

CHAPTER 5

Analyzing and Interpreting Findings

OVERVIEW

Qualitative research begins with questions, and its ultimate purpose is learning. To inform the questions, the researcher collects *data*. Data are like building blocks that, when grouped into patterns, become *information*, which in turn, when applied or used, becomes *knowledge* (Rossman & Rallis, 2003). The challenge of qualitative analysis lies in making sense of large amounts of data—reducing raw data, identifying what is significant, and constructing a framework for communicating the essence of what the data reveal. This was the task of chapter 4. The challenge now becomes one of digging into the findings to develop some understanding of what lies beneath them; that is, what information we now have and what this really means. Analysis, in this sense, is about deconstructing the findings—an essentially postmodern concept.

Your goal in conducting analysis is to figure out the deeper meaning of what you have found, and that analysis began when you assigned codes to chunks of raw data. Now that you have a well-laid-out set of findings, you go to a second level. You scrutinize what you have found in the hope of discovering what it means or, more precisely, what meaning you can make of it. You are seeking ways to understand what you have found

by comparing your findings both within and across groups, and by comparing your study's findings with those of other studies.

In qualitative research, we are open to different ways of seeing the world. We make assumptions about how things work. We strive to be open to the reality of others and understand different realities. We must listen before we can understand. Analysis of the findings begins with careful listening to what others have to say. Begin by asking yourself: Given what I have found, what does this mean? What does this tell me about the phenomenon under study? What is really going on here? In asking these questions, you are working back and forth between the findings of your research and your own perspectives and understandings to make sense and meaning. Meaning can come from looking at differences and similarities, from inquiring into and interpreting causes, consequences, and relationships.

Data analysis in qualitative research remains somewhat mysterious (Marshall & Rossman, 2006; Merriam, 1998). The problem lies in the fact that there are few agreed-on canons for qualitative analysis in the sense of shared ground rules. There are no formulas for determining the significance of findings or for interpreting them, and there are no ways of perfectly replicating a researcher's analytical thinking. In this chapter, we do not purport to offer a recipe, but rather some guidance for navigating

the analytical process. Applying guidelines requires judgment, sensibility, and creativity. Because each study is unique, each analytical approach used is unique as well. As Patton (2002) puts it: “In short, no absolute rules exist except perhaps this: Do your very best with your full intellect to fairly represent the data and communicate what the data reveal given the purpose of the study” (p. 432). Indeed, because qualitative research depends on the skills, training, capabilities, and insights of the researcher, qualitative analysis and interpretation ultimately depends on the analytical intellect and style of each individual analyst.

As with all previous chapters, we present two sections: Section I, “Instruction,” talks about (a) thinking about, (b) planning, and (c) presenting your analysis. Section II, “Application,” presents what an analysis chapter might look like. By using the example carried throughout this book, we analyze and interpret the findings of the research that we have conducted.

It must be stressed that analyzing and interpreting are highly intuitive processes; they are certainly not mechanical or technical. The process of qualitative data analysis and synthesis is an ongoing one, involving continual reflection about the findings and asking analytical questions. As such, there is no clear and accepted single set of conventions for the analysis and interpretation of qualitative data. Indeed many qualitative researchers would resist this were it to come about, viewing the enterprise as more an art than a science. Therefore, the term *instructions* for this chapter might be somewhat misleading. Reducing the data and presenting findings can be explained in a stepwise and somewhat mechanical fashion. Analysis, synthesis, and interpretation of qualitative data, in contrast, is a far more nebulous endeavor—hence the clear paucity of published literature on how to actually do it (and hence the limited annotated bibliography that we offer for this section). Rather than instructions, what we provide in this chapter

are essentially guidelines for how to think about analysis and principles to use in selecting appropriate procedures that will organically unfold and become revealed as you become immersed in your own study.

Please be aware too that the guidelines and principles that we provide are essentially generic and can be applicable across a broad range of qualitative genres or traditions. Each tradition is sensitive to particular analytical methods and strategies. As such, each tradition requires that the researcher think about analysis in a particular way. For more details and nuances regarding analysis for pure qualitative traditions such as phenomenology, grounded theory, ethnography, and hermeneutics, we suggest that you consult with your advisor and also seek the relevant available literature related to your specific tradition.

CHAPTER OBJECTIVES

Chapter 5 Objectives

Section I: Instruction

- Explain the concept of qualitative analysis.
- Explain how to analyze and interpret the findings of your research.
- Explain the concept of synthesis as an ongoing process.
- Describe how to go about presenting a final synthesis.

Section II: Application

- Presentation of a completed analysis and interpretation chapter based on the content and process as described earlier.

The previous chapter discussed how to present the findings of your research by

organizing data from various sources into categories to produce a readable narrative. The purpose of this chapter is to provide interpretative insights into these findings. This point in the process is where you shift from being an objective reporter to becoming an informed and insightful commentator. No one has been closer to the focus of the study, its data, and its progress than you have. You have done the interviewing, studied the transcripts, and read the related literature. You have lived with and wrestled with the data. You now have an opportunity to communicate to others what you think your findings mean and integrate your findings with literature, research, and practice. This process requires a good deal of careful thinking and reflection.

SECTION I: INSTRUCTION

Thinking About Your Analysis

Taking time to reflect on your findings and what these might possibly mean requires some serious mind work—so do not try and rush this phase. Spend a few days away from your research, giving careful thought to the findings, trying to put them in perspective, and trying to gain some deeper insights. To begin facilitating the kind of thinking process required, we have developed what we call an interpretation outline tool—a mechanism that enables you to consider the findings in a deeper way than you have had to do up until now; to “peel back” all the possible reasons regarding how else a finding can be explained, thereby fleshing out the meanings that underlie each finding. Findings should not be taken at face value.

Essentially, this simple but effective tool prompts and prods you to question each of your findings (and all the various aspects of each finding) by asking “Why?” and “Why not?” over and again, allowing you to brainstorm and exhaust all the possibilities that might explain that finding. In effect, those

explanations become the basis of your interpretations. This tool propels you to develop and strengthen your critical thinking and reflection on all the issues surrounding your findings. This process is essentially “problem posing”—an inductive questioning process rooted in the works of Lindeman, Dewey, and Piaget, who were advocates of an experiential and dialogical education. Freire (1970) and Mezirow (1981, 1985) used problem-posing dialogue as a means to develop critical inquiry and understanding of experience.

Figure 5.1 gives some idea of how such a tool can be developed. A sample completed interpretation outline tool is included as Appendix Y. We suggest that a completed version of an interpretation outline be included in your dissertation’s appendix to illustrate to your readers the logical development and overview of your interpretive thought processes.

Planning the Analysis of Your Findings

In thinking about the analysis, you might ask yourself what this chapter is really all about and what it should constitute. How does one go about seeking the deeper meanings behind the findings? How does one get started? What is really involved? We asked ourselves these questions as we set about writing this chapter. We sought the answers by way of structuring our discussion according to three interrelated activities: (a) seeking significant patterns among the findings, (b) making use of description and interpretation, and (c) providing some sort of synthesis or integration. Keeping your findings in context and thinking holistically are among the cardinal principles of qualitative analysis.

Seeking Patterns/Themes

Analysis is essentially about searching for patterns and themes; that is, the trends that

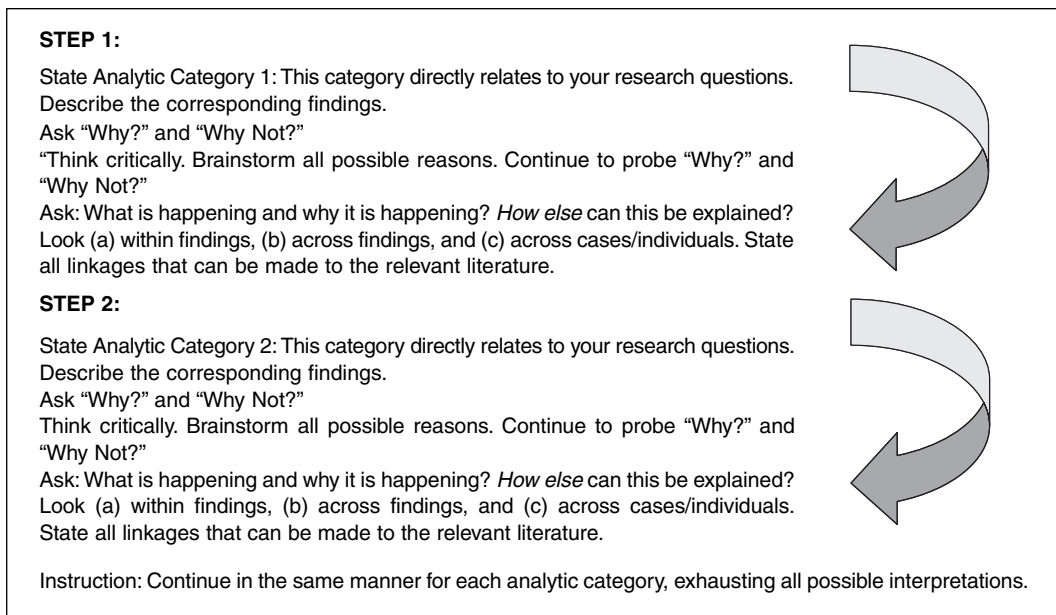


Figure 5.1 Interpretation Outline Tool

you see emerging from among your findings. After having spent many hours interviewing (and/or observing) people, you are likely to come away with some possible explanations of how and why people are saying what they are saying. Having immersed yourself in your data and lived with them for an extended period of time, you have most likely reflected on emergent patterns and themes that run through your findings. You also have probably made conjectures and can offer hypotheses about the significance of certain outcomes, consequences, interconnections, and interrelationships that you see appearing.

A few words on significance are necessary at this point. Quantitative researchers utilize statistical tests of significance to research the frequency of responses. Typically these tests of significance are reported with preestablished levels of confidence. Data are numerically analyzed by determining means, modes, medians, rank orderings, and percentages. In qualitative research, we do not seek statistical significance that characterizes quantitative

research. In qualitative research, what we mean by significance is that something is important, meaningful, or potentially useful given what we are trying to find out. Qualitative findings are judged by their substantive significance (Patton, 2002). As Patton explains, in determining substantive significance, the qualitative analyst must address the following issues:

1. How solid and consistent are your findings?
2. To what extent and in what ways do your findings increase understanding of the phenomenon under study?
3. To what extent are your findings consistent with the existing body of knowledge? That is, do they support or confirm what is already known about the phenomenon? Do they refute what is already known? Do they break new ground in discovering or illuminating something?
4. To what extent are the findings useful in terms of contributing to theory-building, informing policy, or informing practice?

You need to establish some system for representing participants' perspectives on the most significant events or activities by describing the procedures that you have adopted in analyzing your findings. Patterns, as we have come to see them, include both quantitative and qualitative elements. At this point in the process, your data summary tables (see Appendices R through V for completed examples) and participant demographic charts (discussed in chapter 3) become useful for analysis. In the findings chapter, the purpose of the data summary tables was merely to report numbers and percentages of responses. In the analysis chapter, the data summary tables become useful vis-à-vis the significance of your findings. In the analysis of qualitative data, we are interested in the concentration of responses across individuals. Although not really a finding in itself, having a large number of data in a particular area or under a particular descriptor or criterion does suggest where to look for patterns.

Readers need to understand different degrees of significance of your various findings. In this regard, you need to be specific when patterns are clear and strongly supported by the data or when patterns are merely suggestive. Ultimately, readers arrive at their own decisions based on the evidence that you have provided, but your opinions and speculations hold weight and are of interest to the reader because you have obviously struggled with the data and know them more intimately than anybody else.

Looking for emergent patterns among your findings can be considered a first round of analysis. It is important to also look across findings and across dimensions of each finding—the subsets within each finding. This second round of searching for patterns can often generate new insights and usually uncovers patterns that may not immediately have been obvious or apparent in the initial

round of analysis. Creating cross-case classification matrices is an exercise in logic. This involves moving back and forth between your findings and crossing one dimension (subset) with another in search of what might be meaningful or significant. Beyond identifying themes and patterns, you now build additional layers of complexity by interconnecting your themes or patterns into a storyline. Matrices can certainly push linkages. In creating matrices, however, be careful not to manipulate the data in any way or force the data to make cross-classification fit.

Finding patterns and themes is one result of analysis, whereas finding ambiguities and inconsistencies is another. You certainly want to determine how useful the findings are in illuminating the research questions being explored and how central they are to the story that is unfolding about the phenomenon under study. However, you also should challenge your understanding by searching for discrepancies and negative instances in the patterns. Seek all possible and plausible explanations other than those that are most apparent. Alternative explanations always exist. As is characteristic of qualitative research, you must be willing to tolerate some ambiguity. As such, look at issues from all angles to demonstrate the most plausible explanations. This step enables readers to assess the persuasiveness of your argument.

Once you have established patterns, they need to be explained. In this regard, you need to draw on your own experience and intuition. In addition, you have to once again consult the literature and consider your pattern findings in light of previous research and existing theory. Do your findings confirm similar research? Do your findings contradict previous studies? How can you explain these differences or similarities? As you begin to consider answers to these sorts of questions, you begin to describe and interpret your material.

Description and Interpretation

As Patton (2002) explains: “An interesting and readable report provides sufficient description to allow the reader to understand the basis for an interpretation, and sufficient interpretation to allow the reader to appreciate the description” (p. 503). The details in the description are your evidence, your logic; they build your argument. Therefore, description must necessarily precede interpretation. At the same time, the explanation and linkages revealed in the explanation serve to clarify the description and illuminate the details. Description is intended to convey the rich complexity of the research. Interpretation involves attaching significance to what was found, making sense of findings, considering different meanings, and offering potential explanations and conclusions.

An interpretive reading of your data involves constructing a version of what you think the data mean or represent or what you think you can infer from the data. You may be wondering why you should even bother with interpretation especially because interpretation involves taking risks and making educated guesses that might be off base. Wolcott (1994) argues for the importance of interpretation in qualitative research not only because interpretation adds a new dimension of understanding, but because the process of interpretation challenges qualitative researchers’ taken-for-granted assumptions and beliefs about the processes and phenomena they have investigated—an important aspect of a researcher’s personal and professional development.

Interpretation essentially involves reading through or beyond the findings (i.e., making sense of the findings). It is about answering the “why?” and “why not?” questions around the findings. Interpretation requires more conceptual and integrative thinking than data analysis alone because it involves identifying and abstracting important understandings

from the detail and complexity of the findings. Interpretation in effect moves the whole analytic process to a higher level. You (the researcher) arrive at new understandings, finding meaning beyond the specifics of your data. What you have seen in the field and what you have heard participants say all come together into an account that has meaning for the participants, for you, and for the reader. As with qualitative analysis in general, there are no hard-and-fast rules for how to go about the task of interpreting the meaning of the findings. One way to facilitate the process of interpretation is to begin by asking the following questions: What is really going on here? What is the story these findings tell? Why is this important? What can be learned here?

Lincoln and Guba (1985) capture well the essence of interpretation when they ask: What were the lessons learned? Lessons learned are in the form of the researcher’s understanding and insight that she or he brings to the study based on her or his personal and/or professional experience, history, and culture. But it is more than this: It is about the meaning derived from a comparison of the findings of your study with information gleaned from the related literature and previous research. Making connections between your study’s findings and the relevant literature provides you with a way to share with colleagues the existing knowledge base on a research problem and acknowledge the unique contribution your study has made to understanding the phenomenon studied.

Searching the literature to see whether it corresponds, contradicts, and/or deepens your interpretations thus constitutes a second layer of interpretation. Interpretation, therefore, is not just a conglomeration of personal ideas. It is the subtle combination of your ideas in tandem with what has already been reported in the literature. The findings of your study will either confirm what is already known about the subject area

surrounding your research problem or diverge from it. Therefore, it is imperative that you relate your analysis to the available literature on the subject.

Your integrity and credibility as a researcher are given credence by your inclusion of all information, even that which challenges your inferences and assumptions. You are building an argument about what you have learned in the field—an argument that is more compelling than other alternatives. As you put forward your interpretations, you should not forget to challenge the patterns that seem so apparent. Qualitative research is not about uncovering any single interpretive truth. Alternative understandings always exist; to demonstrate the soundness of your interpretation, you should be sure to search for, identify, and describe a variety of plausible explanations.

One barrier to credible interpretation stems from the suspicion that the analysis has been shaped according to the predispositions, assumptions, and biases of the researcher. Whether this happens unconsciously or inadvertently is not the issue. Rather, the issue is that you counter such a suspicion in the mind of the reader by reporting that you have engaged in a systematic search for alternative patterns and themes and rival or competing explanations and interpretations. This means thinking carefully, and with an open mind, about other logical possibilities and then seeing whether those possibilities can be supported by the findings and the literature. Failure to find strong supporting evidence for contrary explanations helps increase readers' confidence in the interpretations that you have generated.

As you guide the reader through your discussion, you attempt to create a compelling argument for interpreting your data in a specific way. Your reader should have some sense that your interpretations represent an exhaustive search for meaning from all your findings. Your explanations of the meaning

drawn from the data should be multidimensional. The reader should get the sense that you have looked at your findings from different angles, that you have taken into account all the information relevant to the analysis, that you have identified and discussed the most important themes, and that your argument is systematically constructed. In the defense, you must be prepared to clarify your interpretations and defend your thinking while listening to alternative perspectives.

Your effort to uncover patterns and themes among your findings, as well as provide a variety of interpretations, involves both creativity and critical thinking. You need to make creative but also careful judgments about what you see as significant and meaningful. In this regard, you rely on your own experience, knowledge, and skills. However, analysis need not be a solitary endeavor—indeed it should not be. Although you are certainly the closest person to your study, discussion, dialogue, and debate with critical colleagues and advisors will certainly be helpful as you look at the findings from a variety of angles and vantage points. Analysis is all about learning what emerges from the findings of your research, and sharing perspectives through dialogue lies at the heart of learning.

Synthesis

Qualitative research involves the move from a holistic perspective to individual parts (analysis) and then back to a holistic look at the data (synthesis). Whereas the findings chapters split apart and separated out pieces and chunks of data to tell the “story of the research,” the analysis chapter is an attempt to reconstruct a holistic understanding of your study. Analysis is intended to ultimately depict an integrated picture. What should emerge from your discussion is a layered synthesis. Synthesis is the process of pulling everything together—that is, (a) how the

research questions are answered by the findings (b) to what extent the findings emanating from your data-collection methods can be interpreted in the same way, (c) how your findings relate to the literature, and (d) how the findings relate to the researcher's prior assumptions about the study. Synthesis is not, however, a linear process.

As you move toward interpretations about causes, consequences, connections, and relationships, you must be careful to avoid the simplistic linear thinking that characterizes quantitative analysis, which deals with variables that are mechanically linked out of context. Qualitative analysis is about portraying a holistic picture of the phenomenon under study to understand the nature of the phenomenon—which is usually extremely complex—within a given specific context. As such, synthesis becomes key.

Synthesis is ongoing throughout the analytical process. Synthesis is about combining the individual units of analysis into a more integrated whole. You need to account for all the major dimensions that you have studied. From your intimate familiarity with your data, you create a cohesive whole from the isolated bits and pieces. You also need to lead your reader to focus on the larger issues—the broader context. Analysis is ultimately about capturing the meaning or essence of the phenomenon and expressing it so that it fits into a larger picture. One problem that tends to occur is that we become so immersed in a highly specific research topic that we are unable to step back and think about more general and fundamental disciplinary frameworks. Give your research a broader perspective by thinking about how what you have discovered may relate to issues that are broader than your original research topic. Narrowly defined research problems are related to broader social issues. As Coffey and Atkinson (1996) argue:

Qualitative data, analyzed with close attention to detail, understood in terms of their

internal patterns and forms, should be used to develop theoretical ideas about social processes and cultural forms that have relevance beyond these data themselves. (p. 63)

As we have stressed throughout, there is no one “right” way to analyze your findings. You will not be judged on your analysis *per se*, but rather on your synthesis—that is, the way in which you have organized your discussion around major themes, issues, or topics, and the ways in which you have woven these together. What is of importance is the logic and coherence of your argument, how effectively you have tied your argument to the literature and prior research, and your ability to sweep your discussion into some broad and relevant discourse.

A final word on analysis: Qualitative analysis and interpretation are both an art and a science, and herein lies the tension. Qualitative inquiry draws on a critical as well as a creative attitude. The scientific part demands a systematic, rigorous, and disciplined approach and an intellectually critical perspective. The artistic dimension invites exploration, discovery, insight, innovation, and creativity to generate new possibilities and new ideas. The technical, procedural, and scientific side of analysis is easier to present and teach. Creativity is more difficult to distill and describe. Remember that each analysis is a unique expression of the researcher's skill and creativity. As you approach the analysis of your findings, remain open to new and unexpected possibilities. Be prepared to tolerate ambiguity. Have faith and trust in yourself as a thinker. Spend much time brainstorming. Also take the time to dialogue with others.

Presenting Your Analysis and Synthesis

Overview

In qualitative research, the emphasis is on understanding. You are not seeking to determine any single causal explanation, to

predict, or to generalize. Your aim is to tell a richly detailed story that takes into account and respects a context and that connects participants, events, processes, activities, and experiences to larger issues or phenomena. As the researcher, it is your responsibility to explain in great detail what you have found—what you have discovered from your data, the sense you make of it, and what new insights you now have about the phenomenon under discussion. In this chapter, you serve as a guide to your readers, helping them to understand the findings of your study based on your intensive and careful analysis. The chapter is essentially a well-thought-out conversation that integrates your findings with literature, research, and practice.

Just as there is no one correct way to analyze findings, there is no one correct way to organize this chapter. The structure varies depending on your methodology, the findings, and your advisor's preferences. With the process being a highly intuitive one, and with the real learning taking place in the doing, what we offer is a set of guidelines, a way to proceed based on some strategies that have worked for us in our own research. Our hope is that these guidelines are useful to you in stimulating further thinking and ideas of how you might go about presenting this chapter of your dissertation.

A Set of Guidelines

Begin with a brief introductory paragraph that includes your research purpose statement as you have identified it in chapter 1, as well as a preview of how the chapter is organized so that the reader knows what to expect. Include a summary of the major findings and some explanation of how you have gone about analyzing and synthesizing your data. Exemplary dissertations provide sufficient information that enables the reader to envision all the steps that the researcher undertook in preparing and organizing the data. By providing a window into your procedures for

analyzing the data, you assure the reader of your attempt to provide an impartial analysis. Moreover, you allow others who might want to follow the same procedures to do so, thereby establishing an audit trail, which contributes to the validity of your study. When professional colleagues are able to follow your line of reasoning, they have a more solid basis for determining the credibility of your study.

To offer this explicit documentation of your analytical procedures, both in the dissertation as well as at the oral defense, you have to make careful and detailed notes of all the steps you have gone through in the process of analysis, including even the ones that subsequently turned out to be dead ends or unsuccessful. Your explanation of all the decisions and choices that you made along the way conveys a sense of care about how you conducted your research and will promote the credibility of your interpretations.

Once you have introduced your reader to the chapter and given some indication of how the chapter is organized, you need to pull apart all the areas and discuss each one separately. Always remember to make one point at a time and fully flesh it out before moving on to the next point. This rule applies to all writing, especially to writing your analysis. Discuss each point from different perspectives, but stay on target. Avoid redundancy or repetition. Some material might need to be cut, placed in other sections, or saved until later. It is crucial that the reader be able to follow the logic of your argument and grasp what it is that you are trying to communicate. Do not distract the reader by too many arguments and/or ideas at once. Applying too many concepts at once can make your analysis confusing. Achieving a high-level product requires careful thinking on your part; therefore, revisions and redrafting are to be expected.

Analysis is a multilayered approach. When writing this chapter, keep in mind various key aspects:

- Establish the story line based on your findings. Based on that story, what do you think may really be going on? Think deeper as you go through all of the following levels:
 1. Level 1 means looking at each individual finding (i.e., going finding by finding). Ask yourself what each of the findings mean. What are all the possible explanations for what is being said by your participants?
 2. Level 2 means looking across your findings. Ask yourself how the findings are related and/or interconnected with each other? To what extent do the findings impact each other?
 3. Level 3 means looking across cases (i.e., cross-case analysis). Remember, each person is a “case.” Here we look for similarities and differences among participants. You can address these issues by way of your interpretation outline tool (see Appendix Y).
 - Structure your discussion by using headings. For example, you may choose to use your research questions or the analytic categories of your conceptual framework. Think carefully of how you can most logically and interestingly set up your discussion.
 - When discussing your findings, carefully choose your words. Use qualifiers such as *seems*, *appears*, *possible*, *probable*, *likely*, *unlikely*, and so on. In your discussion, you offer ideas, suggest explanations, and/or identify reasons; you do not state facts. You speculate, and therefore you cannot come across as definitive or dogmatic.
 - In the course of the discussion, identify any qualifications and/or limitations of factors, such as age, gender, and context, with respect to your findings. Make sure to mention that you have done extensive cross-case analysis, which enables readers to follow your interpretation and judge whether it is plausible. It also enables you to review your own thinking and perhaps find weaknesses or limitations within your discussion, which will then have to be addressed and remedied.
 - Analysis is not just a naïve list of findings. In your discussion, you need to weave together the findings from the various data-collection methods that you have used. You do this to demonstrate that each of the methods you have used contributes similarly to the same analysis.
 - It is your responsibility to convince your readers of the accuracy of your analysis by providing sufficient descriptive information for them to make independent judgments. Be sure to discuss the findings of your study with respect to the literature and prior research. The intent is that the inferences that you are making from your findings in combination with what the literature says will make a compelling argument. Overall, it is important for the reader to know the ways in which your study contributes to the current knowledge base. What are the differences between your study and the findings of previous studies? How do your findings compare with what the literature says? Do your findings help clarify contradictions in the literature? Do your findings go beyond the literature, breaking new ground? Are there any surprises? Surprises are the unanticipated outcomes of your study that may in some way contradict current thinking.
 - Aside from including the relevant literature citations, also be sure to weave into your discussion direct participant quotations. The more support you can provide for your discussion, the more likely your readers will be to concur with your analysis.
- Your interpretations, that is, your conjectures as to what the findings really mean should be clear, logical, relevant, and credible:
- *Clear* interpretations are easy to follow. If the reader has difficulty following your train of thought, you run the risk of losing the reader. Information must be presented systematically, and sufficient details must be provided to enable the reader to understand the issues as presented. Information that is presented in tables should always be preceded by a narrative that describes the table.

- Readers will consider your interpretation *logical* if you have presented your discussion in a systematic and thoughtful way. Based on your own understanding of your findings, you should decide which issues need to be addressed first and how the remainder of the discussion will flow naturally from those issues (your interpretation outline tool is your sketch of the order in which you will discuss your findings). Your presentation should lead your readers to understand your findings as clearly as you do.
- Your interpretation must be *relevant*; that is, it must be directly related to the research problem, purpose, and research questions that have guided your research. It also must relate to the literature and/or theoretical base within which your study is situated. Make sure to keep your interpretation tight and focused. Whereas your findings chapter includes a multitude of elements, you now need to focus only on the most important and relevant issues and highlight and address the most prominent findings of your research. Determining the major issues may be viewed as a judgment call on your part. However, you are the person most familiar with your data, and thus you are in a position to help the reader recognize and accept your focus. A good idea is to run your ideas by others, thereby remaining open to different understandings and acknowledging different perspectives.
- Establishing *credibility* in qualitative research means that you have engaged in the systematic search for rival or competing explanations and interpretations. Think carefully about other logical possibilities and see whether those can be supported by the findings and the literature. In doing this, you should not be focused on attempting to disprove alternatives. You are not looking for clear-cut “yes” or “no” answers. Rather, you are searching for the best fit. As such, seek support for alternative ways of seeing things. Also keep track of and report alternative classification systems, patterns/themes, and explanations that you have considered during your analysis, which

demonstrates intellectual integrity and lends credibility to your study.

In thinking carefully about what meaning may lie behind the findings—that is, what is really driving your findings—researchers frequently create visual displays—figures and tables. These displays organize the findings diagrammatically and illustrate the relationships among identified topics, categories, and patterns. Visuals are useful for demonstrating linkages and connections as well as differences within each case, across cases, across categories, as well as by demographics or other dimensions. The information enables the reader to clearly see and understand issues and concepts discussed in the narrative. In addition to augmenting your discussion, constructing diagrams or charts can help you with your analytical thinking. Displays often help you “see” some aspect of your findings in new ways. Through displays you might notice emergent trends, discover new connections or relationships, or even recognize the significance of certain pieces of information or lack thereof.

If you choose to include visuals, give careful thought to the most logical place to insert them so as not to interrupt the flow of the discussion. If the diagrams are working tools, they are typically included as appendices. There are different ways of constructing diagrams, charts, and graphs in the analysis of qualitative data. In this regard, Miles and Huberman (1994) and Booth et al. (2003) offer excellent suggestions. Make sure that all information presented in tables is consistent with information presented in the narrative.

Finally, tie together the various threads of the discussion. As such, there should be a strong culminating paragraph that provides a summary of the whole chapter. This summary should include the key points made, as well as some form of reflection on the analytic process. You also might choose now to revisit

your initial assumptions (stated in your first chapter) and comment on these in light of your findings. The researcher-as-instrument is an inquirer, writer, analyst, and interpreter. We have to leave open the possibility that other researchers might have told a different story given the same set of data. What we learn from our research, how we understand what we find, and how we report it is but one view. Some acknowledgment that there are multiple ways of interpreting data will serve to show that you fully understand the subjective nature of qualitative research. Such an acknowledgment further enhances your study's credibility in the eye of the reader.

There are many subtleties involved in the kind of detailed analysis that is required for a qualitative dissertation. As such, it is unlikely that you will achieve a well-argued, reader-friendly analysis chapter in one go. Writing this chapter takes many hours of thinking and rethinking, and much tightening up is involved to ensure the logic, depth, and breadth of your argument. Based on your advisor's feedback, you usually have to write and rewrite drafts of this chapter, revising and/or expanding sections of it accordingly. In most cases, this step may occur more frequently than you anticipated, as you work toward organizing the sections into a cohesive and powerful chapter that explains your findings. If your interpretation is thoughtful, logical, and reasonable, it is more likely to be compelling to your readers. In addition, it will provide the opportunity for an informed discussion, making a worthwhile contribution to your academic discipline.

Following is the application section, which demonstrates the salient features of an analysis chapter in terms of how it should be structured and the interpretive style it should take on. However, please be aware that what we present in Section II is a sketch of what an analysis chapter might look like, rather than a full-blown analysis of the findings. In a real

dissertation, the discussion would be further elaborated to achieve deeper and richer levels of analysis and synthesis.

SECTION II: APPLICATION

CHAPTER V

Analysis, Interpretation, and Synthesis of Findings

The purpose of this multicase study was to explore with a sample group of ABDs their perceptions of why they had not managed to complete their dissertations. It was hoped that a better understanding of the perceptions of students struggling at various stages of the dissertations process, as well as those students who have become inactive, would provide insight about how to encourage and support other current and future students to successfully conduct their research, write the dissertation, and obtain the desired doctoral degree.

This research used naturalistic inquiry to collect qualitative data by conducting in-depth interviews and collecting supportive data by use of critical incidents and a focus group discussion. Participants in the study included 20 current and former doctoral candidates. The data were coded, analyzed, and organized first by research question and then by categories and subcategories guided by the conceptual framework, as depicted in chapter 2. The study was based on the following five research questions:

1. Upon completion of the coursework, to what extent did participants perceive they were prepared to conduct research and write the dissertations?
2. What did participants perceive they needed to learn to complete their dissertations?
3. How did participants acquire the knowledge, skills, and attitudes they perceived were necessary to complete their dissertations?
4. What factors did participants perceive might help them to complete their dissertations?

5. What factors did participants perceive have impeded and/or continue to impede their progress in working toward completing their dissertations?

These five research questions were largely satisfied by the findings presented in chapter 4. The overriding finding in this study revealed that students perceived the coursework did not prepare them for the dissertation process. This perceived disconnect between the coursework and understanding and knowing how to carry out the research was compounded by the fact that students perceived lack of timely, consistent, and helpful advisement as a further impediment to their progress. As a consequence, students were left to rely on themselves, their self-directed activities, and the help they received from colleagues and other faculty and experts.

This chapter analyzes, interprets, and synthesizes the findings. The chapter is organized by the following analytic categories:

1. The relationship between coursework and students' ability to complete their dissertations. (*Research Question 1*)
2. Perceptions of what students needed to learn and how they acquired the learning they needed. (*Research Questions 2 and 3*)
3. Supports and barriers influencing students' progress. (*Research Questions 4 and 5*)

The prior analytic categories are directly aligned with each of this study's research questions. These same analytic categories were used to code the data and present the findings in the previous chapter. In the analysis, the researcher searches primarily for connecting patterns within the analytic categories, as well as the connections or themes that may emerge among the various categories. As a secondary level of analysis, the relevant theory and research is tied in, as these themes are compared and contrasted to issues raised by the literature.

The previous chapter presented the findings of this study by organizing data from various sources into categories to produce a readable narrative. The purpose of this chapter is to provide interpretative

insights into these findings. Whereas the findings chapter split apart and separated out pieces and chunks of data to tell the "story of the research," this chapter is an attempt to reconstruct a more holistic understanding. Analysis is intended to depict a more integrated picture, and what emerges is a layered synthesis. Throughout the process, the elements that continued to frame the analysis were (a) connective threads among the experiences of the research participants, (b) ways in which participants understand and explain these connections, (c) unexpected as well as anticipated relationships and connections, (d) consistency or inconsistency with the literature, and (e) ways in which the data go beyond the literature.

The discussion takes into consideration the literature on higher education and doctoral programs and adult learning. The implications of these findings are intended to augment the understanding of the perceptions of why some students are unable to manage completion of their research and the resultant dissertation. The chapter concludes with a reexamination of the researcher's assumptions, which were identified in the first chapter, and a summary that incorporates a note regarding the effect of possible researcher bias in interpreting the findings.

Analytic Category 1: The Relationship Between Coursework and Students' Ability to Complete Their Dissertations

The first research question sought to determine how well participants understood what they needed to know, and what they needed to be able to do to successfully conduct research and write the dissertations once they completed the coursework. Participants indicated that there was a disassociation between the first part of the doctoral program, the coursework, and what follows as doctoral candidates engaged in the research and dissertation writing process. One of the participants, Morris, reflected this view when he said: "I didn't get the information during the coursework. I didn't pick up what I needed to know about actually doing research and what's worse, I didn't know how to find it out." Sternberg, author and professor

emeritus at John Jay College, gives credence to this perspective when he says:

... the real issues are sociological and structural in the formation, the way the whole doctoral process is shaped. And then linked to that, of course, is that after you have finished your comprehensives, you just fall off the cliff, there is no linkage at all in that sense. You know the dissertation is seen as a trial by fire, you have got to do it yourself. (personal communication, September 14, 2006)

At the same time, casting the onus for not being able to complete the dissertation solely on the design and structure of particular doctoral programs may be misplaced. Such an assertion might be warranted because a number of studies dealing with possible causes of high attrition rates among doctoral students identify not only issues of program design, but factors directly related to students' idiosyncrasies (Bourner, Bowden, & Laing, 2001; Hawlery, 2003; Hockey, 1994; Lewis, Ginsberg, Davies, & Smith, 2004).

Let us consider the implications of both perspectives—that of doctoral programs and the students enrolled in those programs. It can be argued that the primary purpose of institutions of higher education is to foster critical thinking by exposing students to philosophical and theoretical concepts, and to the various bodies of literature that inform theory. Therefore, the focus of doctoral programs is not so much to demonstrate the practical application of theory, but rather to expand and build on existing theory and/or to fill gaps that may exist in the literature.

Hawlery (2003) expands on the purpose of doctoral programs as the development of academic scholarship, rather than the training and development of practitioners. The author points out that new psychological and intellectual demands are placed on doctoral students. The author describes the implications of both demands in this way:

In most disciplines, the Ph.D. is considered a research degree and means that its primary purpose is not to prepare practitioners, clinicians and

teachers but to produce scholars. If you want to be considered a scholar, you must do research. This calls for a major transition in how you think and what you do. (p. 21)

Although attrition in doctoral programs is high (estimated at 50% nationwide; Berg, 2007; Lazerson, 2003; Lovitts & Nelson, 2000; Smallwood, 2004), it also can be said that another 50% of students, exposed to the same coursework, are successful in completing their dissertations and subsequently earn their doctoral degrees. This finding suggests that there may be innate or idiosyncratic student characteristics that cause some to succeed in attaining their degrees—despite the fact that coursework does not prepare them in the practical application of research—while others remain unable to complete their dissertations. In addition to possible personal characteristics, there also may be environmental factors that contribute to students' success.

Taking on doctoral work can be overwhelming and can place a psychological burden on some students, for which they are unprepared. Karen, one of the participants who commented on this, said: "It (the dissertation) is an overwhelming task and one doesn't have experience with it and so it can be very anxiety provoking."

Lovitts (2001) explains the dissertation process as complex, long, and daunting, and one in which students have little or no experience. The author notes:

These are complex processes with which most students have little familiarity or prior experience. Students who reach this stage know (or discover) that they must conduct research that distinguishes them from their peers. Most feel inadequately prepared to do this type of research and find themselves unprepared for the writing in the style required for a dissertation. (p. 72)

Although lack of experience can lead to confusion and even debilitation, and although the coursework has not adequately prepared students, this impasse may only be temporary as students begin learning by doing. Meloy (1994)

found that, for novice qualitative researchers, developing a sense of the project's coherence was dictated by the project, rather than any suggested a priori plan or program structure. As she explains:

One of the most common ways we have of learning to do something is *by doing it*. But unlike fastening our shoes or baking a cake, "doing research" is becoming more complex and controversial. Although qualitative researchers are making substantial contributions to scholarship by describing not only how research is conceptualized but also how its products are finally presented and understood, there is for novice researchers, and traditionally trained faculty members across the wide array of disciplines, a down side. As the number of methodological options and alternative presentations increases, so does the ambiguity. (p. xi)

In terms of her own research, Meloy (1994) acknowledges that her coursework did not fully prepare her to do qualitative research, and she recounts her experience by saying:

In spite of my coursework, I had no idea of what it felt like to do research. Writing the dissertation was an experience in itself. Adding qualitative research on top of that made for an especially interesting time of learning, reflection, and practice. (p. 2)

Indeed, unlike quantitative research, qualitative research is not structured, systematic, and procedural. As such, coursework cannot fully prepare the student for the experience of actually doing it; that is, conducting the research and writing the dissertation. Moreover, aside from the necessary research skills, the level of writing skill required in a dissertation is something that is not easily taught. Thus, it can be reasonably argued that coursework cannot be expected to prepare the student for academic writing of a project as intense and complex as a dissertation.

Although some faculty and administrators view lack of progress or even attrition as a function of students' academic ability, motivation, or commitment, Lovitts (2001) and other researchers

suggest it is a constellation of psychological/personal and structural factors that explains why some students are not able to complete their dissertations while others succeed. Thus, it appears to the researcher that ABD status and attrition rates cannot be placed solely at the doorstep of the institution or squarely on the shoulders of students. Rather, students' progress in doctoral programs might be better understood as the dynamic interaction of students and the institutional context.

Being unprepared may mean, in a sense, that students are unsocialized as to the scope and meaning of a doctoral dissertation (Bauer & Green, 1994; Sternberg, 1981). This notion brings into play the idea of a doctoral dissertation as an institution in itself; that is, the traditional model of a dissertation and all the expectations that go along with it. This theory includes the political aspects involved with faculty, the university system, institutional protocol (ambiguities, nuances, rules, regulations), and working with committee members who often have differing and sometimes even competing requirements. Students often do not have a clear grasp of the policies and procedures involved. The system of dissertation work and all the expectations surrounding that system are unfamiliar to them—hence the general feeling of unpreparedness.

The above notwithstanding, there are still some doctoral faculty who feel the main reason that students do not progress and some even drop out of doctoral programs is because of some aspect of the student's background. Hawlery (2003) raises this perspective in her book about the doctoral experiences and feelings of graduating students when she says:

...standing behind each smiling graduate is the shadow of another person who also expected to be there on the auspicious occasion, but dropped out somewhere along the way. Are these "shadow people" intellectually inferior to those who stayed the course and received their PhD? Is the graduation ceremony portrayed here simply an example of Social Darwinism in which only the fittest (brightest) survive? (p. 3)

To address their perspective, doctoral faculty in some programs have tried to tighten up the admission requirements for enrollment into their programs so as to admit only those students who are able to withstand the pressures of doctoral work (Lovitts, 2001). However, it is interesting to note that more stringent admission requirements in a number of doctoral programs have not affected the dropout rates, which continue to be high (Lovitts & Nelson, 2000). According to Lovitts (2001), those who enter doctoral programs are high achievers in the base case; they are people who have prior academic experience that often includes numerous honors and academic awards, and yet they are among the best and brightest who drop out of doctoral programs. Having taken the onus solely off the students, Lovitts (2001) identifies three reasons for the stagnation and/or dropout rates within doctoral programs, which the author sees more as a function of the interaction of students and the institution. She describes these as:

1. It is not the background characteristics that students bring with them to the university that affects their persistence outcomes; it is what happens to them after they arrive.
2. Graduate student attrition is a function of the distribution of structures and opportunities for integration and cognitive map development.
3. The causes of attrition are deeply embedded in the organizational culture of graduate school and the structure and process of graduate education. (p. 2)

Azad and Kohun (2006) attribute feelings of isolation among doctoral students as a major factor affecting their progress. The authors point out that, "...despite this recognition, the feeling of isolation has yet to be addressed fully in the design of some doctoral programs" (p. 21). The authors find support from others in the academic community that most doctoral programs are not designed to specifically address the emotional needs, social feelings of estrangement, and/or inadequacy experienced by matriculating doctoral students. In other words, the design of most doctoral programs does not provide

a supportive environment for students to successfully complete their dissertations and obtain their degrees (Azad & Kohun, 2006; Berg, 2007; Hawlery, 2003; Lovitts, 2001; Lovitts & Nelson, 2000).

Lack of progress in a doctoral program also may be a function of mutually exclusive expectations on the part of program faculty and the students they enroll. One of the participants in this study wrote the following in his critical incident:

It was the constantly changing expectations among the committee members themselves about what I was expected to do and how I was expected to do it. I was writing various chapters and I had constant and conflicting messages about what I was supposed to write and how I was supposed to write it and that was very frustrating. (Hank)

As one of the participants who said that her expectations were not met described:

While I found the coursework intellectually stimulating, I was learning a lot, the language, the terminology, the theory. But once I was on my own I had this expectation that I would be given some guidance around actually doing the research, writing the dissertation—and it just wasn't there. Then I started to think it's a matter of learning along the way and it is up to me to figure it out—but somehow I keep thinking it shouldn't be that way. (Jane)

Brause's (2004) study lends support to the expectations of some doctoral students with regard to the dissertation process and what they believed were the obstacles that stood in their way. One participant in Brause's study described it this way: "I sought assistance in understanding a process which has seemingly been cloaked in 'darkness and secrecy'" (p. 143). Lovitts (1996) also reports that doctoral students understand formal program requirements, but often do not have a good understanding of the informal expectations vis-à-vis carrying out the work. From the perspective of the doctoral program faculty, there may well be an unspoken expectation that the rigors of producing a dissertation require students to be highly

self-directed given their view that the doctorate is a terminal degree of intellectual import and of the highest prestige. Hawlery (2003) explains this perception of doctoral faculty in this way:

It is understandable that academics view the cognitive realm as their primary domain and intellectual accomplishment as their primary mission. Few would argue with this focus. Nevertheless, there are vast differences among faculty in the degree to which they recognize the psychological components implicit in an understanding of this kind. It is subjectively painful experiences that underlie most students' decision to quit, yet many doctoral faculties refuse to concern themselves with that they see as non-cognitive matters. (p. 24)

With regard to the differing expectations, research studies have shown that when students are given timely, relevant information about the program and, as importantly, the doctoral process, they are better able to develop good working relationships and are able to maintain their commitment to the program (Bauer & Green, 1994). This sentiment was expressed by many participants in this study and was best reflected by one, who said:

I think at the beginning of the course work there needs to be some additional assistance as to how to get people to begin thinking about their dissertation, because indirectly everything is associated, in my opinion, with the dissertation. So I think there could have been a better job done with an overview that keeps getting referred to as one goes through the coursework, so as one moves forward in the classes one can see the relevancy. And there should be more about what's expected, you know what lies ahead. More direction would have been very helpful to me. (Debbie)

In summary, it has been argued in the foregoing that the lack of student progress and even student departure cannot be attributed solely to the fact that coursework does not typically prepare students to conduct research and write their dissertations. This

view is posited because the intent of coursework is primarily designed to provide a sound theoretical foundation for subsequent research and not to address the practical application of theory. At the same time, there are significant psychological and social aspects that affect students' ability to carry out this work, most notably issues of self-efficacy and feelings of isolation.

In many cases, psychological symptoms and social feelings of estrangement and/or isolation experienced by students may be a function of the ambiguity within which the academy portrays the research process during the coursework. Participants characterized this phenomenon as "shrouded in mystery." Therefore, it appears there should be opportunities in the design of doctoral programs to demystify the research process without sacrificing the intellectual rigor intended to escalate higher-order thinking among students. The following comments reflect participants' strong reactions when what is expected is not made explicit by the faculty:

I think it's [the dissertation] a terrifying process, I really do. And, I don't know that faculty really wants to disarm anybody of what it's all about because it may take away their mystique... I don't know. I'm just guessing. So you are left with this feeling of loneliness—like you are hanging out in the wind, and it's overwhelming. (Anne)

What I have come to realize as I get further involved in this work is that there is something of a mechanical process to putting this dissertation together. And you know if they had explained how these pieces all fit when I was taking classes, it didn't have to be such a mystery, and it doesn't have to be so difficult. And I wonder sometimes if the field—doctoral programs in general—if they just try to make it difficult for students... you know, a rite of passage or whatever! (Doris)

The prior comments illustrate the sense of isolation that students experience in the absence of not knowing what is expected and what lies ahead. Research suggests that the more students are informed about the process, the more they are integrated into the academic

community, and the more they feel part of its social life, the less likely it is that students will feel isolated and the more likely it is that they will persist in the program (Lovitts, 2001; Tinto, 1993). In light of this notion, it appears that mechanisms need to be put in place to clarify expectations that faculty have of students and what students can reasonably expect of faculty; it is really a question of shared responsibility.

Analytic Category 2: Students' Perceptions of What They Needed to Learn and How They Acquired the Learning They Needed

The perception of the overwhelming majority of participants in this study that the coursework did not prepare them to do research may explain why they also reported they were left to rely on their own resources and the help of colleagues to identify what they needed to learn. The findings revealed that all participants in this study indicated they needed to either (a) acquire knowledge about the *content* involved in doing research, and/or (b) understand what they actually had to do to carry out the *process* of conducting research.

On the surface, it appears obvious that if students felt the coursework did not prepare them to carry out research and write their dissertations, they would seek that information and knowledge elsewhere. However, this may not necessarily be attributed to a failure of the coursework. It may likely be that students were more focused on meeting the demands of the coursework and not looking beyond to the potential relevancy of the theories to which they were being exposed and how those theories might subsequently inform their future research. Knowles (1980) provides support for this likelihood when he says:

Adults . . . tend to have a perspective of immediacy of application toward most of their learning. They engage in learning largely in response to pressures they feel from their current life situation. To adults, education is a process of improving their ability to cope with life problems they face now. They tend, therefore, to enter an educational activity in a

problem-centered or performance-centered frame of mind. (p. 53)

This may well be the "frame of mind" of many participants in this study, who were focused on the demands of the coursework and not the application of what they were learning to subsequent practice. One of the participants expressed it this way:

As I was going through the coursework I was paying a lot of attention to other papers and things. And the research stuff got very much pushed aside for me in my own mind. And it was, well, you know what, I don't have to deal with that right now. I'm going to have to do that at the end of it. But I've really got to get this paper done, and I really have to do well in this class. And I know that when the research stuff was presented, there was something in my unconscious that was saying "you know what, you can learn this later." (Mollie)

This idea may be further understood in light of what Knowles (1980) describes as having a "readiness to learn" and the associated "timing of the learning." Knowles reminds us that adults must be ready to receive the learning, and this readiness constitutes what he calls a "teachable moment." In other words, presentation of the learning must be timed or in step with a particular stage of development. In this case, development can be understood as students' maturation within the doctoral program.

The majority of participants in this study completed the coursework with content knowledge relative to theory, but not content knowledge relative to the practical aspects of what to research and how to conduct the research. The work of Beeler (1991) may provide some further insights. Beeler describes four stages he says students experience as they move through the doctoral journey: (a) unconscious incompetence, (b) conscious incompetence, (c) unconscious competence, and (d) conscious competence. These stages may explain why students in this study

were not ready to relate the theories to which they were being exposed to the practical application of research.

The essence of good research is its content; it must be sound, authentic, and researchable. In other words, the subject of inquiry, the problem or phenomenon, must be one that warrants investigation. Several participants in this study described their struggle after the coursework to identify a problem about which meaningful research could be conducted. One participant framed the dilemma in this way:

It's a year later (after the coursework) and I am still at this impasse, as the problem really was/is how to develop a problem and purpose that is concrete and one that I can stick with, and I still seem to be having this problem. I'm also not sure what will get me over this impasse and what is at the source of it. (Shana)

Participants reported struggling throughout the process to understand *how* they should go about carrying out the research. In reflecting on the process as a whole, Brad, one of the participants, summed up a prevailing view when he said: "If I had more of the *how*, I could have been further along sooner, but I try not to focus on what wasn't but what I have to do now." Another participant described her struggle and frustration with trying to understand what to do in a critical incident form:

Looking back to the long process of the dissertation research, one critical stage for me started after my proposal defense when I had the pilot data when I needed guidance on how to code the data so as to pave the way for my later data analysis. When I asked for help, I didn't get the guidance or the direction I was looking for. I was just told—go read the works of so and so, and I struggled a long time with this trying to code every line before I had a breakthrough with the help of a colleague. (Jane)

The struggle of students who lacked the knowledge of what to do and how to do it also is

reflected in Brause's (2004) study of the experiences of doctoral students as they engage in the dissertation process. In reporting the findings of her study, Brause notes that:

The one constant theme was lack of knowledge. There was a clear desire to know as much as possible about the process so that they [students] could predict what was going to happen, allocate time and money wisely, and understand their roles in that process... Explicit information, respondents believed, would make it easier to manage their responsibilities within and beyond their doctoral program, as well as enabling them to feel more knowledgeable about their progress. (p. 149)

In addition to the perception of the majority of participants that the coursework did not prepare them to conduct research and write their dissertations, they also had little confidence that they would learn what they needed from faculty and/or their advisors post-coursework. This perspective is best illustrated by a participant who explained it this way:

For me, it comes down to how the dissertation process is handled, and how much support you get from faculty once you get to that point because that's where they lost me. I just couldn't get off square one for doing a dissertation, and I did three proposals with an advisor who kept saying: "well that's not it yet; I'll know it when I see it." So, it was that kind of response. They gave me no guidelines. My guess is that this advisor didn't have a clue himself. I think when he said he'd know it when he saw it, he really did look to the student to try and figure it out on their own or get help from someplace else on campus. (Anne)

Further, it might be that some students were simply unmotivated to move forward with the dissertation work. Having spent many years at this point in the doctoral program, it might simply be that they lacked the necessary energy to continue; that they were, in effect, running out of steam. As one of the participants stated:

At this point [following completion of coursework] I was simply exhausted. I had just about come to the end of my tether. . . . Yes, I badly wanted the doctorate—otherwise why would I have enrolled in the first place? But let's face it, I had a life too, and many commitments, including a family who needed me. I weighed the pros and cons and the toll the doctoral work had taken on my life so far, and I started to question whether I really wanted this thing [the doctorate] so badly after all. (Frank)

It cannot be assumed that students who enroll in doctoral program will necessarily be motivated. Motivation is indeed a factor that cannot be taken for granted in terms of adults' participation in learning experiences and in their subsequent learning success (Houle, 1988; Knowles, 1998; Merriam & Caffarella, 1999; Wlodkowski, 1985; Wlodkowski & Ginsberg, 1995). Knowing why some doctoral students do not progress and what deters their progress is a function of the extent to which intrinsic and/or extrinsic motivating factors are compelling. In the present study, when participants were asked what prompted them to enroll in a doctoral program, almost equal numbers cited extrinsic and intrinsic motivating factors. Therefore, one can surmise that, in this case, motivation was not determined by any one particular motivating factor—either extrinsic or intrinsic—but rather by the *intensity* of the factors at play.

In light of the lack of formal preparation during coursework and formal guidance post-course work, as cited earlier, participants went about learning informally by relying primarily on themselves and their colleagues—those others who were, in their view, “in the same boat.” This mode of learning is not so much an anomaly, but rather is consistent with the concept in the literature that says adults learn largely through informal means. In fact, it is in the informal domain that most learning occurs. Marsick and Volpe (1999) define *informal learning* as “learning that is predominantly unstructured, experiential and non-institutional. Informal learning takes place as people go about their daily activities at work or in other spheres of life” (p. 4). As such, the authors

view informal learning as integral to daily life and say, further, that its value comes from the fact that “it occurs ‘just in time’ as people face a challenge, problem or unanticipated need. By its nature, such learning cannot be fully preprogrammed; it arises spontaneously within the context of real work” (p. 4).

Learning informally requires individuals to engage in self-directed activities, either through interactions with others or independent of others. Candy (1991) characterizes self-directed learners as individuals who take responsibility for their own learning and do not rely on others to tell them what they need to learn. Nor do they rely on structured programs for their learning. Therefore, it was not surprising to see that the participants in this study sought to learn what they needed primarily by engaging in dialogue with colleagues and, to a lesser extent, by other solitary activities, such as reading relevant texts and completed dissertations and conducting literature searches for the kinds of information they needed.

Some participants expressed a clear preference for finding things out on their own. For example, in reflecting on the advice she might give to new doctoral students, Debbie commented: “I would tell someone they really need to read, read, read—get a hold of as many dissertations as you can, and examine how they are structured. It helped me a lot, and this was the main way that I figured things out.” Other participants, like Lin, talked about “losing themselves for hours in the online library.” Angela talked about how invaluable the Internet was in helping her find the information she needed.

The following comment describes the value that most participants in this study placed on having colleagues to talk to and with whom they could brainstorm:

I just started reaching out to my some of my peers and I found they would listen, they understood and a lot of the time, I would walk away just a little bit clearer. You know, you get another perspective, another way of looking at things when you talk it over with someone or with other people. I tried to be there for others

when they needed to talk, to discuss ideas or even just listen when they needed to vent; after all they had done that for me. And I don't think I would still be in the program if it weren't for some of my classmates. (Karen)

Many participants maintained consistent communication with colleagues, as one participant, Fay, noted: "After the coursework, we formed a small group and we kept in touch and still do—there's a lot of caring, and we continue to help one another and we share information." The value that participants in this study placed on their interactions with colleagues finds support generally in the adult learning literature, which places an emphasis on how collaboration, dialogue, and reflection are vehicles for learning (Brookfield, 1986, 1987; Merriam & Caffarella, 1999; Mezirow, 1991; Mezirow & Associates, 1990, 2000; Taylor, Marienau, & Fiddler, 2000). Learning from and with colleagues specifically within the context of doctoral work also finds support in the work of Meloy (1994) and Piantanida and Garman (1999). These researchers found that study groups with colleagues were a strong support factor for students in doctoral programs. Study groups, according to these researchers, were found to encourage scholarly development, generate thought-provoking issues with respect to qualitative research, provide opportunities for dialogue and reflection, and engender emotional support.

Although most participants were involved in self-directed activities to help them learn what they needed to progress in their work, some also mentioned that they received some help in the post-coursework seminars they attended. These seminars were described by participants as "less structured than typical coursework classes." Although students were provided with contextual material vis-à-vis research, the "discussions were largely informal." Interestingly, participants reported that students who attended these seminars were, in the words of Dexter, "not held accountable for producing work."

Lack of accountability may indeed promote a sense of complacency and allow students unspoken permission to avoid the real work of doing

research and writing a dissertation. In contrast, having students set objectives and commit to producing a particular piece of work within a certain given time frame would create momentum for the students' progress. In this regard, lack of accountability may well have contributed to the high "time-to-completion" rate of participants in this study.

A further explanation as to why students did not find these seminars helpful may be due to the fact that they were not involved in setting objectives and planning. Indeed, one of the distinguishing characteristics of many adult learning programs is the shared control of program planning and facilitation (Knowles, 1998). Even when the learning content is, to a large extent, prescribed, sharing control over the learning strategies is believed to make learning more effective. Engaging adult students as collaborative partners satisfies their "need to know," as well as appeals to their self-concept as independent learners.

In summary, although working and learning through others is the primary way that adults learn, in the context of knowing what to do and how to complete research and write a dissertation may require the "others" to be informed experts. In other words, although it is important to have empathetic and supportive colleagues, in the absence of some form of formal, structured guidance and/or the accessibility of informed experts, collegial support may well be insufficient and actually slow down the process of completing arduous dissertation work. Further, although a fair amount of self-directed activities is necessary, such as reading other dissertations and searching the literature, time expended on these activities should be content-specific; that is, searching out information related specifically to the subject of inquiry at hand.

Analytic Category 3: Supports and Barriers Influencing Students' Progress

The perception of participants was that—in the absence of formal help either through coursework, faculty, or advisement—they had to rely on themselves and their colleagues to understand and carry out their research. In light of this

perception, it is not surprising that participants would cite their own personal attributes or qualities as well as the help of colleagues as primary supports to them in their doctoral work. At the same time, participants cited access and availability of advisors and, in some cases, the quality of advisement as the single most significant impediment to their post-coursework progress. This perception raises a serious point of contention that warrants closer examination, especially given the pivotal role advisors play in doctoral programs. Lovitts (2001) sheds light on the importance of the advisor in this way:

The advisor influences how the student comes to understand the discipline and roles and responsibilities of academic professionals, their socialization as a teacher and researcher, the selection of a dissertation topic, the quality of the dissertation and subsequent job placement. (p. 131)

Given the importance of advisement in the dissertation process, painting all advisors with the same brush may well be an unfair and unwarranted assumption. As previously mentioned, approximately half of the students who enroll in doctoral programs succeed in obtaining the degree. Thus, in light of the success of roughly half the population of doctoral students, it is likely that those students who completed their dissertations and obtained their doctoral degrees did receive the kind of guidance and support from advisors that is required. However, the fact that more than half of the participants in this study viewed the advisor relationship as an impediment does suggest the advisement that students received may not have been adequate. There may be several reasons that so many students in this study held this perspective. In many cases, the workload and professional demands placed on faculty can be daunting; hence, they may not always be able to meet students' expectations by providing timely and consistent guidance. Sternberg (1981) sheds light on why faculty members are not always consistently helpful to students. He says:

From a sociological perspective, dissertation advising rates low as a career promoting activity. People are promoted, given tenure, receive more attractive offers from other universities principally in terms of what they publish themselves, certainly not for editing and advising the writing and publications of graduate students. (p. 17)

Consider as well that not all faculty members who provide advisement have the same level of commitment or the same degree of interest in the various research topics of all their advisees. Further, it also is conceivable that advisors can and do become frustrated by the lack of initiative and lack of progress of the part of some students despite the prodding, encouragement, and direction the advisor provides. Given these considerations, one explanation may be that it is easier and even more comfortable for students to blame their lack of progress on their advisors rather than on their own competencies, level of motivation, or even habits of laziness. Another explanation to consider is that conducting research and writing a dissertation is new terrain for most students, one for which most have little or no prior experience on which to draw. As such, it is difficult for students to have the confidence in their ability to carry out such a large-scale scholarly project without the support, encouragement, and direction of advisors who have traversed this terrain and, therefore, are content experts.

At the same time, it should be noted that two participants in this study did comment favorably on their relationship with their advisors. Sal, one of the two, said: "I am a very lucky person; my advisor gives me a lot of feedback, a lot of personal care, and a lot of dedication. I know that is not the case for everyone." Further, given that one-fourth of the participants did not mention advisement at all—either positively or negatively—may suggest that other personal and overriding issues impeded progress in addition to or beyond the student–advisor relationship.

Doctoral students face all the life issues and demands typical of adulthood. Therefore, it was not surprising that, in addition to lack of support

from their advisors, participants also cited professional/work demands and personal family issues as significant challenges that stood in the way of their progress. As is the case in most doctoral programs, the participants in this study are working adults who have to manage the demands of both work and school.

In all cases, the participants in this study have to maintain employment to support themselves and their families as well as pay the "not insignificant" tuition. Maintaining balance between work and academic life is not easy; when the demands in one domain increase, productivity in the other may be affected. Maintaining this balance can be stressful, thus producing anxiety and even debilitation that threatens effectiveness in one domain or the other. The level of individual stress placed on students, as with many other adults, is often compounded by concern and worry about other personal, family, and/or health issues.

Because participants in this study perceived that they were not getting the formal help they needed from the coursework, the faculty, or their own advisors, they said they had to rely on themselves and their colleagues to get through the research process. Therefore, it is understandable that those participants who persist in the program would describe themselves as being resourceful and used terms such as *dedicated*, *committed*, *motivated*, and *self-directed* as personal characteristics that keep them going. It is likely that the kind of perseverance, and even tenacity, that these characteristics encapsulate are important elements contributing ultimately to a student's ability to successfully complete their dissertation.

In summary, why some students do not progress more quickly and why others abandon the process altogether is more likely the result of a complex set of factors. In other words, it does not appear to be a function of coursework not preparing students, advisors not providing guidance, students not being able to handle the pressures of daily life, or students not being sufficiently motivated or self-directed. Some or all of these factors impinge, to a lesser or greater

extent, on the lives of all students. Despite these challenges, some students in doctoral programs persist and prevail, whereas others do not.

Revisiting Assumptions From Chapter 1

It is useful to revisit the five assumptions underlying this study that were stated in chapter 1. These assumptions were presented at the inception of this study and were based on the researchers' backgrounds and professional experiences. The five basic assumptions identified at the outset are discussed next in light of the analysis of this study's findings.

The first assumption underlying the research was that coursework does not prepare doctoral candidates to conduct research and write their dissertations. This assumption held true according to the first finding (chap. 4). The sample of students in this study expressly stated that the coursework did not prepare them to carry out the practical aspects of conducting research and writing their dissertations.

A second assumption posited by the researchers was that, because doctoral students are mature adults, they will be sufficiently self-reliant and self-directed and that will enable them to carry out research and write their dissertations. This assumption turned out to be partially true. Initially, students appeared to be dependent on the coursework and were not prepared to be self-directed. It was only when they had completed the coursework and realized they did not know the steps involved or how to proceed that they became self-reliant and were self-directed as they reached out to colleagues for help. This notion was illustrated in the third finding uncovered in this study.

The third assumption was that, because students were successful in completing all the course requirements, they would be able to achieve success in doing research. This assumption did not hold to be true. Judging by the slow progress and, in some cases, lack of progress of the sample students in this study, past academic success is not always or necessarily a predictor of future academic success.

The fourth assumption is that doctoral candidates do not always receive the direction and guidance they need from their advisors. This assumption held true given that the majority of participants cited the lack of good, timely, and consistent advisement as a major barrier standing in the way of their progress.

The fifth and final assumption is that people who enroll in doctoral programs are strongly motivated to obtain the doctoral degree and are thus likely to complete the dissertation. This assumption did not hold true given that motivation alone is insufficient to carry out doctoral work. This idea was illustrated in Finding 2, which revealed that students needed to understand the content and process involved in research and have the knowledge and skills required to complete their dissertations.

Summary of Interpretation of Findings

This chapter portrayed the dissertation experiences of a sample of doctoral candidates. In summary, the prior discussion illustrates the multifaceted and complex nature of the dissertation experience. The discussion reveals various reasons that students might feel unprepared following coursework. It offers an explanation as to what students feel they really need to know to conduct research and write a dissertation, why they then go about learning the way they do, and why certain factors are seen either as supports or barriers to their progress.

The endeavor of analyzing the findings was to produce a nuanced and multitiered, but holistic and integrated, synthesis. The challenge throughout data collection and data analysis, which were not separate but rather interlocking phases of this research, was to make sense of large amounts of data, reduce the volume of information, identify significant patterns, and construct a framework for communicating the essence of what the data reveal given the purpose of the study. In addition,

the researchers performed extensive within- and across-case analyses and did not find any significant relationships between any of the demographic factors (age, gender, ethnicity, discipline/field of practice) in explaining the findings one way or another.

Presenting an analysis of the findings uncovered in this study warrants a degree of caution. First, the research sample was small, comprising interview data from only 20 interviews with doctoral students involved in qualitative research. Second, the focus of the study was on those who are either struggling at some stage of the dissertation process or who have withdrawn from their doctoral studies entirely. Thus, the perceptions of those students who persist in the process and those who complete the process and obtain the doctorate are not represented. For these reasons, it must be stressed that the implications that can be drawn are specific to the experiences of the sample group under study.

Remembering that the human factor is both the greatest strength and the fundamental weakness of qualitative inquiry and analysis, the researcher recognizes the subjective nature of the claims he or she makes regarding the meaning of the data. Aside from the potential biases involved in researcher as instrument, as is typical of qualitative research, the researcher acknowledges possible additional bias in analyzing the findings because they are faculty members teaching in a doctoral program. Toward this end, and to help minimize this limitation, throughout the process of data collection and data analysis, the researchers engaged in ongoing critical reflection through journaling and discussions with critical colleagues. Remaining open to the possibility that others might have told a different story, this chapter is essentially, and ultimately, a presentation of how *these* researchers understand and make sense and meaning of the material and the connections they see in it.

SUMMARY DISCUSSION FOR CHAPTER 5

As pointed out previously, analysis of data begins to occur before you can present your findings; by coding and sorting, you are in effect analyzing your raw data. Having organized and prepared mounds of raw data so you could present an accurate and objective account of the findings of your research (Chapter 4), you are now ready to move on to the final step of the analytic process: to provide an interpretation and synthesis of those findings. Both in the previous chapter as well as in this one, we emphasized the distinction between reporting and presenting findings and interpreting them. These are two distinct processes.

We covered some difficult ground in this chapter. Qualitative analysis is not a simple task, and is therefore not simple to explain. Because the concepts of analysis, interpretation, and synthesis are difficult to explicitly articulate, thinking about how to compose a chapter describing these processes is somewhat challenging. Therefore, the suggestions we have made in this chapter should be viewed more in the nature of guides to possible approaches and combinations of approaches, rather than as tight prescriptions.

In the previous chapter, you presented the analysis of your raw data, which were your findings. In this chapter, you presented the analysis, interpretation, and synthesis of your findings. You moved beyond *data* to *information*. In the findings chapter, you stood back and remained objective. Your task was to offer as accurate an account of the findings as possible. In the analysis chapter, you moved from the objective to the subjective. Your voice and opinion, in conjunction with the literature, now take center stage. Findings cannot be taken at face value. Your aim in

writing the analysis chapter is to tell a richly detailed story that takes into account a specific context that connects participants, processes, activities, and experiences to larger issues or phenomena.

First, you seek to identify significant patterns or themes. Then you move on to provide some sense of understanding; that is, you attempt to explain these patterns and themes—possibly the most creative part of the dissertation. Findings need careful teasing out. As a researcher, you must ask yourself what you have learned from conducting the research and studying the findings. What connective threads are there among the experiences of your study's participants? How do you understand and explain these connections? What new insights and understanding do you have as a result of conducting your study? What surprises have there been? What confirmation of previous instincts and hunches have there been? Are your findings consistent with the literature? Have they perhaps gone beyond the literature? The answers to these questions add another dimension of understanding to your findings.

Providing careful step-by-step documentation of your analysis offers other researchers access to your procedures. In this way, your study can become a model for other studies—a contribution to the research community and an implicit affirmation of the value of your work. Readers of dissertations also are drawn to visual representations of information, which typically compare and contrast key findings of the study. Displaying data visually makes things clear and also can facilitate your seeing findings in new and striking ways.

The central requirement in qualitative analysis and interpretation is clear and logical thinking. You need to examine your findings critically so as to produce credible

and meaningful interpretations. Interpretation of qualitative data precludes reducing the task to any single defined formula or fixed blueprint. Moreover, we must appreciate that, in dealing with interpretation, we are unavoidably dealing with human subjectivity, and, as such, there are differences in the ways we make meaning.

Be sure to acknowledge that there are multiple ways of interpreting findings, that you have sought rival explanations, and that your interpretations are but one perspective. The human as instrument in qualitative inquiry is both its greatest strength and its greatest weakness. Nowhere does this ring more true than in analysis.

Chapter Checklist

- ✓ Do you have an introductory paragraph that includes purpose statement (if required) as well as a brief explanation of how you went about analyzing and synthesizing the findings?
- ✓ Does your argument flow logically and coherently?
- ✓ Do you make one point at a time?
- ✓ Are your interpretations clear, thoughtful, and reasonable?
- ✓ Are your interpretations relevant to the research problem, purpose, and research questions?
- ✓ Are the major themes interrelated to show a higher level of analysis and abstraction?
- ✓ Is your analysis positioned and discussed in terms of the related bodies of literature and previous research?
- ✓ Have you included relevant participant quotations to support your argument, making sure that these same quotations did not appear in previous chapters?
- ✓ Have you made appropriate use of tables and other displays to augment and support the discussion?
- ✓ Have you made sure that all information presented in tables is consistent with information that is presented in the narrative?
- ✓ Have you checked throughout your discussion for unclear/ambiguous language?
- ✓ Have you eliminated any needless repetition?
- ✓ Have you checked for insufficient detail and areas that are “unfinished”?
- ✓ Have you acknowledged that there are multiple ways of interpreting findings and that you remain open to other interpretive possibilities?
- ✓ Do you offer a comprehensive overview summary?
- ✓ If you have chosen to revisit and reflect on your initial assumptions as stated in your opening chapter, do you flesh these out sufficiently in terms of your study’s findings?
- ✓ Have you kept track of and reported on alternative classification systems, patterns/themes, and explanations that you have considered during your analysis?
- ✓ Have you engaged in discussion with critical colleagues throughout the analysis process to hear and acknowledge different perspectives and points of view and to be open to a variety of possible interpretations?

ANNOTATED BIBLIOGRAPHY

Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies*. Thousand Oaks, CA: Sage.

This book provides insight into understanding the complexities of the analytic process and the strategies involved in transforming data into something meaningful. As the authors explain, data analysis is based on the identification of key themes and patterns. This process begins with coding, which the authors describe in great detail in chapter 2. The discussion moves to a further level—from coding toward interpretation—that is, the transformation of the coded data into meaningful data. Chapter 5 focuses on writing and representation; that is, creating accounts of and interpreting what we have found. As the authors stress, qualitative researchers convey messages, explicit and implicit, about the social world of others. Thus, it is incumbent on social science researchers not only to acknowledge that they are accountable for their own acts of interpretation and representation, but also to do so carefully, responsibly, and explicitly.

Mason, J. (1996). *Qualitative researching*. Thousand Oaks, CA: Sage.

This book provides novice researchers with a clear and accessible introduction to the practice of qualitative research, identifying the many steps in the process and helping the researcher develop the needed skills. This book also highlights the difficult questions that researchers should get in the habit of asking themselves in the course of doing qualitative research and outlines the different ways of resolving challenges and issues. In chapter 6, the author explores ways in which qualitative researchers can begin to sort and analyze their data and offers some suggestions about the types of analysis or explanation building that the different methods might support. Chapter 7 examines in greater detail the kinds of analyses and explanations that are required in qualitative research. The authors pose questions as to how one can determine whether explanations are sufficiently convincing and credible. They also tackle some of the key issues regarding the ethics and politics of qualitative data analysis and presentation.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Part III of Patton's book is possibly the best text that we have come across with regard to explaining qualitative analysis, and it is a must read for those interested in getting a better handle on what is essentially an extremely elusive and ambiguous endeavor. Chapter 8 deals with analysis, interpretation, and reporting of the findings, explaining in great detail the challenges and complexities involved. Especially useful are the sections dealing with thick description, case study analyses, pattern, theme, content analysis, and interpretation of findings. Aside from looking at generic approaches to qualitative analysis, Patton also provides suggestions for what he calls "theory-based analysis approaches." Here he examines the theoretical and philosophical perspectives of phenomenology and grounded theory and offers detailed guidelines for how a qualitative researcher would approach data analysis within each of these traditions. Chapter 9 deals with enhancing the quality and credibility of qualitative analysis. The author details how to determine the criteria for truth and provides insight into some of the current debates about establishing the trustworthiness of qualitative analysis.

