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A Model for Qualitative Research Design

In 1625, Gustav II, the king of Sweden, commissioned the construction of four warships to further his imperialistic goals. The most ambitious of these ships, named the *Vasa*, was one of the largest warships of its time, with 64 cannons arrayed in two gundecks. On August 10, 1628, the *Vasa*, resplendent in its brightly painted and gilded woodwork, was launched in Stockholm Harbor with cheering crowds and considerable ceremony. The cheering was short-lived, however; caught by a gust of wind while still in the harbor, the ship suddenly heeled over, foundered, and sank.

An investigation was immediately ordered, and it became apparent that the ballast compartment had not been made large enough to balance the two gundecks that the king had specified. With only 121 tons of stone ballast, the ship lacked stability. However, if the builders had simply added more ballast, the lower gundeck would have been brought dangerously close to the water; the ship lacked the buoyancy to accommodate that much weight.

In more general terms, the *design* of the *Vasa*—the ways in which the different components of the ship were planned and constructed in relation to one another—was fatally flawed. The ship was carefully built, meeting all of the existing standards for solid workmanship, but key characteristics of its different parts—in particular, the weight of the gundecks and ballast and the size of the hold—were not compatible, and the interaction of these characteristics caused the ship to capsize. Shipbuilders of that day did not have a general theory of ship design; they worked primarily from traditional models and by trial and error, and had no way to calculate stability. Apparently, the *Vasa* was originally planned as a smaller ship, and was then scaled up, at the king's insistence, to add the second gundeck, leaving too little room in the hold (Kvarning, 1993).

This story of the *Vasa* illustrates the general concept of design that I am using here: “an underlying scheme that governs functioning, developing, or unfolding” and “the arrangement of elements or details in a product or work of art” (Design, 1984, p. 343). This is the ordinary, everyday meaning of the term, as illustrated by the following quote from a clothing catalog:

It starts with design. . . . We carefully consider every detail, including the cut of the clothing, what style of stitching works best with the fabric, and what kind of closures make the most sense—in short, everything that contributes to your comfort. (L. L. Bean, 1998)

A good design, one in which the components work harmoniously together, promotes efficient and successful functioning; a flawed design leads to poor operation or failure.

However, most works dealing with *research* design use a different conception of design: “a plan or protocol for carrying out or accomplishing something (esp. a scientific experiment)” (Design, 1984, p. 343). They present “design” either as a menu of standard types of designs from which you need to choose (typical of experimental research), or as a prescribed series of stages or tasks in planning or conducting a study. Although some versions of the latter view of design are circular and recursive (e.g., Marshall & Rossman, 1999, pp. 26–27), all are essentially linear in the sense of being a one-directional *sequence* of steps from problem formulation to conclusions or theory, though this sequence may be repeated. Such models usually have a prescribed starting point and goal and a specified order for performing the intermediate tasks.

Neither typological nor sequential models of design are a good fit for qualitative research, because they attempt to establish in advance the essential steps or features of the study. (See Maxwell & Loomis, 2002, for a more detailed critique of these approaches.) In qualitative research, any component of the design may need to be reconsidered or modified during the study in response to new developments or to changes in some other component. In this, qualitative research is more like sciences such as paleontology than it is like experimental psychology. The paleontologist Neil Shubin (2008) described his fieldwork as follows:

The paradoxical relationship between planning and chance is best described by General Dwight D. Eisenhower’s famous remark about warfare: “In preparing for battle, I have found that planning is essential, but plans are worthless.” This captures field paleontology in a nutshell. We make all kinds of plans to get to promising field sites. Once we’re there, the entire field plan may be thrown out the window. Facts on the ground change our best-laid plans. (p. 4)

This description also characterizes qualitative research, in which designs are flexible rather than fixed (Robson, 2011), and inductive rather than following a strict sequence or derived from an initial decision. In a qualitative study, “research design should be a reflexive process operating through every stage of a project” (Hammersley & Atkinson, 1995, p. 24). The activities of collecting and analyzing data, developing and modifying theory, elaborating or refocusing the research questions, and identifying and addressing validity threats are usually all going on more or less simultaneously, each influencing all of the others. This process isn’t adequately represented by a choice from a prior menu or by a linear model, even one that allows multiple cycles, because in qualitative research, there isn’t an unvarying order in which the different tasks or components must be arranged, nor a linear relationship among the components of a design.

Typological or linear approaches to design provide a model *for* conducting the research—a prescriptive guide that arranges the tasks involved in planning or conducting a study in what is seen as an optimal order. In contrast, the model in this book is a model *of* as well as *for* research. It is intended to help you understand the *actual* design of your study, as well as to plan this study and carry it out. An essential feature of this

model is that it treats research design as a real entity, not simply an abstraction or plan (Maxwell, 2011b). The design of your research, like the design of the *Vasa*, is real and will have real consequences. Borrowing Kaplan's (1964, p. 8) distinction between the "logic-in-use" and "reconstructed logic" of research, this model can be used to represent the "design-in-use" of a study, the *actual* relationships among the components of the research, as well as the intended (or reconstructed) design. As Yin (1994) stated, "Every type of empirical research has an implicit, if not explicit, research design" (p. 19). Because a design always exists, it is important to *make* it explicit, to get it out in the open where its strengths, limitations, and consequences can be clearly understood.

This conception of design as a model of, as well as for, research is exemplified in a classic qualitative study of medical students (Becker, Geer, Hughes, & Strauss, 1961). The authors began their chapter on the design of the study by stating,

In one sense, our study had no design. That is, we had no well-worked-out set of hypotheses to be tested, no data-gathering instruments purposely designed to secure information relevant to these hypotheses, no set of analytic procedures specified in advance. Insofar as the term "design" implies these features of elaborate prior planning, our study had none.

If we take the idea of design in a larger and looser sense, using it to identify those elements of order, system, and consistency our procedures did exhibit, our study had a design. We can say what this was by describing our original view of the problem, our theoretical and methodological commitments, and the way these affected our research and were affected by it as we proceeded. (p. 17)

Thus, to design a qualitative study, you can't just develop (or borrow) a logical strategy in advance and then implement it faithfully. You need, to a substantial extent, to *construct* and *reconstruct* your research design, and this is a major rationale for my design model. Qualitative research design, to a much greater extent than quantitative research, is a "do-it-yourself" rather than an "off-the-shelf" process, one that involves "tacking" back and forth between the different components of the design, assessing their implications for one another.¹ It does not begin from a predetermined starting point or proceed through a fixed sequence of steps, but involves interconnection and interaction among the different design components.

In addition, as the architect Frank Lloyd Wright emphasized, the design of something must fit not only its use, but also its environment ("Organic Architecture," n.d.). You will need to continually assess how your design is actually working during the research and how it influences and is influenced by the context in which you're operating, and to make adjustments and changes so that your study can accomplish what you want.

My model of research design, which I call an "interactive" model (I could just as well have called it "systemic"), has a definite structure. However, it is an interconnected and flexible structure. In this book, I describe the key components of a research design, and present a strategy for creating coherent and workable relationships among these components. I also provide (in Chapter 7) an explicit plan for using your design to create a research proposal.

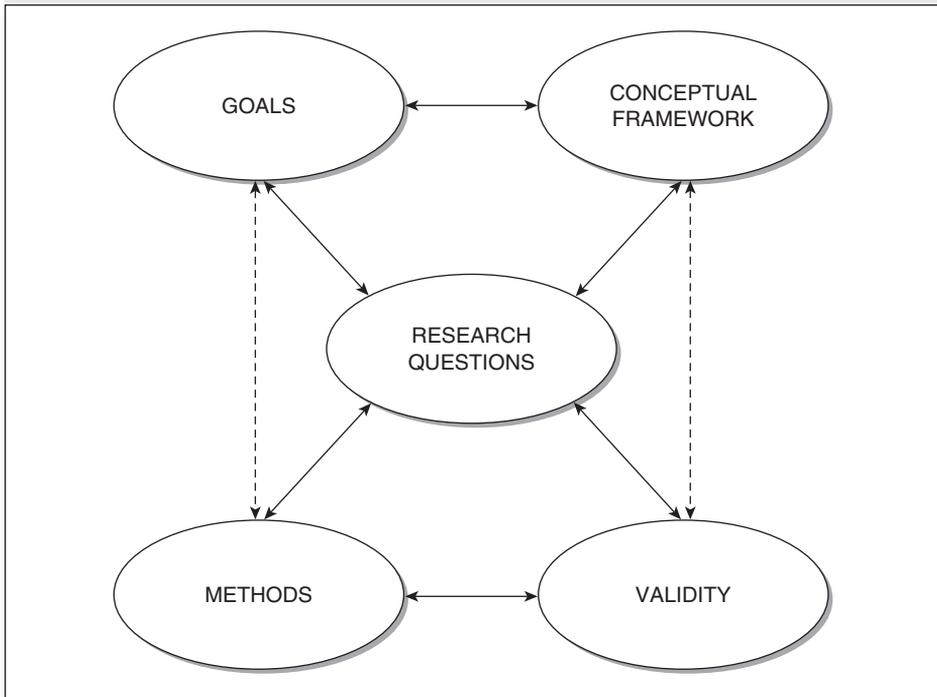
The model I present here has five components, each of which addresses a specific set of concerns:

1. *Goals.* Why is your study worth doing? What issues do you want it to clarify, and what practices and policies do you want it to influence? Why do you want to conduct this study, and why should we care about the results?
2. *Conceptual framework.* What do you think is going on with the issues, settings, or people you plan to study? What theories, beliefs, and prior research findings will guide or inform your research, and what literature, preliminary studies, and personal experiences will you draw on for understanding the people or issues you are studying?
3. *Research questions.* What, specifically, do you want to better understand about the settings or participants that you are studying? What do you *not* know about these that you want to learn? What questions best capture these learnings and understandings, and how are these questions related to one another?
4. *Methods.* What will you actually do in conducting this study? What approaches and techniques will you use to collect and analyze your data? I identify four parts of this component of your design: (a) the relationships that you establish with the participants in your study; (b) your selection of settings, participants, times and places of data collection, and other data sources such as documents (what is often called “sampling,” although this term can be misleading for qualitative research, as I discuss in Chapter 5); (c) your methods for collecting your data; and (d) your data analysis strategies and techniques.
5. *Validity.* How might your results and conclusions be wrong? What are the plausible alternative interpretations and validity threats to these results and conclusions, and how will you deal with these? How can the data that you have, or that you could potentially collect, support or challenge your ideas about what’s going on? Why should we believe your results?

These components are not substantially different from the ones presented in many other discussions of research design (e.g., LeCompte & Preissle, 1993; Miles & Huberman, 1994; Robson, 2011; Rudestam & Newton, 2007, p. 5). What is innovative is the way the relationships among the components are conceptualized. In this model, the different parts of a design form an integrated and interacting whole, with each component closely tied to several others, rather than being linked in a linear or cyclic sequence. The relationships among these five components are displayed in Figure 1.1.

In this model, in contrast to some other views of research design, the research questions are not the starting point or controlling piece of the design, to which all other components must conform. Instead, they are at the *center* of the design; they are the heart, or hub, of the model, the component that connects most directly to all of the other components. They not only have the most direct influence on the other components, but are also the component most directly affected by the others; they should inform, and be sensitive to, all of the other components. As discussed in more detail in Chapter 4, your research questions are not fixed at the start of the study; they may need to be significantly modified or expanded as a result of changes in your goals or conceptual framework, or because of what you learn while doing the research.

The upper triangle of this model, the half that is more conceptual and usually is the first that you develop, should be a closely integrated unit. Your research questions should have a clear relationship to the goals of your study, and should be grounded in

Figure 1.1 An Interactive Model of Research Design

what is already known about the things you are studying and the theoretical concepts and models that can be applied to these. In addition, the goals of your study should be informed by current theory and knowledge, while your decisions about what theory and knowledge are relevant to your study depend on your goals and questions.

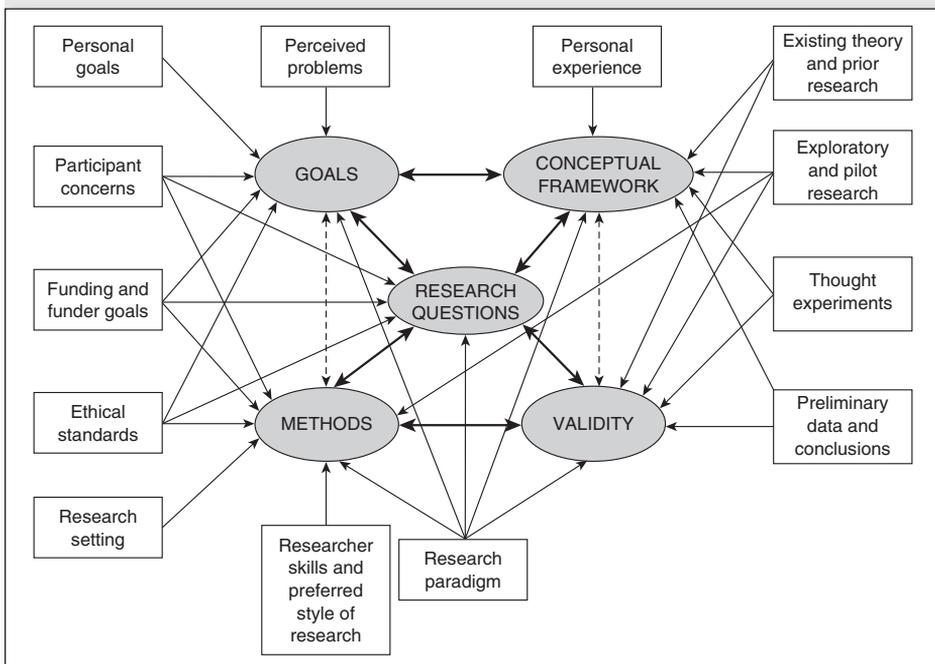
Similarly, the bottom triangle of the model, the more operational half of the design, should also be closely integrated. The methods you use must enable you to answer your research questions, and also to deal with plausible validity threats to these answers. Your questions, in turn, need to take into account the feasibility of the methods and the seriousness of particular validity threats, while the plausibility and relevance of particular validity threats, and your ability to deal with these, depend on the questions and methods chosen (as well as on your conceptual framework). Your research questions form the main link between the two halves of the model.

The connections among the different components of the model are not rigid rules or fixed implications; they allow for a certain amount of “give” and elasticity in the design. I find it useful to think of them as rubber bands. They can stretch and bend to some extent, but they exert a definite tension on different parts of the design, and beyond a particular point, or under certain stresses, they will break. This “rubber band” metaphor portrays a qualitative design as something with considerable flexibility, but in which there are constraints imposed by the different parts on one another, constraints which, if violated, make the design ineffective.

I see this interconnection and coherence of a research design as a matter of pragmatic compatibility, not of logical consistency or as derived from some overarching principle or premise. In this way, I think the interactive model I present is compatible with some interpretations of postmodernism, which rejects the idea of universal, overriding metanarratives that define a single correct understanding of something (Bernstein, 1992; Kvale, 1995; Olsson, 2008; Rosenau, 1992). It is also compatible with a currently influential approach to qualitative research known as “bricolage” (Hammersley, 2008; Kincheloe & Berry, 2004; Kincheloe, McLaren, & Steinberg, 2011; Maxwell, 2011a), which rejects the idea of following a preestablished plan or set of methods in favor of a more spontaneous and improvised use of the resources at hand; I discuss bricolage in more detail in Chapter 3.

Many other factors besides these five components influence the design of your study, including your resources, research skills, perceived problems, ethical standards, the research setting, and the data you collect and results you draw from these data during the study. In my view, these are not part of the *design* of a study, but either belong to the *environment* within which the research and its design exist or are *products* of the research. You will need to take these factors into account in designing your study, just as the design of a ship needs to take into account the kinds of winds and waves the ship will encounter and the sorts of cargo it will carry. Figure 1.2 presents some of the factors in the environment that can influence the design and conduct of a study, and displays some of the key linkages of these factors with components of the research design. These factors and linkages will be discussed in subsequent chapters.

Figure 1.2 Contextual Factors Influencing a Research Design



I want to say something specifically about ethics, since I have not identified this as a separate component of research design. This isn't because I don't think ethics are important for qualitative design; on the contrary, attention to ethical issues in qualitative research is being increasingly recognized as essential, not just for ethical reasons but as an integral aspect of the research (Cannella & Lincoln, 2011; Christians, 2011; Fine, Weis, Weseen, & Wong, 2000). I believe that ethical concerns should be involved in *every* aspect of design. I have particularly tried to address these concerns in relation to methods, but they are also relevant to your goals, the selection of your research questions, validity issues, and the critical assessment of your conceptual framework.

As the subtitle of this book indicates, my approach to design is an interactive one. It is interactive in three senses. First, the design model itself is interactive; each of the components has implications for all of the other components, rather than the components being in a linear, one-directional relationship with one another. Second, the design of a qualitative study should be able to change in interaction with the context in which the study is being conducted, rather than simply being a fixed determinant of research practice. (Example 1.1 illustrates both of these interactive processes in the evolution of the design of one study.) Finally, the learning process embodied in this book is interactive, with frequent exercises that enable you to work on the design of your study. This book does not simply present abstract research design principles that you can memorize and then later use in your research. You *will* learn principles that are at least somewhat general, but you'll learn these best by creating a design for a particular qualitative project.

Example 1.1 The Evolution of a Research Design

Maria Broderick began her dissertation study of a hospital-based support group for cancer patients with a theoretical background in adult psychological development and practical experience in the design of such programs; a research interest in discovering how patients' perceptions of support and interaction within the group were related to their developmental level; a plan to use observation, interviews, and developmental tests to answer this question; and the goals of improving such programs and developing a career in clinical practice. However, after her proposal was approved, she lost access to the group she had originally planned to study, and was unable to find another suitable cancer program. She ended up negotiating permission to study a stress-reduction program for patients in a hospital setting, but was not allowed to observe the classes; in addition, the program team insisted on a quasi-experimental research design, with pre- and postintervention measures of patients' developmental level and experiences. This forced her both to broaden her theoretical

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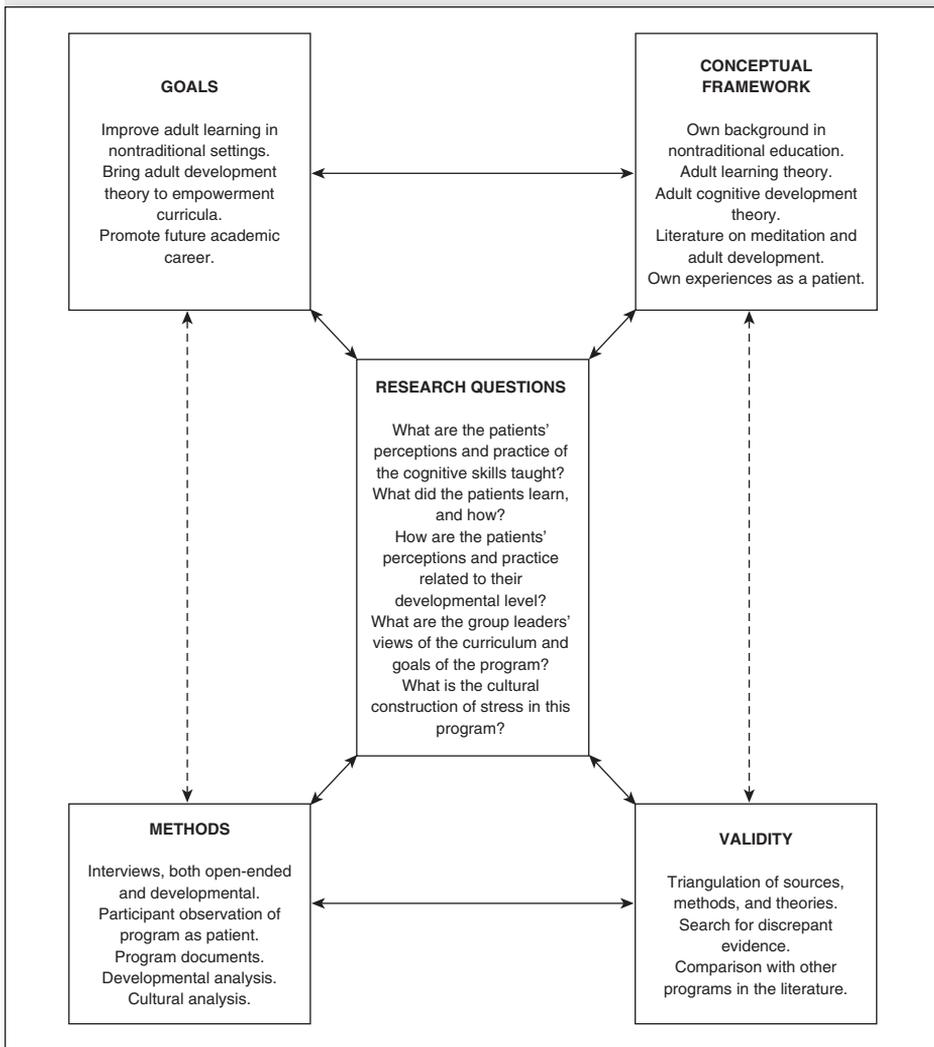
framework beyond cancer support programs to behavioral medicine programs in general and to alter her methods to rely primarily on pre- and postinterviews and developmental tests.

As Maria was beginning her research, she herself was diagnosed with a stress-related illness. This had a profound effect on the research design. First, she gained access to the program as a patient, and discovered that it wasn't actually run as a support program, but in a traditional classroom format. This made her extensive literature review on support groups largely irrelevant. Second, she found that her experiences of her illness and what seemed to help her deal with stress differed substantially from what was reported in the literature. These two developments profoundly altered her conceptual framework and research questions, shifting her theoretical focus from ego development to cognitive development, adult learning, and educational theory. In addition, she found that pretesting of the patients was impossible for practical reasons, eliminating the possibility of quasi-experimental assessment of patient changes and shifting her methods and validity checks back toward her original plans.

While Maria was analyzing her data, her gradual creation of a theory that made sense of these patients' (and her own) experiences directed her to new bodies of literature and theoretical approaches. Her increasing focus on what the patients *learned* through the program caused her to see meditation and cognitive restructuring as tools for reshaping one's view of stress, and led her to develop a broader view of stress as a cultural phenomenon. It also reconnected her with her longtime interest in nontraditional education for adults. Finally, these changes led to a shift in her career goals from clinical practice to an academic position, and her goals for the study came to emphasize relating adult developmental theory to empowerment curricula and improving adult education in nontraditional settings.

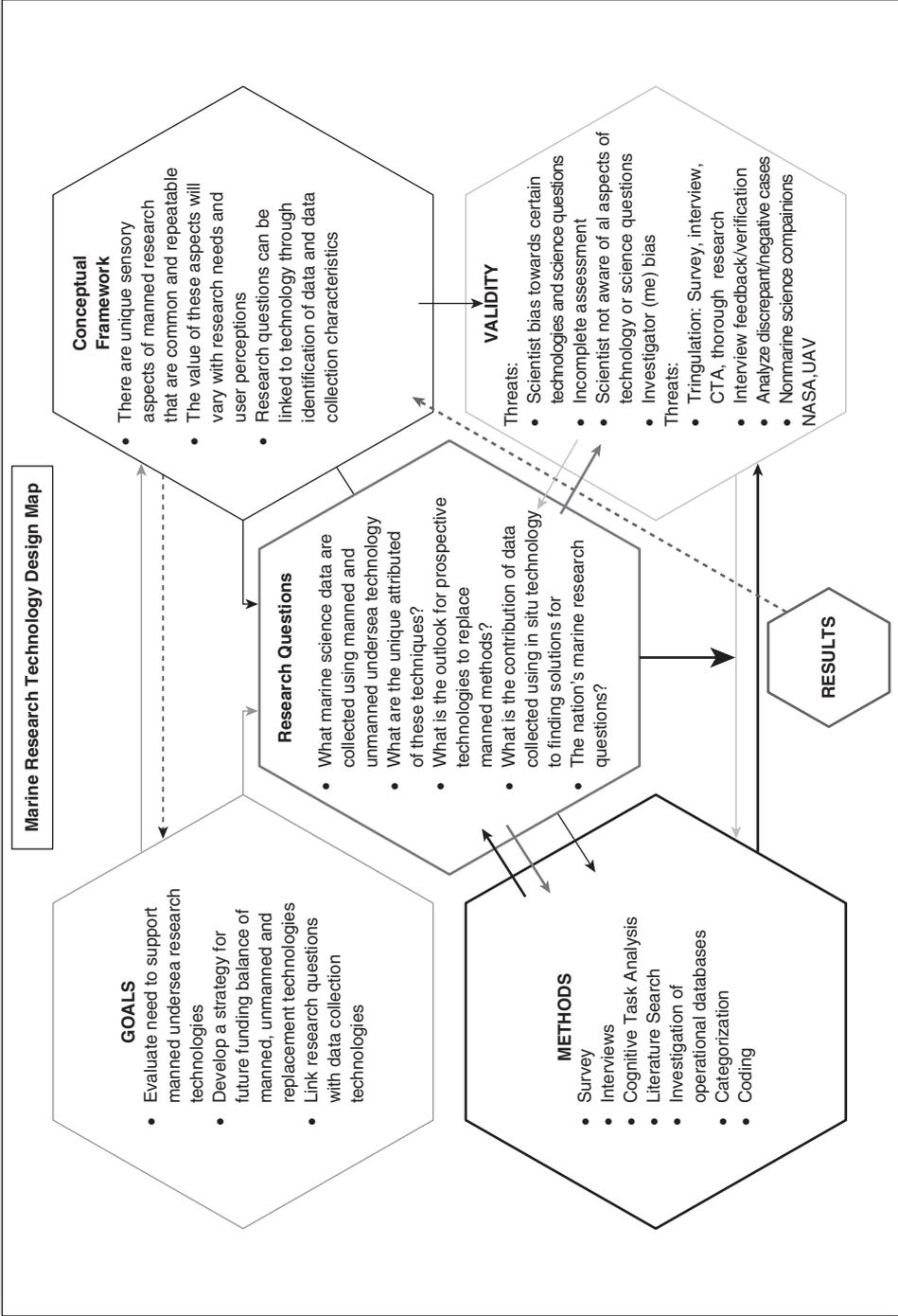
One way in which the design model presented here can be useful is as a tool or template for conceptually mapping the design of an actual study, as part of the design process or in analyzing the design of a completed study. This involves filling in the circles for the five components of the model with the specific components of that study's design, a strategy that I call a "design map." (This is one use of what is commonly called "concept mapping," discussed in Chapter 3.) I have included two examples of design maps for actual studies. Figure 1.3 is a design map of the eventual structure of Maria Broderick's dissertation research; I created this based on Maria's dissertation. See Maxwell and Loomis (2002) for other such maps.

Figure 1.3 A Design Map of Maria Broderick’s Dissertation Research



Such a design map is a useful way to display the main parts of your design. However, any such diagram is necessarily a schematic, highly condensed account; it can't substitute for a more detailed explanation of these parts and their connections to one another. It should, therefore, be accompanied by a memo that explains these. Figure 1.4 was created by Karen Kohanowich in planning her dissertation research on the relative advantages and disadvantages of manned and unmanned undersea research; Example 1.2 describes her process in developing this map (my comments to Karen are in brackets).

Figure 1.4 A Design Map for a Study of Manned and Unmanned Undersea Research



Example 1.2 Memo on Developing the Design Map in Figure 1.4

I knew that there are many personal factors driving my research on undersea technology, both in helpful and potentially biasing ways, so I worked through the Researcher Identity Memo exercise (Exercise 2.1) prior to formulating my design map. This activity was invaluable in a number of ways. I found that just acknowledging a potential personal bias to myself silently had virtually no power when compared to writing it out. By forcing myself to brainstorm goals and questions, and bin them in personal, practical, or intellectual categories, I could extract the personal aspect, respect it for what it is, and put it aside in the “leave for discussion with friends and family” box. This then helped me identify practical goals that had seemed personal, but, now that they were acknowledged in a respectable category that was firewalled from personal influences and distinguished from focused research questions, actually flowed out relatively smoothly as work-related goals that I could relay to the boss in an elevator. With those motivations in their proper places, I could then focus with a clearer mind on the intellectual aspect of the research questions, and target an approach that could be tested in a scholastic construct. Within the design map, the upper-left goal category is described as including all three components by both Maxwell and Loomis (2002) and Maxwell (2005). I actually found it most helpful to use the goal component to represent my practical goals; setting the personal goals to the side as described previously, and integrating the intellectual goals with the research questions.

The resulting design map developed into a more structured process than I expected, with a relatively stable goal/framework core and a more malleable operational component. It is similar to Maxwell’s (2005, p. 5) description of upper- and lower-integrated triangles, but with some changes to the feedback mechanisms. The previous exercise showed me that the practical goals really are the core of what I think the study is about, the “why.” The conceptual framework follows as the group of assumptions, close to hypotheses, that I’m making about the nature of the forces at work within the study. The more I thought about it, the more important it seemed to keep these components relatively inflexible during the study development to provide a consistent context for the research work. The remaining three components are designed to work together to respond to this framework and provide researched feedback, with the primary link to the goals/framework being the research questions (although there is also a role for input to each from the framework.) I refer to this lower triangle of components “research questions,” “methods,” and “validity,” as a subgroup of *operational components*. Here I recognize and encourage flexibility between components as the study is developed and conducted. I also recognized that there might be indications during the

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operational development that the framework should be reconsidered, but felt that continual shifting of the framework based on individual process insights would be counterproductive and threaten the foundation of the research. When I thought, "What type of information would be serious enough to warrant reevaluation of the framework?" I realized that it was, of course, the results (i.e., the product of the operational component interactions). I, therefore, developed a new component—results—which represents the results that emerge from the operational interactions. [This is included in Figure 1.2, as one of the factors influencing a design.]

On the map, solid arrows represent intended influence of one component of the design map on another component, while dotted arrows represent possible post-results adjustments. I added the separate results component for two reasons. First, I consider that the two-way arrows between the three operational components represent intrastudy considerations that occur as a study develops, often as the result of new insights received during the study, but not because of study results per se. I also wanted to emphasize the role of results as the principal force for reconsideration of the fundamental framework and goals. Insights within the operational components may provide temptation to readdress the foundation, but this should be resisted [but not ignored! They may be important enough to overcome the resistance] to allow the process to work. Note that I do not include influence of results on the three operational components. This helps prevent disjointed tinkering with the research design; it does not preclude this consideration, but rather indicates that the framework should be examined first, and the design then considered as a whole system.

As I continue to design my study, I intend to revisit the qualitative and quantitative design elements described by Maxwell and Loomis (2002, Table 9.1) to better describe the contents of each component. I'm looking forward to seeing how this overall construct plays out as my study proceeds.

Karen's map and memo modify my design model in ways that seemed helpful to her, which is fine. I do not believe that there is one right model of, or for, research design; in fact, I don't think there is only one right model of *anything* (see Maxwell, 2011a, 2011b). However, I think that the model that I present here is a *useful* model, for two main reasons:

1. It explicitly identifies as *components* of design the key issues about which you will need to make decisions and which will need to be addressed in any research proposal. These components are, therefore, less likely to be overlooked or misunderstood, and can be dealt with in a deliberate and systematic manner.

2. It emphasizes the *interactive* nature of design decisions in qualitative research, and the multiple connections among design components. A common reason that dissertation or funding proposals are rejected is because they do not make clear the connections among the design components—the *relevance* of decisions about different components for one another. (I discuss this in more detail in Chapter 7.) The model I present here makes it easier to understand and demonstrate these connections.

Matrices as a Strategy for Developing Your Research Design

Matrices (the plural of *matrix*) are another strategy for developing, and displaying, the design of your research. Design maps and design matrices are both useful in creating your design, but they are different, and complementary. Design maps present a schematic picture of the design, keeping the interactive structure of this design. A matrix, in contrast, imposes a more linear ordering of the components, but in doing so, it allows you to develop, and show, the connections between *specific* parts of each component, such as how each research question is related to specific goals, theories, methods and validity issues (see Figure 1.5). Miles and Huberman (1994) were the first to systematically develop and promote such displays in qualitative research; their book contains a wide variety of displays, mostly matrices and what they call “networks,” a term that includes both concept maps and flowchart-like diagrams. While their focus was on using displays for qualitative data analysis (I discuss these uses in Chapter 5), displays are valuable in every aspect of qualitative design.

This matrix was developed by Bonnie Sakallaris, a nursing doctoral student, for a study of perceptions of healing in the context of acute illness, and the role of the patient’s immediate environment in promoting this. (Her design originally included both qualitative and quantitative methods; I have removed most of the quantitative components because of space limitations.) Her reason for developing this matrix was to address validity issues, but in the process, she created a good display of most of her design; the main thing missing is her conceptual framework.

I provide other examples of matrices developed for different purposes later in this book. Here, I want to emphasize that matrices (and other displays) are multipurpose tools. There is no required structure for these, nor obligatory column headings. You can develop your matrices for whatever purposes you want. (Exercise 5.1 provides guidelines for developing a matrix specifically for connecting your research questions and methods.) The main strength of a matrix is that, by creating rows and columns that address specific components of the design, you can focus on individual cells in the matrix—for example, what analysis strategy you will use for a particular type of data—and the coherence of your design across components within a given row.

The aim of such displays is to help you construct a coherent overall design for your study. A good design for your study, like a good design for a ship, will help it to safely and efficiently reach its destination. A poor design, one in which the components are

(Text continues on p. 18.)

Figure 1.5 A Matrix for a Study of Patients' and Clinicians' Perceptions of Healing

What Do I Need to Know? (Research Questions)	Why Do I Need to Know This? (Goals)	What Kind of Data Will Answer the Questions? (Methods)	Analysis Methods	Potential Conclusions	Alternative Explanations (Validity Threats)	Methods to Investigate Alternative Explanations
What does healing mean to patients experiencing an acute illness?	To understand the meaning of healing from the patient's perspective To inform further inquiry on the existence of healing environments	Interview: Structured and open-ended	Single Case: Coding Cross-Case: Themes Develop matrix with clinicians data	Wholeness Well-being Restoration Transformation Harmony Peace Acceptance	Researcher bias influencing collection and/or interpretation of data Patient feels obligated to provide religious/cultural idealized description that does not reflect personal meaning	Second or third reader/coder Check interpretation with patient Use follow-up clarifying questions, including asking about how they developed their views of healing Collect demographic data and cross reference
What is the patient's perception of the environment of care in	To understand the connection between the environment of care and healing from the patient's perspective.	Interview: Structured and open-ended	Collate descriptors used and measure frequency	Facilitators: Privacy, nature, soothing sounds, social spaces	Patients may not relate their environment to healing, may not notice environment or take it for granted.	Check interpretation with patient Revise Samuelli survey to include information from the interviews

What Do I Need to Know? (Research Questions)	Why Do I Need to Know This? (Goals)	What Kind of Data Will Answer the Questions? (Methods)	Analysis Methods	Potential Conclusions	Alternative Explanations (Validity Threats)	Methods to Investigate Alternative Explanations
terms of facilitating or hindering their healing?	To inform the healing environment survey		Group responses into themes	Hindrances: Roommate, noise, noxious odors, isolation	Patients may relate information that is not included on the Samueli survey	
What does healing mean to care providers (clinicians) in the context of acute illness?	To understand the meaning of healing from the clinician's perspective To inform further inquiry on the existence of healing environments	Interview: Structured and open-ended	Single Case: Coding Cross-Case: Themes Develop matrix with patient's data	Cure Safety Functional status Well being	Researcher bias influencing interpretation of data Clinician feels obligated to provide religious/cultural idealized description that does not reflect personal meaning. Relationship with interviewer may interfere with responses	Second or third reader/coder Use follow-up clarifying questions Collect demographic data and cross reference Consider not using current or prior places of employment

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Figure 1.5 (Continued)

What Do I Need to Know? (Research Questions)	Why Do I Need to Know This? (Goals)	What Kind of Data Will Answer the Questions? (Methods)	Analysis Methods	Potential Conclusions	Alternative Explanations (Validity Threats)	Methods to Investigate Alternative Explanations
<p>What is the clinician's perception of the environment of care in terms of facilitating or hindering patient's healing?</p>	<p>To understand the connection between the environment of care and healing from the perspective of the care provider</p> <p>To inform the healing environment survey</p>	<p>Interview: Structured and open-ended</p>	<p>Collate descriptors used and measure frequency Group responses into themes</p>	<p>Facilitators: Privacy, nature, soothing sounds, social spaces, hand-washing stations, electronic medical record Hindrances: Roommate, noise, noxious odors, isolation, low staffing, poor leadership</p>	<p>Researcher bias Participant desire to please</p>	<p>Check interpretation with clinician</p>
<p>Is there congruence between the described environment of care and the patients' and</p>	<p>To understand factors that facilitate healing from both perspectives To include both perspectives in an assessment of healing environments</p>	<p>Descriptors and themes from interviews and differences</p>	<p>Compare patient and clinician descriptors for similarities Compare Samuelli</p>	<p>There will be differences in perception of factors that facilitate healing Clinicians will include</p>		<p>Use information to revise the Samuelli survey of Healing Environments Categorize factors for further study:</p>

What Do I Need to Know? (Research Questions)	Why Do I Need to Know This? (Goals)	What Kind of Data Will Answer the Questions? (Methods)	Analysis Methods	Potential Conclusions	Alternative Explanations (Validity Threats)	Methods to Investigate Alternative Explanations
clinicians' descriptions of factors that facilitate healing?			Institute Survey items	environmental factors that to descriptors	promote safety	<ul style="list-style-type: none"> - Factors that decrease patient stress - Factors that reduce harm or error - Factors that improve social support
Are there differences in the care environment for patients who report a healing experience and patients who do not?	To begin to provide evidence of a healing environment	Samueli Institute's Survey of Healing Environments in Hospitals	Analyze frequency of factors Compare group similarities and differences using statistical analysis	Environments with a higher number of healing factors incorporated into the environment of care will have a higher number of patient's reporting a healing experience.	Healing may be such an individualized experience that there are no healing environments. Differences may be coincidental Responses limited by survey questions	Relate analysis of data back to meaning of healing for patients and clinicians

SOURCE: Bonnie Sakallaris.

not well integrated or are incompatible with their environment, will at best be inefficient, and at worst will fail to achieve its goals.

THE ORGANIZATION OF THIS BOOK

This book is structured to guide you through the process of designing a qualitative study. It highlights the issues for which design decisions must be made, and presents some of the considerations that should inform these decisions. Each chapter in the book deals with one component of design, and these chapters form a logical sequence. However, this organization is only a conceptual and presentational device, not a procedure to follow in designing an actual study. You should make decisions about each component in light of your thinking about all of the other components, and you may need to modify previous decisions (including your goals) in response to new information or changes in your thinking.

This book takes a Z-shaped path (Figure 1.6) through the components of this model, beginning with goals (Chapter 2). The goals of your study are not only important, but also primary; if your reasons for doing the study aren't clear, it can be difficult to make *any* decisions about the rest of the design. Your conceptual framework (Chapter 3) is discussed next, both because it should connect closely to your goals and because the goals and conceptual framework jointly have a major influence on the formulation of research questions for the study. Your research questions (Chapter 4) are thus a logical next topic; these three components should form a coherent unit.

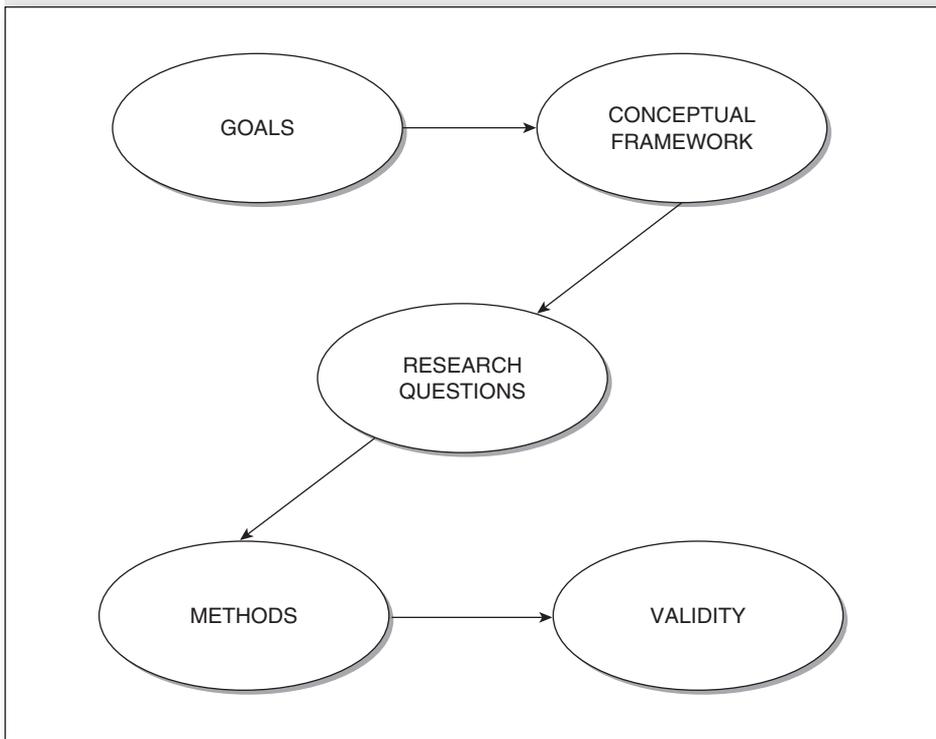
The next component discussed is methods (Chapter 5): how you will actually collect and analyze the data to answer your research questions. However, these methods and analyses need to be connected to issues of validity (Chapter 6): how you might be wrong, and what would make your answers more believable than alternative possible answers. Research questions, methods, and validity also should form an integrated unit, one in which the methods for obtaining answers to the questions, and the means for assuring the credibility of the potential answers in the face of plausible validity threats, are clearly conceptualized and linked to the research questions. In addition, your goals and conceptual framework may have direct implications for your methods and validity concerns, and vice versa.

Finally, Chapter 7 discusses the implications of my model of design for developing research proposals, and provides a map and guidelines for how to get from your design to your proposal.

THE EXERCISES IN THIS BOOK

The sociologist C. Wright Mills wrote that

One of the very worst things that happens to social scientists is that they feel the need to write of their "plans" on only one occasion: when they are going to ask for money for a

Figure 1.6 The Organization of This Book

specific piece of work or “a project.” It is as a request for funds that most planning is done, or at least carefully written about. However standard the practice, I think this very bad: it is bound in some degree to be salesmanship, and, given prevailing expectations, very likely to result in painstaking pretensions; the project is likely to be “presented,” rounded out in some manner long before it ought to be; it is often a contrived thing, aimed at getting the money for ulterior purposes, however valuable, as well as for the research presented. A practicing social scientist ought periodically to review “the state of my problems and plans.” (1959, p. 197)

He went on to make an eloquent plea that each researcher write regularly and systematically about his or her research, “just for himself and perhaps for discussion with friends” (Mills, 1959, p. 198), and to keep a file of these writings, which qualitative researchers usually call “memos.”

All of the exercises in this book are memos of one sort or another, and I want to briefly discuss the nature of memos and how to use them effectively. Memos (Groenewald, 2008; these are sometimes called “analytic memos”) are an extremely versatile tool that can be used for many different purposes. This term refers to any writing that a researcher does in relationship to the research other than actual field notes,

transcription, or coding. A memo can range from a brief marginal comment on an interview transcript or a theoretical idea recorded in a field journal to a full-fledged analytic essay. What all of these have in common is that they are ways of getting ideas down on paper (or in a computer), and of using this writing as a way to facilitate reflection and analytic insight. When your thoughts are recorded in memos, you can code and file them just as you do your field notes and interview transcripts, and return to them to develop the ideas further. Not writing memos is the research equivalent of having Alzheimer's disease; you may not remember your important insights when you need them. Peters (1992, p. 123) cited Lewis Carroll's *Through the Looking Glass* on this function of memos:

"The horror of that moment," the King went on, "I shall never, *never* forget."

"You will, though," said the Queen, "unless you make a memorandum of it."

Many of the examples used in this book are memos, or are based on memos.²

Memos are one of the most important techniques you have for developing your ideas. You should, therefore, think of memos as a way to help you *understand* your topic, setting, or study, not just as a way of recording or presenting an understanding you've already reached; writing is thinking on paper (Howard & Barton, 1988). Memos should include reflections on your reading and ideas as well as your fieldwork. Memos can be written on methodological issues, ethics, personal reactions, or anything else; I wrote numerous memos about research design during the writing and revising of this book. Write memos as a way of working on a problem you encounter in making sense of your topic, setting, study, or data. Write memos whenever you have an idea that you want to develop further, or simply to record the idea for later development. Write *lots of* memos throughout the course of your research project; remember that in qualitative research, design is something that goes on during the entire study, not just at the beginning. Think of memos as a kind of decentralized field journal; if you prefer, you can write your memos in an actual journal.

Whatever form these memos take, their value depends on two things. The first is that you engage in serious reflection, analysis, and self-critique, rather than just mechanically recording events and thoughts. The second is that you *organize* your memos in a systematic, retrievable form, so that the observations and insights can easily be accessed for future examination. I do my memo writing primarily in two forms: on 3 × 5 cards, which I always carry with me for jotting down ideas and which I index by date and topic, and in computer files relating to particular projects, which I use for both brief notes and longer memos. During my dissertation research in an Inuit community in northern Canada, I also kept a field journal, which was invaluable in making sense of my personal responses to the research situation. It can also be very useful to share some of your memos with colleagues or fellow students for their feedback.³

Although memos are primarily a tool for thinking, they can also serve as an initial draft of material that you will later incorporate (usually with substantial revision) in a proposal, report, or publication, and I've tried to design most of the memo exercises in this book so that they can be used in this way. However, thinking of memos primarily

as a way of communicating to *other* people will often interfere with the kind of reflective writing that you need to do to make memos most useful to you. In particular, beware of what Becker (2007) called “classy writing”—pretentious and verbose language that is intended to impress others rather than to clarify your ideas. A saying among writing instructors is “When you write, don’t put a tuxedo on your brain” (Metzger, 1993).

NOTES

1. This tacking back and forth is similar in some ways to the “hermeneutic circle” of textual interpretation (Geertz, 1974). However, I am advocating an interactive rather than a sequential model of research design primarily because I see design as pertaining to the actual relationships of the components of a research study, not because I take an “interpretive” or “humanistic” as opposed to a “scientific” view of research. The interactive model I present here is drawn to a significant extent from research practices in the natural sciences, particularly biology, and is applicable to quantitative as well as qualitative research (Maxwell & Loomis, 2002). In contrast, Janesick (1994), who saw qualitative research design as an interpretive art form analogous to dance, nevertheless, stated that “qualitative research design begins with a question” (p. 210) and presented research design as a sequence of decisions that the researcher will need to make at each stage of the research.

2. For additional discussion and examples of what a memo involves, see Bogdan and Biklen (2003, pp. 114–116, 151–157), Miles and Huberman (1994, pp. 72–75), and Mills (1959). More detailed information on memos can be found in Strauss (1987, Chapters. 1, 5, and 6) and in Corbin and Strauss (2007).

3. See Mills (1959) for advice on how to use memos in developing a research agenda and career.

