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Methods

What Will You Actually Do?

In this chapter, I discuss some of the key issues involved in planning what you will do in conducting your research. These issues are not limited to qualitative data collection (primarily participant observation and interviewing), but also include establishing research relationships with those you study, selecting sites and participants, and analyzing the data that you collect. The focus is on how to *design* the use of specific methods in a qualitative study, not on how to actually do qualitative research; I am assuming that you already know (or are learning) the latter.

At the outset, I want to emphasize that there is no “cookbook” for doing qualitative research. The appropriate answer to almost any question about the use of qualitative methods is “it depends.” Decisions about research methods depend on the specific context and issues you are studying, as well as on other components of your design. The bottom line for any decision is the actual consequences of using it in your study; what would be an excellent decision in one study could be a disaster in another. What I want to discuss here are some of the things that your methodological decisions depend *on*—the issues that you will need to think about in designing your research methods.

In addition, the “data” in a qualitative study can include virtually anything that you see, hear, or that is otherwise communicated to you while conducting the study; there is no such thing as “inadmissible evidence” in trying to understand the issues or situations you are studying. (However, there may be evidence that you are ethically prohibited from *citing* in what you write, if it could violate confidentiality or privacy or be potentially damaging to particular individuals.) Qualitative data are not restricted to the results of specified “methods”; as noted earlier, you *are* the research instrument in a qualitative study, and your eyes and ears are the tools you use to make sense of what is going on. In planning your research methods, you should always include whatever informal data-gathering strategies are feasible, including “hanging out,” casual conversations, and incidental observations. This is particularly important in an interview study, where such information can provide important

contextual information, a different perspective from the interviews, and a check on your interview data. As Dexter (1970) emphasized,

no one should plan or finance an entire study in advance with the expectation of relying chiefly upon interviews for data unless the interviewers have enough relevant background to be sure that they can make sense out of interview conversations or unless there is a reasonable hope of being able to hang around or in some way observe so as to learn what it is meaningful and significant to ask. (p. 17)

Such data should be systematically recorded in memos or a field journal.

STRUCTURED AND UNSTRUCTURED APPROACHES

One important issue in designing a qualitative study is to what extent you should decide on your methods in advance, rather than developing or modifying these during the research. Some qualitative researchers believe that, because qualitative research is necessarily inductive and “grounded,” any substantial prior structuring of the methods leads to a lack of flexibility to respond to emergent insights, and can create methodological “tunnel vision” in making sense of your data. This decision is often justified on philosophical or ethical grounds as well; structured approaches are identified with quantitative research, positivism, or power inequalities between researcher and researched. The choice between structured and unstructured methods is rarely discussed in a way that clarifies the relative advantages and disadvantages of each. (Significant exceptions are Miles & Huberman, 1994; Robson, 2002; Sayer, 1992.)

Structured approaches can help to ensure the comparability of data across individuals, times, settings, and researchers, and are thus particularly useful in answering variance questions, questions that deal with *differences* between things. Unstructured approaches, in contrast, allow you to focus on the *particular* phenomena being studied, which may differ from others and require individually tailored methods. They trade generalizability and comparability for internal validity and contextual understanding, and are particularly useful in revealing the processes that led to specific outcomes, what Miles and Huberman (1994) called “local causality” (cf. Maxwell, 2004a).

However, Miles and Huberman also cautioned that

Highly inductive, loosely designed studies make good sense when experienced researchers have plenty of time and are exploring exotic cultures, understudied phenomena, or very complex social phenomena. But if you’re new to qualitative

studies and are looking at a better understood phenomenon within a familiar culture or subculture, a loose, inductive design is a waste of time. Months of fieldwork and voluminous case studies may yield only a few banalities. (1994, p. 17)

They also pointed out that prestructuring your methods reduces the amount of data that you have to deal with, simplifying the analytic work required (1994, p. 16).

In general, I agree with Miles and Huberman's assessment, although I think their involvement with multiple-site research has led them to advocate more prestructuring than is appropriate for most single-site studies. However, like nearly everyone else, they treat prestructuring as a single dimension, and view it in terms of metaphors such as hard versus soft and tight versus loose. Such metaphors, in addition to their one-dimensional implications, have value connotations (although these are different for different people) that can interfere with your assessment of the tradeoffs involved in particular design decisions and the best ways to combine different aspects of prestructuring within a single design. These metaphors can lead you to overlook or ignore the numerous ways in which studies can vary, not just in the *amount* of prestructuring, but in *how* prestructuring is used.¹

For example, Festinger, Riecker, and Schachter (1956), in a classic study of an end-of-the-world cult, employed an extremely open approach to data collection, relying primarily on descriptive field notes from covert participant observation in the cult. However, they used these data for a confirmatory test of explicit hypotheses based on a prior theory, rather than to inductively develop new questions or theory (cf. Maxwell & Loomis, 2002, pp. 260–263). In contrast, the approach often known as ethnoscience or cognitive anthropology (Spradley, 1979; Werner & Schoepfle, 1987) employs highly structured data collection techniques, but interprets these data in a largely inductive manner, with very few preestablished categories. Thus, the decision you face is not primarily *whether* or *to what extent* you prestructure your study, but *in what ways* you do this, and *why*.

Finally, it is worth keeping in mind that you can lay out a *tentative* plan for some aspects of your study in considerable detail, but leave open the possibility of substantially revising this if necessary. (See the evolution of Maria Broderick's research design, presented in Example 1.1.) The degree to which you prestructure your anticipated research methods is a separate decision from how much flexibility you leave yourself to revise the plan during your study. Emergent insights may require new selection plans, different kinds of data, and different analytic strategies. As stated earlier, all research has an implicit, if not explicit, design. Avoiding decisions about your design may mean only that you aren't examining the design that is implicit in your thinking, and are

failing to recognize the consequences that these implicit decisions will have. Deliberate attention to these consequences can help you to construct a design that will enable you to answer your questions, advance your goals, and possibly save you a lot of trouble.

I see qualitative methods—what you will actually do in conducting a qualitative study—as having four main components:

1. The research relationships that you establish with those you study
2. Site and participant selection: what settings or individuals you select to observe or interview, and what other sources of information you decide to use
3. Data collection: how you gather the information you will use
4. Data analysis: what you do with this information in order to make sense of it

This is a somewhat broader definition of “methods” than is usual in discussions of research design. My justification for this definition is that all of these components are important aspects of how you conduct your study, and affect the value and validity of your conclusions. It is therefore useful to think about these as *design* decisions—key issues that you should consider in planning your study, and that you should rethink as you are engaged in it. In the rest of this chapter, I will discuss what I see as the most important considerations that should affect your decisions about each of these components.

NEGOTIATING RESEARCH RELATIONSHIPS

The relationships that you create with participants in your study (and also with others, sometimes called “gatekeepers,” who can facilitate or interfere with your study) are an essential part of your methods, and how you initiate and negotiate these relationships is a key *design* decision. Bosk (1979, p. ix) noted that fieldwork is a “body-contact” sport, and your research relationships create and structure this contact. Conversely, your ongoing contact with participants continually restructures these relationships. These are both aspects of what Hammersley and Atkinson (1995, p. 16) called “reflexivity”—the fact that the researcher is part of the social world he or she studies.

In many books on qualitative methods, these relationships are conceptualized as “gaining access” to the setting (e.g., Bogdan & Biklen, 2003, pp. 75–80; Glesne, 1999, pp. 39–40) or as “negotiating entry” (e.g., Marshall & Rossman, 1999, p. 82). While this is one important *goal* in negotiating a relationship, such phrases may lead you to think that this is something that, once “achieved,” requires no further attention. The process of negotiating a

relationship is much more complex than these phrases suggest; not only does it typically require ongoing negotiation and renegotiation of your relationships with those you study, but it rarely involves any approximation to total access. Nor is total access usually necessary for a successful study; what you need are relationships that allow you to ethically gain the information that can answer your research questions.

Conceptualizing your relationships in terms of “rapport” is also problematic, because it represents a relationship by a single continuous variable, rather than emphasizing the *nature* of that relationship. Seidman (1998, pp. 80–82) made the important point that it is possible to have too much rapport, as well as too little, but I would add that it is the *kind* of rapport, as well as the amount, that is critical. A participant can be very engaged intellectually in an interview, but not be revealing anything deeply personal, and for some studies this kind of relationship may be ideal. Conversely, someone may be very open about personal matters to a stranger whom they never expect to see again, but not be willing to engage in any critical reflection on this material.

Thus, the relationship you have with a participant in your study is a complex and changing entity. In qualitative studies, the researcher is the instrument of the research, and the research relationships are the means by which the research gets done. These relationships have an effect not only on the participants in your study, but also on you, as both researcher and human being, as well as on other parts of the research design. In particular, the research relationships you establish can facilitate or hinder other components of the research design, such as participant selection and data collection. For example, in my dissertation research in an Inuit community, I made arrangements to live with different families on a monthly basis. This gave me access to detailed information about a wider range of families than is often available to anthropologists, who typically establish close ties with a small number of individuals or families. However, the ways in which this arrangement was negotiated made it difficult for me to develop working relationships with those families with whom I did not live (Maxwell, 1986). Rabinow (1977) provided an insightful account of the way in which his changing relationships with his Moroccan informants affected his research plans, and Bosk (1979) explained how his relationships with the surgeons he studied both facilitated and constrained his research. Many other accounts by qualitative researchers of their research provide similar insights; rather than attempting to sum these up in a few, only partially generalizable “guidelines,” I urge you to read widely in the literature on this topic, so that your decisions can be informed by a range of other researchers’ experiences.

I want to emphasize that these are *design* decisions, not simply “practical” issues that are separate from design. You will need to reflect on the particular

decisions (conscious or unconscious) that you make about your relationships, as well as on the relationship issues that you will face in doing the study, and the effects these can have on your research. How to make these decisions gets deeper into issues of qualitative methods than this book can go, but the principle stated by Weiss (1994) for interview studies is valid for qualitative research in general:

What is essential in interviewing is to maintain a working research partnership. You can get away with phrasing questions awkwardly and with a variety of other errors that will make you wince when you listen to the tape later. What you can't get away with is failure to work with the respondent as a partner in the production of useful material. (p. 119)

In addition to these considerations, there are philosophical, ethical, and political issues that should inform the kinds of relationships that you want to establish. In recent years, the dominance of the traditional research relationship has been challenged by alternative modes of research that involve quite different sorts of relationships between the researcher and the researched, and in some cases break down this distinction entirely. For example, Tolman and Brydon-Miller (2001) advocated "interpretive and participatory action methods" in qualitative research, methods that are "relational in that they acknowledge and actively involve the relationships between researchers and participants, as well as their respective subjectivities" (p. 5). They believed that qualitative research should be "participatory" in the sense of working collaboratively with research participants to generate knowledge that is useful to the participants as well as to the researcher, contributing to personal and social transformation (pp. 3–4). Similarly, Lawrence-Lightfoot and Davis (1997) criticized the tendency, even in qualitative research, to treat relationships as a tool or strategy for gaining access to data, rather than as a connection (p. 135). They argued that "relationships that are complex, fluid, symmetric, and reciprocal—that are shaped by both researchers and actors—reflect a more responsible ethical stance *and* are likely to yield deeper data and better social science" (pp. 137–138), and they emphasized the continual creation and renegotiation of trust, intimacy, and reciprocity.

Burman (2001) cautioned, however, that the dominant humanitarian/democratic agenda of qualitative research, as well as particular goals such as "relationship," "equality," and "participation," are easily co-opted into the perpetuation of existing power relationships, and she asserted that "the progressive . . . character of research is always ultimately a matter of politics, not technique" (pp. 270–271). My advocacy of incorporating research relationships into your research design is not an advocacy of any *particular* type of relationship. Although I mostly agree with Weiss, Tolman and Brydon-Miller,

and Lawrence-Lightfoot and Davis, the types of relationships (and goals) that are ethically and politically appropriate depend on the particular context (including the participants' views), and should always be subjected to the sort of critique raised by Burman.

Whatever your methodological and political views, remember that what is a "research project" for you is always, to some degree, an intrusion into the lives of the participants in your study. You need to follow the rules for considerate interaction with others, and to *learn* these rules if, for the people or setting you're studying, they are different from what you're used to. A basic strategy to use here is to put yourself in their position, and ask how you would feel if someone did to you what you are thinking of doing, making allowances for differences in culture and norms. As Eeyore said, "A little consideration, a little thought for others, makes all the difference."

Finally, think about what you can give to participants in return for the time and inconvenience of being involved in your research. What can you do to make people feel that this has been a worthwhile experience and that they aren't just being "used"? This can range from helping out in the setting you're studying, to providing some gift or service, to simply being an empathic listener. What it's appropriate to offer depends on the setting and individual and on what you ask that person to do, but *some* acknowledgment of your appreciation is almost always required. As one of my students, Caroline Linse, reminded me, "The interview isn't over until the thank-you note is delivered."

EXAMPLE 5.1

Negotiating Relationships in a Practitioner Research Study

Bobby Starnes, a doctoral student with extensive experience as a teacher and administrator and a longtime political commitment to collaborative decision making, came to the Harvard Graduate School of Education in order to see how what she had learned about teaching and learning with children could inform her work with adults. When she was seeking a dissertation study that would allow her to apply and test her ideas, she was hired as director of a daycare center, serving a low-income population, which had a history of ineffective, top-down management. Her dissertation research was a study of what happened when she attempted to implement a system of shared decision making in this setting—how the system evolved, and how it affected staff morale, competence, and performance.

Bobby's study required her to have a very different relationship to her study participants than that found in most research; she was both their boss and a researcher trying to understand their perspective on the organizational changes she instituted. In addition, her political views led her to design a study in which she was engaged in real-world action to improve people's lives, not ivory-tower research. This combination posed both substantial risks of bias and distortion of the data, and unique opportunities for understanding the process of organizational change. It was thus absolutely essential for her study that her participants be open about their perceptions and feelings, and that they trust her not to use the data she collected in ways that would be harmful to them.

Bobby was able to accomplish this by establishing an organizational climate in which staff were not afraid to voice their opinions and disagree with her, and in which they were convinced that she would not violate confidences or take action against them as a result of what she learned. (Obviously, this was not an easy task, and required all of her skill and experience to carry out; for a detailed description of how she did this, see Starnes, 1990.) Without this relationship, the conclusions of her study would not have been trustworthy. However, she did not assume that the relationship that she had with her staff would automatically eliminate problems of distortion and concealment. She gathered some data by anonymous questionnaires, and had another researcher conduct half of the final interviews.

Because the impact of these issues is particular to each individual study, the best strategy for dealing with them is to think about them in the context of your own research. The following exercise should help you to do this.

EXERCISE 5.1

Reflecting on Your Research Relationships

This exercise involves writing a memo reflecting on your relationships (actual or planned) with participants and other important people you plan to involve in your research, how you will present yourself and your research, and what arrangements you expect to negotiate for doing the research and reporting your results. The following questions are ones you should keep in mind as you work on this memo:

1. What kinds of relationships have you established, or plan to establish, with the people in your study or setting? How did these relationships develop, or how do you plan to initiate and negotiate them? *Why* have you planned to do this? *How* do you think these relationships could (or already have) facilitate or impede your study? What alternative kinds of relationships could you create, and what advantages and disadvantages would these have?
2. How do you think you will be seen by the people you interact with in your research? How will this affect your relationships with these people? What could you do to better understand and (if necessary) modify this perception?
3. What explicit agreements do you plan to negotiate with the participants in your study about how the research will be conducted and how you will report the results? What *implicit* understandings about these issues do you think these people (and you) will have? How will both the implicit and the explicit terms of the study affect your relationships and your research? Do any of these need to be discussed or changed?
4. What ethical issues or problems do these considerations raise? How do you plan to deal with these?

As with the memo on research questions (Exercise 4.1), this can be a valuable memo to discuss with colleagues or fellow students.

SITE AND PARTICIPANT SELECTION

Decisions about where to conduct your research and whom to include (what is traditionally called “sampling”) are an essential part of your research methods. Even a single case study involves a choice of this case rather than others, as well as requiring such decisions *within* the case itself. Miles and Huberman asked, “Knowing, then, that one cannot study everyone everywhere doing everything, even within a single case, how does one limit the parameters of a study?” (1984, p. 36). They argued that

Just *thinking* in sampling-frame terms is healthy methodological medicine. If you are talking with one kind of informant, you need to consider *why* this kind of informant is important, and, from there, which *other* people should be interviewed. This is a good, bias-controlling exercise.

Remember that you are not only sampling *people*, but also *settings, events, and processes*. It is important to line up these parameters with the research questions as well, and to consider whether your choices are doing a representative, time-efficient job of answering them. The settings, events, or processes that come rapidly to mind at the start of the study may not be the most pertinent or data-rich ones. A systematic review can sharpen early and later choices. (1984, p. 41)

Miles and Huberman (1994, pp. 27–34) and LeCompte and Preissle (1993, pp. 56–85) provided valuable discussions of the whole issue of sampling decisions, and I will not repeat all of their advice here. Instead, I want to talk about the *purposes* of different selection strategies, and some of the considerations that are relevant to such decisions.

First, the term “sampling” is problematic for qualitative research, because it implies the purpose of “representing” the population sampled. Quantitative methods texts typically recognize only two main types of sampling: probability sampling (such as random sampling) and convenience sampling (e.g., Light, Singer, & Willett, 1990, pp. 56–57). In probability sampling, each member of the population has a known, nonzero probability of being chosen, allowing statistical generalization from the sample to the population of interest. Light et al. stated that “probability samples are a paragon of high-quality research” (p. 56), a view that is widespread. As a result, any nonprobability sampling strategy is seen as “convenience sampling,” and is strongly discouraged.

This view ignores the fact that, in qualitative research, the typical way of selecting settings and individuals is neither probability sampling nor convenience sampling. It falls into a third category, which I will call *purposeful selection* (Light et al., 1990, p. 53); other terms are *purposeful sampling* (Patton, 1990, p. 169) and *criterion-based selection* (LeCompte & Preissle, 1993, p. 69). This is a strategy in which particular settings, persons, or activities are selected deliberately in order to provide information that can’t be gotten as well from other choices. For example, Weiss argued that many qualitative interview studies do not use “samples” at all, but *panels*—“people who are uniquely able to be informative because they are expert in an area or were privileged witnesses to an event” (1994, p. 17); this is one form of purposeful selection. Selecting those times, settings, and individuals that can provide you with the information that you need in order to answer your research questions is the most important consideration in qualitative selection decisions.

Patton (1990, pp. 169–186) and Miles and Huberman (1994, pp. 27–29) described a large number of types of sampling that can be employed in qualitative research, almost all of which are forms of purposeful selection. Patton mentioned “convenience sampling” only to warn against its use, claiming that

while convenience and cost are real considerations, they should be the last factors to be taken into account after strategically deliberating on how to get the most information of the greatest utility from the limited number of cases to be sampled. . . . *Convenience sampling is neither purposeful nor strategic.* (p. 181; emphasis in original)

However, Weiss (1994, pp. 24–29) argued that there are situations in which convenience sampling is the only feasible way to proceed—for example, in attempting to learn about a group that is difficult to gain access to, or a category of people who are relatively rare in the population and for whom no data on membership exist, such as “house husbands.” He listed several strategies for maximizing the value of such convenience samples.²

In qualitative studies with large sample sizes (e.g., Huberman, 1989) in which generalizability is an important goal, random sampling is a valid and often appropriate procedure. However, simple random sampling is a very poor way to draw a small sample, due to the high likelihood of substantial chance variation in such samples. Most of the advantages of random sampling depend on having a reasonably large sample size to make such variations unlikely. Light et al., in discussing *site selection*, stated that “with only a limited number of sites, consider *purposeful selection*, rather than relying on the idiosyncrasies of chance” (1990, p. 53); the same logic applies to selecting interview participants and observation settings.

There are a few circumstances in which random sampling can be useful in a small-scale qualitative study. Bobby Starnes, in her study of shared decision making in a daycare center (Example 5.1), used stratified random sampling of center staff when she had more volunteers than she could interview, mainly in order to avoid the perception of favoritism in selecting interviewees. However, in one case she altered the random selection in order to include a point of view that she believed would not otherwise have been represented (Starnes, 1990, p. 33).

There are at least four possible goals for purposeful selection; Creswell (2002, pp. 194–196) listed others, but I see these four as most important. The first is achieving representativeness or typicality of the settings, individuals, or activities selected. Because, as noted previously, random sampling is likely to achieve this only with a large sample size, deliberately selecting cases, individuals, or situations that are known to be typical provides far more confidence that the conclusions adequately represent the average members of the population than does a sample of the same size that incorporates substantial random or accidental variation.

The second goal that purposeful selection can achieve is the opposite of the first—to adequately capture the heterogeneity in the population. The purpose here is to ensure that the conclusions adequately represent the entire *range* of variation, rather than only the typical members or some “average” subset of this range; Guba and Lincoln (1989, p. 178) referred to this as “maximum variation” sampling. This is best done by defining the dimensions of variation in the population that are most relevant to your study and systematically selecting individuals or settings that represent the most important possible variations

on these dimensions.³ The tradeoff between this approach and selecting a more homogeneous sample is that you have less data about any *particular* kind of case, setting, or individual within the study, and will not be able to say as much in depth about typical instances.

The third possible goal is to deliberately examine cases that are critical for the theories that you began the study with, or that you have subsequently developed.⁴ Extreme cases often provide a crucial test of these theories, and can illuminate what is going on in a way that representative cases cannot. For example, Wievorka (1992) described a study in which the researcher, in order to test the view that the working class was not being assimilated into middle-class society, selected a case that would be highly unfavorable to this position: workers who were extremely affluent. The finding that these workers still retained a clear working-class identity provided far more convincing support for his conclusions than a study of “typical” workers would.

A fourth goal in purposeful selection can be to establish particular comparisons to illuminate the reasons for differences between settings or individuals. While such comparisons are less common in qualitative than in quantitative research, comparative designs are often used in multicase qualitative studies, as well as in mixed-method research (Maxwell & Loomis, 2002). However, explicit comparisons are usually not very productive in a small-scale qualitative study, because the small number of cases in any group limits your ability to draw firm conclusions about the differences between the groups. In addition, an emphasis on comparisons can skew your study toward the analysis of differences (variance theory), as described in Chapter 4, and lead you to neglect the main strength of qualitative research, which is its ability to elucidate *local* processes, meanings, and contextual influences in particular settings or cases.

In many situations, selection decisions require considerable knowledge of the setting of the study. In Jane Margolis’s study of classroom discourse norms in a college department (1990), she could interview only a small percentage of the students, and needed to develop some criteria for selecting participants. Her committee (of which I was a member) recommended that she interview sophomores and seniors, believing that this would provide the optimal diversity of views. When she consulted with members of the department, however, they told her that sophomores were too new to the department to fully understand the norms of discourse, while seniors were too deeply involved in their theses and in planning for graduation to be good informants. Juniors turned out to be the only appropriate choice.

Selection decisions should also take into account the feasibility of access and data collection, your research relationships with study participants, validity concerns, and ethics. For example, in Martha Regan-Smith’s study of how

medical school teachers help students learn basic science (see the Appendix), her choice of four award-winning teachers was based not only on the fact that these teachers were the most likely to exhibit the phenomena she was interested in (purposeful selection), but also because (as a fellow award winner) she had a close and collegial relationship with them that would facilitate the study. In addition, as exemplary teachers, they would be more likely to be candid about their teaching, and the research would be less likely to create ethical problems arising from her discovery of potentially damaging information about them.

One particular selection problem in qualitative studies has been called “key informant bias” (Pelto & Pelto, 1975, p. 7). Qualitative researchers sometimes rely on a small number of informants for a major part of their data, and even when these informants are purposefully selected and the data themselves seem valid, there is no guarantee that these informants’ views are typical. In addition, Poggie (1972) presented evidence that key informants themselves assume greater uniformity than actually exists. There is increasing recognition that cultural groups incorporate substantial diversity and that homogeneity cannot be assumed (Hannerz, 1992; Maxwell, 1995, 1999). Thus, you need to do systematic sampling in order to be able to claim that key informants’ statements are representative of the group as a whole (Heider, 1972; Sankoff, 1971).

DECISIONS ABOUT DATA COLLECTION

Most qualitative methods texts devote considerable space to the strengths and limitations of different qualitative data collection methods (see particularly Bogdan & Biklen, 2003; Patton, 2001), and I don’t want to repeat these discussions here. Instead, I want to address two key conceptual issues in selecting and using different data collection methods: the relationship between research questions and data collection methods and the triangulation of different methods. (The relative advantages of structured and unstructured methods, discussed previously, are also important considerations in planning data collection methods.)

The Relationship Between Research Questions and Data Collection Methods

The point that I want to emphasize here is that the methods you use to collect your data (including your interview questions) don’t necessarily resemble, or follow by logical deduction from, the research questions; the two are

distinct and separate parts of your design. This can be a source of confusion, because researchers often talk about “operationalizing” their research questions, or of “translating” the research questions into interview questions. Such language is a vestige of logical positivist views of the relationship between theory and data, views that have been almost completely abandoned by philosophers (Phillips, 1987). There is no way to mechanically “convert” research questions into methods; your methods are the *means* to answering your research questions, not a logical transformation of the latter. Their selection depends not only on your research questions, but also on the actual research situation and on what will work most effectively in that situation to give you the data you need.

A striking example of this, concerning interview questions, was provided by Kirk and Miller (1986, pp. 25–26), who conducted research in Peru on the use of coca leaves. Their open-ended questions about coca use, drawn fairly directly from their research questions, elicited a uniform, limited set of beliefs and practices that simply confirmed the things they had already read about coca. Frustrated and getting desperate, they began asking less logical questions, such as, “When do you give coca to animals?” or “How did you discover that you didn’t like coca?” Taken off guard, their informants began to open up and talk about their personal experience with coca, which was far more extensive than the previous data would have indicated.

This is an extreme case, but it holds in principle for any study. Your research questions formulate what you want to understand; your *interview* questions are what you ask people in order to gain that understanding. The development of good interview questions (and observational strategies) requires creativity and insight, rather than a mechanical conversion of the research questions into an interview guide or observation schedule, and depends fundamentally on how the interview questions and observational strategies will actually work in practice.

This doesn’t mean that you should conceal your research questions from participants, or treat them simply as subjects to be manipulated to produce the data you need, as discussed previously in the section titled “Negotiating Research Relationships.” Carol Gilligan (personal communication) emphasized the value of asking your interviewees “real questions,” ones to which you are genuinely interested in the answer, rather than contrived questions designed to elicit particular sorts of data. Doing this creates a more symmetrical and collaborative relationship in which participants are able to bring their own knowledge to bear on the questions in ways that you might never have anticipated.

There are two important implications that the lack of a direct logical connection between research questions and interview questions has for your research. First, you need to anticipate, as best you can, how particular questions will actually work in practice—how people will understand them, and

how they are likely to respond. Try to put yourself in your interviewee's place and imagine how you would react to these questions (this is another use of "thought experiments") and get feedback from others on how they think the questions (and the interview guide as a whole) will work. Second, if at all possible, you should *pilot-test* your interview guide with people as much like your planned interviewees as possible, to determine if the questions work as intended and what revisions you may need to make (see Example 3.4).

In addition, there are some cultures, settings, and relationships in which it is not appropriate or productive to conduct interviews, or even to ask questions, as a way of gaining information. C. Briggs (1986) described how, in his research on traditional religious wood carving in a Spanish-speaking community in northern New Mexico, the cultural norms of the community made the interviews he had planned to conduct completely inappropriate, and rendered these largely useless when he persisted with them. This situation forced him to discover the culturally appropriate way to learn about this topic, which was by apprenticeship. Similarly, Mike Agar, conducting research on heroin use, found that, on the streets, you don't ask questions. First, doing so raises suspicions that you will pass information on to the police or use it to cheat or rob the person you asked. Second, asking questions shows that you're not "hip," and therefore don't belong there (Hammersley & Atkinson, 1995, p. 128). Hammersley and Atkinson (1995) provided other examples of how traditional interviews may be inappropriate or unproductive (pp. 127–130), and C. Briggs (1986) showed how interviewing imposes particular Anglo-American discourse norms on one's participants, which can damage the relationship or reduce the amount of useful information you get.

This lack of a deductive relationship between questions and methods also holds, more obviously, for observation and other data collection methods. As with interviews, you need to anticipate what information you will actually be able to collect, in the setting studied, using particular observational or other methods, and, if possible, you should pretest these methods to determine if they will actually provide this information. Your data collection strategies will probably go through a period of focusing and revision, even in a carefully designed study, to enable them to better provide the data that you need to answer your research questions and to address any plausible validity threats to these answers.

Triangulation of Data Collection Methods

Collecting information using a variety of sources and methods is one aspect of what is called *triangulation* (Fielding & Fielding, 1986). This strategy reduces the risk that your conclusions will reflect only the systematic biases or limitations of a specific source or method, and allows you to gain a broader

and more secure understanding of the issues you are investigating. I discuss the use of triangulation generally, as a way to deal with validity threats, in Chapter 6; here, I want to focus specifically on combining different data collection methods.

Bobby Starnes's study (Example 5.1) provides a good illustration of the use of triangulation. She used four sources of data (the direct-care staff, her administrative team, her own notes and journals, and the center records) and several different methods of collecting these data. For example, the data from the staff were collected through journals, formal and informal interviews, participation in center activities, and anonymous questionnaires. These multiple sources and methods give her conclusions far more credibility than if she had been limited to one source or method.

One belief that inhibits triangulation is the widespread (though often implicit) assumption that observation is mainly useful for describing behavior and events, while interviewing is mainly useful for obtaining the perspectives of actors. It is true that the *immediate* result of observation is description, but this is equally true of interviewing: The latter gives you a description of what the informant *said*, not a direct understanding of his or her perspective. Generating an interpretation of someone's perspective is inherently a matter of inference from descriptions of that person's behavior (including verbal behavior), whether the data are derived from observations, interviews, or some other source such as written documents (Maxwell, 1992).

While interviewing is often an efficient and valid way of understanding someone's perspective, observation can enable you to draw inferences about this perspective that you couldn't obtain by relying exclusively on interview data. This is particularly important for getting at tacit understandings and "theory-in-use," as well as aspects of the participants' perspective that they are reluctant to directly state in interviews. For example, watching how a teacher responds to boys' and girls' questions in a science class may provide a much better understanding of the teacher's actual views about gender and science than what the teacher says in an interview.

Conversely, although observation often provides a direct and powerful way of learning about people's behavior and the context in which this occurs, interviewing can also be a valuable way of gaining a description of actions and events—often the *only* way, for events that took place in the past or ones to which you cannot gain observational access. Interviews can provide additional information that was missed in observation, and can be used to check the accuracy of the observations. However, in order for interviewing to be useful for this purpose, you need to ask about *specific* events and actions, rather than posing questions that elicit only generalizations or abstract opinions (Weiss, 1994, pp. 72–76). In both of these situations, triangulation of observations and interviews can provide a more complete and accurate account than either could alone.

DECISIONS ABOUT DATA ANALYSIS

Analysis is often conceptually separated from design, especially by writers who see design as what happens *before* the data are actually collected. Here, I treat analysis as a part of design (Coffey & Atkinson, 1996, p. 6), and as something that must itself be designed. Any qualitative study requires decisions about how the analysis will be done, and these decisions should inform, and be informed by, the rest of the design. The discussion of data analysis is often the weakest part of a qualitative proposal; in extreme cases, it consists entirely of generalities and “boilerplate” language taken from methods texts, and gives little sense of how the analysis will actually be done.

One of the most common problems in qualitative studies is letting your unanalyzed field notes and transcripts pile up, making the task of final analysis much more difficult and discouraging. There is a mountaineer’s adage that the experienced climber begins lunch immediately after finishing breakfast, and continues eating lunch as long as he or she is awake, stopping briefly to eat supper (Manning, 1960, p. 54). In the same way, the experienced qualitative researcher begins data analysis immediately after finishing the first interview or observation, and continues to analyze the data as long as he or she is working on the research, stopping briefly to write reports and papers. Heinrich’s (1984) rationale for immediately analyzing his biological data applies equally to the social sciences:

On a research project I usually try to graph my data on the same day I collect them. From day to day the points on the graph tell me about my progress. It’s like a fox pursuing a hare. The graph is the hare’s track, and I must stay close to that hare. I have to be able to react and change course frequently. (p. 71)

As Coffey and Atkinson (1996) stated, “We should never collect data without substantial analysis going on simultaneously” (p. 2). Again, this is a *design* decision, and how it will be done should be systematically planned (and explained in your proposal).

STRATEGIES FOR QUALITATIVE DATA ANALYSIS

For novices, data analysis is probably the most mysterious aspect of qualitative research. As with data collection methods, the following discussion is not intended to explain how to *do* qualitative data analysis; some good sources for this are Bogdan and Biklen (2003, chap. 5), Coffey and Atkinson (1996), Emerson, Fretz, and Shaw (1995), Miles and Huberman (1994), Strauss and

Corbin (1990), and Weiss (1994, chap. 6). Instead, I want to provide an overview of the different strategies and conceptual tools for qualitative analysis, and then discuss some specific issues in making decisions about analytic methods.

The initial step in qualitative analysis is *reading* the interview transcripts, observational notes, or documents that are to be analyzed (Emerson et al., 1995, pp. 142–143). Listening to interview tapes prior to transcription is also an opportunity for analysis, as is the actual process of transcribing interviews or of rewriting and reorganizing your rough observation notes. During this reading or listening, you should write notes and memos on what you see or hear in your data, and develop tentative ideas about categories and relationships.

At this point, you have a number of analytic options. These fall into three main groups: (1) memos, (2) categorizing strategies (such as coding and thematic analysis), and (3) connecting strategies (such as narrative analysis) (Maxwell & Miller, n.d.). Unfortunately, many texts and published articles deal explicitly only with coding, giving the impression that coding *is* qualitative data analysis. In fact, most researchers informally use other strategies as well; they just don't describe these as part of their analysis. I want to emphasize that reading and thinking about your interview transcripts and observation notes, writing memos, developing coding categories and applying these to your data, and analyzing narrative structure and contextual relationships are *all* important types of data analyses. Their use needs to be planned (and carried out) in order to answer your research questions and address validity threats.

As discussed in Chapter 1, memos can perform other functions not related to data analysis, such as reflection on methods, theory, or purposes. However, they are also an essential technique for qualitative analysis (Miles & Huberman, 1994, pp. 72–75; Strauss & Corbin, 1990, pp. 197–223). You should regularly write memos while you are doing data analysis; memos not only capture your analytic thinking about your data, but also *facilitate* such thinking, stimulating analytic insights.

The main categorizing strategy in qualitative research is coding. This is quite different from coding in quantitative research, which consists of applying a preestablished set of categories to the data according to explicit, unambiguous rules, with the primary goal being to generate frequency counts of the items in each category. In qualitative research, the goal of coding is not to count things, but to “fracture” (Strauss, 1987, p. 29) the data and rearrange them into categories that facilitate comparison between things in the same category and that aid in the development of theoretical concepts. Another form of categorizing analysis involves organizing the data into broader themes and issues.

An important set of distinctions in planning your categorizing analysis is among what I call “organizational,” “substantive,” and “theoretical” categories. Although these are not completely separate in practice, and intermediate categories are common, I think the conceptual distinction is valuable.

Organizational categories are broad areas or issues that you establish prior to your interviews or observations, or that could usually have been anticipated. McMillan and Schumacher (2001) referred to these as “topics” rather than categories, stating that “A topic is the descriptive name for the subject matter of the segment. You are not, at this time, asking ‘What is said?’ which identifies the meaning of the segment” (p. 469). In a study of elementary school principals’ practices of retaining children in a grade, examples of such categories are “retention,” “policy,” “goals,” “alternatives,” and “consequences” (p. 470). Organizational categories function primarily as “bins” for sorting the data for further analysis. They may be useful as chapter or section headings in presenting your results, but they don’t help much with the actual work of making sense of what’s going on (cf. Coffey & Atkinson, 1996, pp. 34–35).

This latter task requires substantive and/or theoretical categories, ones that provide some insight into what’s going on. These latter categories can often be seen as subcategories of the organizational ones, but they are generally *not* subcategories that, in advance, you could have known would be significant, unless you are already fairly familiar with the kind of participants or setting you’re studying or are using a well-developed theory. They implicitly make some sort of claim about the topic being studied—that is, they could be *wrong*, rather than simply being conceptual boxes for holding data.

Substantive categories are primarily *descriptive*, in a broad sense that includes description of participants’ concepts and beliefs; they stay close to the data categorized, and don’t inherently imply a more abstract theory. In the study of grade retention mentioned previously, examples of substantive categories would be “retention as failure,” “retention as a last resort,” “self-confidence as a goal,” “parent’s willingness to try alternatives,” and “not being in control (of the decision)” (drawn from McMillan & Schumacher, 2001, p. 472). Categories taken from participants’ own words and concepts (what are generally called “emic” categories) are usually substantive, but many substantive categories are not emic, being based on the *researcher’s* description of what’s going on. Substantive categories are often inductively developed through a close “open coding” of the data (Strauss & Corbin, 1998). They can be used in *developing* a more general theory of what’s going on, but they don’t *depend* on this theory.

Theoretical categories, in contrast, place the coded data into a more general or abstract framework. These categories may be derived either from prior theory or from an inductively developed theory (in which case the concepts

and the theory are usually developed concurrently). They usually represent the *researcher's* concepts (what are called “etic” categories), rather than denoting participants' own concepts. For example, the categories “nativist,” “remediationist,” and “interactionist,” used to classify teachers' beliefs about grade retention in terms of prior analytic dimensions (Smith & Shepard, 1988), would be theoretical.

The distinction between organizational categories and substantive or theoretical categories is important because some beginning qualitative researchers use mostly organizational categories to formally analyze their data, and don't systematically develop and apply substantive or theoretical categories in developing their conclusions. The more data you have, the more important it is to create the latter types of categories; with any significant amount of data, you can't hold all of the data relevant to particular substantive or theoretical points in your mind, and need a formal organization and retrieval system. In addition, creating substantive categories is particularly important for ideas (including participants' ideas) that don't fit into existing organizational or theoretical categories; such substantive ideas may get lost, or never developed, unless they can be captured in explicit categories. Consequently, you need to include in your design (and proposal) strategies for developing substantive and theoretical categories.

Connecting strategies operate quite differently from categorizing ones such as coding. Instead of “fracturing” the initial text into discrete segments and re-sorting it into categories, connecting analysis attempts to understand the data (usually, but not necessarily, an interview transcript or other textual material) in context, using various methods to identify the relationships among the different elements of the text (Atkinson, 1992; Coffey & Atkinson, 1996; Mishler, 1986). Examples of connecting strategies include some case studies (Stake, 1995), profiles and vignettes (Seidman, 1998), some types of discourse analysis (Gee, Michaels, & O'Connor, 1992) and narrative analysis (Coffey & Atkinson, 1996; Riessman, 1993), reading for “voice” (Brown, 1988), and ethnographic microanalysis (Erickson, 1992). What all of these strategies have in common is that they do not focus primarily on *similarities* that can be used to sort data into categories independently of context, but instead look for relationships that *connect* statements and events within a context into a coherent whole.

The identification of connections among different categories and themes can also be seen as a connecting step in analysis (Dey, 1993), but it is a broader one that works with the results of a prior categorizing analysis. This connecting step is necessary for building theory, a primary goal of analysis. However, it cannot recover the contextual ties that were lost in the original categorizing

analysis. A purely connecting analysis, on the other hand, is limited to understanding particular individuals or situations, and cannot develop a more general theory of what's going on. The two strategies need each other to provide a well-rounded account (Maxwell & Miller, n.d.).

The difference between categorizing and connecting strategies has important consequences for your overall design. A research question that asks about the way events in a specific context are connected cannot be answered by an exclusively categorizing analytic strategy (see Example 5.2). Conversely, a question about similarities and differences across settings or individuals cannot be answered by an exclusively connecting strategy. Your analysis strategies have to be compatible with the questions you are asking.

EXAMPLE 5.2

A Mismatch Between Questions and Analysis

Mike Agar (1991) was once asked by a foundation to review a report on an interview study that it had commissioned, investigating how historians worked. The researchers had used the computer program *The Ethnograph* to segment and code the interviews by topic and collect together all the segments on the same topic; the report discussed each of these topics, and provided examples of how the historians talked about these. However, the foundation felt that the report hadn't really answered its questions, which had to do with how individual historians thought about their work—their theories about how the different topics were connected and the relationships they saw between their thinking, actions, and results.

Answering the latter question would have required an analysis that elucidated these connections in each historian's interview. However, the categorizing analysis on which the report was based fragmented these connections, destroying the contextual unity of each historian's views and allowing only a collective presentation of shared concerns. Agar argued that the fault was not with *The Ethnograph*, which is extremely useful for answering questions that require categorization, but with its misapplication. As he commented, "The Ethnograph represents a *part of* an ethnographic research process. When the part is taken for the whole, you get a pathological metonym that can lead you straight to the right answer to the wrong question" (p. 181).

<i>What do I need to know?</i>	<i>Why do I need to know this?</i>	<i>What kind of data will answer the questions?</i>	<i>Where can I find the data?</i>	<i>Whom do I contact for access?</i>	<i>Time lines for acquisition</i>
What are the truancy rates for American Indian students?	To assess the impact of attendance on American Indian students' persistence in school	Computerized student attendance records	Attendance offices; assistant principals' offices for all schools	Mr. Joe Smith, high school assistant principal; Dr. Amanda Jones, middle school principal	August: Establish student database October: Update June: Final tally
What is the academic achievement of the students in the study?	To assess the impact of academic performance on American Indian students' persistence in school	Norm- and criterion-referenced test scores; grades on teacher-made tests; grades on report cards; student portfolios	Counseling offices	High school and middle school counselors; classroom teachers	Compilation #1: End of semester Compilation #2: End of school year
What is the English-language proficiency of the students?	To assess the relationship between language proficiency, academic performance, and persistence in school	Language-assessment test scores; classroom teacher attitude surveys; ESL class grades	Counseling offices; ESL teachers' offices	Counselors' test records; classroom teachers	Collect test scores Sept. 15 Teacher survey; Oct. 10-15 ESL class grades, end of fall semester and end of school year
What do American Indian students dislike about school?	To discover what factors lead to antischool attitudes among American Indian students	Formal and informal student interviews; student survey	Homeroom classes; meetings with individual students	Principals of high school and middle schools; parents of students; homeroom teachers	Obtain student and parent consent forms, Aug.-Sept. Student interviews, Oct.-May 30 Student survey, first week in May

Figure 5.1 Data-Planning Matrix for a Study of American Indian At-Risk High School Students*

<i>What do I need to know?</i>	<i>Why do I need to know this?</i>	<i>What kind of data will answer the questions?</i>	<i>Where can I find the data?</i>	<i>Whom do I contact for access?</i>	<i>Time lines for acquisition</i>
What do students plan to do after high school?	To assess the degree to which coherent post-high school career planning affects high school completion	Student survey; follow-up survey of students attending college and getting jobs	Counseling offices; Tribal Social Services office; Dept. of Probation; Alumni Association	Homeroom teachers; school personnel; parents; former students; community social service workers	Student survey, first week in May Follow-up survey, summer and fall
What do teachers think about their students' capabilities?	To assess teacher expectations of student success	Teacher survey; teacher interviews	—	Building principals; individual classroom teachers	Teacher interviews, November (subgroup) Teacher survey, April (all teachers)
What do teachers know about the home culture of their students?	To assess teachers' cultural awareness	Teacher interviews; teacher survey; logs of participation in staff development activities	Individual teachers' classrooms and records	Building principals; individual classroom teachers; assistant superintendent for staff development	Teacher interviews, November (subgroup) Teacher survey, April (all teachers)
What do teachers do to integrate knowledge of the student's home culture into community into their teaching?	To assess the degree of discontinuity between school culture and home culture	Teachers' lesson plans; classroom observations; logs of participation in staff development activities	Individual teachers' classrooms and records	Building principals; individual classroom teachers; assistant superintendent for staff development	Lesson plans, December–June Observations, Sept. 1–May 30 Staff development, June logs

SOURCE: Adapted from *Ethnography and Qualitative Design in Educational Research* (2nd ed.), by M. D. LeCompte and J. Preissle, 1993, San Diego: Academic Press.
NOTE: *Research problem: To what extent do various at-risk conditions contribute to dropping out for American Indian students?

LINKING METHODS AND QUESTIONS

To design a workable and productive study, and to communicate this design to others, you need to create a *coherent* design, one in which the different methods fit together compatibly, and in which they are integrated with the other components of your design. The most critical connection is with your research questions, but, as discussed previously, this is primarily an *empirical* connection, not a logical one. If your methods won't provide you with the data you need to answer your questions, you need to change either your questions or your methods.

A useful tool in assessing this compatibility is a matrix in which you list your questions and identify how each of the components of your methods will help you to get the data to answer these questions. Such a matrix displays the *logic* of your methods decisions. I have included one example of how such a matrix can be used⁵ (Figure 5.1); such a matrix can be valuable as an appendix to a research proposal. Following this, I have provided an exercise for you to develop a matrix for your own study.

EXERCISE 5.2

Questions and Methods Matrix

This exercise has two purposes. The first is for you to link your research questions and your research methods—to display the logical connections between your research questions and your selection, data collection, and data analysis decisions. The second purpose is to gain experience in using matrices as a tool; matrices are useful not only for research design, but also for ongoing monitoring of selection and data collection (see Miles & Huberman, 1994, p. 94) and for data analysis.

Doing this exercise can't be a mechanical process; it requires thinking about *how* your methods can provide answers to your research questions. One way to do this is to start with your questions and ask what data you would need, how you could get these data, and how you could analyze them in order to answer these questions. You can also work in the other direction: Ask yourself *why* you want to collect and analyze the data in the way you propose—what will you learn from this? Then examine these connections between your research questions and your methods, and work on displaying these connections in a matrix. Doing this may require

you to revise your questions, your planned methods, or both. Keep in mind that this exercise is intended to help you *make* your methods decisions, not as a final formulation of these.

The exercise has two parts:

1. Construct the matrix itself. Your matrix should include columns for research questions, selection decisions, data collection methods, and kinds of analyses, but you can add any other columns you think would be useful in explaining the logic of your design.
2. Write a brief narrative *justification* for the choices you make in the matrix. One way to do this is as a separate discussion, by question, of the rationale for your choices in each row; another way is to include this as a column in the matrix itself (as in Figure 5.1).

NOTES

1. This is simply another application of the variance versus process distinction discussed earlier. Rather than focusing on the *degree* of prestructuring and its consequences (treating prestructuring as a variable that can affect other variables), I am concerned with the *ways* that prestructuring is employed in actual studies and *how* it affects other aspects of the design.

2. However, he also dismissed as invalid a widely used argument for the generalizability of data from a convenience sample—a similarity between some demographic characteristics of the sample and of the population as a whole.

3. This process resembles that used for stratified random sampling; the main difference is that the final selection is purposeful rather than random.

4. Strauss (1987; Strauss & Corbin, 1990, pp. 176–193) developed a strategy that he called “theoretical sampling,” which is a variation on this third approach. Theoretical sampling is driven by the theory that is inductively developed *during* the research (rather than by prior theory); it selects for examination those particular settings, individuals, events, or processes that are most relevant to the emerging theory.

5. There are numerous examples of other types of matrices in Miles and Huberman (1994).

