 20 types of qualitative designs, presents four categories of qualitative designs- the characteristics of language, the discovery of regularities, the comprehension of meaning of text/action, and reflection. This is a highly detailed and comprehensible taxonomy of types. Her chapter on "Organizing Systems and How to Develop Them" provides a method for coding transcriptions. She also provides a useful discussion of qualitative software programs for textual data analysis.

CHAPTER ELEVEN

Mixed Methods

Procedures

With the development and perceived legitimacy of both qualitative and quantitative research int eh social and human sciences, mixed methods research, employing the data collection associated with both forms of data, is expandling. A new Handbook of Mixed Methods in the Social and Behavior Sciences (Tashakkori & Teddlie, 2003) and journals reporting and promoting mixed methods research (e.g., Field Methods) exist as outlest for discussions about mixed methods research. With increasing frequency, published articles are appearing in social and human science journals in such diverse fields as occupational therapy (Lysack & Krefting, 1994), interpersonal communication (Boneva, Kraut, & Frohlich, 2001), AIDs prevention (Janz et al., 1996), dementia caregiving (Weitzman & Levkoff, 2000), and middle school science (Houtz, 1995). Entire books now exist about procedures for conducting mixed methods studies-similar books were not available a decade ago (Greene & Caracelli, 1997; Newman & Benz, 1998; Reichardt & Rallis, 1994; Tashakkori & Teddlie, 1998).

These procedures developed in response to a need to clarify the intent of mixing quantitative and qualitative data in a single study (or a program of study). With the inclusion of multiple methods of data and multiple forms of analysis, the complexity of these design calls for more explicit procedures. These procedures also developed in part to meet the need to

help researchers create understandable designs out of complex data and analyses.

This chapter extends the prior discussion about the pragmatic knowledge claims, the strategies of inquiry, and the use of multiple methods introduced in Chapter 1. It also extends the discussion about a research problem that incorporates the need both to explore and to explain (Chapter 4). It follows a purpose statement and research questions focused on understanding a problem using both qualitative and quantitative methods and the rationale for using multiple forms of data collection and analysis (Chapters 5 and 6).

TABEL 11.1 A Checklist of Questions for Designing a Mixed Methods Procedure

- Is a basic definition of mixed methods research provided?
- Does the reader have a sense for the potential use of a mixed methods strategy?
- Are the criteria identified for choosing a mixed methods strategy?
- Is the strategy identified, and are its criteria for selection given?
- Is a visual model presented that illustrates the research strategy?
- Is the proper notation used in presenting the visual model?
- Are procedures of data collection and analysis mentioned as they relate to the model?
- Are the sampling strategies for both quantitative and qualitative data collection mentioned? Do they relate to the strategy?
- Are specific data analysis procedures indicated? Do they relate to the strategy?
- Are the procedures for validating both the quantitative and qualitative data discussed?
- Is the narrative structure mentioned, and does it relate to the type of mixed methods strategy being used?

COMPONENTS OF MIXED METHODS PROCEDURES

A Checklist of questions for researchers to asks themselves when they design a mixed methods study appears in Table 11.1. These components call for advancing the nature of mixed methods research and the type of strategy being proposed for the study. They also include the need for a visual model of this approach, the specific procedures of data collection and analysis the researcher's role, and the structure for presenting the final report. Following the discussion of each of theses components, an example of a procedures section from a mixed methods study will be presented to apply the ideas.

THE NATURE OF MIXED METHODS RESEACH

Because mixed methods research is relatively new in the social nad human sciences as a distinct research approach, it is useful to convey, in a proposal, a basic definition and description of the approach. This might include the following:

- Trace a brief history of its evolution. Several sources identify its evolution in psychology ad in the multitrait-multimethod matrix of Campbell and Fiske (1959) to interest in converging or triangulating different quantitative and qualitative data sources (Jick, 1979) and on to the expanded reasons and procedures for mixing methods (see Creswell, 2002; Tashakkori & Teddlie, 1998).

- Define mixed methods research by incorporating the definition in Chapter 1 that focused on collecting and analyzing both quantitative and qualitative data in a single study. Highlight the reasons why researchers employ a mixed methods design (e.g., to expand an understanding from one method to another, to converge or confirm findings from different data sources). Also note that "mixing" might be within one study or among several studies in a

program of inquiry. Recognize that many different terms are used for this approach, such as integrating, synthesis, quantitative and qualitative methods, multimethod, and multimethodology, but that recent writings use the term "mixed methods" (Tashakkori & Teddlie, 2003).

- Briefly discuss the growth of interest in mixed methods research as expressed in books, journal articles, diverse disciplines, and funded projects.

- Note the challenges this form of research poses for the inquirer. These include the need for extensive data collection, the time intensive nature of analyzing both text and numeric data, and the requirement for the researcher to be familiar with both quantitative and qualitative forms of research.

TYPES FO MIXED METHODS STRATEGIES

Criteria for Choosing a strategy

Proposal developers need to convey the specific strategy for data collection they plan to use. They also need to identify the criteria they employ for choosing this strategy. Recent authors have elaborated on the criteria that go into choosing a mixed methods approach from the many available to use. Several criteria were identified by Morgan

Implementation	Priority	Integration	Theoretical Perspective
No Sequence Concurrent	Equal	At Data collection	Explicit
Sequential- Qualitative first	Qualitative	At Data Analysis	
		At Data	

Sequential- Quantitative first	Quantitative	Interpretation With Some Combination	Implicit

Figure 11.1 Decision choices for Determining a Mixed Methods Strategy of Inquiry

(1998), but others have added important standards that need to be considered (Greene & Caracelli, 1997; Tashakkori & Teddlie, a1998). A matrix, as shown in Figure 11.1, illustrates that four decisions go into selecting a mixed methods strategy of inquiry (see Creswell et al., 2003):

1. What is the implementations sequence of the quantitative and qualitative data collection in the proposed study?
2. What priority will given to the quantitative and qualitative data collection and analysis?
3. At what stage in the research project will the quantitative and qualitative data and findings be integrated?
4. Will an overall theoretical perspective (e.g., gender, race/ethnicity, lifestyle, class) be used in the study?

Implementation

Implementation means either that the researchers collect both the quantities and qualitative data in phases (sequentially) or that hey gather it at the same time (concurrently). When the data are collected in phases, either the qualitative or the quantitative data can come first.

It depends ont eh initial intent of the researcher. When qualitative data re collected first the intent is to explore the topic with participants at sites. Then the researcher, in the second phase in which data e collected from a large number of people (typically representative). When data are collected concurrently, both quantitative and qualitative data re gathered at the same time in the project and the implementation is simultaneous.

Priority

A second factor that goes into the choice of a strategy is whether greater priority or weight is given to the quantitative or the qualitative approach, especially the used of quantitative data and analysis. The priority might be equal, or it might be skewed toward either qualitative or quantitative data. A priority for one type of data or the other depends on the interests of the researcher, the audience for the study (e.g., faculty committee, professional association), and what the investigator seeks to emphasize in the study. In practical terms, priority occurs in a mixed methods study through such strategies as whether quantitative or qualitative information is emphasized first in the study, the extent of treatment of one type of data or the other, and the used of a theory as an inductive or deductive framework for the study. In the first edition of this book, the terms "dominant" and "less-dominant" were used to express priority. Having a major form of data collection and analysis and a minor form is well suited for studies undertaken by graduate students.

Integration

Integration of the two types of data might occur at several stages I the process of research: the data collection, the data analysis, interpretation, or some combination of places. Integration means that the researcher "mixes" the data. For example, in data collection, this "mixing" might involve combining open-ended questions on a survey with closed-ended questions on the survey. Mixing at the stage of data analysis and interpretation might involve transforming qualitative themes or codes into quantitative numbers and comparing that information with quantitative results in an "interpretation" section of a study. The place in the process for integration seems related to whether phases (a sequence) or a single phase (concurrent) of data collection occurs.

A Theoretical Perspective

A final factor to consider is whether a larger, theoretical perspective guides the entire design. This perspective may be one from the social sciences or from an advocacy/participatory lens (e.g., gender, race, class). Although all designs have implicit theories (see Chapter 7), mixed methods researchers can make the theory explicit as a guiding framework for the study. This framework would operate regardless of the implementation, priority, and integrative features of the strategy of inquiry.

ALTERNATIVE STRATEGIES AND VISUAL MODELS

Mixed methods researchers can make decisions about these four factors to select a particular research strategy. Although the following discussion does not exhaust all the possibilities, the six major strategies identified below are choices for inquirers in a research proposal, adapted from the discussion by Creswell et al. (2003). A proposal would contain a description of the strategy and a visual model of it, as well as including

Basic procedures that he investigator will use in implementing the strategy. Each strategy will be briefly described and illustrated in Figures 11.2 and 11.3 (see Creswell et al., 2003).

The notation in these figures is adapted from Morse (1991) and Tashakkori and Teddlie (1998), who suggested

- A "+" indicates a simultaneous or concurrent form of data collection.
- A "→" indicates a sequential form of data collection.
- Capitalization indicates an emphasis or priority on the quantitative or qualitative data and analysis in the study.

- "Quan" and "Qual" stand for quantitative and qualitative, respectively, and they use the same number of letters to indicate equality between the forms of data.
- Below each figure are specific data collection, analysis, and interpretation procedures to help the reader understand the more specific procedures used.
- Boxes highlight the quantitative and qualitative data collection.

Sequential Explanatory strategy

The sequential explanatory strategy is the most straightforward of the six major mixed methods approaches. It is characterize by the collection and analysis of quantitative data followed by the collection and analysis of qualitative data. The priority typically is given to the quantitative data, and the two methods are integrated during the interpretation phase of the study. The steps of this strategy are pictured in figure 11.2a.this purpose of the sequential explanatory design typically is to use qualitative results to assist in explaining and interpreting the findings of a primarily quantitative study. It can be especially useful when unexpected results arise from a quantitative study (Morse, 1991). In this case, the qualitative data collection that follows can be used to examine these surprising results in more detail. The straightforward nature of this design is one of its main strengths. It is easy to implement because the steps fall into clear, separate stages. In addition, this design feature makes it easy to describe and to report. The main weakness fo this design is the length of time involved in data collection, with the two separate phases. This is especially a drawback if the two phases are given equal priority.

Sequential exploratory strategy

The sequential exploratory strategy ahs many features similar to the sequential explanatory strategy. It is conducted it two phases, with the priority generally given to the first phase, and it may or may not be implemented within a prescribed theoretical perspective (see figure 11.2b). In contrast to the sequential explanatory approach, this model is characterized by an initial phase of qualitative data collocation and analysis. Therefore, the priority is given to the qualitative aspect of the study. The finding s of these two phases are then integrated during the interpretation phase.

At the most basic level, the purpose of this strategy is to use quantitative data and results to assist in the interpretation of qualitative findings. Unlike the sequential explanatory approach, which is better suited to explaining and interpreting relationships, the primary focus of this model is to explore a phenomenon. Morgan (1998) suggested that this design is appropriate to use when testing elements of an emergent theory resulting from the qualitative phase and that it can also be used to generalize qualitative findings to different samples. Similarly, Morse (1991) cited one purpose for selecting this approach: to determine the distribution of a phenomenon within a chosen population. Finally, the sequential exploratory strategy is often discussed as the model used when a researcher develops and tests an instrument (e.g. see Creswell, 1999).

The sequential exploratory strategy has many f the same advantages as the sequential exploratory strategy has many of the same advantages as the sequential explanatory model. Its two-phase approach makes it easy to implement and straightforward to describe and report. It is useful to a researcher who wants to explore a phenomenon but also wants to expand on the qualitative findings. This model is especially advantageous when a researcher is building a new instrument. In addition, this model could make a largely qualitative study more palatable to a quantitative adviser, committee, or research community that may be unfamiliar with

the naturalistic tradition. As with the sequential explanatory approach, the sequential exploratory model requires a substantial length of time to complete both data collection phases, which can be a drawback for some research situations. In addition, the researcher may find it difficult to build from the qualitative analysis to the subsequent quantitative data collection.

Sequential Transformative Strategy

As did the previously described sequential model, the transformative sequential strategy has tow distinct data collection phases, one following the other (See Figure 11.2c). However, in this design either method may be used first, and the priority can be given to either the qualitative or the qualitative phase or even to both if sufficient resources are available. In addition, the results of the two phases are integrated during the interpretation phase. Unlike the sequential exploratory and explanatory and explanatory approaches, the sequential transformative model has a theoretical perspective to guide the study. The aim of this theoretical perspective whether it be a conceptual framework, a specific ideology, or advocacy, is more important in guiding the study than the use of methods alone.

The purpose of a sequential transformative strategy is to employ the methods that will best serve the theoretical perspective of the researcher. By using to two phases, a sequential transformative researcher may be able to give voice to diverse perspectives, to better advocate for participants, or to better understand a phenomenon or process that is changing as a result of being studied.

The sequential transformative model shares the methodological strengths and weaknesses of the other two sequential mixed methods approaches. It use of distinct phases facilitates its implementation, description, and sharing of results, although it also requires the time to complete two data

collection phases. More important, this design places mixed methods research within a transformative framework. Therefore, this strategy may be more appealing and acceptable to those researchers already using a transformative framework within one distinct methodology, such as qualitative research. Unfortunately, because little has been written to data on this approach, one weakness is that there is little guidance on how to use the transformative vision to guide the methods. Likewise, it may be unclear how to move between the analysis of the first phase into the data collection of the second phase.

Concurrent Triangulation strategy

The concurrent triangulation approach is probably the most familiar of the six major mixed methods models (see Figure 11.3a). It is selected as the model when a research uses tow different methods in an attempt to confirm, cross-validate, or corroborate findings within a single study (Greene et al., 1989; Morgan, 1998; Steckler, McLeroy, Goodman; Bird, & McCormick, 1992). This model generally uses separate quantitative and qualitative methods as a means to offset the weaknesses inherent within one method with the strengths of the other method. In this case, the quantitative and qualitative data collection is concurrent, happening in one phase of the research study. Ideally, the priority would be equal between the two methods, but in practical application the priority may be given to either the quantitative or the qualitative approach. This strategy usually integrates the results of the two methods during the interpretation phase. This interpretation can either not e the convergence of the findings as a way to strengthen the knowledge claims of the study or explain any lack of convergence that may result.

This traditional mixed methods model is advantageous because it is familiar to most researchers and can result in well-validated and substantiated findings. In addition, the concurrent data collection results

in a shorter data collection time period as compared to one of the sequential approaches.

This model also has a number of limitations. It requires great effort and expertise to adequately study a phenomenon with tow separate methods. It also can be difficult to compare the results of two analyses using data of different forms. In addition, a researcher may be unclear how to resolve discrepancies that arise in the results.

Concurrent Nested Strategy

Like the concurrent triangulation approach, the concurrent nested model can be identified by its use of one data collection phase, during which both quantitative and qualitative data are collected simultaneously (see Figure 11.3b). Unlike the traditional triangulation model, a nested approach has a predominant method that guides the project. Given less priority, the method (quantitative or qualitative) is embedded, or nested, within the predominant method (qualitative or quantitative). This nesting may mean that the embedded method addresses a different question than the dominant method or seeks information form different levels (the analogy to hierarchical analysis in quantitative research is helpful in conceptualizing these levels-see Tashakkori and Teddlie, 1998). The data collected form the two methods are mixed during the analysis phase of the project. This strategy may or may not have a guiding theoretical perspective.

The concurrent nested model may be used to serve a variety of purposes. Often, this model is used so that a researcher can gain broader perspectives as a result of using the different methods as opposed to using the predominant method alone. For example, Morse (1991) noted that a primarily qualitative design could embed some quantitative data to enrich the description of the sample participants. Likewise, she described how qualitative data could be used to describe an aspect of a quantitative

study that cannot be quantified. In addition, a concurrent nested model may be employed when a researcher chooses to utilize different methods to study different groups or levels. For example, if an organization is being studied, then employees could be studied quantitatively, managers could be interviewed qualitatively, entire divisions could be analyzed with quantitative data, and so forth. Tashakkori and Teddlie (1998) described this approach as a multilevel design. Finally, one method could be used within a framework of the other method, such as if a researcher designed and conducted an experiment but used case study methodology to study each of the treatment conditions.

This mixed methods model has many strengths. A researcher is able to collect the two types of data simultaneously, during a single data collection phase. It provides a study with the advantages of both quantitative and qualitative data. In addition, by using the two different methods in this fashion, a researcher can gain perspectives from the different types of data or from different levels within the study.

There are also limitations to consider when choosing this approach. The data need to be transformed in some way so that they can be integrated within the analysis phase of the research. There is little written at this time to guide a researcher through this process. In addition, there is little advice to be found for how a researcher should resolve discrepancies that occur between the two types of data. Because the two methods are unequal in their priority, this approach also results in unequal evidence within a study, which may be a disadvantage when interpreting the final results.

Concurrent Transformative Strategy

As with the sequential transformative model, the concurrent transformative approach is guided by the researcher's use of a specific theoretical perspective (see Figure 11.3c). This perspective can be based

on ideologies such as critical theory, advocacy, participatory research, or a conceptual or theoretical framework. This perspective is reflected in the purpose or research questions of the study. It is the driving force behind all methodological choices, such as defining the problem, identifying the design and data sources, analyzing interpreting, and reporting results throughout the research process. The choice of a concurrent model (whether it is triangulation or nested design) is made to facilitate this perspective. For example, the design may nested so that diverse participants are given a voice in the change process of an organization that is studied primarily quantitatively. It may involve a triangulation of quantitative and qualitative data to best converge information to provide evidence for an inequality of policies in an organization.

Thus, the concurrent transformative model may take on the design features fo either a triangulation or a nested approach. That is, the two types of data are collected at the same time during one data collection phase and may have equal or unequal priority. The integration of these different data would most often occur during one data collection phase and may have equal or unequal priority. The integration of these different data would most often occur ding the analysis phase, although integration during the interpretation phase is a possible variation. Because the concurrent transformative model shares features with the triangulation and nested approaches, it also shares their specific strengths and weaknesses. However, this model has the added advantage of positioning mixed methods research within a transformative framework, which may make it especially appealing to those qualitative or quantities researchers already using a transformative framework to guide their inquiry.

DATA COLLECTION PROCEDURES

Although the visual model and the discussion about the specific strategies provide a picture of the procedures, it is helpful in a proposal to discuss the specific types of data to be collected. It is also important to identify the sampling strategies and the approaches used to establish validity of the data.

- Identify and be specific about the type of data-both quantitative and qualitative-that will be collected during the proposed study. Refer to Table 1.3,which shows both quantitative and qualitative data. They differ in terms of open-ended versus closed-ended responses. Some forms of data, such as interviews and observations, can be either quantitative or qualitative. Although reducing information to numbers is the approach used in quantitative research, it is also used in qualitative research.

- Recognize that quantitative data often involve random sampling, so that each individual has an equal probability of being selected and the sample can be generalized to the larger population. I qualitative data collection, purposeful sampling is used so that individuals are selected because they have experienced the central phenomenon.

- Rate the procedures specifically to the visual model. For example, as shown in Figure 11.2a, in a sequential explanatory model, the general procedures below the figure can be detailed even further. For example, a discussion of this approach might include describing the use of survey data collection followed by both descriptive and inferential data analysis in the first phase. Then qualitative observations and coding and thematic analysis within an ethnographic design neigh be mentioned for the second phase.

DATA ANALYSIS AND VALIDATION PROCEDURES

Data analysis in mixed methods research relates to the type of research strategy chosen for the procedures. Thus, in a proposal, the

procedures need to be identified within the design. However, analysis occurs both within the quantitative (descriptive and inferential numeric analysis) approach and the qualitative (description and thematic text or image analysis) approach, and often between the two approaches. For example, some of the more popular approaches are the following (see Caraelli & Greene, 1993; Tashakkori & Teddlie, 1998):

- Data transformation: In the concurrent strategies, a researcher may quantify the qualitative data. This involves creating codes and themes qualitatively, then counting the number of times they occur in the text data (or possibly the extent of talk about a code or theme by counting lines or sentences). This quantification of qualitative data then enables a researcher to compare quantitative results with the qualitative data. Alternatively, an inquirer may qualify quantitative data. For instance, in a factor analysis of data from a scale on an instrument, the researcher may create factors or themes that then can be compared with themes from the qualitative database.

- Explore outliers: In a sequential model, an analysis of quantitative data in the first phase can yield extreme or outlier cases. Follow up qualitative interviews with these outlier cases can provide insight about why they diverged from the quantitative sample.
- Instrument development: in a sequential approach, obtain themes and specific statements from participants in an initial qualitative data collection. In the next phase, us these statements as specific items and the themes for scales to create a survey instrument that is grounded in the views of the participants. A third, final phase

might be to validate the instrument with a large sample representative of a population.

- Examine multiple level: in a concurrent nested model, conduct a survey at one level (eg with families) to gather quantitative results about a sample. At the same time, collect qualitative interviews (e.g with individuals) to explore the phenomenon with specific individuals in families.

Another aspect of data analysis in mixed methods research to describe in a proposal is the series of steps taken to check the validity of both the quantitative data and the accuracy of the qualitative findings. Writers on mixed methods advocate for the use of validity procedures for both the quantitative and qualitative phases of the study (Tashakkori & Teddlie, 1998). The proposal writer discusses the validity and reliability of the scores from past uses of instruments employed in the study. In addition, potential threats to internal validity (see chapter 9) for experiments and surveys are noted. For the qualitative data , the strategies that will be used to check the accuracy of the findings need to be mentioned. These may include triangulating data sources, member – checking, detailed description, or other approaches as noted in chapter 10.

The structure for the report . like the data analysis, follows the type of strategy chosen for the proposed study. Because mixed methods studies may not be familiar to audiences, it is helpful to provide some guidance as to how the final report will be structured.

- For a sequential study, mixed methods researchers typically organize the report of procedures in to quantitative data collection and quantitative data analysis followed by qualitative data collection and analysis could come firs followed by the writer typically will present the project as two distinct phases, with separate headings for each phase.
- In a concurrent study, the quantitative and qualitative data collection may be presented in separate sections, but the analysis and interpretation combines the two forms of data to seek convergence among the results. The structure of this type of mixed methods study does not as clearly make a distinction between the quantitative and qualitative phases.
- In a transformative study , the structure typically involves advancing the advocacy issue in the beginning of the study and then using either the sequential or concurrent structure S as a means of organizing the content of the study. In the end of the study, a separate section may advance an agenda for change or reform that has developed as a result of the research.

EXAMPLES OF MIXED METHODS PROCEDURES

The following are illustrations of mixed methods studies that use both the sequential and concurrent strategies and procedures.

Example 11.1 A Sequential Strategy of inquiry

Kusman (1992) studied two types of teacher workplace commitment – organizational commitment and commitment to student learning – in 63 urban elementary and middle schools. He posed a two phase mixed methods study as presented in the purpose statement.

The central premise of this study was that organizational commitment and commitment to student learning address distinct but equally important teacher attitudes for an organizationally effective schools an idea that has some support in the literature but requires further empirical validation . . . phases 1 was a quantitative study that looked at statistical relationships between teacher commitment and organizational antecedents and outcomes in elementary and middle schools. Following this macro level analysis, phase 2 looked with in specific schools, using qualitative / case study methods to beter understand the dynamics of teacher commitment. (Kushman 1992 , p 13)

This purpose statement illustrates the combination of a purpose with the relational for mixing (" to better understand ') as well as the specific types of data collected during the study. The introduction focused on the need to examine organizational commitment and commitment to student learning leading to a priority for the quantitative approach. This priority was further illustrated in sections defining organizational commitment and commitment to student learning and the use of extensive literature to document these two concepts. A conceptual framework then followed (complete with a visual model), and research questions were posed to explore relationships. This provided a theoretical lead for the quantitative phase of the study (morse, 1991). The implementation was WUAN quall in this two phases study. The author presented results in two phases, with the first – the quantitative results –displaying and discussing correlations, regressions, and two way ANOVAS. Then the case study results were presented in terms of themes and sub themes supported by quotations. The integration of the quantitative results and qualitative findings occurred in the final discussion. In which the researcher highlighted

the quantitative results and the complexities that surfaced from the qualitative results. In addition , the author did not use a theoretical perspective as a lens in the study.

Example 11.2 A concurrent strategy of inquiry

In 1993, hossler and Vesper conducted a study examining the factors associated with parental savings for children attending higher education campuses. Using longitudinal data collected from students and parents over a 3 year period, the authors examined factors most strongly associated with parental support, educational expectations, and knowledge of college costs were important factors. Most important, for our purposes, the authors collected information from parents and students on 182 surveys and from 56 interviews. Their purpose indicated an interest in triangulating the findings.

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 surveyes over a three – year period, logistic regression was used to identify the factors most strongly associated with parental saving for posts secondary education. In addition, insights gained from the interviews of a small sub sample of students and parents who were interviewed five times during the three – year period are used to further examine parental savings.

The actual data collected was from 182 students and parent participants from surveys over a 4 year period of time and from 56 students and their parents in interviews. From the purpose statement, we can see that they collected data concurrently as an implementation strategy. Further, they provide extensive discussion of the quantitative analysis of the survey and, including a discussion about the measurement of

variables and the details of the logistic regression data analysis and specific t-test and regression results. In contrast, they devote one page to the qualitative data analysis and note briefly the themes that occurred in the discussion. The priority in this mixed methods study was assigned to quantitative data collections and analysis, and the notation for the study would: QUAN+ qual. The integration of the two data sources occurred in a sectional titled " Discussion of survey and interviews results" (p. 155), at the interpretation stage of the research process. In this section , they compared the importance of the factors explaining parental savings for the quantitative results, on one hand. With the findings from the interview data on the other. Similar to Example 11.1 no theoretical on econometric studies and research on college choice and ended with an " Augmented Model of parental savings" thus we might characterize the use of theory in this mixed method study as inductive (as in qualitative inquiry). Drawn from the literature (as in quantitative research). And ultimately as generated during the process of research.

Summary

In designing the procedures for a mixed methods study, begin by conveying the nature of mixed methods research. This includes tracing its history, defining it, and motioning its applications in many fields of research. The, state and employ four criteria to select in appropriate mixed methods strategy. Indicate the implementation strategy for data collection (Concurrent or sequential). Also state the priority or weight given to the quantitative or quantitative approach in the study, such as equal weight, or a priority to quantitative or qualitative data. Mention the phase of research (e.g., data collection, analysis, interpretation) in which integration of the approaches will occur. Finally, identify whether a theoretical lens or framework will guide the study, such as a theory from the social sciences or a lens from and advocacy perspective (e.g.,

feminism, racial perspective). These four factors help in choosing the strategy to use.

Six strategies are organized around whether the data are collected sequentially (explanatory and exploratory), concurrently (triangulation and nested), or with a transformative lens (sequential or concurrent). Each model has strength and weaknesses, although the sequential approach is the easiest to implants. A choice of strategy also can be presented in a figure in the research proposal. Then, specific procedures can be related to the figure to help the reader understand the flow of activities in a project. These procedures will include the types of quantitative and qualitative data to be collected as well as the procedures for data analysis. Typically, data analysis involves data transformation, exploring outliers, and examining multiple levels. Validity procedures also need to be explicitly described. The final written report, because it may be unfamiliar to audiences, can also be described in a proposal. Each of the three types of strategies - sequential, concurrent, and transformative - has a different structural approach to writing a mixed methods study.

Writing Exercises

1. Design a combined qualitative and quantitative study that employees two phases sequentially. Discuss and provide a rational for why the phase are ordered in the sequence you propose.
2. Design a combined qualitative and quantitative study that gives priority to qualitative data collection and less priority to quantitative data collection. Discuss the approach to be taken in writing the introduction, the purpose statement, the research questions, and the specific forms of data collection.
3. Development a visual figure and specific procedures that illustrate the use of a theoretical lens such as a feminist perspective in the

research. Use the procedures of either a sequential or concurrent model for conducting the study. Use appropriate notation in the figure.