Chapter 10. Writing the Analysis

In this chapter, you will develop the details necessary to support the analyses you developed in earlier chapters and throughout your memoing process. By sorting, reflecting on, and ordering your memos, you will develop an emerging understanding of your phenomenon to demonstrate and argue through the presentation of details from your data. You will learn to detail codes, patterns, and discrepancies in a way that will make your findings come alive for yourself and your readers.

Over the course of this book, we have taken you from your thoughts and intuitions about a phenomenon in the world through increasingly abstract ways of seeing and thinking about that phenomenon. By coding the data according to contents and themes, you reduced the phenomenon from its three-dimensional realness to a simpler set of codes that described some salient aspect for closer study. In the chapters on distributions, analyses across dimensions, and temporal analysis we asked you to abstract your phenomenon further by turning descriptive codes into numbers and visualizations of the relationships between those numbers. All of these moves make our phenomena easier to handle and easier to understand. Your phenomenon will not fit on a spreadsheet or in MAXQDA without first reducing the complexity and increasing the abstraction, but it is our engagement with the phenomenon in the world that initially impels our research and it is to that phenomenon, in all of its richness and detail, that we must return.

We want to return to the living phenomenon in the world and use what we have learned in the abstract to discuss and demonstrate something meaningful about the phenomenon. This is the process of writing your results, which consists of five different activities: sorting, reflecting, ordering, detailing the results, and then writing the draft.

Sorting

The result of all the coding and tabulating that you have done will be scads of data, multiple spreadsheets with coding passes, coding summaries, distributions across data streams and contrasts, and correlations between coding passes. Admit to yourself now that not everything you produced over the course of this analysis has yielded true insight. Some of the analyses led to dead ends. Others might have shown marginal results. Some results might have shown that something is going on but in an area unrelated to your current investigation. Amid this data and analysis will be a fair number of insights and a whole lot of chaff. The first step in writing up the results of your study is to learn to recognize the difference between what adds value to your study and what does not.

One source of information to rely upon when deciding where to focus your analysis is the significance testing (see Chapter 9). Whether you used a chi square test or the multinomial logistic regression to find relationships of interest, you can use any significant relationships that emerged to focus your attention for further analysis.

If you have been keeping memos of your planning, thinking, insights, and analysis along the way, those memos will be valuable to you now as a way to look back on what seemed important at the time and on how that sense of importance shifted or became more refined through the analysis. Your memos tell a story of the analysis and the connections that you have been making.

MAXQDA has a built-in function that allows you to sort your memos into an overview and select memos for further study (see MAXQDA Procedure 10-1). Unfortunately, Excel does not have similar capabilities that would allow you to collect and review memos stored as comments. Instead, review your memos

one by one. You may find it useful to copy these memos to a text file for future reference and use them in your write up of the results (see Excel Procedure 10.1 and MAXQDA Procedure 10.1).

Begin comparing memos to each other. Look at some of the first memos that you wrote and recall your expectations. Consider how many of those expectations have held up in your investigations of the data. Sort out those memos that no longer hold up and save them for another time. Just because an expectation was not borne out in the approach that you took through the data or in the patterns revealed through your coding does not mean that your expectation was wrong, necessarily; it might become the basis of a future study that attempts to get at that expectation in a different way.

Next, select the memos that reveal key insights about your coding or that build upon and elaborate codes that have proven significant to your data analysis. These memos will help you make sense of those codes and connect them to each other, to theory, and to the literature to which you want to make a contribution.

The result of sorting through your memos should be at least two piles: memos that will help you propel the current study and memos that will not. The memos that will not support the current analysis might still be meaningful, so this pile could be further sorted into memos that are dead ends and memos that offer intriguing or compelling insights that might be right for a different study.

Excel Procedure 10.1: Viewing Memos in Excel

https://goo.gl/8mQssf

1. Open a sheet in Excel and select **View > Comments** to reveal all the memos.

Review memos and decide whether to retain memos in Excel or copy to a word processor. Delete any memo that is no longer pertinent to the analysis.

2. **Right click** and choose **Delete Comment** to delete.

MAXQDA Procedure 10.1: Selecting Memos in MAXQDA

https://goo.gl/8mQssf

1. To see all your memos in MAXQDA, click on the **Overview of Memos** icon in the top toolbar.

The **Overview of Memos** window will open with a list of all your memos as shown in Figure 10.1. This will include your memos with code definitions, your free memos, and any other memos you might have created.

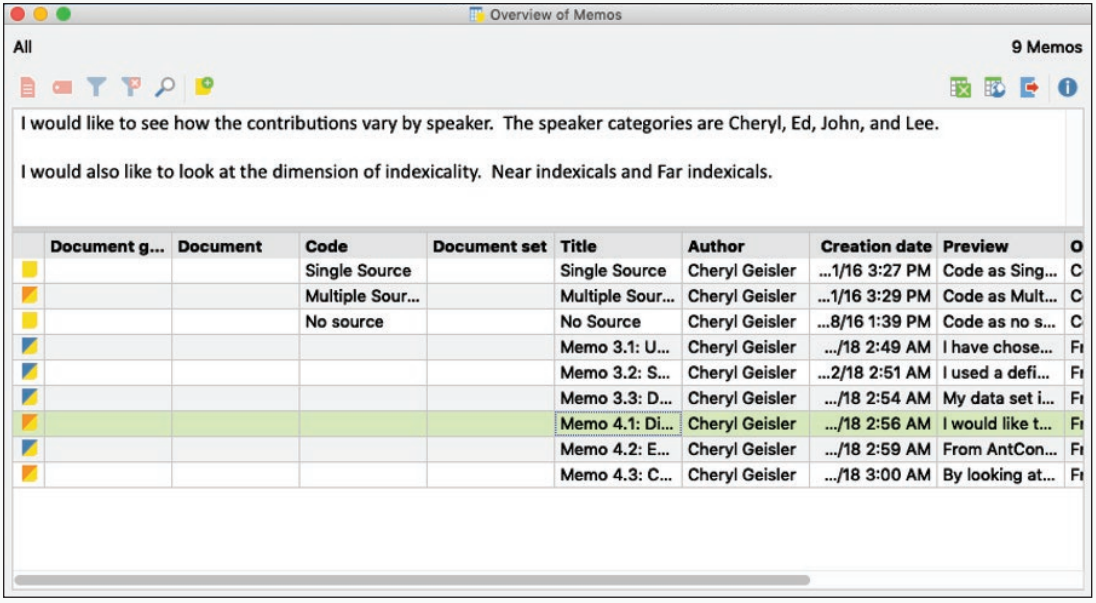

Figure 10.1: Overview of memos in MAXQD.

2. To view the contents of a specific memo, click on its row. The contents will appear in the upper pane of the window.

In Figure 10.1, we have clicked on Memo 4.1 and see its contents in the top pane.

3. To open and edit a memo, double click on its icon.
4. To mark memos you want to consult for your current analysis, double click to open and then mark it with an icon you reserve for this purpose.

Continued . . .

MAXQDA Procedure 10.1: Selecting Memos in MAXQDA (continued)

https://goo.gl/8mQssf

In Figure 10.2, we have used the red shaded icon to mark those we wish to examine further.

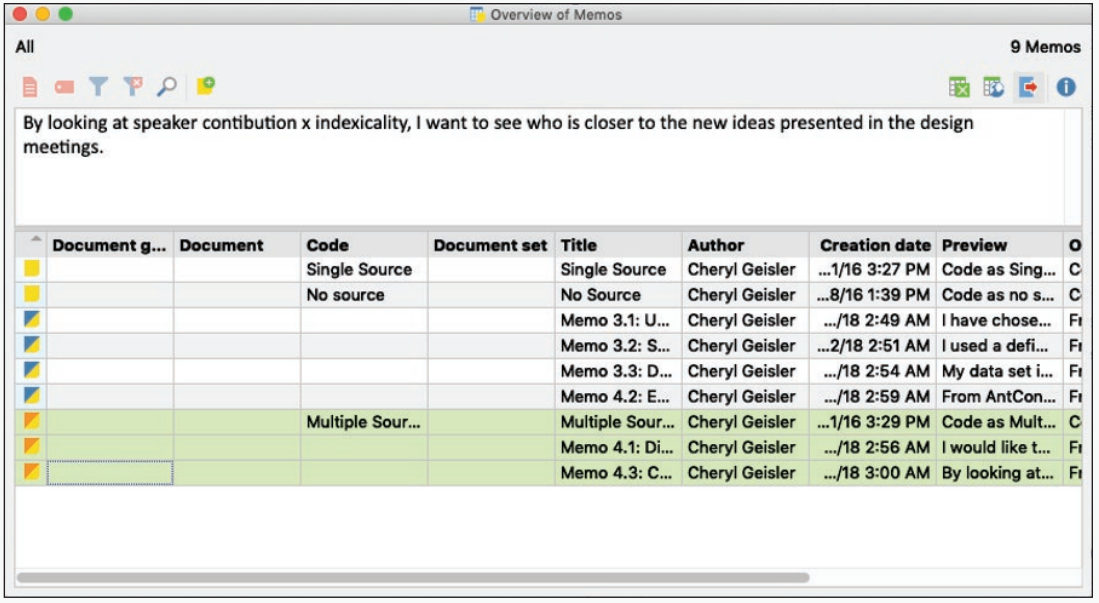

Figure 10.2: Selecting memos to export for further consultation.

5. To sort memos into a group of those you want to consult further, click in the top of the icon column.

The memos will be sorted by icon type.

6. To export specially marked memos, click the first memo, then shift click the last memo to select them.
7. Then click on the **Export** icon and choose an appropriate name for this set of memos, and save them in Rich Text Format (rtf).
8. To review these selected memos, you can open the files in Microsoft Word.

Reflecting

Use the memos that you have retained as pertinent to the analysis to begin reflecting on the meaning of your coding categories as they relate to the descriptive framework that you started with at the beginning of your study. Where do your memos create insight about the descriptive framework?

The memos might lead to insights about the actors in the descriptive framework. For example, if we are looking at the interactions between instructors and teams of students in a classroom, perhaps the memos point to differences in the composition of those teams that might explain how they interact with each other and how they approach their team meetings. The memos might suggest something about the instructors and how they differ in terms of pedagogical philosophies. Perhaps the memos point to the importance of other actors that never made it into the descriptive framework: actors like technologies, texts, or other non-humans that have some significant impact on the phenomenon. What are these actors and what makes them significant?

The memos might suggest something about the interactions implied in the descriptive framework. For example, if the descriptive model of the classroom suggests that the important interactions are between students within a team and between the instructors and the teams, find out what your memos suggest those main interactions might be. Which interactions appear to be prominent and most likely associated with qualities of the phenomenon you want to discuss? Do the interactions appear in a particular order? Do they layer on top of one another? Do they co-occur? Perhaps your memos point to interactions that you had not anticipated or seen in the initial descriptive framework. For example, perhaps the interactions among instructors are meaningful and have some impact on how the instructors then interact with teams. Perhaps the teams interact with each other. Perhaps there are interactions between team members and actors that had not appeared in the initial descriptive framework.

The memos might also provide insight about the environments in which the phenomenon takes place. Are there codes and interactions showing that it matters where actors engage with each other? Do actors interact with different aspects of the environment? Does the arrangement of actors in space (e.g.,

where in a room actors are located) or time (e.g., when actors contribute to the phenomenon and then stop) have some bearing on the activity?

At each step along the way in this reflection, work back through the distributions and codes to the underlying data, grounding your reflections on the abstract in the concreteness and rhetorical richness of your data. Eventually, upon enough reflection, the memos will start to reveal to you themes or concepts that begin to posit a relationship between your understanding of the phenomenon, the descriptive framework where the phenomenon occurs, the coding that you have done, and the literature that has been quietly guiding how you see the data. Reflection can take you to this point, but it does not end. Although your memos might suggest these interpretations, they were not written to elaborate those interpretations. Use this opportunity to revise your descriptive framework to reflect your developing understanding of the phenomenon. Also use the opportunity to write new memos that offer a synthesis of what you learn from reading across the memos.

Memo 10.1: Memos

Examine the memos that you have retained as pertinent to your analysis. Reflect on and write down interpretations that these memos suggest of your data. Are any of these findings expected or surprising?

Ordering

The next preliminary stage to writing your results is to begin drawing connections across memos and the concepts that they help reveal. Specifically, we will be focusing on the coding that you have done. Given how you are now thinking about your phenomenon of study and given the revisions to your descriptive framework, consider how to link codes together. It may be the case that your coding dimensions still adequately reflect the point that you want to discuss. However, you may find that there are connections between codes across different dimensions that are just as meaningful as the original code dimensions. These groupings of codes may reflect meaningful qualities of your phenomenon

that only became visible through analysis. Cluster these codes together to see if a pattern emerges. These recurring patterns may be evidence of a theme.

As an example, consider a study of user interactions on an open source software forum. One coding dimension looks at development decisions when community members appear to reach a decision about what the software does do or should do. Another coding dimension looks at contexts users rely on to articulate software issues. Independently, these coding dimensions may show when and how often development decisions are made and they may show the ways that users describe the issues that they encounter. If we look at how these coding categories intersect, however, we might find that development decisions frequently appear to follow certain kinds of contextualizing statements. Perhaps the pattern that emerges is that development decisions occur around discussions that move back and forth between contextualizing statements about the user's social/professional setting and the technological context of the software's interface and operating logic. Earlier memos might comment on the patterns of coding distribution within the dimensions but memos that synthesize across those dimensions might help identify this pattern of codes that point to, in this case, a conversational circumstance that is associated with development decisions.

This process of ordering and looking across coding dimensions will help you make a selection of codes and find any patterns that link those codes together to say something about your phenomenon. The better these patterns, and the themes they represent, are tied to the descriptive framework and your sense of the phenomenon, the closer they get you back to the realm of living discourse and actors. These themes can then become the focus of your analysis. Moreover, because the themes are directly connected to the coding that you have been doing, you will have a way to filter and sort your data to pull out examples of the themes as well as a way to understand what those examples mean in terms of your overall argument.

Detailing

After you have reflected on your coding, sorted your memos, and ordered them to see what theory might be emerging, it is time to make another move

back to the lived discourse by detailing examples of those codes and themes. Charmaz describes this move as the process of turning one's concepts into actors (2014, p. 285). By turning concepts and themes into actors, we allow them to be the agents through which the story of your phenomenon is told and your theory is elaborated.

Not surprisingly, the final stage in this analytic process brings you back to the details of language that drew you to your project in the first place. These details can illuminate your analysis both for yourself and your readers. And it is in this process of detailing the results that you can use the analytic connections and structures that became apparent to you through the processes of coding and analysis to give meaning to the raw data.

Defining Detail

For our purposes, detail can be defined as selections from a stream of verbal data chosen to provide specific examples of more general patterns. Detail can range in size from a single word or phrase to extended passages of interaction selected for its relevance to a point you want to make. Here, for example, is how a paragraph from a writer's text has been used to detail the concept of a "problem case in paternalism" (Geisler, 1994):

> A prototypic problem case in the issue of paternalism, taken from Roger's final draft, is as follows:
>
> > Mister N, a member of a religious sect which strictly forbids blood transfusions, is involved in a serious automobile accident and loses a large amount of blood. On arriving at the hospital, he is still conscious and informs the doctor that his religion forbids blood transfusions. Immediately thereafter he faints from loss of blood. The doctor believes that if Mister N is not given a blood transfusion he will die. Thereupon, while Mr. N is still unconscious, the doctor arranges for and carries out the blood transfusion.

Details like this one can be presented in many contexts. Methodologically,

details can show how your coding scheme works. But the same details could be used in a results section to give an example of a prevalent verbal data phenomenon or to illustrate an example of a theme that emerges from the coding.

What makes something a detail is its relationship to the larger patterns you have already established by earlier analyses:

- Details can add nuance and significance to abstract patterns of code distributions. You may have found, for example that Cheryl talked more in design meetings than in management meetings. Detail can help you understand what she was talking about in both meetings.
- Details can help you and your readers understand what patterns of association might mean across coding categories. You may have found, for example, that Cheryl tended to use more indexical language in design meetings. Detail can help you understand what points Cheryl was making about the design and why those points were more highly indexed.
- Details can also help illustrate patterns of code change over time. You may have found, for example, that Cheryl didn't begin making significant contributions in a design meeting until more than half way through. Detail can help you to understand what changed at that half way point that lead to her increased contributions.

Detail does more than illustrate the general patterns found through analysis: it enriches your understanding of those patterns, allows you to explore potential explanations for these patterns and can even become the source of schemes and codes that launch a second wave of analysis or the design of a further study.

The Value of Detail

The value of details lies in their ability to link the abstract analysis captured in coding tables, distribution graphs, block charts, and temporal indices with the emerging theory that comes from your organized reflections, curated through your memos. Our codes have done their work, allowing us to take a messy, unwieldy phenomenon in the lived world of language use and to reduce it to

numbers on a spreadsheet that we can combine with other numbers to see relationships that might not have been apparent while observing our verbal data phenomena in the wild. To paraphrase Bruno Latour, by losing the verbal phenomenon itself, we gain knowledge of it as a data object (1999, p. 38). Details allow us to reverse that process by taking what knowledge we have gained about the verbal data phenomenon to see the verbal phenomenon in a new light.

When you return from analysis to the detail of language, you return as a different person. Analysis has given you both articulated concepts with which to understand phenomenon and important understandings of the overall patterns. In other words, having gone through analysis, your intuition is now better prepared to interpret detail. Coming back to detail, then, can be understood as the "big payoff" for the entire analytic process. You now see the verbal data through the lens of intuitions tutored by the analytic process.

Detail also functions as a key component of the interpretive processes in which your reader will engage with your analysis. Some readers in some forums will be willing to engage fully with your study—following the intricacies of your coding and reaching for the abstractions of your analysis. Many, however, will not. Instead, they will rely on you to use details to make your results both concrete and meaningful.

Details can help these readers in the meaning-making process in three ways. First, detail helps readers with understanding. Anchoring generalizations in concrete instances helps readers better understand what you are talking about—how you define the phenomenon, how you saw the associations. Second, detail helps readers to evaluate the credibility of your analysis—weighing it against their own intuitions and experience to see if it makes sense. And, finally, detail helps readers to see the significance of your results—to recognize applications to the contexts in which they operate.

Areas for Detailing

Opportunities for detailing are associated with nearly every component of analysis. In this section, we provide examples of some of these opportunities.

Introducing the Phenomenon

Just as a picture is worth a thousand words, so too is a well-chosen detail worth a thousand vague descriptions of the phenomenon you are studying. Here, for example, is the opening of an article that distinguishes between the use of reading and writing by academic experts and academic novices in terms of authority (Penrose & Geisler, 1994):

> By early March, Janet is ready to set aside the notecards she's been laboring over since midwinter. She begins to write:
>
> > This paper will define paternalism and discuss its justification. Paternalism is the action of one person interfering with another person's actions or thoughts to help him. The person who interferes, called the paternalist, breaks moral rules of independency because he restricts the other person's freedom without that person's consent. He does it, however, in a fatherly, benevolent way, and assumes that the person being restrained will appreciate the action later.
>
> Across town a few days later, Roger makes a similar decision. Setting aside his scrawled pages of notes, he, too, begins his text:
>
> > Consider the following situations:
> >
> > Situation One: Mister N, a member of a religious sect which strictly forbids blood transfusions, is involved in a serious automobile accident and loses a large amount of blood. On arriving at the hospital, he is still conscious and informs the doctor that his religion forbids blood transfusions. Immediately thereafter he faints from loss of blood. The doctor believes that if Mister N is not given a blood transfusion he will die. Thereupon, the doctor arranges for and carries out the blood transfusion. Is the doctor right in doing this? [Two more cases are presented.) . . .
> >
> > Sometimes paternalistic actions seem justified, and

> sometimes not; but always, paternalism seems at least to be a bit disquieting. . . . The authors whose efforts will be reviewed here have undertaken the task of trying to spell out conditions which must be satisfied for paternalistic actions to be justified . . . [S]o a preliminary task is that of giving an account of what are paternalistic actions; that of settling on a definition in order to gain a clearer notion of what we are talking about, and of what, if anything, has to be justified.

The contrast between these two introductions is striking. Though they share a common focus on the definition and justification of paternalism, Janet's text views the definition and justificatory conditions as established truths, while Roger introduces them as matters yet to be resolved.

Notice here how the extended and contrasting detail from different texts is used to help the reader understand what differences in authority amount to. Good detail often works in this way to introduce a reader to a phenomenon. Your readers may find it helpful if you label passages with the codes that you applied. Sometimes seeing the codes that apply can help reinforce the connection between a passage and the emerging theory through which you are reading it.

Illustrating Segmentation

The next opportunity for using detail is for describing the kinds of segments that you have used to break up the verbal stream. Often, such segments do not need to be explained because they represent well-known choices (sentences, t-units, etc.). At other times, however, you may anticipate that the segment will be unfamiliar to readers. In these cases, detail will help readers understand, as in the following case (Geisler, Rogers, & Haller, 1998):

> We expected that the lists these participants produced would be indicative of the kinds of issues to which they normally attend in a software engineering design task. They produced such issues as the following:
>
> - "How should system respond if a credit card transaction is declined by the issuer? If credit card was reported stolen?" [Last of nine issues listed by a software engineering expert.]

- "Can user query how much charges they've run up?" [Eighth of nine issues listed by an advanced technical communication student.]
- "Can the user select a bus any time that it runs or must they take the next available bus?" [Fourth of nine issues generated by an advanced software engineering student.]
- "If the machine doesn't work, you can't get to where you want to go." [First of five issues generated by an advanced chemistry student.]

The four details used in this example not only clarify the nature of the segment "issue," but also represent the range of issues produced by the four groups in the study. These details, then, not only serve their current purpose (illustrating segmentation), but also prepare the reader for later findings.

Understanding Codes

As noted in Chapter 4, a good coding scheme will provide not only definitions of coding categories but also sample segments that would be coded in that category. These sample segments, you may now realize, can become details that help readers to understand what your coding scheme really amounts to, as in the following example (Geisler, 1994):

> To analyze participants' use of the construct of authorship, I examined the protocol data for the presence of *author mentions*, which were defined to include: (a) names of specific authors (e.g., "Childress"), (b) nominals standing for an aggregate of authors (e.g., "these guys"), (c) nominals standing for roles of authors (e.g., "a moral philosopher"), and (d) pronouns standing in for any of the aforementioned ("she"; "they").

Illuminating Patterns

The greatest opportunity for detail comes in the service of understanding the overall patterns revealed by your analysis. Good detail here will be linked to the

overall patterns as in the following example, where details are directly referenced to patterns in the graphs shown in Figure 10.3a and 10.3b (Geisler, 2004):

> Actions "to say" are foundational verbs of articulation. Some of them were literal:
>
> "Jamie and I talked about this at great length."
>
> But most were metaphorical, describing giving voice in text:
>
> "that I . . . I said was impurely paternalistic."
>
> "Say" was the preferred action for Janet who used it in more than half (54%) of her public accounts. The figure suggests that she used it both to describe her own actions and the actions of the authors that she read, and that "saying" occurred in accounts throughout her sessions. Roger portrayed himself and authors as "saying" things a lot less often (11%). Figure 6 suggests that, for Roger, "saying" was a minor part of periods of generally high activity on the public stage.

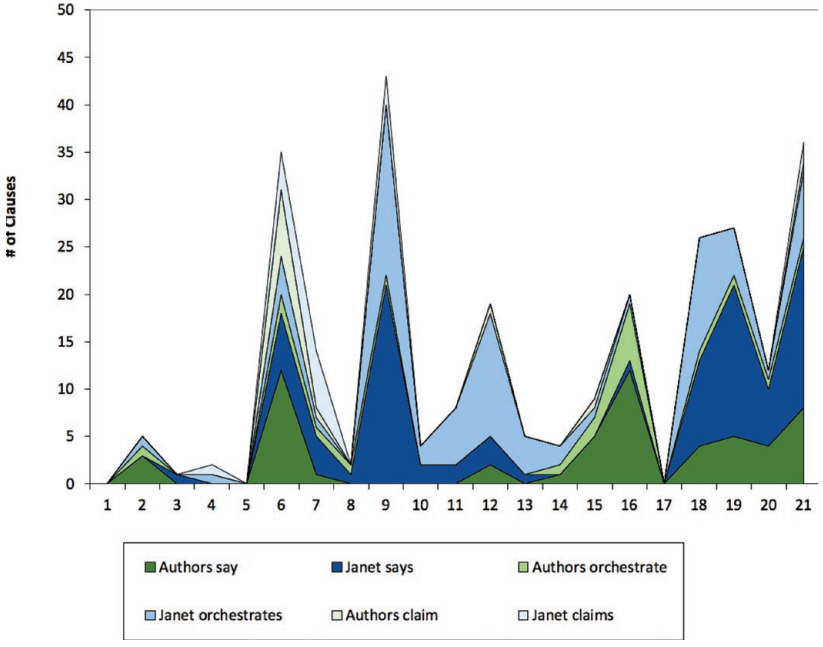

Figure 10.3a: Actions in Janet's 22 sessions. Adapted from Geisler, 2004.

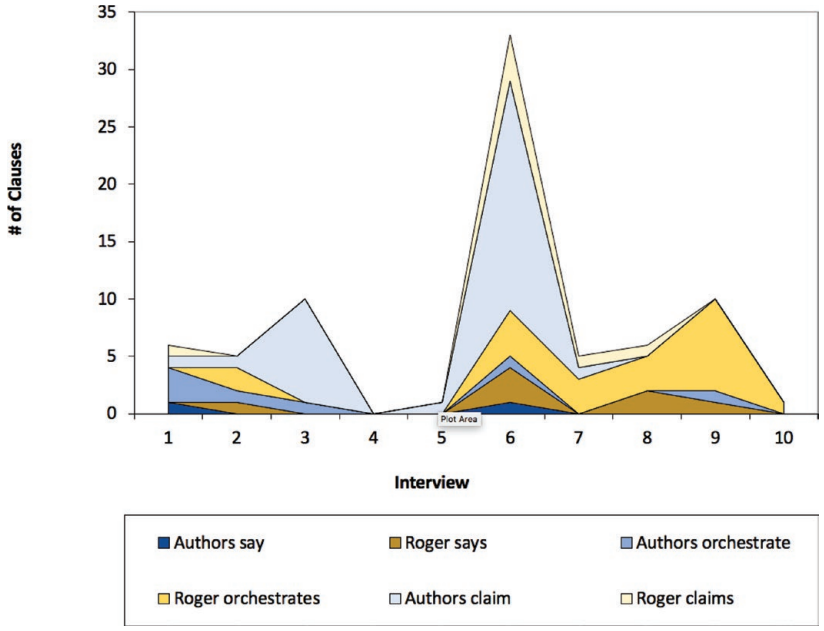

Figure 10.3b: Actions in Roger's 10 sessions. Adapted from Geisler, 2004.

As this example shows, details can help to provide a more intuitive understanding to the otherwise dense abstractions represented in graphs.

Exercise 10.1 Test Your Understanding

In the excerpts below (and available at https://wac.colostate.edu/books/practice/codingstreams/), underline the details that have been added. Rewrite the text to eliminate the details.

> *Sample Segment 1.* Before 1988, I used the still-common academic year calendar, Week-at-a-Glance, available from most university bookstores. A little bigger than the PalmPilot (4 x 6.5), it offered seven days in a 2-page spread as diagrammed in Figure 10.4. Monday through Friday provided 7 full blank lines; the weekend (on which I would presumably be loafing) provided 7 half-lines per day. A sample week, that of Dec 7, 1987, showed that I recorded four kinds of information in the Week-at-a-Glance. First, I listed daily

appointments by writing a time followed by the name of the appointment: "9:30 Graduate Review Committee." Second, I noted deadlines such as "Final project due." Third, I created numbered task lists like the following:

- Annenberg
- Book revision plans

And finally, I recorded untimed events that, nevertheless, were scheduled to occur on specific days: "David Phillips visits, New Zealand." As might be expected with all of these kinds of entries, the seven lines provided for each day often made space tight in my Week-at-a-Glance.

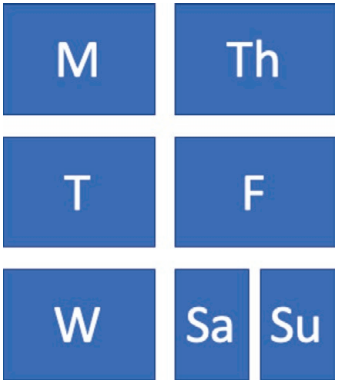

Figure 10.4: Figure for Exercise 10.1 Test Your Understanding, Sample Segment 1. Adapted from Geisler, 2003.

Sample Segment 2. Activity theory requires us to understand how a tool builds upon the user's prior tools, responds to her desires and dissatisfactions, and, through its affordances, extends the capacity of the user in unexpected directions. We can see all of these factors at work with my use of the Day-Timer. The same kinds of information that we noted in the Week-at-a-Glance—daily appointments, deadlines, task lists, and untimed events—found their place in the new Day-Timer technology. In addition, my desire for better control over project tasks and a mechanism through which to assure that I did not neglect my scholarship lead me to develop new mediating means built on tool affordances: not only task lists created in a space whose label ("To Be Done Today") invited such use, but also time-keeping notes ("9:30-12:30") in spaces (Diary Record) designed for other purposes (billable hours). (From Geisler, 2003)

Sample Segment 3. The largest of these activities could be characterized as "doing email," though the work accomplished through this activity was broader than might be expected. In its simplest form, as shown in the activity graph in Figure 10.5, doing email involved reading messages and taking one of a number of simple actions in response to messages received:

- archiving many (action sequences 17, 19, 29, 22, 23, 25, 27, 30),
- replying to one (action sequence 21),
- trashing a couple (action sequences 18 & 26),
- holding one for later reply (action sequence 37), and
- responding to one by modifying an earlier reply (action sequence 24).

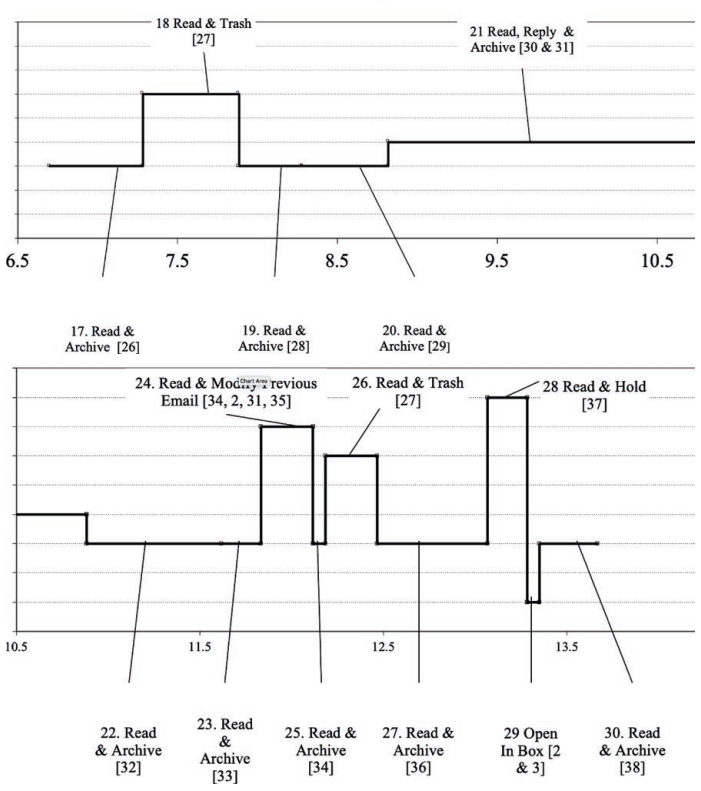

Figure 10.5: Figure for Exercise 10.1 Test Your Understanding, Sample Segment 3. Adapted from Geisler, 2003.

For most of these actions sequences, texts were processed serially in the order in which they were encountered. Only two new texts were created: Text 31 which served as a reply to Text 30; and Text 35 which became an addition to that same reply later on in action sequence 24.

Sample Segment 4. While "doing email," I invoked Palm Technologies when messages were linked to task management issues. As shown in Figure 10.6, for example, I responded to one email message (Text 12) in three different ways, all involving the Palm:

- First, I created the event (Text 19) mentioned in the message by going to my daily calendar for today (Text 1), moving forward 3 weeks (Texts 13, 14, and 15) and 3 days (Texts 16, 17, and 18) to the date of the event.
- Second, in the course of replying (Text 20) to the message, I sought to confirm the time for an upcoming meeting—going back to my Palm (Text 17), returning to the daily calendar for today (Text 1), changing to the weekly view (Text 21), and then checking the start time I had listed for the appointment (Text 22), which I then included in my reply (Text 23).
- Third, while viewing my weekly schedule, I also decided to cancel another meeting (Text 24) earlier in the week, deleted it from the Palm, and then added a note about this (Text 25) to my email reply (Text 40).

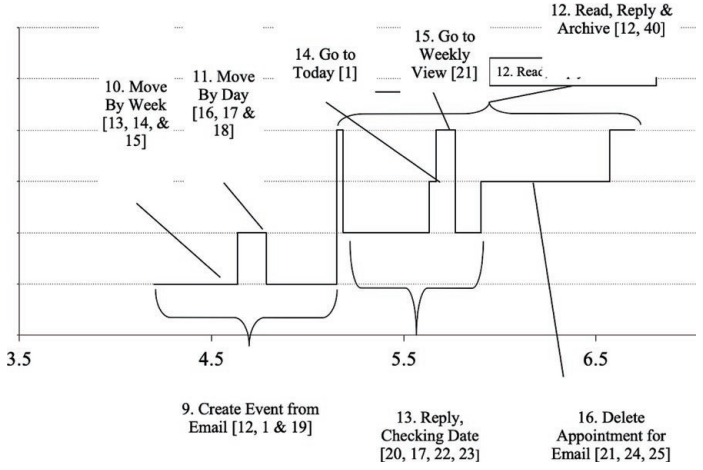

Figure 10.6: Figure for Exercise 10.1 Test Your Understanding, Sample Segment 4. Adapted from Geisler, 2003.

Sample Segment 5. "Planning work" involved the use of a special purpose task management tool, the Project Inventory, created in a spreadsheet and shown in Figure 10.7. Calendar-like in structure, each week provided room to array three kinds of texts: deadlines such as that for the "NSF ITR" shown for Tuesday, January 16; events such as "Tucson" shown for the week of February 20; and work such as "Palm Tech" shown for Monday, February 5. To the right of the week's array and off screen in Figure 10.7, texts represented a variety of projects, unscheduled but waiting my attention. Weeks that represented time past were usually grayed out though this was not true at the start of this session.

Deadlines						
Work						
Events						
	M	T	W	Th	F	S
	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan
Deadlines						
Work		NSF-IT Proposal	NSF-IT Proposal	NSF-IT Proposal	NSF-IT Proposal	
Events						
	M	T	W	Th	F	S
	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan
Deadlines			NSF-IT			
Work						
Events						
	M	T	W	Th	F	S
	29-Jan	30-Jan	31-Jan	1-Feb	2-Feb	3-Feb
Deadlines				JBTC		
Work	JBTC	JBTC	JBTC	Palm Tech	Palm Tech	
Events						
	M	T	W	Th	F	S
	5-Feb	6-Feb	7-Feb	8-Feb	9-Feb	10-Feb
Deadlines					JBTC	
Work	Palm Tech	Palm Tech	Palm Tech	Palm Tech	Palm Tech	
Events						
	M	T	W	Th	F	S
	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb	17-Feb
Deadlines						
Work	Palm Tech	Palm Tech	Palm Tech	Palm Tech	Palm Tech	
Events						
	M	T	W	Th	F	S
	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb
Deadlines						
Work						
Events			Tuscon	Tuscon	Tuscon	Tuscon
	M	T	W	Th	F	S
	26-Feb	27-Feb	28-Feb	1-Mar	2-Mar	3-Mar

Figure 10.7: Figure for Exercise 10.1 Test Your Understanding, Sample Segment 5. Adapted from Geisler, 2003.

For Discussion: How does the rewrite change the meaning and impact of the text?

Locating Detail

In large data sets, finding details can seem an easy task since details are, if anything, overly abundant. Yet finding the right detail to do the work can be a challenge. As we have seen, good details don't simply illustrate; they illuminate and persuade. Based on work that you have done to sort, reflect on, and order your thoughts via memos, you can use several strategies to select appropriate details.

Using the Descriptive Framework

In the process of reflecting on your analytic memos, we asked you to return to your descriptive framework in order to verify details or revise them on the basis of your emerging analysis. The descriptive framework reveals some of the key relationships between participants in the verbal phenomenon, their tools, their settings, and their motivations for interacting. Through the descriptive framework, you can see the contrast used to highlight the phenomenon of interest. Now you can go back to those participants and settings and contrasts to find details that both show those details while also using them as points of comparison to isolate what is meaningful about the data.

In a study of five classrooms, for example, if you had found that teachers contributed more ideas about content than students did you might look for details by focusing on participants in the classroom framework and the different conversation activities that occupy them:

- Teachers' talk about content in each of the five classrooms—are they doing similar things when they all talk about content?
- Students' talk about content in each of the five classrooms—what do students talk about when they actually talk about content? Is there something in this talk that shows why it doesn't happen more often?
- Teachers' talk about other things in each of the five classrooms—is teacher's talk about content distinctive from other kinds of teacher talk?
- Students' talk about other things in each of the five classrooms—is students' talk about other things more compelling for students?
- Students' talk in response to teachers' talk about content—When teachers talk about content, why aren't students responding on the

same topic? What topics do they respond to?

- Teachers' talk in response to students' talk about content—is there something about the way that teachers respond to students' talk about content that keeps them from pursuing it further?

As this partial list of questions illustrate, a single overall result can lead to a whole host of follow-up inquiries that can be addressed and illuminated by detail.

Filtering Data by Codes

Once you have decided which parts of the descriptive framework to illuminate through detail, you can use the filtering techniques to pick out segments that meet these criteria (see Excel Procedure 10.2 and MAXQDA Procedure 10.2). If, for example, you wanted to look at teachers' comments about content, you could filter a data file first by speaker, choosing teacher as speaker code, and then by topic, choosing content as your topic code. The resulting selection would show you all segments that might serve as details.

If you are simply picking out individual segments for details, a simple filter like the one just described will work. If, as is more often the case, you want to look at these segments in context, you will want to see more than a filtered list shows you.

Exercise 10.2 Try it Out

Download the datasheet found at https://wac.colostate.edu/books/practice/codingstreams/, and apply filters that will allow you to focus on the segments in which participants are talking about their objects of work (coded as *Object* in the Frame dimension) but attempt to align that discussion to a technical context (coded as *Technical* in the Alignment dimension). Select details that would allow you discuss the range of technical objects that the participants discuss.

For Discussion: What do the segments of data coded *Object* do in the context of the conversation in which they are embedded? After additionally filtering the *Object* codes by *Technical*, consider how those segments differ from the other segments coded as *Object*.

Excel Procedure 10.2: Exploring Detail in Full Context

https://goo.gl/8mQssf

1. To filter data by a specific code, place a filter on the coding column.
2. Use the drop down menu to select the specific code you want to explore.

Alternatively, to search the data for segments using a specific phrase, select the data column and use the search box to type in the phrase.

3. Once you have found relevant segments either by filtering or searching, change their font color to something noticable, like red.
4. Remove the filter if there is one in place

You will then be able to see selected segments in full context.

MAXQDA Procedure 10.2: Exploring Detail in Full Context

https://goo.gl/8mQssf

1. To filter data by a specific code, activate the document(s) you want to explore in the **Document** window
2. Activate the code(s) you want to explore in the **Code System** window.

The segments that match your criteria will appear in the **Retrieved Segments** window.

3. To see a segment in full context, click anywhere in the identifying information to the left of the segment.

The segment will appear in full context in the **Document Browser**.

4. Alternatively, to search for segments using a specific phrase, select **Analysis > Lexical Search** from the menu and type in the phrase.
5. Click **Run Search**.

A search results window of segments using this phrase will appear.

6. To see a specific phrase in full content click on its row.

The segment will appear in full context in the **Document Browser**.

Memo 10.2: Detail

Use filtering or searching to locate five details on either side of your built-in contrast that illustrate what you take to be the major differences you have found in your analysis. Write one to two sentences characterizing them for the rest of your classmates.

Using a Temporal Index

A third technique for locating good detail involves the use of a temporal index. If you have constructed a temporal index, you can use it to locate specific interesting details. In the temporal index shown in Figure 10.8, for instance, we see that Lee did very little talking. To find those places where he did talk, we can simply hold our cursor over the point in the graph where he is talking and Excel will give us the information about that point. In this case, we see that one point of Lee's talk is associated with x-coordinate of 101 and y-coordinate of 4. Returning to the data sheet from which this graph was constructed, we can easily find point 101, shown in red at the bottom of Figure 10.8, and begin our interpretive process.

Using Memory

One final way to find details to illuminate overall patterns is through the use of memory. After coding and analysis, many analysts find that certain passages in the data stand out in their memories, are striking for what they show, and even haunt them as they develop the overall picture. Picking details for their salience can lead to serious mischaracterization of the data if done *without* the kind of systematic analysis described in this book. But picking out such details after analysis insures that you can place them in the big picture of what was going on generally. Using memory to find your details in this kind of situation can be one of your most powerful techniques.

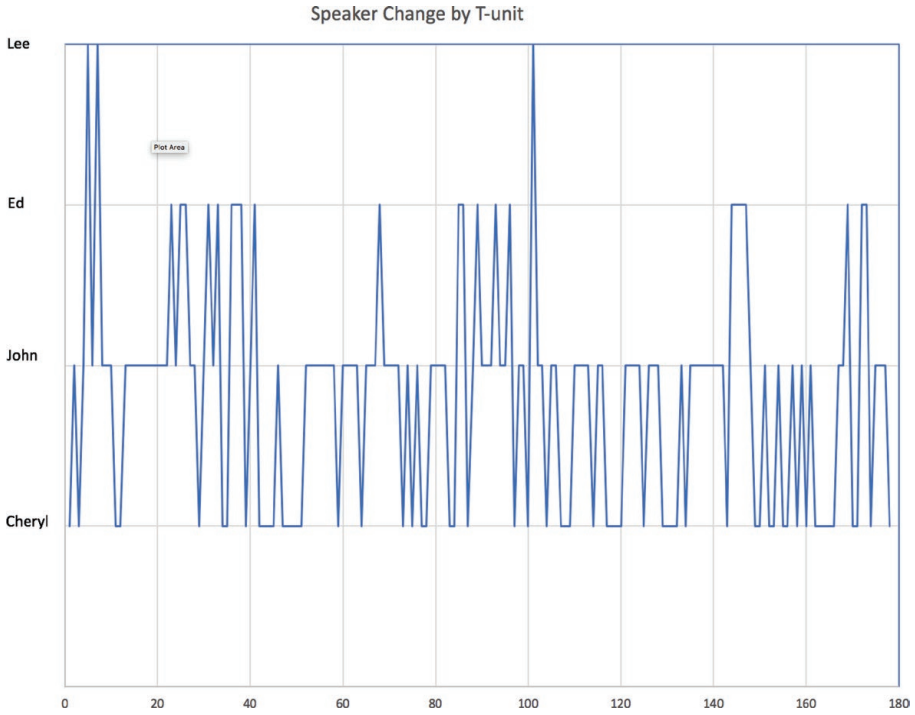

Figure 10.8: Using a temporal index to locate detail.

Writing the Draft

When you have selected the details that best help you illuminate your phenomenon of study and present an argument that illustrates your emerging theoretical understanding of that phenomenon, you are ready to start organizing your thoughts into a conventional written presentation.

We begin with the literature review; move to define the phenomenon; de-

scribe the data; survey the analysis; present the patterns; elaborate with detail; provide a discussion, and conclude with significance. Whether you use this particular ordering will depend upon the genre conventions of a specific journal. In any case, when a full accounting of your analysis is called for, these topics will be covered.

The Literature

What is the state of the art in the literature to which your analysis aims to contribute? What have been the relevant issues? The previous findings? The controversies? The missing links?

Your work began with the survey of the literature in Chapter 2 to anchor your project. As you have carried out your analysis, you probably added to your reading and developed a more focused interpretation of the state of the art. In presenting your results, then, you provide readers with a revised picture of this literature and its current state so that they may better understand the contribution your study makes.

The Phenomenon

What is the phenomenon examined in your analysis? In what context does it arise? Of what importance is it? Does it create problems for us? Does it present us with opportunities?

Your definition of the phenomenon of interest is critical to your readers' being able to understand and take an interest in your work. Sometimes the phenomenon is a well-established topic in the literature. At other times, you must work to get your readers to see something they may not have thought much about before.

Occasionally, striking details can be used to call attention to a phenomenon and provide the basis for analyzing its characteristics. Because different audiences have different interests and level of familiarity, the way you define a phenomenon can vary from one publication venue to another. But you must always make sure that your readers know what phenomenon you are examin-

ing and why it is important.

The Design

By what design did you structure your analysis? What contrasts were built in to it? How does this contrast relate to the phenomenon in general? What categories of phenomenon did you sample? What questions were you seeking answers to?

A full accounting of a research project includes a description of the entire design that structured your data gathering and analysis. You present some version of your descriptive framework and well as your research questions as described in Chapter 2. Through these, you set up readers' expectations for a discussion of the results of both the analyses that were illuminating and those that were less interesting.

Sometimes, aspects of your descriptive framework turn out to be uninteresting. Some research questions may not have answers; some analyses lead nowhere. In these situations, many accounts of research do not review the full set of analyses conducted. Rather, they review only those that make a contribution to the literature. The conventions of your discipline, your readers' expectations, and your own intentions will guide your decision on how fully to describe your initial design and questions.

The Data

What data did you collect? Where did it come from? How did you select it? How is it related to the phenomenon in general? Did you analyze all of it? If not, how did you make your selection?

A full accounting of your data makes clear what data you collected and/or analyzed and your reasons for selecting it. A data table can provide an economical way of giving a full accounting. It can be included in a table in the body of the paper for a full accounting or moved to an appendix for a more abbreviated account.

Always make sure to describe how you selected your data samples. Many

studies using verbal data do not make selection clear enough. This can leave readers without an understanding of the criteria by which you selected the data and, therefore, without a way to assess how well your results represent the phenomenon. If, on the other hand, you show that you had a process for selecting data and reasons for using that process, you enhance your credibility.

Data collection and selection is always described in a full accounting. For a more abbreviated account, some details can be moved to endnotes. It is also not uncommon to see authors referring readers to other published papers for more complete descriptions of data collection and selection.

The Analysis

How was the data segmented? How was it coded? What reliability was achieved between coders? What is the relationship of your analytic procedures to the phenomenon under investigation and to the research questions you have asked?

The bulk of the technical detail in a full accounting rests in the description of the analytic methods. As you now understand, the devil is in these details. They represent a significant investment of a researcher's time and the merit of the study rests on quality of these procedures.

Nevertheless, most readers are less interested in these analytic details than in other aspects of your research. Even those with the competence to evaluate your methods will often not have the interest—at least initially. Readers often focus first on results and only later may begin to pick apart your analytic process. Peer reviewers in research journals do, of course, look carefully at the analysis. Other readers, in fact, count on them to do so. In fact, many readers assume that if a study has made it into print, the analytic methodology must be sound. For this reason, even technical readers feel free to skim your analytic methods.

In a more abbreviated accounting, the analytic methodology is often the first thing to go from the body of the text. Segmentation may not be described. Coding schemes may not reproduced in full. Reliability figures may not be mentioned. Nevertheless, as a responsible researcher, you should make sure

that information about these topics is available in some peripheral way. Otherwise it will be impossible for others to assess and build on your work.

The Patterns

What patterns has the analysis revealed? How has the built-in contrast actually played out? How does what you actually observed compare to what we might have expected had nothing really been going on?

The patterns you find through an analysis of verbal data are the heart of a presentation of results. It is here that the "news" of your presentation should be found. As you have already learned, such patterns can be complex. In presenting them, you need to decide how to orchestrate their presentation. Some of your options include:

By Question: If your research questions have addressed several different aspects of the phenomenon, you may want to adopt an organization that takes up and reviews the answer to each research question in turn.

By Contrast: If your analysis has confirmed significant differences across your built-in contrast, you may want to begin with the overall evidence of this difference and then move to characterize each side of the contrast in turn.

By Dimension: If your analysis has involved multiple dimensions, you may want to review the basic results in each dimension first and then turn to their interrelationship.

By Stream: If your analysis has suggested a basic pattern with lots of variation by data stream, you may want to begin with the basic pattern and then present the individual variations.

Other organizational patterns do exist and can be imagined. The important point is this: Your results are complex and you need to find the best way to present them simply for a full accounting.

If you want to give a more abbreviated account of results, focus on the main results, the ones with the greatest significance in terms of theory or practice.

Abbreviated accounts may also reduce the presentation of graphs and tables in favor of more discursive descriptions of patterns.

The Discussion

How do you interpret the patterns found? What is the nature of the phenomenon under investigation? What meaning do they have in terms of the issues raised in the literature? What answers can be given to your research questions?

The results section presents the nitty gritty of the patterns you found and their significance compared to expectations. It is filled with tables and graphs. When you move into discussion, you are still focused on the patterns you found, but rise to a higher level of seeing the patterns in the context of the prior literature. In an abbreviated accounting, most of the presentation of results may in fact, be focused on discussing those results for readers.

The Significance

Of what significance are the findings? Why should readers care? Of what import are they theoretically? Of what import practically? If the results found here were to hold true more generally, what would be the implications? What further work needs to be done to confirm these patterns?

The final section of a canonical presentation of results concerns itself with assessing the significance of the contribution made by the study. This significance may lie in the realm of theory, of practice, of methodology, or in all three. The contribution may be in a single field or across several fields. The study may answer questions or raise them. It may confirm existing claims about a phenomenon or raise doubts about them. The study may put to rest an issue or set the stage for a continuing line of work. All of this should be made clear in a discussion of significance.

Selected Studies Using Details

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Geisler, C., Rogers, E. H., & Haller, C. (1998). Disciplining discourse: Discourse practice in the affiliated professions of software engineering design. *Written Communication, 15*(1), 2-24.

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For Further Reading

Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

Latour, B. (1999). *Pandora's hope: Essays on the reality of science studies*. Cambridge, MA: Harvard University Press.