

# 3

## *Conceptual Framework*

### What Do You Think Is Going On?

Biologist Bernd Heinrich (1984, pp. 141–151) and his associates once spent a summer conducting detailed, systematic research on ant lions, small insects that trap ants in pits they have dug. Returning to the university in the fall, Heinrich was surprised to discover that his results were quite different from those published by other researchers. Redoing his experiments the following summer to try to understand these discrepancies, Heinrich found that he and his fellow researchers had been led astray by an unexamined assumption they had made about the ant lions' time frame: Their observations hadn't been long enough to detect some key aspects of these insects' behavior. As he concluded, "Even carefully collected results can be misleading if the underlying context of assumptions is wrong" (p. 151).

For this reason, the conceptual framework of your study—the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs your research—is a key part of your design (Miles & Huberman, 1994; Robson, 2011). Miles and Huberman (1994) defined a conceptual framework as a visual or written product, one that "explains, either graphically or in narrative form, the main things to be studied—the key factors, concepts, or variables—and the presumed relationships among them" (p. 18).<sup>1</sup> Here, I use the term in a broader sense, to refer to the actual ideas and beliefs that you hold about the phenomena studied, whether these are written down or not; this may also be called the "theoretical framework" or "idea context" for the study. A valuable guide to developing a conceptual framework and using this throughout the research process, with detailed analyses of four actual studies, is Ravitch and Riggan, *Reason & Rigor: How Conceptual Frameworks Guide Research* (2011). (Full disclosure: Sharon Ravitch is a former student of mine, and I wrote the foreword for the book.)

The most important thing to understand about your conceptual framework is that it is primarily a conception or model of what is out there that you plan to study, and of what is going on with these things and why—a tentative *theory* of the phenomena that you are investigating. The function of this theory is to inform the rest of your design—to help you to assess and refine your goals, develop realistic and relevant research questions, select appropriate methods, and identify potential validity threats to your

conclusions. It also helps you *justify* your research, something I discuss in more detail in Chapter 7. In this chapter, I discuss the different sources for this theory, and how to use theory effectively in your design. I describe the nature of theory in more detail later in the chapter, in dealing with the uses of existing theory. Here, I want to emphasize that your conceptual framework is a theory, however tentative or incomplete it may be.

What is often called the “research problem” is a part of your conceptual framework, and formulating the research problem is often seen as a key task in designing your study. It is part of your conceptual framework (although it is often treated as a separate component of a research design or proposal) because it identifies something that is *going on* in the world, something that is itself problematic or that has consequences that are problematic. Your research problem functions (in combination with your goals) to justify your study, to show people why your research is important. In addition, this problem is presumably something that is not fully understood, or that we don’t adequately know how to deal with; therefore, we want more information about it. Not every study will have an explicit statement of a research problem, but every good research design contains an implicit or explicit identification of some issue or problem, intellectual or practical, about which more information is needed. (The justification of “needed” is where your goals come into play.)

Many writers identify the part of a research design, proposal, or published paper that deals with the conceptual framework of a study as the *literature review*. This can be a dangerously misleading term. In developing your conceptual framework, you should not simply review and summarize some body of theoretical or empirical publications, for three reasons:

1. It can lead to a narrow focus on the literature, ignoring other conceptual resources that may be of equal or greater importance for your study. As Locke, Spirduso, and Silverman (1993) pointed out, “In any active area of inquiry the current knowledge base is not in the library—it is in the invisible college of informal associations among research workers” (p. 48). This knowledge can be found in unpublished papers, dissertations in progress, and grant applications, as well as in the heads of researchers working in this field. Locke, Spirduso, and Silverman emphasized that “The best introduction to the current status of a research area is close association with advisors who know the territory” (p. 49). In addition, an exclusive orientation toward the literature leads you to ignore your own experience, your speculative thinking (discussed later in the section titled “Thought Experiments”), and any pilot and exploratory research that you’ve done.
2. It tends to generate a strategy of “covering the field” rather than focusing specifically on those studies and theories that are particularly *relevant* to your research (for more on this, see Maxwell, 2006). Literature reviews that lose sight of this need for relevance often degenerate into a series of “book reports” on the literature, with no clear connecting thread or argument. The relevant studies may be only a small part of the research in a defined field, and may range across a number of different approaches and disciplines.<sup>2</sup> The most productive conceptual frameworks are often those that bring in ideas from *outside* the traditionally defined field of your study, or that integrate different approaches, lines of investigation, or theories that no one had previously connected. Bernd Heinrich used Adam Smith’s *The Wealth of Nations* in developing a theory of bumblebee foraging and energy

balance that emphasized individual initiative, competition, and a spontaneous division of labor, rather than genetic determination or centralized control (Heinrich, 1979, pp. 144–146; 1984, p. 79).

3. It can lead you to think that your task is simply descriptive—to report what previous researchers have found or what theories have been proposed. In constructing a conceptual framework, your purpose is not only descriptive, but also critical; you need to understand (and clearly communicate in your proposal or research paper) what *problems* there have been with previous research and theory, what contradictions or holes you have found in existing views, and how your study can make an original contribution to our understanding. You need to treat the literature not as an *authority* to be deferred to, but as a useful but fallible source of *ideas* about what’s going on, and to attempt to see alternative ways of framing the issues. For good examples of this attitude, see Example 3.2 and the “Context” section of Martha Regan-Smith’s proposal (Appendix A).

Another way of putting this is that a conceptual framework for your research is something that is *constructed*, not found. It incorporates pieces that are borrowed from elsewhere, but the structure, the overall coherence, is something that you build, not something that exists ready-made. It is important for you to pay attention to the existing theories and research that are relevant to what you plan to study, because these are often key sources for understanding what is going on with these phenomena. However, these theories and results are often partial, misleading, or simply wrong. Bernd Heinrich (1984) found that many of the ideas about ant lions in the literature were incorrect, and his subsequent research led to a much more comprehensive and well-supported theory of their behavior. You will need to critically examine each idea or research finding to see if it is a valid and useful module for constructing a theory that will adequately inform your study.

This idea that existing theory and research provide “modules” that you can use in your research was developed at length by Becker (2007, pp. 141–146). As he stated,

I am always collecting such prefabricated parts for use in future arguments. Much of my reading is governed by a search for such useful modules. Sometimes I know I need a particular theoretical part and even have a good idea of where to find it (often thanks to my graduate training in theory, to say a good word for what I so often feel like maligning). (1986, p. 144)

Before describing the sources of these modules, I want to discuss a particularly important part of your conceptual framework—the philosophical and methodological paradigm(s) that you can draw on to inform your work.

### THE VALUE (AND PITFALLS) OF RESEARCH PARADIGMS

The concept of paradigm was largely drawn from Thomas Kuhn’s (1970) influential book *The Structure of Scientific Revolutions*. In his postscript to the second edition of

this work, Kuhn described a paradigm as “the entire constellation of beliefs, values, techniques, and so on shared by the members of a given community” (p. 175). Despite this broad definition, Kuhn focused mainly on the substantive theories and methods of such communities.

In contrast, participants in the methodological “paradigm wars” in the social sciences focused on the philosophical beliefs and assumptions of different methodological communities, and mostly saw these philosophical positions as foundational for research practices, implying specific methodological strategies. At the most abstract and general level, examples of such paradigms are philosophical positions, such as positivism, constructivism, realism, pragmatism, and postmodernism, each embodying very different ideas about reality (ontology) and how we can gain knowledge of it (epistemology). At a somewhat more specific level, paradigms that are relevant to qualitative research include interpretivism, critical theory, feminism, queer theory, and phenomenology, and there are even more specific traditions within these. It is well beyond the scope of this book to describe these paradigms and how they can inform a qualitative study; useful discussions of these issues can be found in Creswell (2006) and Schram (2003); the *SAGE Encyclopedia of Qualitative Research Methods* (Given, 2008) has entries covering each of the terms listed previously, as well as numerous other approaches.

Since the previous edition of this book was published, I have become increasingly critical (see Maxwell, 2011a) of the way paradigms are typically invoked in discussions of research. Part of this concern is informed by the work of the sociologist Andrew Abbott (2001, 2004). Abbott argued, on the basis of numerous examples from a range of the social sciences, that philosophical positions, rather than being unified sets of premises that strongly shape the practices of particular communities of scholars, function instead as heuristics, conceptual and practical resources that are used to solve specific problems in theory and research. He stated, “The idea of heuristics is to open up new topics, to find new things. To do that, sometimes we need to invoke constructivism. . . . Sometimes we need a little realism” (2004, p. 191; see also Seale, 1999, pp. 24–29). Wimsatt (2007) has provided a detailed philosophical justification for such a heuristic approach, and applied this approach to numerous issues in biology, and Hacking (1999) has shown how particular phenomena (mental illness, child abuse, nuclear weapons, rocks) can be usefully seen both as real and as social constructs.

This view is quite consistent with bricolage as an approach to qualitative research, which I mentioned in Chapter 1. The term “bricolage” was taken from the work of the French anthropologist Claude Levi-Strauss (1968), who used it to distinguish mythological from scientific thought. (In current French usage, bricolage means “do-it-yourself,” and is used to refer to stores such as The Home Depot; see “Bricolage,” n.d.) Levi-Strauss described the bricoleur as someone who uses whatever tools and materials are at hand to complete a project. The key idea is that rather than developing a logically consistent plan in advance and then systematically using the materials and tools that the plan and the norms of the community prescribe (as science is widely, though I think somewhat incorrectly, believed to do), the bricoleur spontaneously adapts to the situation, creatively employing the available tools and materials to come up with unique

solutions to a problem. This concept was applied to qualitative research methods by Denzin and Lincoln (2000), and developed more extensively by Kincheloe and Berry (2004; Kincheloe et al., 2011). It closely resembles the model of research design that I presented in Chapter 1, and challenges the idea of paradigms as logically consistent systems of thought on which research practices are based.

As I described in the Preface to this edition, my approach to qualitative research has increasingly been informed by the philosophical position generally called critical realism. This position, which has gained widespread acceptance in the philosophy of science, can itself be seen as an example of bricolage, since it combines two common-sense perspectives that have often been seen as logically incompatible. The first of these perspectives is ontological realism: the belief that there is a real world that exists independently of our perceptions and theories. This world doesn't accommodate to our beliefs; believing that global warming is a hoax will not keep the Earth from warming. (For some powerful cautionary examples of how a society's ignorance of, or false beliefs about, the environmental consequences of its actions can lead to its demise, see Jared Diamond's 2011 book *Collapse*.)

The second perspective is epistemological constructivism: Our understanding of this world is inevitably our construction, rather than a purely objective perception of reality, and no such construction can claim absolute truth. This is widely recognized both in science (Shadish, Cook, & Campbell, 2002, p. 29) and in our everyday lives; we recognize that what people perceive and believe is shaped by their assumptions and prior experiences as well as by the reality that they interact with. From this perspective, every theory, model, or conclusion (including the model of qualitative research design presented here) is necessarily a simplified and incomplete attempt to grasp something about a complex reality.

I have found this combination of perspectives extremely useful in thinking about a wide range of issues in qualitative research (for a detailed exploration of this view and its implications for qualitative research, see Maxwell, 2011b), but have also combined this perspective with insights from additional diverse philosophical positions, including pragmatism and postmodernism. I have done so, not to create a unified supertheory of qualitative research, but to benefit from a dialogue between the different perspectives, taking what Greene (2007; see also Koro-Ljungberg, 2004) has called a dialectical approach, one that combines divergent mental models to expand and deepen, rather than simply confirm, one's understanding.

For these reasons, I want to make several points that are relevant to using paradigms in your research design:

1. Although some people refer to "the qualitative paradigm," there are many different paradigms within qualitative research, some of which differ radically in their assumptions and implications (cf. Denzin & Lincoln, 2011; Pitman & Maxwell, 1992). It will be important to your research design (and your proposal) to make explicit which paradigm(s) your work will draw on, since a clear philosophical and methodological stance helps you explain and justify your design decisions. Using an established paradigm allows you to build on an accepted and well-developed approach to research, rather than having to construct (and explain) all of this yourself.

2. You can combine aspects of different paradigms and traditions, as described previously; although if you do this, you will need to assess the compatibility of the modules that you borrow from each, and what each will contribute to your study. Schram (2003, p. 79) gave a valuable account of how he combined the ethnographic and life history traditions in conducting his dissertation research on an experienced teacher's adjustment to a new school and community.
3. Your decisions about paradigm issues are not entirely a matter of free choice. You have already made many assumptions about the world, your topic, and how we can understand these, even if you have never consciously examined these. Thus, what is important is to be *aware* of the basic assumptions that you hold about reality and about how we can understand the things we study. For example, do you believe that the concept of "cause" is valid in qualitative research, or in the social sciences generally, and if so, how do you understand this concept? This is currently a controversial issue within qualitative research (Anderson & Scott, in press; Donmoyer, in press; Howe, 2011; Maxwell, 2004c, in press), and has important implications for the types of conclusions you will draw from your study. Choosing a paradigm or tradition (or combining several of these) should involve assessing which paradigmatic views best fit with your assumptions and methodological preferences (Becker, 2007, pp. 16–17), as well as what insights and productive approaches these views might provide for your study.

Trying to work within a paradigm (or theory) that doesn't fit your actual beliefs is like trying to do a physically demanding job in clothes that don't fit—at best you'll be uncomfortable, at worst it will keep you from doing the job well. Such a lack of fit may not be obvious at the outset; it may emerge only as you develop your conceptual framework, research questions, and methods, since these should also be compatible with your paradigmatic stance. Writing memos is a valuable way of revealing and exploring these assumptions and incompatibilities (see Becker, 2007, pp. 17–18).

There are four main sources for the modules that you can use to construct a conceptual framework for your study: (1) your experiential knowledge, (2) existing theory and research, (3) your pilot and exploratory research, and (4) thought experiments. I will begin with experiential knowledge, because it is both one of the most important conceptual resources and the one that is most seriously neglected in works on research design. I will then deal with the use of existing theory and research in research design, in the process introducing a technique, known as concept mapping, that can be valuable in developing a conceptual framework for your study. Finally, I will discuss the uses of your pilot research and thought experiments in generating preliminary or tentative theories about your subject.

### EXPERIENTIAL KNOWLEDGE

Traditionally, what you bring to the research from your own background and identity has been treated as *bias*, something whose influence needs to be *eliminated* from the design, rather than a valuable component of it. This has been true to some extent even in qualitative research, despite the fact that qualitative researchers have long recognized

that in this field, the researcher *is* the instrument of the research. In opposition to the traditional view, C. Wright Mills (1959), in a classic essay, argued that

The most admirable scholars within the scholarly community . . . do not split their work from their lives. They seem to take both too seriously to allow such dissociation, and they want to use each for the enrichment of the other. (p. 195)

Separating your research from other aspects of your life cuts you off from a major source of insights, hypotheses, and validity checks. Alan Peshkin, discussing the role of subjectivity in the research he had done, concluded that

The subjectivity that originally I had taken as an affliction, something to bear because it could not be foregone, could, to the contrary, be taken as “virtuous.” My subjectivity is the basis for the story that I am able to tell. It is a strength on which I build. It makes me who I am as a person and as a researcher, equipping me with the perspectives and insights that shape all that I do as a researcher, from the selection of topic clear through to the emphases I make in my writing. Seen as virtuous, subjectivity is something to capitalize on rather than to exorcise. (Glesne & Peshkin, 1992, p. 104)

Anselm Strauss (1987) emphasized many of the same points in discussing what he called “experiential data”—the researcher’s technical knowledge, research background, and personal experiences. He argued that

These experiential data should not be ignored because of the usual canons governing research (which regard personal experience and data as likely to bias the research), for these canons lead to the squashing of valuable experiential data. We say, rather, “mine your experience, there is potential gold there!” (p. 11)

Students’ papers and proposals sometimes seem to systematically ignore what their authors know from their own experience about the settings or issues they have studied or plan to study; this can seriously impair their ability to gain a better understanding of the latter, and can threaten a proposal’s credibility. Carol Kaffenberger’s dissertation research on the effects of childhood cancer on the families of cancer survivors, discussed in Chapter 2, was substantially informed by her family’s experience with her daughter’s cancer.

Both Peshkin (Glesne & Peshkin, 1992) and Strauss (1987) emphasized that this is not a license to uncritically impose one’s assumptions and values on the research. Reason (1988, 1994) used the term “critical subjectivity” to refer to

a quality of awareness in which we do not suppress our primary experience; nor do we allow ourselves to be swept away and overwhelmed by it; rather we raise it to consciousness and use it as part of the inquiry process. (1988, p. 12)

The explicit incorporation of your identity and experience in your research has gained wide theoretical and philosophical support (e.g., Berg & Smith, 1988; Denzin &

Lincoln, 2000; Jansen & Peshkin, 1992). The philosopher Hilary Putnam (1987, 1990) argued that there cannot, even in principle, be such a thing as a God's-eye view, a view that is the one true objective account. *Any* view is a view *from some perspective*, and is therefore shaped by the location (social and theoretical) and lens of the observer.

Philosophical argument does not, however, solve the problem of how to incorporate this experience most productively in your research design, or how to assess its effect on your research. Peshkin's account of how he became aware of the different "I's" that influenced and informed his studies was discussed in Chapter 2, and Jansen and Peshkin (1992) and Grady and Wallston (1988, pp. 40–43) provided valuable examples of researchers using their subjectivity and experience in their research. At present, however, there are few well-developed and explicit strategies for doing this.

The technique that I call a *researcher identity memo*, which was introduced in Chapter 2 for reflecting on your goals and their relevance for your research, can also be used to explore your assumptions and experiential knowledge. I originally got the idea for this sort of memo from a talk by Robert Bogdan, who described how, before beginning a study of a neonatal intensive care unit of a hospital, he tried to write down all of the expectations, beliefs, and assumptions that he had about hospitals in general and neonatal care in particular, as a way of identifying and taking account of the perspective that he brought to the study. This exercise can be valuable at any point in a study, not just at the outset. Example 3.1 is part of one of my identity memos, written while I was working on a paper on diversity, solidarity, and community, trying to develop a theory that incorporated contact and interaction, as well as shared characteristics, as a basis for community. (A more recent version of this paper is Chapter 4 in Maxwell, 2011b.) Example 3.2 is a memo in which the researcher used her experience to refocus a study of women's use of breast self-examination. Example 2.4, in the previous chapter, deals in part with the author's prior experiences and how these influenced her understanding of educational reform in Bolivia, as well as her goals.

### Example 3.1 Identity Memo on Diversity

I can't recall when I first became interested in diversity; it's been a major concern for at least the last 20 years. . . . I do remember the moment that I consciously realized that my mission in life was to make the world safe for diversity; I was in Regenstein Library at the University of Chicago one night in the mid-1970s talking to another student about why we had gone into anthropology, and the phrase suddenly popped into my head.

However, I never gave much thought to tracing this position any further back. I remember, as an undergraduate, attending a talk on some political topic, and being struck by two students' bringing up issues of the rights of particular groups to retain their cultural heritages; it was an issue that had never consciously occurred to me.



And I'm sure that my misspent youth reading science fiction rather than studying had a powerful influence on my sense of the importance of tolerance and understanding of diversity; I wrote my essay for my application to college on tolerance in high school society. But I didn't think much about where all this came from.

It was talking to the philosopher Amelie Rorty in the summer of 1991 that really triggered my awareness of these roots. She had given a talk on the concept of moral diversity in Plato, and I gave her a copy of my draft paper on diversity and solidarity. We met for lunch several weeks later to discuss these issues, and at one point, she asked me how my concern with diversity connected with my background and experiences. I was surprised by the question, and found I really couldn't answer it. She, on the other hand, had thought about this a lot, and talked about her parents emigrating from Belgium to the US, deciding they were going to be farmers like "real Americans," and with no background in farming, buying land in rural West Virginia and learning how to survive and fit into a community composed of people very different from themselves.

This made me start thinking, and I realized that as far back as I can remember, I've felt different from other people, and had a lot of difficulties as a result of this difference and my inability to fit in with peers, relatives, or other people generally. This was all compounded by my own shyness and tendency to isolate myself, and by the frequent moves that my family made while I was growing up. . . .

The way in which this connects with my work on diversity is that my main strategy for dealing with my difference from others, as far back as I can remember, was *not* to try to be more *like* them (similarity-based), but to try to be *helpful* to them (contiguity-based). This is a bit oversimplified, because I also saw myself as somewhat of a "social chameleon," adapting to whatever situation I was in, but this adaptation was much more an *interactional* adaptation than one of becoming fundamentally similar to other people.

It now seems incomprehensible to me that I never saw the connections between this background and my academic work. . . .

[The remainder of the memo discusses the specific connections between my experience and the theory of diversity and community that I had been developing, which sees both similarity (shared characteristics) and contiguity (interaction) as possible sources of solidarity and community.]

### Example 3.2 How One Researcher Used Her Personal Experience to Refocus Her Research Problem

I had spent countless hours in the library, reading the literature on women's practice of breast self-examination (BSE). The articles consisted of some research studies, some

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editorials in major medical journals, and some essays. The research base was very weak, mainly surveys asking some group of women whether they did BSE, and if not, why not. The groups often were not large or representative. The questions and format varied tremendously from study to study. That most women did not do it was clear, having been found repeatedly. Why they did not do it was not at all clear. I was developing a long list of possible reasons women did not do it. They seemed to fall into three categories: (1) Women were ignorant of how or why to do BSE; (2) women were too modest to touch themselves; and (3) women were too fearful of what they would find. The reasons all seemed quite plausible, but somehow were not satisfactory. The question kept repeating itself, "Why *don't* women do BSE?" Then I asked the question of myself, "Why don't I do BSE?" I knew none of the reasons explained my behavior. Then I changed the question: "What would get me to do it?" It occurred to me that, if a friend called each month and asked if I had done it, I would do it, either in anticipation of her call or immediately afterward. Changing the question to a positive one completely changed my way of thinking about the problem: "What would *encourage* women to do BSE?" The new question opened a range of possibilities by putting BSE in the context of behavior modification, which offered a variety of testable techniques for changing behavior. (Grady & Wallston, 1988, p. 41)

### PRIOR THEORY AND RESEARCH

The second major source of modules for your conceptual framework is prior theory and research—not simply published work, but other people's theories and research in general. I will begin with theory, because it is for most people the more problematic and confusing of the two, and then deal with using prior research for other purposes than as a source of theory.

I'm using the term "theory" to refer to something that is considerably broader than its usual meaning in discussions of research methods (see Maxwell & Mittapalli, 2008a, for a more detailed discussion). By "theory," I mean simply a set of concepts and ideas and the proposed relationships among these, a structure that is intended to capture or model something about the world. As LeCompte and Preissle (1993) stated, "theorizing is simply the cognitive process of discovering or manipulating abstract categories and the relationships among these categories" (p. 239). My only modification of this is to include not simply abstract categories, but concrete and specific concepts as well.

This use encompasses everything from so-called grand theory, such as behaviorism, psychoanalysis, or rational choice theory, to specific, everyday explanations of a particular event or state, such as "Dora (my older daughter) doesn't want to go to school today because she's angry at her teacher for correcting her yesterday." That is, I'm not

using the term “theory” to denote a particular *level* of complexity, abstraction, or generality of explanatory propositions, but to refer to the *entire range* of such propositions. All such explanations have fundamental features in common, and for my purposes, the similarities are more important than the differences.<sup>3</sup>

Thus, theory is not an arcane and mysterious entity that at some point in your training you learn to understand and master. As Groucho Marx used to say on the 1950s TV game show *You Bet Your Life*, “It’s an ordinary household word, something you use every day.” The simplest form of theory consists of two concepts joined by a proposed relationship. Such a theory can be as general as “Positive reinforcement leads to continuation of the reinforced behavior,” or as specific as “An asteroid impact caused the extinction of the dinosaurs.” The important point is what *makes* this a theory: the linking of two concepts by a proposed relationship.

A major function of theory is to provide a model or map of *why* the world is the way it is (Strauss, 1995). It is a simplification of the world, but a simplification aimed at clarifying and explaining some aspect of how it works. Theory is a statement about what is going on with the phenomena that you want to understand. It is not simply a framework, although it can provide that, but a *story* about what you think is happening and why. A useful theory is one that tells an enlightening story about some phenomenon, one that gives you new insights and broadens your understanding of that phenomenon. (See the discussion of causal processes in Chapter 2.)

Glaser and Strauss’s (1967) term “grounded theory,” which has had an important influence on qualitative research, does not refer to any particular *level* of theory, but to theory that is inductively developed during a study (or series of studies) and in constant interaction with the data from that study. This theory is “grounded” in the actual data collected, in contrast to theory that is developed conceptually and then simply tested against empirical data. In qualitative research, both existing theory and grounded theory are legitimate and valuable.

### The Uses of Existing Theory

Using existing theory in qualitative research has both advantages and risks. The advantages of existing theory can be illustrated by two metaphors.

*Theory is a coat closet.* (I got this metaphor from Jane Margolis, personal communication, who once described Marxism as a coat closet: “You can hang anything in it.”) A useful high-level theory gives you a framework for making sense of what you see. Particular pieces of data, which otherwise might seem unconnected or irrelevant to one another or to your research questions, can be related by fitting them into the theory. The concepts of the existing theory are the “coat hooks” in the closet; they provide places to “hang” data, showing their relationship to other data. However, no theory will accommodate all data equally well; a theory that neatly organizes some data will leave other data disheveled and lying on the floor, with no place to put them.

*Theory is a spotlight.* A useful theory *illuminates* what you see. It draws your attention to particular events or phenomena, and sheds light on relationships that might

otherwise go unnoticed or misunderstood. Bernd Heinrich (1984), discussing his investigation of the feeding habits of caterpillars, described his reaction to seeing a partially eaten leaf on the ground that had obviously been subsequently clipped from the tree by a caterpillar. He stated,

The clipped leaf stood out as if flagged in red, because it didn't fit my expectations or theories about how I thought things ought to be. My immediate feeling was one of wonder. But the wonder was actually a composite of different theories that crowded my mind and vied with each other for validation or rejection. . . . Had I no theories at all, the partially eaten leaf on the ground would not have been noticed. (pp. 133–134)

This is what William James meant when he (reportedly) said that you can't pick up rocks in a field without a theory (Agar, 1980, p. 23). To pick up rocks (rather than something else), you need a theory that tells you what a rock is and how it differs from other things.

By the same token, however, a theory that brightly illuminates one area will leave other areas in darkness; no theory can illuminate everything.

### Example 3.3 Using Existing Theory

Eliot Freidson's (1975) book *Doctoring Together: A Study of Professional Social Control* is an account of his research in a medical group practice, trying to understand how the physicians and administrators he studied identified and dealt with violations of professional norms. In conceptualizing what was going on in this practice, he used three broad theories of the social organization and control of work. He referred to these as the entrepreneurial, or physician-merchant, model, deriving from the work of Adam Smith; the bureaucratic, or physician-official, model, deriving to a substantial extent from Max Weber; and the professional, or physician-craftsman, model, which has been less clearly conceptualized and identified than the others. He showed how all three theories provide insight into the day-to-day work of the group he studied, and he drew far-ranging implications for public policy from his results.

Freidson (1975) also used existing theory in a more focused (and unexpected) way to illuminate the results of his research. He argued that the social norms held by the physicians he studied allowed considerable differences of opinion about both the technical standards of work performance and the best ways to deal with patients. These norms "limited the critical evaluation of colleagues' work and discouraged the expression of criticism" (p. 241). However, the norms also strongly opposed any outside control of the physicians' practice, defining physicians as the only ones capable of judging medical work. "The professional was treated as an individual free to follow

his own judgment without constraint, so long as his behavior was short of blatant or gross deficiencies in performance and inconvenience to colleagues" (p. 241). Freidson continued,

This is a very special kind of community that, structurally and normatively, parallels that described by Jesse R. Pitts as the "delinquent community" of French schoolchildren in particular and French collectivities in general during the first half of the twentieth century. . . . Its norms and practice were such as to both draw all members together defensively against the outside world . . . and, internally, to allow each his freedom to act as he willed. (pp. 243–244)

He presented striking similarities between the medical practice he studied and the French peer group structure identified by Pitts. He coined the phrase, "professional delinquent community" to refer to professional groups such as the one he described, and used Pitts's theory to illuminate the process by which this sort of community develops and persists.

A study that makes excellent use of existing theory is described in Example 3.3.

However, Becker (2007) warned that the existing literature, and the assumptions embedded in it, can deform the way you frame your research, causing you to overlook important ways of conceptualizing your study or key implications of your results. The literature has the advantage of what he calls "ideological hegemony," so that it is difficult to see any phenomenon in ways that are different from those that are prevalent in the literature. Trying to fit your insights into this established framework can deform your argument, weakening its logic and making it harder for you to see what a new way of framing the phenomenon might contribute. He explained how his research on marijuana use was deformed by existing theory:

When I began studying marijuana use in 1951, the ideologically dominant question, the only one worth looking at, was "Why do people do a weird thing like that?" and the ideologically preferred way of answering it was to find a psychological trait or social attribute which differentiated people who did from people who didn't . . . [M]y eagerness to show that this literature (dominated by psychologists and criminologists) was wrong led me to ignore what my research was really about. I had blundered onto, and then proceeded to ignore, a much larger and more interesting question: how do people learn to define their own internal experiences? (Becker, 2007, pp. 147–148)

I had the same experience with my dissertation research on kinship in an Inuit community in northern Canada. At the time that I conducted the research, the literature on kinship in anthropology was dominated by a debate between two theories of the meaning of kinship, one holding that in all societies kinship was fundamentally a matter of biological relationship, the other arguing that biology was only one possible meaning

of kinship terms, another being social relatedness. I framed my dissertation (Maxwell, 1986) in terms of these two theories, arguing that my evidence mainly supported the second of these theories, though with significant modifications. It was only years later that I realized that my research could be framed in a more fundamental and interesting way—What is the nature of relationship and solidarity in small, traditional communities? Are these based on, and conceptualized in terms of, similarity (in this case, biological similarity or shared genetic substance) or social interaction? (See Example 3.1.) My research could have been much more productive if I had grasped this theoretical way of framing the study at the outset.

Becker (2007) argued that there is no way to be sure when the dominant approach is wrong or misleading or when your alternative is superior. What you can do is to try to identify the ideological components of the established approach, and to see what happens when you abandon these assumptions. He claimed that “a serious scholar ought routinely to inspect competing ways of talking about the same subject matter,” (p. 149) and cautioned, “use the literature, don’t let it use you” (p. 149). An awareness of alternative sources of concepts and theories about the phenomena you are studying—including sources other than the literature—is an important counterweight to the ideological hegemony of existing theory and research.

The importance of being able to identify both the insights that a theory can provide and the limitations, distortions, and blind spots in this theory has been well captured by the writing teacher Peter Elbow (1973, 2006), in what he called the “believing game” and the “doubting game.” In the believing game, you accept the theory and look for ways it can deepen your understanding of the things you study; in the doubting game, you challenge the theory, looking for its flaws. Students’ (and other researchers’) use of theory is often distorted by the perceived authority of the literature; they rarely challenge the theories they employ, and often present their results as completely supporting these theories (Dressman, 2008, p. 92). Dressman (2008) argued that such uncritical use of theory threatens not only the credibility of the findings of these studies, but the ability of the research to contribute to our understanding.

An important, and often neglected, source of theory is the theories held by the participants in your study. Contrary to the debunking attitude toward participants’ views found in some earlier sociological writing (Berger, 1981, described by Becker, 2007, pp. 65–66), and the almost total neglect of such theories in quantitative research, these theories are important for two reasons. First, these theories are real phenomena; they inform the participants’ actions, and any attempt to interpret or explain the participants’ actions without taking account of their actual beliefs, values and theories is probably fruitless (Blumer, 1969; Menzel, 1978). Second, participants have far more experience with the things you are studying than you do, and may have important insights into what is going on that you can miss if you don’t take their theories seriously.

Both of these points are illustrated by an incident that Glesne (2011) described from her research in Mexico, on improving an indigenous community’s relationship with its environment. In response to her question about young people’s attitudes toward the

environment, one participant replied, “We don’t really talk of the environment here, but rather of *harmony*” (p. 215). He described this harmony as a connection among all things; each field, tree, rock, or river had a *dueno* or guardian, to whom people make offerings before cutting a tree or removing a rock. Glesne stated,

His sentence . . . shattered my assumed categories. Even though I had heard people talk about nature spirits before, even though I had read about the importance of *harmony* in Oaxaca . . . I had kept assigning what I was reading and hearing and experiencing to my Western categories of people, animals, environment, religion/spirituality, etc. . . . I know that I do not yet fully understand the concept of *harmony* the way many in Oaxaca do, but I know better some of my own myths of perception. (p. 215)

To be genuinely qualitative research, a study must take account of the theories and perspectives of those studied, rather than relying entirely on established theoretical views or the researcher’s perspective. This doesn’t mean that participants’ perspectives are necessarily beyond criticism, or that other perspectives are illegitimate (Menzel, 1978). It *does* mean that participants’ theories need to be taken seriously.

The imposition of external, dominant theories can be a serious ethical problem as well as a scientific or a practical one (Lincoln, 1990); it can marginalize or dismiss the understandings of participants in the research, and conceal or facilitate oppression or exploitation of the group studied. (In some cases, the dominant theory is itself ethically problematic, as in the case of theories that unjustifiably blame the victim.) I discuss some of these issues in Chapter 5, under research relationships.

There are thus two main ways in which qualitative researchers often fail to make good use of existing theory: by not using it enough, and by using it too uncritically and exclusively. The first fails to explicitly apply *any* prior analytic abstractions or theoretical framework to the study, thus missing the insights that existing theory can provide. Every research design needs *some* theory of the phenomena you are studying, even if it is only a commonsense one, to guide the other design decisions you make. The second type of failure has the opposite problem: It *imposes* theory on the study, shoehorning questions, methods, and data into preconceived categories and preventing the researcher from seeing events and relationships that don’t fit the theory.

The tension between these two problems in applying theory (underuse and uncritical overuse) is an inescapable part of research, not something that can be solved by some technique or insight. A key strategy for dealing with this is embodied in the scientific method, as well as in interpretive approaches such as hermeneutics: Develop or borrow theories and continually *test* them, looking for discrepant data and alternative ways (including the research participants’ ways) of making sense of the data. (I discuss this further in Chapter 6, as a central issue in validity.) Bernd Heinrich (1984) described searching for crows’ nests, in which you look through the trees for a dark spot against the sky, and then try to see a glimmer of light through it (real crows’ nests are opaque): “It was like science: first you look for something, and then when you think you have it you do your best to prove yourself wrong” (p. 28).

## Concept Maps

For some students, the development and use of theory is the most daunting part of a qualitative study. At this point, therefore, I want to introduce a tool for developing and clarifying theory, known as *concept mapping*. This was originally developed by Joseph Novak (Novak & Gowin, 1984), first as a way to understand how students learned science, and then as a tool for teaching science. A similar strategy is one that Miles and Huberman (1994, pp. 18–22) called a *conceptual framework*. Anselm Strauss (1987, p. 170) provided a third variation, which he called an *integrative diagram*. These approaches have so much in common that I will present them as a single strategy, ignoring for the moment some important differences in the way they are used.

A concept map of a theory is a visual display of that theory—a picture of what the theory says is *going on* with the phenomenon you’re studying. These maps do not depict the study itself, nor are they a specific part of either a research design or a proposal. However, concept maps *can* be used to visually present the design or operation of a study—my model of research design (Figure 1.1) is just such a map. Rather, concept mapping is a *tool* for developing and presenting the conceptual framework for your design. And like a theory, a concept map consists of two things: concepts and the relationships among these. These are usually represented, respectively, as labeled circles or boxes and as arrows or lines connecting these. Figures 3.1 through 3.6 provide a variety of examples of concept maps; additional examples can be found in Miles and Huberman (1994), Ravitch and Riggan (2011), and Strauss (1987, pp. 170–183). There are several reasons for creating concept maps:

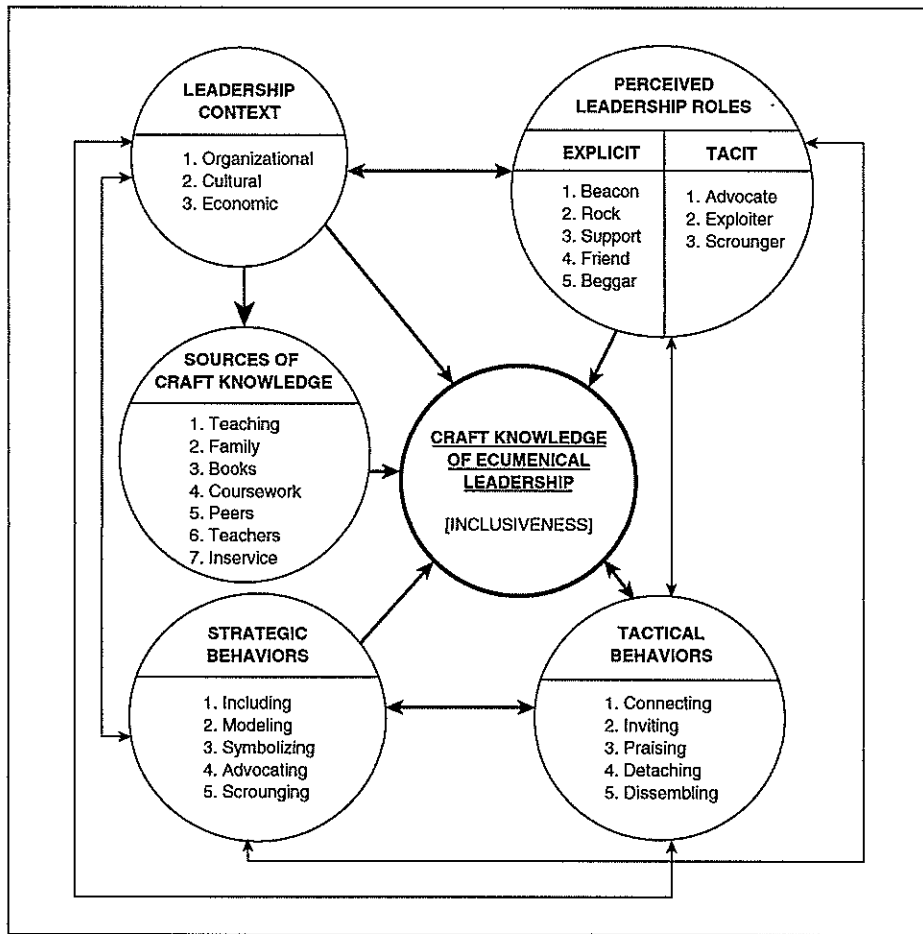
1. To pull together, and make visible, what your implicit theory is, or to clarify an existing theory. This can allow you to see the implications of the theory, its limitations, and its relevance for your study.
2. To *develop* theory. Like memos, concept maps are a way of “thinking on paper”; they can help you see unexpected connections, or to identify holes or contradictions in your theory and figure out ways to resolve these.

Concept maps usually require considerable reworking to get them to the point where they are most helpful to you; don’t expect to generate your final map on the first try. The concept map for my model of qualitative research design (Figure 1.1) went through many iterations before settling into its current form. In addition, no map can capture everything important about the phenomena you’re studying; every map is a simplified and incomplete model of a more complex reality.

One useful way of developing a concept map is on a blackboard or whiteboard, where you can erase unsuccessful attempts or pieces that don’t seem to work well, and play with possible arrangements and connections. (The disadvantage of this is that it doesn’t automatically create a paper trail of your attempts; such a trail can help you understand how your theory has changed and avoid repeating the same mistakes.) There are also many computer programs that can be used to create concept maps; I used one



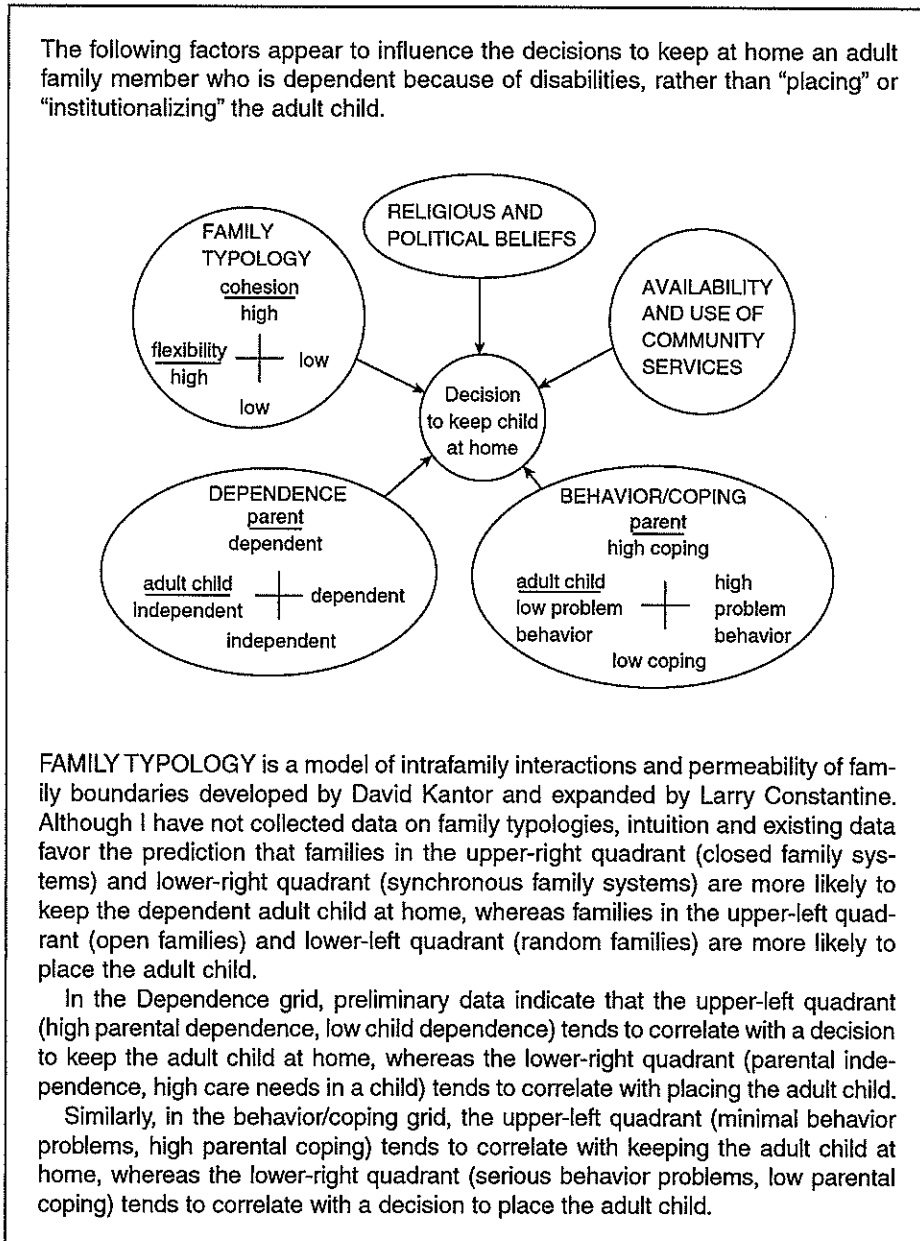
Figure 3.1 A Study of Newfoundland Principals' Craft Knowledge



SOURCE: From *Swamp Leadership: The Wisdom of the Craft*, by B. Croskery, 1995, unpublished doctoral dissertation, Harvard Graduate School of Education.

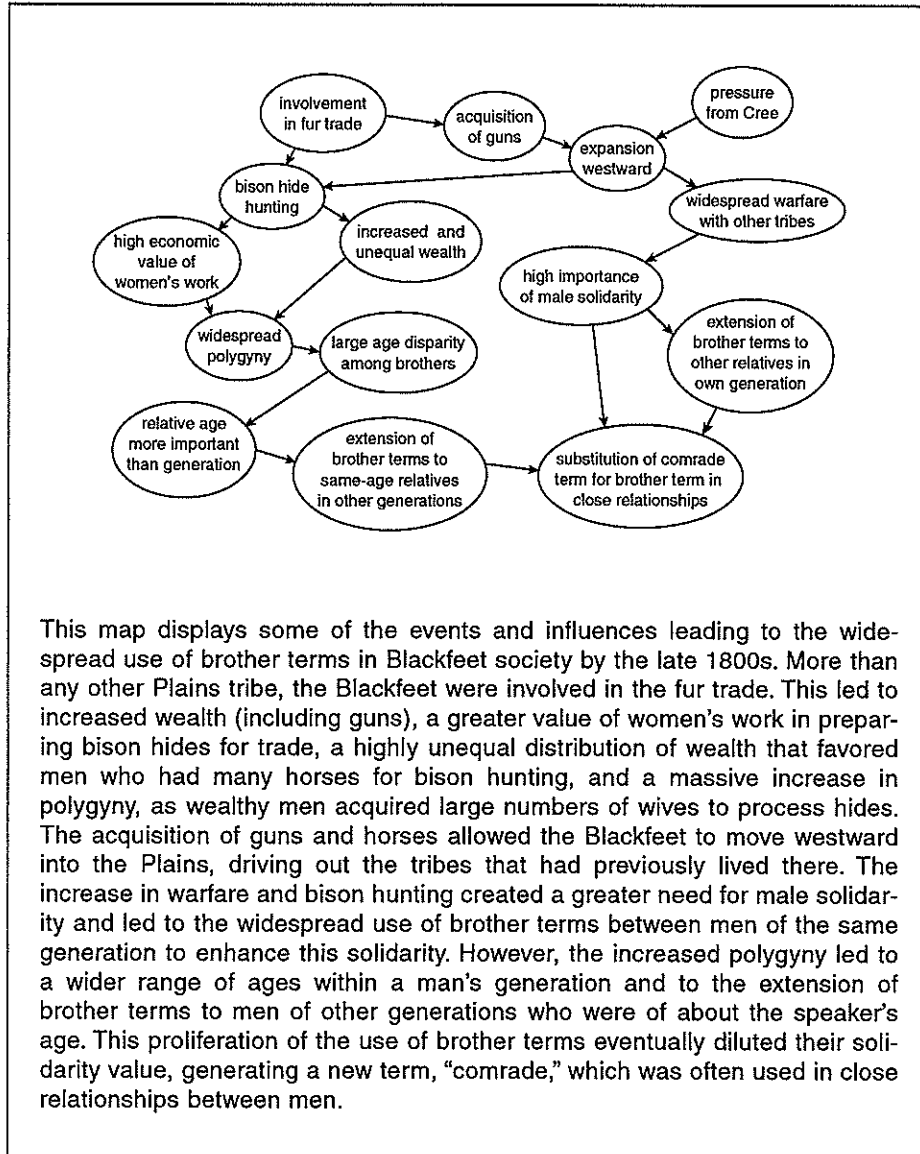
of the most popular ones, Inspiration, to create many of the diagrams for this book. Strauss (1987, pp. 171–182) provided a valuable transcript of his consultation with one student, Leigh Star, in helping her develop a conceptual framework and concept map for her research. Exercise 3.1 suggests some ways of getting started on creating concept maps of your conceptual framework.

Figure 3.2 Factors Affecting the Decision to Keep a Dependent Adult Child at Home



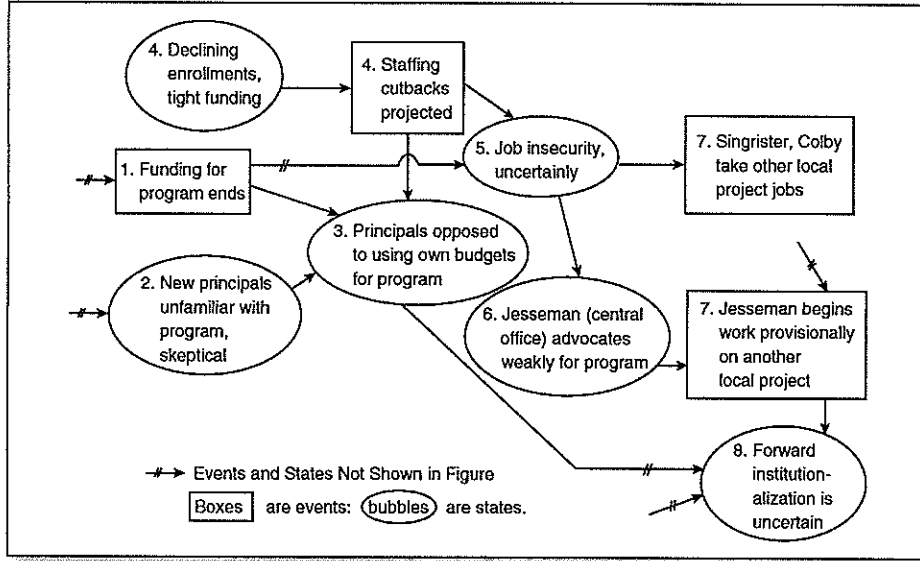
SOURCE: Adapted from *The Families of Dependent Handicapped Adults: A Working Paper*, by B. Guilbault, 1989, unpublished manuscript.

Figure 3.3 Causes of Changes in Blackfeet Kin Terminology



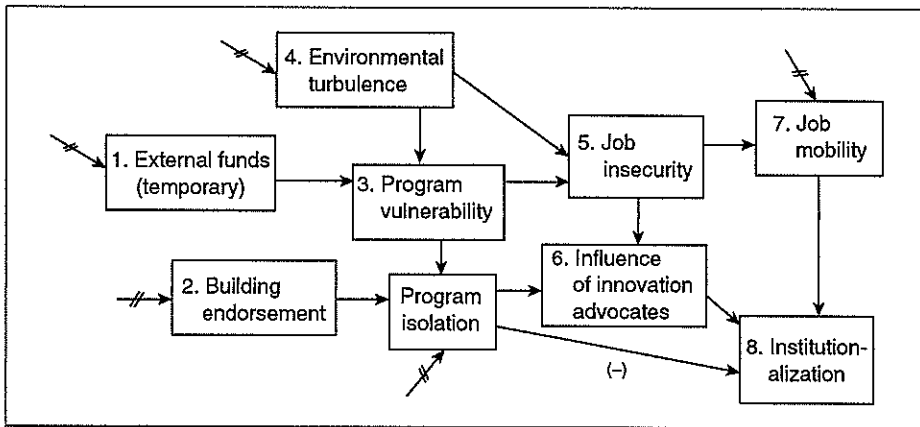
SOURCE: Adapted from *The Development of Plains Kinship Systems*, by J. A. Maxwell, 1971, unpublished master's thesis, University of Chicago, and "The Evolution of Plains Indian Kin Terminologies: A Non-Reflectionist Account," by J. A. Maxwell, 1978, *Plains Anthropologist*, 23, 13–29.

Figure 3.4 Excerpt From an Event-State Network: Perry-Parkdale School



SOURCE: From *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.), by M. B. Miles and A. M. Huberman, 1994, Thousand Oaks, CA: Sage.

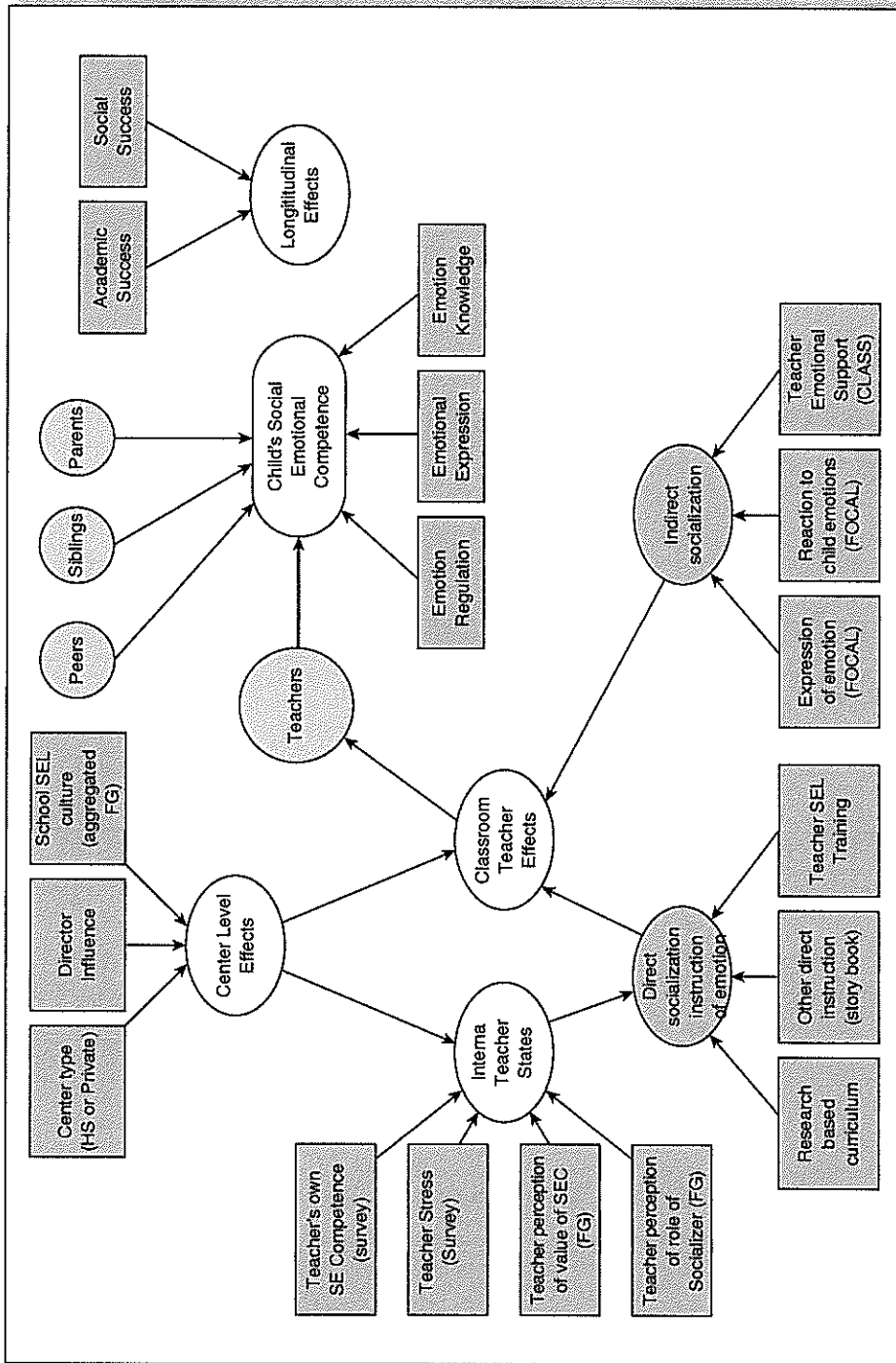
Figure 3.5 Excerpt From a Causal Network: Perry-Parkdale School



SOURCE: From *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.), by M. B. Miles and A. M. Huberman, 1994, Thousand Oaks, CA: Sage.

Figure 3.6 is a more elaborate concept map developed by Kate Zinsser for a team study of children’s development of socioemotional competence, and Example 3.1 is a detailed memo on this map; my comments to Kate are in brackets.

Figure 3.6 Concept Map for a Study of Children's Development of Socioemotional Competence



### Example 3.1 Memo on the Concept Map in Figure 3.6

With the number of three- and four-year-olds in preschool steadily increasing, it is critical that we thoroughly explore how their interactions with adults outside of the home can additionally influence their development. Social emotional competence (SEC) has been linked to later achievement both academically and socially, but the process of becoming competent is not a matter of just attending to lessons on sharing and being nice. Teachers operate in a complex context, and their interactions with students, either directly planned or more informal, are influenced by their past experiences, personal beliefs and skills, and center level requirements and culture. The TASSEL project will be using a wide range of methods to grapple with all of these sources of influence to understand what teachers are doing to help children become socially and emotionally competent.

The attached concept map depicts our most recent foray into the social emotional world of three- and four-year-olds. Starting on the right-hand side, children's social emotional competence is understood to impact concurrent and longitudinal academic and social success. Children who are more competent are viewed by the teachers as more engaged learners, are more well liked by their peers, and are better adjusted to the formal classroom environment. But what constitutes a socially and emotionally competent child? We define competence as the integration of three skills that children are building and learning throughout early childhood: emotion regulation, emotion knowledge, and emotion expression. [One of the common limitations of concept maps is that the arrows can represent a number of different things, which usually aren't distinguished in the map. For example, emotion regulation etc. are *components of SEC*, rather than influences on this, but this isn't clear from the map. Graphically representing these *as* components could raise some interesting questions—for example, do teachers predominantly influence one of these more than others?]

Social emotional competence develops through transactional relationships with other social players in a child's world: parents, peers, sibling, and teachers. Previous work by Dr. Susanne Denham has examined the influences of parents and peers on social emotional development; this project focuses on the role of teachers. For teachers, this socialization process (represented by the bold arrow from teacher to SEC) is more than the teacher showing the child emotion flashcards or teaching him not to bite. The teacher-child processes that contribute to a child's social emotional competence can be broken into two categories: direct/instructional socialization and indirect/informal socialization.

Direct socialization may include any social emotional learning (SEL) curriculum that the teacher is implementing in the classroom (e.g., *AI's Pals* or *PATHS*), any previous training she received on increasing children's social emotional learning (SEL) [but this would depend on whether she *uses* this; would it make more sense to see this as

an influence *on* curriculum?], and any use of everyday instructional moments to emphasize emotional constructs, such as identifying emotions felt by characters in a storybook. A majority of this direct socialization process we can measure using surveys of the teachers [I'm not sure about "a majority," particularly for everyday instructional moments (is the teacher always aware of these?)] and center directors, or by enumerating the number of emotion words a teacher uses when describing pictures in a wordless storybook.

Indirect socialization of emotions encompasses teacher behaviors in the classroom outside of purposeful/planned emotion instruction. This can include what emotions she expresses in the classroom (happiness, sadness, anger, frustration, pride, etc.) and how she reacts to children's displays of emotions (dismissing, acknowledging, ignoring, etc.). We assess these behaviors through an observational coding technique called the FOCAL. Additionally, indirect socialization can include a teacher's overall provision of emotional support in the classroom: How available is she for student interaction? How aware is she of student needs and potential causes of frustration or conflict? Emotional support is also coded using a naturalistic behavioral observation of the teachers called the CLASS.

Paramount to understanding the direct and indirect processes of socialization is understanding the context in which they're occurring. We've broken the teacher socialization context into two areas: center level effects and internal teacher states. Center level effects encompass aspects of the school environment that may be influencing how a teacher directly or indirectly socializes children's SEC. The type of center (Head Start, private, Montessori, etc.) may impose corporate or federal constraints on the way teachers interact with students, the curriculum that is taught in classrooms, and so on. Similarly, the director may have some control over classroom processes, schedules, and curriculum choices. The center and director level influences will be assessed using surveys and by examining programmatic standards and manuals. Last, the center itself may have a collective culture surrounding the importance of children's SEL that may influence both internal teacher perceptions and classroom processes. The SEL culture in a school will be examined via focus group responses examined at the center level.

Finally, a teacher's experiences with emotions may be influencing her interactions with students in her class. Probably the most direct internal contributor will be a teacher's social emotional competence. Less competent teachers may struggle to regulate negative emotions in the classroom (which may be observed with the FOCAL) or have difficulty separating stress (personal or school related) from her interactions with students. Additionally, teachers' perceptions of the value of SEC and her beliefs about who is responsible for teaching children about emotions may also influence her reactions to students' emotions (as observed with the FOCAL) and her ability to implement any required curriculum or use her training with high fidelity. Teachers'

(Continued)

(Continued)

perceptions and beliefs will be captured using focus groups, one-on-one follow-up interviews, and surveys. [These two categories of socialization context seem to ignore a potentially important contextual influence—the teacher's *relationships* with the students, or with a particular student. I'm not convinced that this can be reduced to "internal states," because it depends on the student as well as the teacher.]

### Exercise 3.1 Creating a Concept Map for Your Study

How do you develop a concept map? First, you need to have a set of concepts to work with. These can come from existing theory, from your experience, or from the people you are studying—their *own* concepts of what's going on. The main thing to keep in mind is that at this point you are trying to represent the theory *you already have* about the phenomena you are studying, not primarily to invent a new theory.

If you don't already have a clear conceptual framework for this, there are several strategies you can use to develop your map.

1. Think about the key words you use in talking about this topic; these probably represent important concepts in your theory. You can pull some of these concepts directly from things you've already written about your research.
2. Take something you've already written and try to map the theory that is implicit (or explicit) in this. (This is often the best approach for people who don't think visually and prefer to work with prose.)
3. Take one key concept, idea, or term and brainstorm all of the things that might be related to this, then go back and select those that seem most directly relevant to your study.
4. Ask someone to interview you about your topic, probing for what you think is going on and why; then listen to the tape and write down the main terms you use in talking about it. Don't ignore concepts based on your experience rather than the literature; these can be central to your conceptual framework.

Strauss (1987, pp. 182–183) and Miles and Huberman (1994, p. 22) provided additional advice on how to develop concept maps for your study.

Once you've generated some concepts to work with, ask yourself how these are related. What connections do you see among them? Leigh Star (quoted in Strauss, 1987, p. 179) suggested beginning with one category or concept and drawing "tendrils" to others. What do you think are the important connections between the concepts you're using? The key pieces of a concept map aren't the circles, but the arrows;



these represent proposed *relationships* between the concepts or events. Ask yourself the following questions: What do I mean by this particular arrow? What does it *stand for*? Think of *concrete* examples of what you're dealing with, rather than working only with abstractions. Don't lock yourself into the first set of categories you select, or the first arrangement you try. Brainstorm different ways of putting the concepts together; move the categories around to see what works best. Ask questions about the diagram, draw possible connections, and think about whether they make sense.

Finally, write a *narrative or memo* of what this concept map says about the phenomena you are studying. Try to capture in words the ideas that are embodied in the diagram. Figures 3.2 and 3.3 present concept maps with accompanying narratives; Miles and Huberman (1994, pp. 135–136, 159–161) and Strauss (1987, pp. 203–209) provided additional examples. This is an important part of the exercise, and can suggest ways to develop your theory. For example, it can point out when something in your map is simply a placeholder for the actual concept or relationship that you need; Becker (2007) described such placeholders as “meaning nothing in themselves, [but] they mark a place that needs a real idea” (p. 83; he also gave a good example of this on pp. 52–53).

Avoid getting stuck in what Miles and Huberman (1994, p. 22) called a “no-risk” map, in which all the concepts are global and abstract and there are two-directional arrows everywhere. This sort of diagram can be useful as a brainstorming exercise at the beginning, providing you with a conceptual checklist of things that may be important in your research, but at some point, you need to *focus* the theory. It can be useful at some point to narrow your map to two concepts and the relationship between them, as an exercise in focusing on what's most central to your theory. Make *commitments* to what you think is most important and relevant in your theory.

An initial framework often works best with large categories that hold a lot of things that you haven't yet sorted out. However, you should try to differentiate these categories, making explicit your ideas about the relationships among the items in them. One way to start this is by analyzing each one into subcategories, identifying the different *kinds* of things that go into each. (Figure 3.1 does this for the peripheral categories that connect to the core category.) Another way is to *dimensionalize* the categories (Strauss & Corbin, 1990), trying to separate out their different properties. (Figure 3.2 does this for several of the categories.)

How do you know whether something is a category or a relationship? This is not an easy question to answer; I do this rather intuitively. In fact, many things can be seen as either; there is no one right concept map for the phenomena you're studying, and different maps incorporate different understandings of what's going on. You should try *alternative* maps for the theory you are developing, rather than sticking rigidly with one formulation. There are also different *kinds* of concept maps, with different purposes; these include the following:

- a. An abstract framework mapping the relationship among concepts
- b. A flowchart-like account of events and how you think these are connected
- c. A causal network of variables or influences
- d. A treelike diagram of the meanings of words (e.g., Miles & Huberman, 1994, p. 133)
- e. A Venn diagram, representing concepts as overlapping circles (e.g., Miles & Huberman, 1994, p. 249)

You can use more than one of these in a given study; the bottom line is their *usefulness* to you in advancing your understanding of what's going on. Most of Miles and Huberman's (1994) examples are best suited to studies of social processes; they aren't necessarily the most useful models for a study of meanings and their relationship to one another. Remember that a concept map is not an end in itself; it is a *tool* for developing theory and making that theory more explicit. Also, keep in mind that a concept map is not something that you do once and are finished with; you should go back and rework your concept maps as your understanding of the phenomena you are studying develops. Don't try to make your map too elegant; this may be the visual equivalent of what Becker (2007) called "classy writing" (p. 28), in which you are trying to impress people rather than develop and communicate your actual ideas.

Different authors use concept maps in different ways. Novak and Gowin (1984) took a very inclusive approach—their concepts and relationships could be almost anything, and they labeled their connections in order to keep these clear. Miles and Huberman (1994), on the other hand, were much more focused—their connections generally referred to causal relationships or influences. My advice is to aim for something in between. You can start with a fairly inclusive map, but you should work to focus it and to make it a map of a real *theory* of what's going on.

A key distinction, but one that you may not want to think about until *after* you've developed an initial concept map, is the difference between *variance* maps and *process* maps. (See Chapter 2 on the distinction between variance theory and process theory.) One way to tell the difference is that a variance map usually deals with abstract, general concepts that can take different values (in other words, *variables*), and is essentially timeless; it depicts a general causal or correlational relationship between some factors or properties of things and others. A process map, on the other hand, tells a story; there is a beginning and an end, and the concepts are often specific events or situations, rather than variables.<sup>4</sup> Many students create a variance map in their first attempt at concept mapping, because this is their idea of what theory "ought to" look like, even if their research questions are "how" questions that cry out for a process theory. Figures 3.2 and 3.5 are variance maps, while Figures 3.3 and 3.4 are process maps.

### Other Uses of Existing Research

A review of prior research can serve many other purposes besides providing you with existing theory (cf. Strauss, 1987, pp. 48–56). Locke, Silverman, and Spirduso (2009) provide a clear and detailed explanation of how to read research publications for a variety of

useful tools and resources, which they describe as “finding valuables in research reports” (p. 3). These valuables include new terminology, including keywords to use in searches; references to other publications and researchers; ways of framing research questions, describing the research, or presenting theory, results, or conclusions; and identification of validity issues and ways of dealing with these. Students often overlook such information in their literature reviews, not seeing its value for their research. You need to learn to read for all of these types of information, and to use these in designing your research.

I would emphasize four specific things, in addition to theory, that prior research can contribute to your research design. First, it can help you to develop a *justification* for your study—to show how your work will address an important need or unanswered question. Martha Regan-Smith (1991) used prior research on medical school teaching in this way in her proposal (see Appendix A), showing why the topic she planned to study was important, and demonstrating that previous studies had not answered the specific questions she posed. Such a justification connects your plans to your goals for doing the study (Chapter 2), and I discuss this in more detail in Chapter 7, as part of creating an argument for your research proposal.

Second, prior research can inform your decisions about *methods*, suggesting alternative approaches or identifying potential methodological problems or solutions. Don’t skip the methods sections of papers; see if what the authors did makes sense, if there were problems with their study that bring their results into question, and if you can use any of their strategies or methods for your study. If you need more information on what they did, contact the authors; they will usually be glad to help you.

Third, prior research can be a source of *data* that can be used to test or modify your theories. You can see if existing theory, pilot research, or your experiential understanding are supported or challenged by previous results. Doing this will often require thinking through the *implications* of your theory or understanding to see if these are consistent with others’ findings. This is one example of a *thought experiment*, which I discuss later in this chapter.

Finally, prior research can help you *generate* theory. Bernd Heinrich (1984, pp. 55–68), while conducting his thesis research on thermoregulation in sphinx moths, discovered that his experimental finding that these moths maintain a constant body temperature while flying was directly contradicted by others’ research. He described his response as follows:

As a first step in my decision to proceed, I spent a few months in the library reading about insect physiology in general and everything about sphinx moths in particular. Something in the known physiology and morphology might provide a clue. It would be necessary to collect more and more details on the problem until I could visualize it as closely as if it were a rock sitting in the palm of my hand. I wanted to find out *how* the moths were thermoregulating. . . .

I came across an obscure French paper of 1919 by Franz Brocher on the anatomy of the blood circulatory system in sphinx moths. The odd thing about these moths is that the aorta makes a loop through their thoracic muscles. In many or most other insects, it passes *underneath* these muscles. (Heinrich, 1984, pp. 63–64)

This paper gave Heinrich the critical clue to how these moths were regulating their body temperature: They were shunting blood through the thoracic muscles (which move the moths' wings) to cool these muscles, which would otherwise overheat, and then losing the excess heat from the abdomen, in the same way that a car's water pump and radiator cool the engine. This theory was confirmed by subsequent experiments.

It is possible, of course, to become *too* immersed in the literature; as C. Wright Mills (1959) warned, "You may drown in it. . . . Perhaps the point is to know when you ought to read, and when you ought not to" (p. 214). One of Mills's main ways of dealing with this problem was, in reading, to always be thinking of empirical studies that could test the ideas he gained from the literature, both as preparation for actual research and as an exercise of the imagination (p. 205). These two strategies connect to the final two sources for your conceptual framework: pilot studies and thought experiments.

### PILOT AND EXPLORATORY STUDIES

Pilot studies serve some of the same functions as prior research, but they can be focused more precisely on your concerns and theories. You can design pilot studies specifically to test your ideas or methods and explore their implications, or to inductively develop *grounded* theory. What Light, Singer, and Willett (1990) said about an illustrative quantitative study is equally true for qualitative research: "Many features of their design could not be determined without prior exploratory research" (p. 212). And they argued that

No design is ever so complete that it cannot be improved by a prior, small-scale exploratory study. Pilot studies are almost always worth the time and effort. Carry out a pilot study if *any* facet of your design needs clarification. (p. 213)

Example 3.4 describes how Carol Kaffenberger (1991), whose decision to study adolescent cancer survivors and their siblings was presented in Example 2.1, used a pilot study to help design her dissertation research.

#### **Example 3.4 How a Student Used a Pilot Study to Help Design Her Dissertation Research**

Following her decision to change her dissertation topic, and a review of the literature on her new topic, Carol Kaffenberger decided to conduct a pilot study to help her plan her dissertation research. She chose to use her family for this pilot study, for several reasons. First, she wanted to practice her interviews, and believed that her family would provide good feedback and suggestions about her methods and what it

was like to be a participant in such a study. Second, she wanted to get a better understanding of the meaning of the cancer experience for her family (one of the personal goals of her research), and to test her assumptions about this experience. Third, for personal reasons, she wanted her children to have firsthand knowledge of the work she was about to begin. Finally, her family was a convenient choice, and wouldn't require her to find and gain approval from other families.

Carol learned several valuable things from this pilot study. First, she found that she needed to revise her interview guide, adding questions about issues that she hadn't realized were important, such as family relationships before the diagnosis, the support siblings received during diagnosis and treatment, and how they thought the experience would affect their future. She also discovered additional useful questions, such as asking participants to describe specific events that illustrated what they had been saying. Second, she gained a deeper understanding of her children's experiences, modifying her conceptual framework. Both previous research and her prior beliefs had led her to underestimate the long-term consequences of the cancer experience for her family. She learned that she needed to step back and listen to participants' experiences in new ways. Finally, she found that her children's responses were sometimes guarded and predictable, due to the consequences of what they said for family relationships, and tended to minimize negative feelings or blame. Although the pilot study was valuable, it could not fully answer the questions she had (Kaffenberger, 1999).

One important use that pilot studies have in qualitative research is to develop an understanding of the concepts and theories held by the people you are studying—a potential source of theory described earlier. You can't usually gain information about these without doing pilot research or until you've actually begun your study—one reason that your conceptual framework must often change in response to what you are learning. This is not simply a source of additional terms or concepts to use in your theory, ones that are drawn from the language of participants; the latter is a type of concept that Strauss (1987, pp. 33–34) called “in-vivo codes.” More important, it provides you with an understanding of the *meaning* that these things, actions, and events have for the people who are involved in them, and the perspectives that inform their actions. These meanings and perspectives are not theoretical abstractions; they are real, as real as people's behavior, though not directly visible (Maxwell, 2011b). People's ideas, meanings, and values are essential parts of the situations and activities you study, and if you don't understand these, your theories about what's going on will often be incomplete or mistaken (Maxwell, 2004a; Menzel, 1978). In a qualitative study, these meanings and perspectives should constitute a key component of your theory; as discussed in Chapter 2, they are one of the things your theory is *about*, not simply a source of theoretical insights and building blocks for the latter. In Example 3.2, the norms and values held by the physicians studied by Freidson (1975) were a major part of what was

going on in the medical practice, and were fundamental to his theory. Such meanings and perspectives are also key components of all of the previous examples of concept maps (Figures 3.1 through 3.6). Even in Figure 3.5, in which the concepts are mostly stated in behavior or contextual terms, “job insecurity” refers to *perceived* insecurity; if participants were unaware that their jobs might be eliminated, their behavior wouldn’t be affected.

### THOUGHT EXPERIMENTS

Thought experiments have a long and respected tradition in the physical sciences; much of Einstein’s work was based on thought experiments, and Galileo’s classic disproof of Aristotle’s view that objects fall at a speed relative to their mass, supposedly shown by dropping two balls of different weights from the top of the Leaning Tower of Pisa, was actually a simple thought experiment (Galilei, 1628/2008; see “Galileo’s Leaning Tower of Pisa Experiment,” n.d.), completely convincing without any need for empirical demonstration. Thought experiments are also common in biology; for example, Bernd Heinrich (1999, pp. 252–254) provides a detailed thought experiment on how the reported “guiding” behavior of ravens, leading Eskimo hunters to their prey, could have evolved. Thought experiments are regularly used in social sciences such as economics, but have received little attention as an explicit technique in discussions of research design, particularly qualitative research design.

The best guide to thought experiments in the social sciences that I know of is that of Lave and March (1975), who used the phrase “speculative model building” for this concept. Don’t be intimidated by the word “model”; models are no more esoteric than theory, and Lave and March defined *model* as “a simplified picture of a part of the real world” (p. 3). They described their book as “a practical guide to speculation,” and provided a detailed introduction to the development and use of speculative models of some process that could have produced an observed result. Although the orientation of their later chapters is mainly quantitative, the first three chapters are very readable and extremely useful for qualitative researchers. Lave and March stated,

We will treat models of human behavior as a form of art, and their development as a kind of studio exercise. Like all art, model building requires a combination of discipline and playfulness. It is an art that is learnable. It has explicit techniques, and practice leads to improvement. (p. 4)

Thought experiments challenge you to come up with plausible explanations for your and others’ observations, and to think about how to support or disprove these. They draw on both theory and experience to answer “what if” questions, and to explore the logical implications of your models, assumptions, and expectations of the things you plan to study. They can both generate new theoretical models and insights, and test

your current theory for problems; in fact, all theory building involves thought experiments to some extent. They encourage creativity and a sense of discovery, and can help you to make explicit the experiential knowledge that you already possess. Ursula LeGuin, a master of science-fiction thought experiments (e.g., 2003), stated, “The purpose of a thought-experiment, as the term was used by Schrodinger and other physicists, is not to predict the future . . . but to describe reality, the present world.” (LeGuin, 2000, p. xi).

Example 3.5 is an illustration of this kind of speculative thinking, and Exercise 3.2 (based on one of Lave and March’s, 1975, examples) provides a simple problem on which to practice your speculative skills. According to Lave and March (1975), “the best way to learn about model building is to do it” (p. 10).

### Example 3.5 Using a Thought Experiment to Develop a Theory of the Persistence of Illiteracy

One of my students, Dixie Hallaj, doing research on illiteracy in the Middle East, used the concept of “cycle of illiteracy” in a memo explaining the persistence of illiteracy in parts of this area. This concept has a certain immediate plausibility—illiterate parents are much more likely to have illiterate children than are literate parents. However, my first reaction to the memo was to perform a thought experiment—to try to think of a *process* by which illiteracy in one generation would create illiteracy in the next generation. Lack of reading materials in the home would have some impact, as might parental values regarding literacy. However, none of these seemed powerful enough to reproduce illiteracy at a time when most children have access to schooling. On the other hand, I *could* easily imagine (and support with data that this student had presented) a cycle of *poverty*, in which poor (and often illiterate) families would be under great pressure to keep their children out of school to work in the home or in farming, depriving the children of their main opportunity to learn to read and write. As a result, these children’s lack of schooling would make it difficult for them to get jobs that would enable them to escape from poverty, thus recreating the conditions that led to their illiteracy. This theory suggests that reducing poverty would have a major impact on illiteracy. It also implies that research on the causes of illiteracy needs to address the role of economic factors. Dixie used this thought experiment to develop a more complex model, which she called a “spiral of illiteracy,” that incorporated poverty and other factors, as well as the increasing literacy demands of society (Hallaj, 2006).

### Exercise 3.2 Creating a Model of the Development of Friendship Patterns

Suppose we were interested in patterns of friendship among college students. Why are some people friends and not others? We might begin by asking all of the residents of single rooms along a particular dormitory corridor to give us a list of their friends. These lists of friends are our initial data, the results we wish to understand.

If we stare at the lists for a while, we eventually notice a pattern in them. Friends tend to live close to one another; they tend to have adjacent dormitory rooms. What process could have produced this pattern of friendship?

**STOP AND THINK. Take a minute to think of a possible process that might produce this observed result.**

One *possible* process that might have led to this result is that students can choose their dormitory rooms, and that groups of friends tend to choose adjacent rooms. This process is a speculation about the world. *If* the real world were like our model world, the observed facts should match the model's prediction. Thus, we have found a model, a process, that accounts for our results.

We do not stop here, however. We next ask what other implications this model has. For one, it implies that students in each dormitory friendship group must have known one another previously; thus, they must have attended the university the previous year; thus, there will be fewer friendship clusters among freshmen.

A survey of both a freshman dorm and a junior-senior dorm shows that there are as many friendship clusters among freshmen as among juniors and seniors. This would not be predicted by our model, unless the students knew one another in high school. However, examining the backgrounds of the freshmen shows that almost all of them come from different high schools.

So our model does not do a very good job of explaining what we observed. Some process other than mutual selection by prior friends must be involved. So we try to imagine another process that could have led to these results. Our new speculation is that most college students come from similar backgrounds, and thus have enough in common that they could become friends. Pairs of students who live near each other will have more opportunities for interaction, and are more likely to discover these common interests and values, thus becoming friends. This new speculation explains the presence of friendship clusters in freshman dorms as well as in junior-senior dorms.

**STOP AND THINK. What other implications does this model have that would allow you to test it? How would you test it?**

One implication is that since the chance of contact increases over time, the friendship clusters should become larger as the school year progresses. You could test this by surveying students at several different times during the year. If you did so and discovered



that the prediction was correct, the model would seem more impressive. (Can you think of other testable implications?)

—Adapted from Lave and March  
(1975, pp. 10–12)

One issue that Lave and March's example does *not* deal with is the possibility of alternative models that *also* predict most of the same things as the model you have developed. This is one of the most challenging aspects of model building, and the source of a common flaw in theoretical modeling—accepting a model that successfully predicts a substantial number of things, without seriously attempting to come up with alternative models that would make the same (or better) predictions. For example, Lave and March make an assumption, a widespread one in modern Western societies, that friendship is necessarily based on common characteristics—shared interests and values. An alternative model would be one that abandons this assumption, and postulates that friendship can be created by interaction itself, and not necessarily by common characteristics (see Example 3.1 and Maxwell, 2011b, Chapter 4).

**STOP AND THINK. What tests could distinguish between these two models?**

One possible test would be to investigate the beliefs, interests, and values of freshman dormitory students at both the beginning and the end of the year, to see if pairs of friends consistently had more in common at the beginning of the year than did pairs of students in the same dorm who did *not* become friends. (Determining this similarity at the beginning of the year addresses a possible alternative explanation for greater similarity of beliefs and interests within friendship pairs—that this similarity is a *result* of their friendship, rather than a cause.) If you find that pairs of friends did *not* consistently have more in common than pairs of nonfriends, then Lave and March's model seems less plausible (at least without modification), because it predicts that friends will have more in common than nonfriends. My alternative model *does* predict this result, and therefore, would deserve further consideration and testing. Eventually, you might develop a more complex model that incorporates both processes.

All of the tests described previously (and the standard approach to model testing in general) are based on variance theory—measuring selected variables to see if they fit the model's predictions. However, there is a much more direct way to test the model—*investigate the actual process*, rather than just its predicted consequences (Menzel, 1978, pp. 163–168). For example, you might do participant observation of student interactions at the beginning of the year, looking at how friendships originate, or interview students about how they became friends with other students. This realist, process-oriented approach to model testing is much better suited to qualitative research than is simply predicting outcomes and collecting data to see if these are confirmed (Maxwell, 2004a, 2004c, 2011b).

Experience, prior theory and research, pilot studies, and thought experiments are the four major possible sources of the conceptual framework for your study. Putting together a conceptual framework from these sources is a unique process for each study, and specific guidelines for how to do this are not of much use; you should look at examples of others' conceptual frameworks to see how they have done this (e.g., Ravitch & Riggan, 2011). The main thing to keep in mind is the need for integration of these components with one another, and with your goals and research questions. The connections between your conceptual framework and your research questions will be taken up in the next chapter.

#### NOTES

1. This understanding of a conceptual framework as simply a visual model of the main concepts of your theory often creates difficulties in making explicit your real conceptual framework for your study—your actual understanding of the things you plan to study. As explained in my discussion of concept maps, such a simplified visual display can be useful for representing your ideas, but it necessarily leaves out a key ingredient: the nature of the connections that you see between these concepts—the arrows in your map.
2. For a more detailed explanation of this point, see Locke, Spirduso, and Silverman (2007, pp. 68–70) and Maxwell (2006).
3. For a detailed account of the ways in which researchers can use theory in formulating their goals, research questions, and methods, see Dressman (2008) and LeCompte and Preissle (1993, pp. 115–157).
4. Miles and Huberman (1994) tended to refer to variance maps as “causal networks,” and to process maps as “event-state networks” (pp. 101–171). This incorrectly equates causal analysis with variance analysis; process analysis can also be causal, as discussed in Chapter 2 (see also Maxwell, 2004a, 2011b).