

Qualitative Research for Education

An Introduction to Theory and Methods

FIFTH EDITION

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ment of your mind to discern their value as data. It means having a sense of how objects were produced and how that affects the form as well as the content of what you are surveying. It also involves knowing when to discount data of dubious value and when to pursue them.

When you say, "I am here to collect data. How does what I am doing relate to the research?" and you have internalized the researcher's role, you must abide by that sign. When you have enough data to accomplish what you have set out to do, the rest of why you remain is hollow. This is the time to say goodbye and

Data Analysis and Interpretation

By *data analysis*, we mean the process of systematically searching and arranging the interview transcripts, fieldnotes, and other materials that you accumulate to enable you to come up with findings. *Data interpretation* refers to developing ideas about your findings and relating them to the literature and to broader concerns and concepts. *Analysis* involves working with the data, organizing them, breaking them into manageable units, coding them, synthesizing them, and searching for patterns. Interpretation involves explaining and framing your ideas in relation to theory, other scholarship, and action, as well as showing why your findings are important and making them understandable. The end products of research are dissertations, books, papers, presentations, or, in the case of applied research, plans for action. Data analysis and interpretation moves you from the rambling pages of description to those products (LeCompte & Schensul, 1999).

While it is relatively easy to come up with an explanation of the difference between data analysis and data interpretation, it is much more difficult to separate the two in the process of doing qualitative research. Findings and ideas about findings emerge together. In this chapter we concentrate on analysis but we also provide advice on interpretation. In the next chapter, in which we take up writing, interpreting findings will be addressed again.

The analytic task, coming up with findings and interpreting and making sense out of the collected materials, appears monumental when one is involved in a first research project. For those who have never undertaken it, analysis looms large, something one can avoid, at first glance, by remaining in the field collecting data when that period should have ended. Anxiety mounts: "I didn't get anything good." "I've wasted my time." "This job is impossible." "My career will end with this mess of unanalyzed fieldnotes in my computer." These fears have crossed the minds of most of us the first time we faced analysis and interpretation. While it is complicated, it is also a process that can be broken down into stages. Confronted as a series of decisions and undertakings rather than as one vast interpretive effort, data analysis becomes a more manageable process.

Our purpose in this chapter is to help you learn to handle analysis and face interpretation. Some have written about these topics and we will refer you to them (Becker, 1970a; Cassell, 1978a; Lofland, 1971; Schatzman & Strauss, 1973; Spradley, 1980; Strauss, 1987; Miles & Huberman, 1994; LeCompte & Schensul, 1999), but one complaint by novices

about the qualitative research literature is that analysis and interpretation have never received enough attention. This may be because no matter how much it is discussed in the literature, people who have not had experience doing it will never feel they know how, and consistently ask for more. The information we provide in this chapter is rudimentary and practical. We want to get you started. We provide some concrete suggestions on how to proceed to make analysis and interpretation conceptually manageable as well as mechanically feasible. But if you want to learn how to do it, you have to take data and work with them, trying different approaches and styles as you go. There is no quick fix, no easy set of procedures to apply to all projects.

Before we start, we remind you of discussions in previous chapters. There are many different styles of qualitative research and there are a variety of ways of handling analysis and interpretation. It is useful to think of approaches to analysis as falling into two modes. In one approach, analysis and interpretation are concurrent with data collection and are more or less completed by the time the data are gathered. This approach is more commonly practiced by experienced fieldworkers. If you know what you are doing, it is most efficient and effective. The other mode involves collecting the data before doing the analysis and interpretation. Because reflecting about what you are finding and making design decisions while in the field is part of every qualitative study, researchers only approach this mode, never following it in its pure form.

In our judgment, the beginning researcher should borrow strategies from the analysis-in-the-field mode, but leave the more formal analysis and interpretation until most of the data are in. Problems of establishing rapport and getting on in the field are complicated and too consuming for beginners to enable them to actively pursue analysis. There is just too much to juggle at one time. In addition, new researchers often do not have the theoretical and substantive background to plug into issues and themes when they first arrive on the scene. To do ongoing analysis and interpretation, one must have an eye for the conceptual and substantive issues that are displayed—something someone new to the field is not as likely to have as an old-timer.

While we recommend delaying attempts at full-fledged, ongoing analysis and interpretation, some analysis must take place during data collection. You need to decide on a focus, for example. This is based on thinking and making judgments about your data—analysis. Without it, the data collection has no direction; thus the data you collect may not be substantial enough to accomplish analysis later. Although you always collect more data than you need or can ever use, a focus will keep the task manageable. After you complete a study or two, you can begin more formal analytic procedures earlier, employing them in the field.

Analysis and Interpretation in the Field

The following are suggestions to help you make analysis and interpretation an ongoing part of data collection and to leave you in good stead to complete the process after you leave the field:

1. *Force yourself to make decisions that narrow the study.* As we said earlier, in most studies data collection is like a funnel. At first, you collect data widely, pursuing different

subjects, exploring physical and social spaces to get a sense of the setting, subjects, and issues in which you have opened a research focus, based both on what is feasible and on what you want to do. You narrow the scope of data collecting. Do this after three or four interviews. The kinds of decisions you might make are: "I will focus on this school." "I will explore more deeply women's experiences." "My major concern will be how the children experience the program." "I will focus on students in large high schools." "My major focus will be on children and not on students."

Enjoy the initial freedom of exploration, but focus on what you want to do. Choices are difficult, since everything is exciting and new. You must discipline yourself not to pursue every possibility, such as physical mobility, or else you are likely to wind up with too much data for what you decide to do. The more data you have, the more difficult the easier it will be to think deeply about it, and the more difficult when you attempt the final analysis.

2. *Force yourself to make decisions concerning the type of analysis to accomplish.* In Chapters 1 and 2, we discussed various types of qualitative case studies, observational studies, life histories, and so on. You belong to research traditions that favor one of these types. You may actually pursue data directed at producing one of the types, but you may be more eclectic but, nevertheless, make conscious decisions about what to pursue. As a novice, you might not be associated with a particular type, but you have the knowledge to collect particular types of data. You must decide, in your own mind, for example, whether you want to do a full description of a case or are interested in generating a theory about a particular aspect of the case. Are you interested in minute details of interaction or are you concerned with the overall pattern? We recommend that you attempt to decide what type of analysis you may be difficult to accomplish in advance. While you cannot be sure, you may not feel that you have enough command over your work to make a decision. Try to guide your work with some kind of model, or a set of questions.

3. *Develop analytic questions.* In our discussion of analytic questions, we saw that researchers bring general questions to a study. These are then refined to data collection and help organize it as you proceed. The questions are closely linked to the type of study you attempt. We suggest that, in the field, you assess which of the questions you brought to the study should be reformulated to direct your work.

When we began a study of a job-training program, we were brought to the study the question: "What factors in the program lead to changes in the trainees to heighten their employability?" It soon became clear that the people in the program were not motivated and that most of what went on in the program was unproductive. The first question was abandoned for: "How does this program relate to its first question? It is so foreign to its official goals?" (Bogdan, 1971).

research literature is that analysis and interpretation have never really been done. This may be because no matter how much it is discussed in the literature, we have not had experience doing it, so we will never feel they know how, and we are not. The information we provide in this chapter is rudimentary and is what you started. We provide some concrete suggestions on how to do analysis and interpretation conceptually manageable as well as mechanically. If you want to learn how to do it, you have to take data and work with it using various approaches and styles as you go. There is no quick fix, no easy set of rules for all projects.

We remind you of discussions in previous chapters. There are many ways to do qualitative research and there are a variety of ways of handling analysis and interpretation. It is useful to think of approaches to analysis as falling into two modes. In the first mode, analysis and interpretation are concurrent with data collection and are done as the time the data are gathered. This approach is more commonly used by fieldworkers. If you know what you are doing, it is most efficient. In the second mode involves collecting the data before doing the analysis and interpreting about what you are finding and making design decisions about the form of every qualitative study, researchers only approach this mode, and it is a more formal form.

The beginning researcher should borrow strategies from the analysis and interpretation. The more formal analysis and interpretation until most of the data are collected. Establishing rapport and getting on in the field are complicated and too time-consuming to enable them to actively pursue analysis. There is just too much to do. In the second mode, new researchers often do not have the theoretical and substantive knowledge to enable them to actively pursue analysis. There is just too much to do. In the second mode, new researchers often do not have the theoretical and substantive knowledge to enable them to actively pursue analysis. There is just too much to do. In the second mode, new researchers often do not have the theoretical and substantive knowledge to enable them to actively pursue analysis. There is just too much to do.

and delaying attempts at full-fledged, ongoing analysis and interpretation until after data collection. You need to decide on a focus, and then you can think and make judgments about your data—analysis. In the first mode, analysis has no direction; thus the data you collect may not be substantive. In the second mode, analysis has no direction; thus the data you collect may not be substantive. In the second mode, analysis has no direction; thus the data you collect may not be substantive. In the second mode, analysis has no direction; thus the data you collect may not be substantive.

in the Field

questions to help you make analysis and interpretation an ongoing process and to leave you in good stead to complete the process after you have collected the data.

Make decisions that narrow the study. As we said earlier, in most qualitative studies, you like a funnel. At first, you collect data widely, pursuing different

subjects, exploring physical and social spaces to get a broad understanding of the parameters of the setting, subjects, and issues in which you are interested. After you have developed a research focus, based both on what is feasible to do and what is of interest to you, narrow the scope of data collecting. Do this after three or four visits or some initial interviews. The kinds of decisions you might make are: "I will focus on one third-grade class in this school." "I will explore more deeply women's memories of puberty." "My major concern will be how the children experience the program." "I will interview women who teach in large high schools." "My major focus will be on communication between teachers and students."

Enjoy the initial freedom of exploration, but force yourself to make decisions early. Choices are difficult, since everything is exciting and the world you study seems boundless. You must discipline yourself not to pursue everything and to put some limits on your physical mobility, or else you are likely to wind up with data too diffuse and inappropriate for what you decide to do. The more data you have on a given topic, setting, or subjects, the easier it will be to think deeply about it, and the more productive you are likely to be when you attempt the final analysis.

2. *Force yourself to make decisions concerning the type of study you want to accomplish.* In Chapters 1 and 2, we discussed various types of qualitative studies: organizational case studies, observational studies, life histories, and so on. Some accomplished researchers belong to research traditions that favor one of these types over the others and they automatically pursue data directed at producing one of the types. Other experienced researchers are more eclectic but, nevertheless, make conscious decisions about what type of study they want to pursue. As a novice, you might not be associated with a particular tradition or may not have the knowledge to collect particular types of data. You should try to make clear in your own mind, for example, whether you want to do a full description of a setting or whether you are interested in generating a theory about a particular aspect of it. Are you interested in the minute details of interaction or are you concerned with more general social processes? While we recommend that you attempt to decide what type of study to pursue, we recognize that it may be difficult to accomplish in advance. While you can distinguish the different types, you may not feel that you have enough command over your project to do more than merely survive. Try to guide your work with some kind of model, but do not worry if you cannot.

3. *Develop analytic questions.* In our discussion of design, we mentioned that some researchers bring general questions to a study. These are important because they give focus to data collection and help organize it as you proceed. The questions you formulate are closely linked to the type of study you attempt. We suggest that shortly after you enter the field, you assess which of the questions you brought with you are relevant and which should be reformulated to direct your work.

When we began a study of a job-training program for the hard-core unemployed, we brought to the study the question: "What factors in the program effectively bring about changes in the trainees to heighten their employability?" After initial observations it became clear that the people in the program were not necessarily "hard-core unemployed," and that most of what went on in the program was unrelated to preparation for work. The first question was abandoned for: "How does this program continue when what goes on in it is so foreign to its official goals?" (Bogdan, 1971).

Examples of other organizing questions include one that a researcher asked after she started to spend time in a kindergarten class: "What do these children do in school each day?" In a study we did in an intensive care ward for infants in a teaching hospital, we started our fieldwork with no particular focus in mind, but soon organized our work around the question: "What is the nature of communication between parents and medical professionals on the unit?" Later that question was divided into three questions: "Who talks to parents about their children? What do they say? What do parents hear?"

Sometimes people who are new to qualitative research ask questions that cannot be answered very well by this approach. These questions are often a by-product of early training in the quantitative tradition and are directed at finding the "cause" or rate of a particular phenomenon. One researcher, for example, who had years of experience as a nurse, was starting to do observations and interviews with recent heart attack victims who were enrolled in a patient-education program designed to reduce the risk of future heart problems. She was interested in the patients' compliance to the rules laid out for them in the training sessions. While the general interest in the program's relation to patient behavior was easily explored in a qualitative mode, she was misguided in stating two further questions: "Who was more compliant, men or women?" and "What were the differences in the rates of compliance?" Questions developed to guide a qualitative study need to be more open-ended and concerned with process and meaning rather than cause and effect.

In a study of a program in which instructional technologists encouraged teachers to use media more effectively, the question was: "What happened when media specialists attempted to get teachers to behave differently toward media?" In an interview study of people labeled "retarded," we asked: "How do people labeled 'retarded' come to think about themselves?"

Qualitative researchers often make a distinction between substantive theoretical questions and formal theoretical questions. The questions we just listed are substantive; that is, they are focused on the particular setting or subjects you are studying. To change a substantive question to a formal theoretical question, change the wording; in most cases this can be accomplished by simply omitting phrases or adjectives (Glaser & Strauss, 1967, p. 80). "How does this program continue when what goes on in it is so foreign to its official goals?" becomes "How do programs that engage in activities so foreign to their stated goals continue to operate?" "What is the nature of communication between parents and medical professionals on the unit?" becomes "What is the nature of communication between parents and professionals?" "What happened when media specialists attempted to get teachers to behave differently toward media?" becomes "What happens when outside specialists attempt to change teachers' behavior?"

In research where you observe in a variety of settings and in studies in which you are employing theoretical sampling, the substantive questions will naturally change to theoretical questions. If you do a great deal of analysis in the field and develop these questions and answers as you move from site to site, you are generating what has been called *formal grounded theory* (Glaser & Strauss, 1967). As we have suggested, this sophisticated analysis while in the field is difficult for the beginner to accomplish. Most beginners will carry out a study within one setting or cohort of subjects. We suggest that you keep your questions at a substantive level for the purposes of guiding your data collection, but speculate in observer's comments and memos about the relation between substantive theory and formal theory. In the formal analysis, after you have completed data collection, you can speculate

further. When writing up your findings you might, de-link your substantive findings to formal theoretical issues. your findings have on human behavior in general.

In addition to formulating questions, we find capture the project's intent. The statements should be two. Pretend an intelligent layperson who knows not study asks you, "What are you trying to find out in your study?" statements include: "I am trying to understand communication on a hospital ward." "I am trying to understand the about their bodies as they progress from junior high work on being clear enough in your own mind to get confuses nor bores the questioner. Work on such a statement you are on your way to clarifying your own purposes—

4. Plan data-collection sessions in light of what you usually review your fieldnotes and plan to pursue specific session. Ask yourself, "What is it that I do not yet know have to think about what you know already and what you want to spend more time in one place than another plan to interview a particular subject with specific questions." In a neonatal study, after it was decided that the focus would be on parents, the researchers went out of their way to discussing children with their parents. In conversations with they knew and how they got to know it were raised.

While we suggest that you plan observation sessions, plans may fall through. You may go out into the setting do what you had hoped. While there is no way you can field, the plans can help you focus and strengthen your implement them.

5. Write many "observer's comments" about ideas posed to contain observer's comments. As we discussed, comments are sections of the fieldnotes in which the researcher and feelings. On first projects researchers usually do. Rather than allowing the recording of detailed descriptions, the exclusion of formulating hunches, record important data collection before you lose them. Whenever you feel or a dialogue engaged in, note the images that come to mind reminds you of incidents in other settings, record these. Particularly important in moving from substantive theory to formal or circumstances recur, mention it in observer's comments. If you think you have a breakthrough in understanding, secure to you, record and elaborate on it. If you notice common, point it out in observer's comments. The idea about what you see and to become more than a record are observing to ideas and findings in the literature.

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you observe in a variety of settings and in studies in which you are sampling, the substantive questions will naturally change to theoretical. A great deal of analysis in the field and develop these questions from site to site, you are generating what has been called *formal* (Glaser & Strauss, 1967). As we have suggested, this sophisticated analysis is difficult for the beginner to accomplish. Most beginners will carry out a sampling or cohort of subjects. We suggest that you keep your questions for the purposes of guiding your data collection, but speculate in your memos about the relation between substantive theory and formal analysis, after you have completed data collection, you can speculate

further. When writing up your findings you might, depending on your audience, attempt to link your substantive findings to formal theoretical issues, that is, reflect on what bearing your findings have on human behavior in general.

In addition to formulating questions, we find it useful to compose statements that capture the project's intent. The statements should be simple and limited to a sentence or two. Pretend an intelligent layperson who knows nothing of your interest or your field of study asks you, "What are you trying to find out in your research?" Examples of clarifying statements include: "I am trying to understand communication between staff and patients on a hospital ward." "I am trying to understand the changing ways young women think about their bodies as they progress from junior high school through college." You should work on being clear enough in your own mind to give a satisfactory answer that neither confuses nor bores the questioner. Work on such a statement; if you can come up with one, you are on your way to clarifying your own purposes—a key to analysis and interpretation.

4. Plan data-collection sessions in light of what you find in previous observations. Regularly review your fieldnotes and plan to pursue specific leads in your next data-collection session. Ask yourself, "What is it that I do not yet know?" To answer this question, you will have to think about what you know already and what shape your study is taking. Decide if you want to spend more time in one place than another, arrange to see a specific activity, or plan to interview a particular subject with specific questions in mind. For example, in the neonatal study, after it was decided that the focus would be on communication between staff and parents, the researchers went out of their way to be at meetings where staff were discussing children with their parents. In conversations with parents, questions regarding what they knew and how they got to know it were raised.

While we suggest that you plan observation sessions to build on previous ones, these plans may fall through. You may go out into the setting only to find that it is impossible to do what you had hoped. While there is no way you can control what your subjects do in the field, the plans can help you focus and strengthen your project regardless of your ability to implement them.

5. Write many "observer's comments" about ideas you generate. Fieldnotes are supposed to contain observer's comments. As we discussed in Chapter 4, observer's comments are sections of the fieldnotes in which the researcher records his or her own thoughts and feelings. On first projects researchers usually do not spend enough time speculating. Rather than allowing the recording of detailed description to dominate your activities to the exclusion of formulating hunches, record important insights that come to you during data collection before you lose them. Whenever you feel strongly about an event witnessed or a dialogue engaged in, note the images that come to mind. When something occurs that reminds you of incidents in other settings, record these mental connections (this is particularly important in moving from substantive theory to formal theory). When words, events, or circumstances recur, mention it in observer's comments and speculate about meanings. If you think you have a breakthrough in understanding something that was previously obscure to you, record and elaborate on it. If you notice that certain subjects have things in common, point it out in observer's comments. The idea is to stimulate critical thinking about what you see and to become more than a recording machine. Try to relate what you are observing to ideas and findings in the literature. Observer's comments can be a first

step to interpreting your findings. Figure 5.1 contains examples of observer's comments from the mainstreaming study that were helpful in analysis.

6. *Write memos to yourself about what you are learning.* After you have been in the field five or six times, force yourself to read over your data and write a one- or two-page summary of what you think is emerging. Develop links in that summary between observer's comments. Continue this practice of memo writing or summarizing regularly.

FIGURE 5.1 *Examples of Observer's Comments*

The following are some examples of observer's comments taken from a study of the inclusion of children with disabilities into public school classrooms. If your notes have such paragraphs in abundance, final analysis will be easier.

(O. C.: The principal of Fairview Elementary School refers to having regular (non-special education) teachers coming into this class for autistic children to teach music as "mainstreaming." I have never heard anyone at the university refer to mainstreaming in this way. It is as if the teacher is being mainstreamed into the class.)

(O. C.: Ben Shotland often has negative things to say about the district's efforts to mainstream, yet he does so well in his class with the children labeled "handicapped." He is up for tenure and may be feeling that pressure. He seems to be anti-administration, and what he says about mainstreaming may be a manifestation of his general dissatisfaction with the teachers' position in the school or with the administration.)

(O. C.: I found it unusual that the teacher said that the child going down the hall in the wheelchair was not disabled. What she meant was that the child was not receiving any special services and had not had an IEP written up on her. According to the administration, the child isn't disabled, but according to anyone who would see the child, you would think of her as disabled. I'll have to pursue the different perceptions of disability. Some kids appear to have nothing wrong with them; yet they are listed on the rolls as having disabilities. I'll have to pursue this further.)

(O. C.: This is the third time I've heard from different sources that the scheduling of mainstreamed children is done so that certain teachers do not have children with disabilities in their classes. How does this come about? How are they thought of by other teachers? It seems as if the school is divided between pro-mainstreaming and anti-mainstreaming forces.)

(O. C.: Mrs. May has little good to say about the workshop she attended to prepare her for taking children with disabilities into her class. Her emphasis on "What should I do?" rather than what is the nature of the children's problems seems to be an orientation shared by Mr. Reese, Mrs. Jones, and Sally Bartlett. Lowell Sharp and Minguel seem much more interested in the causes of the problem. It's interesting that those who are concerned with the here and now have never mentioned job mobility. The others are all taking university courses and talk about changing their fields. I wonder if my perceptions are true and if they are, what it all means.)

These memos can provide a time to reflect on issues that relate to larger theoretical, methodological, and substantive concerns.

The memo shown in Figure 5.2 was written after a student's participation in a program for "neurologically impaired" and "learning disabled" students in an urban high school. The form and content of such a memo are not unique; it may include this one only to show you an example of the memo. The memo is of sense only to the people who are intimately involved in the study. The memo may not be clear or may not have the significance of the memos discussed in Chapter 4, memos also contain material of a different kind. The strategies. We include such an example in Figure 5.2. The memo may help you work through discouragement in the midst of a study, increasing sophistication, and document the researcher's reflections. The memo written during the course of a student's doctoral dissertation.

As your research proceeds, your memos may be devoted to just one idea. Others may be more specific, relating findings to other situations and data. You should not let this happen when writing a formal paper. Use a free style, informal, and personal. You will have plenty of time to ponder over what you have learned in analysis after you have completed data collection.

7. *Try out ideas and themes on informants.* In Chapter 4, we discussed key informants, subjects who are unusually perceptive and who provide resources in preliminary analysis. During preliminary analysis, for example, you may notice teachers lining up for or against a key informant by saying, "I've noticed that you can get a lot of resistance and constance on mainstreaming." See how the idea is received, agree or disagree and explain why the way you are thinking. The views of residents and interns on the infants' intensive care unit. The scheme we developed to account for house staff's reactions. The parents of the infants with selected informants. They were not mentioned, as well as to the fact that we had been talking about relations between parents and that a continuum better portended.

While you can use informants for a resource, they are not completely. They have a stake in seeing things in a particular way. Their abilities to help clarify and analyze. One perceptual study, for example, denied that making judgments about the study was problematic. He took the position that the specific individual judgment. Our fieldnotes were filled with reflections on such decisions. His refusal to talk about this area did not mean to explore; it just meant that he was not a good person to talk to.

As we mentioned in the last chapter, it may be useful to learn to certain informants because they may without others. While not everyone should be asked, and while not all informants, under the appropriate circumstances, can be used, especially to fill in the holes of description.

findings. Figure 5.1 contains examples of observer's comments that were helpful in analysis.

Write about what you are learning. After you have been in the field, take time to read over your data and write a one- or two-page summary. Develop links in that summary between observations and theory. Continue this practice of memo writing or summarizing regularly.

Observer's Comments

Examples of observer's comments taken from a study of the inclusion of students with disabilities in public school classrooms. If your notes have such paragraphs in them, they will be easier to use.

At Fairview Elementary School, the teacher refers to having regular (non-special) students coming into this class for autistic children to teach music as "mainstreaming." (I have never heard anyone at the university refer to mainstreaming in this way. It is being mainstreamed into the class.)

Mr. [Name] often has negative things to say about the district's efforts to mainstream students. He is up for a fight with the children labeled "handicapped." He is up for a fight feeling that pressure. He seems to be anti-administration, and what he is saying may be a manifestation of his general dissatisfaction with the school or with the administration.)

It is unusual that the teacher said that the child going down the hall in the wheelchair was disabled. What she meant was that the child was not receiving any special services. She had not had an IEP written up on her. According to the administration, the child was not going to school. If you would see the child, you would think of it as a waste of time to pursue the different perceptions of disability. Some kids appear to be going with them; yet they are listed on the rolls as having disabilities. I'll continue to observe them further.)

For the first time I've heard from different sources that the scheduling of mainstreaming is done so that certain teachers do not have children with disabilities in their classrooms. How are they thought of by other teachers? It seems as if there is a tension between pro-mainstreaming and anti-mainstreaming forces.)

It is a little good to say about the workshop she attended to prepare her for the inclusion of disabilities into her class. Her emphasis on "What should I do?" rather than "What are the children's problems?" seems to be an orientation shared by Mr. [Name] and Sally Bartlett. Lowell Sharp and Minguel seem much more interested in the problem. It's interesting that those who are concerned with the problem never mentioned job mobility. The others are all taking university courses without changing their fields. I wonder if my perceptions are true and if they are shared by others.)

These memos can provide a time to reflect on issues raised in the setting and how they relate to larger theoretical, methodological, and substantive issues.

The memo shown in Figure 5.2 was written after six observations at a mainstreaming program for "neurologically impaired" and "learning disabled" adolescents located in an urban high school. The form and content of such a memo can vary a great deal and we include this one only to show you an example of the many possibilities. Memos often make sense only to the people who are intimately involved in the research, thus parts of this memo may not be clear or may not have the significance they do to the author. As we discussed in Chapter 4, memos also contain material on fieldwork technique and research strategies. We include such an example in Figure 5.3. Additionally, memo writing may help you work through discouragement in the midst of a project, chart your own developing sophistication, and document the researcher's reflexivity. Figure 5.4 reflects such a memo written during the course of a student's doctoral research.

As your research proceeds, your memos may become more conceptual. Some may be devoted to just one idea. Others may be more speculative "think pieces" linking your findings to other situations and data. You should not labor over these memos as you might when writing a formal paper. Use a free style, informal language, and let the ideas flow. You will have plenty of time to ponder over what you say when you get to the more formal analysis after you have completed data collection.

7. Try out ideas and themes on informants. In Chapter 3 on fieldwork, we discussed key informants, subjects who are unusually perceptive and articulate. They can be used as resources in preliminary analysis. During preliminary observations in a study of inclusion, for example, you may notice teachers lining up for or against it. You might bring this up to a key informant by saying, "I've noticed that you can group teachers according to their pro and con stance on mainstreaming." See how the idea strikes the teacher. He or she may agree or disagree and explain why the way you are thinking is right or wrong. In the study of residents and interns on the infants' intensive care unit in a teaching hospital, we shared the scheme we developed to account for house staff's unofficial classification scheme of parents of the infants with selected informants. They pointed to "types" of parents we had not mentioned, as well as to the fact that we had been too categorical in making distinctions between parents and that a continuum better portrayed their thoughts about parents.

While you can use informants for a resource, it is important not to defer to them completely. They have a stake in seeing things in a particular way that might interfere with their abilities to help clarify and analyze. One perceptive doctor in the teaching hospital study, for example, denied that making judgments about which infants were "nonviable" was problematic. He took the position that the specific nature of the criteria minimized individual judgment. Our fieldnotes were filled with references to the problematic nature of such decisions. His refusal to talk about this area did not mean that it was unimportant to explore; it just meant that he was not a good person to help us figure out that issue.

As we mentioned in the last chapter, it may be unwise to reveal how much you are learning to certain informants because they may withdraw. Be selective in choosing helpers. While not everyone should be asked, and while not all you hear may be helpful, key informants, under the appropriate circumstances, can help advance your analysis, especially to fill in the holes of description.

FIGURE 5.2 *Fieldnote Memo*

A number of themes, ideas, and areas for further investigation have emerged already. I will list them.

1. *Students' use of the class and their label in negotiating a place in the school.* Some kids at some times do not want to be associated with the program because they say they are ashamed to be in special education. Phil and Pam want the door closed when they are in the room, but they talk about negotiating with teachers whose classes they are taking in ways that indicate that being associated with the program lets them get certain advantages. It provides them with the opportunity to withdraw from certain activities. Phil's remark during the discussion about the military draft was that if they wanted to draft him he would tell them he was handicapped but he would not tell a girl he wanted to take out. That gets at some of the selective use of "disability." Alfred's discussion about how the kids in the program would be thought of as having an inferior brain but now they are thought of as having something particularly wrong with them is related to this. I'll have to look out for material on how kids use the labels and the class and when they choose to identify with them and when not.
2. *Teachers' use of the concept of mainstreaming.* When I first started this study I thought that regular class teachers would or would not want to be involved with disabled children on the basis of their feelings and experiences with "labeled" kids. While this seems to be true in some cases, a lot of the disposition to the program seems unrelated to the particulars about it or the population served. Some teachers feel that the administration is in general not supportive and they approach what they consider "additional" problems with the disposition that "I have enough." When I say "the administration," I mean the central office, those whom they see as determining the outcome of the contract bargaining. Others concentrate on the principal and feel that he works hard to make things work for them so if he wants them to get involved in a new effort, they will. This needs a lot of working out but it may be fruitful to pursue looking at what one's position is on mainstreaming and how it is talked about as being a manifestation of conflict and competing interests in the school. Also, this reminds me of how particular teachers think of the various special education classes. Marge was telling me that she likes kids with learning disabilities because they aren't trouble-makers like those in the resource room who have emotional disturbances.
3. *Categories of kids with disabilities.* In a very short time I have gotten a lot of stuff on how the teacher perceives the various categories. I just mentioned Marge's comment but teachers who head up the programs have their own way of classifying the kids. Mr. O'Rourke, in describing "his kids," said that there were three kids that really didn't belong in the program. Two were there because parents had forced them in (one is "too smart" for the program—the other is "too slow") and the other was there because he knew the kid from last year and there was nothing else for him. Then there are kids who never come. There are twelve kids on the books. If three don't belong and three aren't regularly in attendance, that leaves six. Raises questions concerning counting who the program serves. Then there are kids who are referred to as "really having problems." Kids that are going to "make it." Kids that they are "worried about." Kids that "won't be here after the end of the year or after they turn sixteen." "Nice kid" and "off-the-wall" are also terms that I am hearing. I'll have to be more systematic in getting at this and how the regular class teachers classify the students as compared to the special education students. There is some indication that this may be different. Also how the psychologist classifies the kids compared to the teachers should be interesting to look at.
4. *The relationship of the program to the structure and milieu of the school.* I have already got a number of items in my notes referring to college and the academic press of the school.

FIGURE 5.2 Continued

Two people have described the school as consisting of high achievers and very low achievers. I am told that the high-achieving families living in the area immediately around the school are mainly the inner-city kids, many of whom are on welfare. There must be a lot of students here who don't fit the perception of who the students are affects what teachers think the kids in the L. D. program fit? I am also told about the hostility between blacks and whites, friendship patterns. White kids eat together in the cafeteria. Black and white kids are of professional backgrounds and the whites are not. There are rich and poor, black and white. It is important to see how patterns in the school at large are reflected in the program.

FIGURE 5.3 *A Methodological Memo*

Memo

The Interviewer as Chameleon

Date: March 31, 1988

Teachers are so different from one another! Even though I am among them, I am always surprised, spending the amount of time with different these teachers are. Interviewing these teachers and trying to understand that the researcher really has to be like a chameleon during the interview. I don't want to pretend things that you don't feel, but on the other hand, from this other person's point of view, I find myself interacting with them from their view. When I compare my interviews with Brigit and Bill, I see very different people. With Brigit, I would ask her a question and she would shake my head, say "uh-huh," and be very interested. With Bill, I wasn't formal, but it was task-centered and straightforward.

My interview with Bill was much more casual. He didn't follow a protocol at all. I found myself picking up his topics and saying things like, "fuck this," and "fuck that." I sort of fit in with him and said that something was "shitty." I don't think Bill had the same attitude Brigit did, and that might account for some of the differences.

I take from this that the interviewer acts like a chameleon (somewhat) to the different styles of the people that I'm interviewing. I think this strategy actually enables me to ask more questions. If you adapt to their style, they can see you as a friend, and they say. They seem to be willing to answer these challenges. I think as an insider to the outsider. Of course, you have to be careful. If you are not, people will see you as a phony. That's why I think.

and areas for further investigation have emerged already. I will list them.

class and their label in negotiating a place in the school. Some kids are reluctant to be associated with the program because they say they are ashamed of it. Phil and Pam want the door closed when they are in the room, but negotiating with teachers whose classes they are taking in ways that indicate with the program lets them get certain advantages. It provides them with withdrawal from certain activities. Phil's remark during the discussion about that if they wanted to draft him he would tell them he was handicapped a girl he wanted to take out. That gets at some of the selective use of "discussion about how the kids in the program would be thought of as having now they are thought of as having something particularly wrong with them. I'll have to look out for material on how kids use the labels and the choose to identify with them and when not.

concept of mainstreaming. When I first started this study I thought that some kids would or would not want to be involved with disabled children on the basis of their own experiences with "labeled" kids. While this seems to be true in general, the disposition to the program seems unrelated to the particulars about the kids involved. Some teachers feel that the administration is in general not supportive of what they consider "additional" problems with the disposition of the kids. When I say "the administration," I mean the central office, those determining the outcome of the contract bargaining. Others concentrate on the individual teacher. I feel that he works hard to make things work for them so if he wants to make a new effort, they will. This needs a lot of working out but it may be a matter of looking at what one's position is on mainstreaming and how it is talked about in the school. Manifestation of conflict and competing interests in the school. Also, this particular teachers think of the various special education classes. Marge she likes kids with learning disabilities because they aren't trouble-making in the resource room who have emotional disturbances.

with disabilities. In a very short time I have gotten a lot of stuff on how the various categories. I just mentioned Marge's comment but teaching programs have their own way of classifying the kids. Mr. O'Rourke, in his interview said that there were three kids that really didn't belong in the program. He said that parents had forced them in (one is "too smart" for the program—the other was there because he knew the kid from last year and he was good for him. Then there are kids who never come. There are twelve kids who don't belong and three aren't regularly in attendance, that leaves six. Concerning counting who the program serves. Then there are kids who are "having problems." Kids that are going to "make it." Kids that they are "not making it." Kids that "won't be here after the end of the year or after they turn six." Kids that "off-the-wall" are also terms that I am hearing. I'll have to be more specific at this and how the regular class teachers classify the students as compared to the special education students. There is some indication that this may be different. The psychologist classifies the kids compared to the teachers should be interesting.

the program to the structure and milieu of the school. I have already gotten some material in my notes referring to college and the academic press of the school.

FIGURE 5.2 Continued

Two people have described the school as consisting of two types of kids: very high achievers and very low achievers. I am told that the high achievers are the kids of professional families living in the area immediately around the school, while the low achievers are mainly the inner-city kids, many of whom are on welfare. This is an interesting perception. There must be a lot of students here who don't fit those two categories. I wonder how this perception of who the students are affects what teachers do, if it does affect them. Where do the kids in the L. D. program fit? I am also told and have observed that, while there isn't hostility between blacks and whites, friendship patterns are pretty much along racial lines. White kids eat together in the cafeteria. Black and white kids mix, it seems, when the blacks are of professional backgrounds and the whites are too. The children in the L. D. program are rich and poor, black and white. It is important to explore how racial and economic status patterns in the school at large are reflected in the program for kids with learning disabilities.

FIGURE 5.3 *A Methodological Memo*

Memo

The Interviewer as Chameleon

Date: March 31, 1981

Teachers are so different from one another! Even though I hear so many common perspectives among them, I am always surprised, spending the amount of time that I do at Vista City, at how different these teachers are. Interviewing these teachers and establishing rapport with them means that the researcher really has to be like a chameleon during the interviews. On the one hand you don't want to pretend things that you don't feel, but on the other hand, in this quest to understand this other person's point of view, I find myself interacting and behaving differently in each interview. When I compare my interviews with Brigit and Bill yesterday, I almost see myself as two different people. With Brigit, I would ask her a question and she would give me a long answer. I would shake my head, say "uh-huh," and be very interested in her comments. The interview wasn't formal, but it was task-centered and straightforward.

My interview with Bill was much more casual. He swore when he talked and really observed no protocol at all. I found myself picking up his tone when he spoke. He continually said things like, "fuck this," and "fuck that." I sort of fit in with his mode, as I had with Brigit's mode, and said that something was "shitty." I don't think Bill had as much at stake in the interview as Brigit did, and that might account for some of the difference in his tone.

I take from this that the interviewer acts like a chameleon in an interview. I need to adapt (somewhat) to the different styles of the people that I'm interviewing in order to have a good interview. I think this strategy actually enables me to ask more challenging kinds of questions. If you adapt to their style, they can see you as a friend, and you can challenge some of the things they say. They seem to be willing to answer these challenges as one person to another, rather than as an insider to the outsider. Of course, you have to be careful with this too. If you try to be what you are not, people will see you as a phony. That's why it's more of a stretch than a contortion, I think.

Education of First Year College Women

When they first come to college they have a series of interpretive rules. That is, on the basis of the rules they have witnessed life with, and acted on. They see so many others who interpret the world so differently, who have different rules. So it seems like many of these women have to construct their own rules. Do they do it? And if so, how do they do it?

Students think that their lives reflect the norm. The students of color in the study see white students that there is variation. And they do it directly. Does this happen in this kind of group or in a class, or does it happen in their social interactions? Take alcohol. So many of the white students who came from homes that on weekends and during other social times, kids drink for fun.

Like I have a summer home on Lake Ontario so we would go there sometimes to a lot of, a lot of drinking in basements in houses when parents are gone. A lot of just going to the mall but then it gets too late at night and there is nothing to do. People usually did.

You drive down these really dark winding roads in the boonies and then you get to the beach and the sand and it's the ocean. Woods surround it so it is kinda a place to hang out or whatever and we would always make a bonfire. There were kegs, you know. The pool has their parties. It was just a fun place for us all to go to hang out without going to someone's house to find someone whose parents were going to be there. Do you know what that was all we had to do in Mumford. You either had to drive 45 minutes or more to get to the pool. We would all take our cars and tailgate and like play our music and hang out. Obviously drinking in high school, whatever.

At that time we had, I'm like 20 minutes from the Canadian border and an hour from the states. So we did that a lot. In Canada, the drinking age was 18 and so a lot of us

thought their experiences were normative. This idea that there was nothing much different about small towns but drink was strong. Even students who described themselves as being who were active in "Christian affiliated" clubs like "Young Life" also thought economic comfort is apparent here. They have second homes, cars, and

ascribed alternative meanings to alcohol. In the midst of a description of her experience, Jack said, "The drinking I just want to tell you all because, like, one of the students in the town spoke like, 'Wow, that was the thing to do.' (For us) it was like that. Like some people smoke or drink, or whatever. That was not a big thing,

For town students, the big city students did not read alcohol as such a signifier. This alternative reading is related to the recent research showing that alcohol is an urban problem. I'll have to check on this. But this different reading of Jenna's description of her friends' alcohol use at parties placed an adult context on the drinking:

They looked forward to parties. Like if somebody, if it was somebody's birthday. We would go to a party or something. There was some drinking but there was always a parent there. It was not odd. Usually, but my school is mostly Spanish and African-American students. At the Spanish parties one of the parents would have a bottle of Bacardi or

something. It was always somebody's birthday and everybody would drink just a little bit but nobody would get drunk and that is basically all we did for fun.

In order to drink, Jenna's friends did not have to wait for parents to go out of town, go across the border to Canada, or take night trips through the woods to the beach.

Jenna uses the word "odd" to indicate how this situation might appear to those not from this cultural milieu. Could Jenna and Jack have been posing as cool here? I'll have to look at more of the transcripts. But they were also articulating an alternative signification to drink. Their strategy for this talk took the form of connecting with the white students to articulate differences. "We hear what drinking meant to you," they said, "and we want you to know what it meant to us." Students of color took many opportunities to "teach" white students that their experiences were not normative. What do the white students do with this "education"?

8. *Begin exploring the literature while you are in the field.* While there is some debate about when someone doing a qualitative study should begin a review of the literature (Glaser, 1978), we believe that after you have been in the field for a while, going through the substantive literature in the area you are studying will enhance analysis. What are some of the crucial issues in the literature? What past findings have a bearing on your setting? How does your perspective differ from what you read? How does it agree? What has been neglected in the literature? In addition to reading in the substantive area of your study, just reading widely can help in analysis. We have found that it is very helpful for researchers to read qualitative studies in unrelated fields, because it makes them familiar with how others have worked with their data and it can provide models for their own work. The danger in reading literature while you are conducting your study is that you may read and find concepts, ideas, or models that are so compelling they blind you to other ways of looking at your data. Try to avoid jamming your data into preformed conceptual schemes. The reading you do should provide you with stimulation rather than be a substitute for thinking. It is perfectly honorable to do research that illustrates others' analytical schemes, but try to distance yourself enough to formulate concepts of your own or to expand the work of others.

9. *Play with metaphors, analogies, and concepts.* Nearsightedness plagues most research. We get involved collecting data in a particular place and become so captured by the particulars, the details, that we cannot make connections to other settings or to the wide experiential array we carry with us. Ask the question, "What does this remind me of?" about different aspects of the setting.

In the study of integrating students with disabilities into public schools, we mentally compared what we were seeing to what we knew of attempts at racial integration to see similarities and differences. In a more adventurous frame of mind, we unburdened ourselves of a historical time frame. In a national study that involved observing people counting the number of children with disabilities in particular Head Start programs, we wondered how people in Salem in the 1600s might have gone about taking a census of the witch population. Our subjects resorted to empirical indicators, expert judgment, and self-nomination—perhaps not very different methods from those used in Salem. Seen from this

perspective, professionals can diagnose children even when symptoms are contrived. The diagnosis becomes reified and the symptoms fall by the wayside whether one is diagnosing witches or emotional disturbance. While this may sound far out, it enlarges the way you think about your research problems.

Another way to expand interpretive horizons is to raise concrete relations and happenings observed in a particular setting to a higher level of abstraction. We have already mentioned that changing the wording of a statement is one way of doing this. Another way is to make up short phrases to capture the spirit of the generalization you are developing. In observations we did of a training program for the hard-core unemployed, for example, we noticed that the trainees with the most skills, the most talent, and the most potential to obtain jobs received the most attention from the program staff. Playing with that relationship, we developed the phrase the "teacher's pet principle" to describe the phenomena where the least needy got the most services.

On a pediatric ward in a teaching hospital, we noticed that house staff not only diagnosed the children, but sized up the parents as well. On the basis of their judgments of parents, they decided what to tell them about the condition of their children and how they would involve them in the treatment. We developed the phrase "third-party diagnosis" to capture the idea that doctors judge others besides their patients. After you come up with such a phrase, you must stipulate under what circumstances and in what other settings it is likely to occur. This process helps you think more deeply about various aspects of your setting and how it compares with other settings. It is through this process that an idea becomes a concept.

10. Use visual devices. A technique of analysis that has received increased attention is the use of visual devices (Strauss, 1987; Miles & Huberman, 1994). Graphics and charts such as diagrams, continua, tables, matrices, and graphs can be employed in all stages of analysis from the planning to the finished product.

We have found it helpful early in a research project to draw visual representations of the possible components of a study for purposes of clarifying the choices to be made. These rough sketches are very informal—more like doodling than architectural blueprints. This is what we do in participant observation studies. We start by drawing circles to designate the various categories of people we have come across in our initial visits. For example, in a study of a residential juvenile detention facility, there would be circles for the inmates, the residential staff, the professional staff, the outside consultants, the administrators, the state government officials, visitors (friends and family of the inmates), and the friends and families of the staff and on and on. We might even have circles for the lawyers involved in the negotiations about sentencing and other people in the judicial system. When we discover that particular categories represented by a circle really consist of people with different perspectives—the inmate circle is composed of first-timers and repeat offenders and they have very different points of view—we draw separate circles for each or draw circles within circles. We then put arrows from the various circles pointing to the other circles. These arrows represent perspectives—the perspective of the people represented by the circle the arrow is coming from on the people the arrow is pointing to. So the inmate circle has an arrow pointing to the professional staff representing the inmates' perspectives on them and the professional staff circle has an arrow pointing to the inmates.

(This is designated by an arrow with two heads.) We draw circles for the subjects' circles, placing together those having the same characteristics. We draw shapes in our drawing, representing objects or places or processes. Thus, in the juvenile detention facility study, we draw a circle symbolizing the high school and another symbolizing the juvenile detention facility. We then look at the diagram and ask: What categories of people are most interesting? What about them engages our interest? If we are interested in the inmates, which others? What other places and objects are most interesting? Should they be included in our study or not? We cross out circles we are not interested in and underline those we are.

In studies where you are interested in what happens to a group of people, organization, or some other human group over time, drawing a diagram can help in figuring out what you are doing. Some will find such a diagram to be something they automatically do in their own heads without realizing it is a useful way of laying out dimensions of the study. It is a useful design. Use such an approach if it works for you.

Visuals vary in sophistication from rough stick figures on a piece of paper to very carefully drawn professional models. Some researchers use them in fieldnotes that express relationships or arrange insights. Doodling often helps you to visualize complexities that are difficult to describe. They can help summarize your thinking for presenting to others (e.g., dissertation committee members). Some researchers never use them, but many employ them often, even including formalized models.

More Tips

There are three general points to make before moving on to "Interpretation after Data Collection." Like some of the points already described, these points carry importance for both ongoing and final analysis.

The first point, alluded to earlier, deserves further discussion. It is to stipulate. The lack of confidence one usually feels on the part of the researcher is one too cautious about forming ideas. Worries about generalizing hold a researcher down. We do not suggest that the fact that ideas must be grounded in the data, but they are a starting point for generating ideas, not the end. As C. Wright Mills reminds us, "The advance guard in any field of learning" (Mills, 1959, p. 1) is a central figure in the development of qualitative analysis. It is the advance guard to the most to the science of human behavior. "Finding the advance guard" (Glaser, 1978, p. 8).

Newcomers to qualitative research often feel guilty that they have been taught not to say anything until they are sure. However, productive for this research approach. It helps you

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(This is designated by an arrow with two heads.) We attempt to cluster the categories of subjects' circles, placing together those having the most contact. We also place other shapes in our drawing, representing objects or places or processes that are significant to the various categories of people, and we use arrows to indicate their perspectives on those objects, places, or processes. Thus, in the juvenile detention study, we might have a rectangle symbolizing the high school and another symbolizing work. We try to arrange the whole thing to provide a diagram of all the components and their relationships to each other. We then look at the diagram and ask: What categories of subjects are we most interested in? What about them engages our interest? If we are interested in their relationship with others, which others? What other places and objects are meaningful to the subjects and should they be included in our study or not? We cross out circles, arrows, and other symbols that we are not interested in and underline those we are.

In studies where you are interested in what happens to a person, or a relationship, or- ganization, or some other human group over time, drawing flow diagrams can be helpful in figuring out what you are doing. Some will find such diagramming a waste of time or something they automatically do in their own heads without the aid of a pencil. For others, it is a useful way of laying out dimensions of the study and thinking through priorities and design. Use such an approach if it works for you.

Visuals vary in sophistication from rough stick figures drawn on a piece of scrap paper to very carefully drawn professional models. Some visual devices are mere scribbles in fieldnotes that express relationships or arrange insights you are gleaning. Such primitive doodling often helps you to visualize complexities that are difficult to grasp with words. They can help summarize your thinking for presenting findings to others (colleagues, dis- sertation committee members). Some researchers never use such devices, while others employ them often, even including formalized models in their manuscripts.

More Tips

There are three general points to make before moving on to the next section, "Analysis and Interpretation after Data Collection." Like some of the ideas and procedures already de- scribed, these points carry importance for both ongoing and final analyses.

The first point, alluded to earlier, deserves further attention. Do not be afraid to spec- ulate. The lack of confidence one usually feels on the first research attempt often makes one too cautious about forming ideas. Worries about getting details and facts straight can hold a researcher down. We do not suggest that the facts and the details are not important, since ideas must be grounded in the data, but they are a means to clear thinking and to gen- erating ideas, not the end. As C. Wright Mills reminded us, "Facts discipline reason; but reason is the advance guard in any field of learning" (Mills, 1959, p. 205). Barney Glaser, a central figure in the development of qualitative analysis, told us that good ideas contrib- ute the most to the science of human behavior. "Findings are soon forgotten, but not ideas" (Glaser, 1978, p. 8).

Newcomers to qualitative research often feel guilty when they speculate because they have been taught not to say anything until they are sure it is true. Speculation is, how- ever, productive for this research approach. It helps you take the chances needed to develop

ideas. You do not have to prove ideas in order to state them; they must be plausible given what you have observed. Do not put off "thinking" because all of the evidence is not in. Think with what data you have.

The second suggestion we have concerns venting (Glaser, 1978). Ideas and understanding will come to you on a regular basis as you go about your research. You are likely to become excited by this creative process. It can be exhilarating. Mulling over ideas creates energy you may want to vent. There are two ways of doing this: talking about the ideas with friends and colleagues or writing memos, observer's comments, and, later, a text. We do not want to sound antisocial when we suggest that talking things over with others may hinder analysis. We do warn you, however, that talking about your analysis can reduce the energy needed to do the hard work of putting your thinking down on paper. Said once, an idea may no longer compel you to record it; it becomes "something everybody knows," in the public domain. Data analysis must include time when you are alone with your computer. Write it down and then talk about it.

Finally, we suggest that while you review your data during the collection phase of research, you jot down lots of ideas. Start a separate file on wild and crazy ideas and other speculations or write additional comments into your notes while you are reviewing them. (If you do this, make sure you indicate on the comment that it was added later and give the date. This helps you track your thinking.) If you are reviewing hard copy, make lots of comments in the margins of your fieldnotes and transcripts. Circle key words and phrases that subjects use. Underline what appear to be particularly important sections. When working from hard copy it should look used—covered with lines and notations, bent edges, and coffee stains. We suggest using a pencil so that you can erase confusing notations later.

Analysis and Interpretation after Data Collection

You have just finished typing the fieldnotes from your final observation of the study and you proceed to file them. There, facing you, is all the material you have diligently collected. An empty feeling comes over you as you ask, "Now what do I do?"

Many experienced observers know what to do; they take a break. They let the material sit, take a vacation, or do things they have neglected because they were consumed by the data collection, and then come back to it fresh and rested. There is a lot to say for not tackling analysis immediately. You can distance yourself from the details of the fieldwork and get a chance to put relationships between you and your subjects in perspective. You will get a new enthusiasm for data that may have become boring. Also, you get a chance to read and mull over other ideas. However, taking too long a break has drawbacks. It can be a stalling tactic to put off the hard work ahead. It also can cause you to lose touch with the content of your notes. The most serious drawback is that the need to return to the field to collect additional data may arise and if the break has been too long returning can be a problem. Informants are difficult to locate or have changed positions, or the setting is not the same as when you left it.

Discussions of how long breaks should be and the advantages of putting data aside are esoteric to those who have deadlines to meet, assignments for course requirements, dates on contracts, and appointments to share findings.

Developing Coding Categories

Imagine a large gymnasium in which thousands of toys are given the task of sorting them into piles according to color. You walk around the gym looking at the toys, picking them up, and deciding many ways to form piles. They could be sorted according to date manufactured, manufacturer, material they are made of, age, the age group they suit, or whether they represent a character.

Such an activity approaches what a qualitative researcher does: a system to organize data, although the task is more difficult because the materials to be organized are not as easily separated. People, nor are the classification systems as self-evident as toys.

As you read through your data, certain words and phrases, subjects' ways of thinking, and events repeat and stand out. This involves several steps: You search through your data for words and phrases for topics your data cover, and then you write down these words and phrases as coding categories. These words and phrases are coding categories for sorting the descriptive data you have collected (the subjects' ways of thinking, and events repeat and stand out) so that the material bearing on a given topic can be sorted. Some coding categories will come to you while you are reading the data. Some will be jotted down for future use. Developing a list of coding categories is a step in data analysis.

When we discussed the toys in the gymnasium, we saw that they might be used in sorting. The schemes included, for example, color. The signs (or the coding categories) for manufacturers, Price, Creative Playthings; the signs for colors would be red, blue, yellow, etc. If you were in the gym and you were told to sort the toys by color—let us say, for example, that you were told to sort the toys back to the manufacturer—the task of developing coding categories (the task of developing coding categories for the manufacturer). Developing coding systems in qualitative research is a task. Particular research questions and concerns generate particular theoretical approaches and academic disciplines suggest particular approaches beyond the scope of this book to lay out all the coding categories that might be used to develop coding systems. families of codes to suggest some ways coding can be done.

We have made up the families or kinds of codes for the purpose of this discussion. They do not represent universally defined coding categories. Do not be concerned with which family the individual belongs to. The purpose is to help you understand what codes are and how they are used, not to present an exhaustive scheme from which you can choose.

Under each coding family, we will define what kinds of data can be sorted by it, discuss when this family might be used, and then provide an example of a unit of data that might be sorted by the family representing the family.