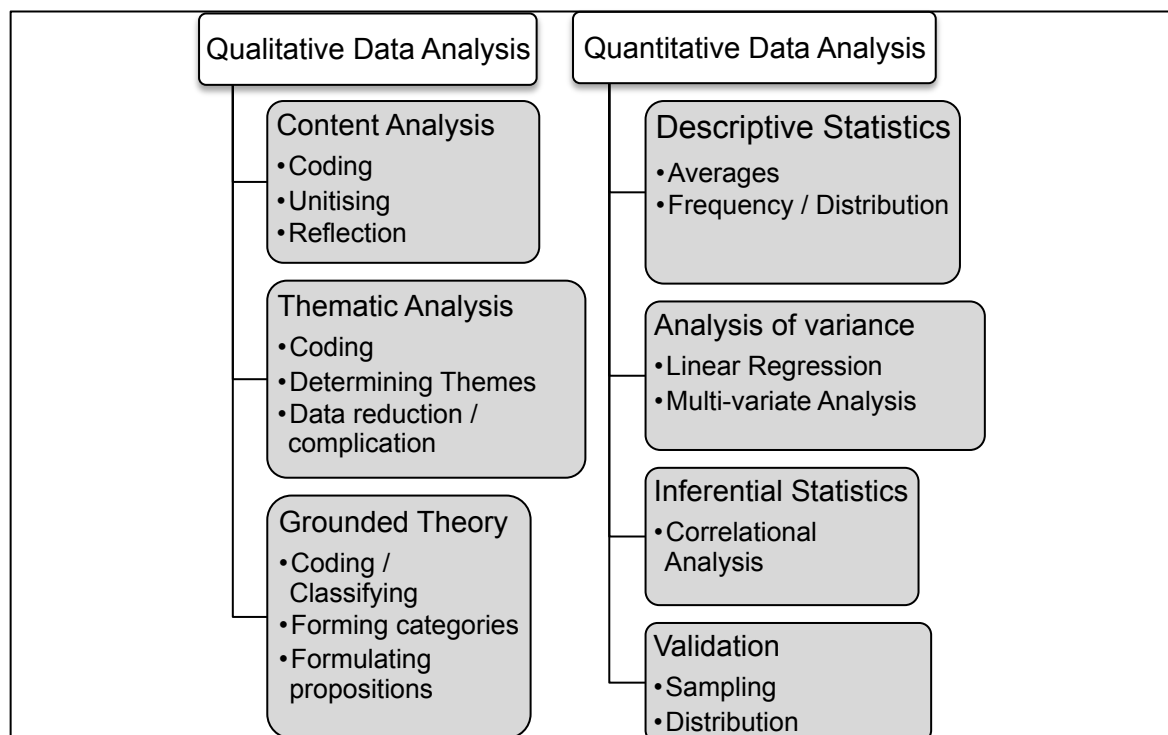


QDA: Coding, Thematic and Content Analysis

1 Qualitative Data Analysis: Basics

In this session we examine and illustrate the four techniques that researchers most use to analyse qualitative data – data sets made up of predominantly textual material obtained from recording / transcribing interviews, focus groups, verbal or documentary data from open-ended questions or records of observations. Whereas analysis of quantitative data uses mathematical / statistical tools to identify, describe and reason about data in the form of numbers (quantities, volumes, rates, times, speeds, scales, rankings, and so on), analysis of qualitative data focuses upon identifying and interpreting patterns, relationships, similarities and differences in meanings extracted from spoken or written records.



Coding:

The initial component of most forms of qualitative data analysis consists in “coding” the verbal / textual responses received from data subjects. “Coding” means labelling and classifying the key words, phrases and meanings identifiable in each response to a researcher’s questions / observations. The coding process evolves through inductive analysis and is not considered to be a simple one-stage process, but a cycle in which codes emerge throughout the analysis. It involves going back and forth between phases of analysis as needed until the researcher is satisfied with the themes or categories labeled. Researchers should attempt to go beyond surface meanings of the data to make sense of the data and to tell an accurate story of what the data implies. In this sense, it is largely interpretative rather than calculated.

Qualitative data consist of words and observations, not numbers. As with all data, analysis and interpretation are required to bring order and understanding. This requires creativity, discipline and a systematic approach. There is no single or best way.

Your process will depend on:

- the questions you want to answer, ■ the needs of those who will use the information, and
- your resources.

This outline provides a basic approach for analysing and interpreting narrative data — often referred to as **content analysis** — that you can adapt to your own primary data. For descriptions of other types of qualitative data analysis, see Ratchiff, 2002. Other techniques may be necessary for analysing qualitative data from photographs and audio or video sources.



Narrative data¹

Text or **narrative** data come in many forms and from a variety of sources. You might have brief responses to open-ended questions on a survey, the transcript from an interview or focus group, notes from a log or diary, field notes, or the text of a published report. Your data may come from many people, a few individuals, or a single case.

Any of the following may produce narrative data that require analysis.

- **Open-ended questions and written comments on questionnaires** may generate single words, brief phrases, or full paragraphs of text.
- **Testimonials** may give reactions to a program in a few words or lengthy comments, either in person or in written correspondence.
- **Individual interviews** can produce data in the form of notes, a summary of the individual's interview, or word-for-word transcripts.
- **Discussion group or focus group interviews** often involve full transcripts and notes from a moderator or observer.
- **Logs, journals and diaries** might provide structured entries or free-flowing text that you or others produce.
- **Observations** might be recorded in your field notes or descriptive accounts as a result of watching and listening.
- **Documents, reports and news articles** or any published written material may serve as comparison data.
- **Stories** may provide data from personal accounts of experiences and results of business activity in people's own words.
- **Case studies** typically include several of the above.

The analysis process

Once you have these data, what do you do? The steps below describe the basic elements of narrative data analysis and interpretation. This process is fluid, so moving back and forth between steps is likely.

Step 1 Get to know your data.

Good analysis depends on understanding the data. For qualitative analysis, this means you read and re-read the text. If you have tape recordings, you listen to them several times. Write down any impressions you have as you go through the data. These impressions may be useful later.

Also, just because you have data does not mean those are quality data. Sometimes, information provided does not add meaning or value. Or it may have been collected in a biased way. Before beginning any analysis, consider the quality of the data and proceed accordingly. Investing time and effort in analysis may give the impression of greater value in the data than it merits. Explain the limitations and level of analysis you deem appropriate given your data.

Step 2 Focus the analysis.

Review the purpose of the analysis and what you want to find out. Identify a few key questions that you want your analysis to answer. Write these down. These will help you decide how to begin. These questions may change as you work with the data, but will help you to get started.

How you focus your analysis depends on the purpose of the evaluation and how you will use the results. Here are two common approaches:

¹ Part of this summary has been extracted from © Ellen Taylor-Powell, "Qualitative Data Analysis", University of Wisconsin, Madison, 2011
– Program Evaluation Notes

Focus by question or topic, time period or event.	Focus by case, individual or group.
In this approach, you focus the analysis to look at how all individuals or groups responded to each question or topic, or for a given time period or event. This is often done with open-ended questions. You organize the data by question to look across all respondents and their answers in order to identify consistencies and differences. You put all the data from each question together. You can apply the same approach to particular topics, or a time period or an event of interest. Later, you may explore the connections and relationships between questions (topics, time periods, events).	You may want an overall picture of: ■ One case such as one family or one sub-group of your sample. ■ One individual such as a senior manager or new employee ■ One group such as all departmental managers, or all recent employees. Rather than grouping these respondents' answers by question or topic, you organize the data from or about the case, individual or group, and analyse it as a whole. Or you may want to combine these approaches and analyse the data both by question and by case, individual or group.



Step 3 Unitise and Categorise information.

Some people refer to categorising information as coding the data or indexing the data. However, categorising does not involve assigning numerical codes as you do in quantitative analysis where you label exclusive variables with preset codes or values. 'Unitising' refers to the practice of attaching chunks (phrases, sentences, keywords) to the codes you use to group data into categories.

To bring meaning to the words before you:

- **Identify themes or patterns** — ideas, concepts, behaviors, interactions, incidents, terminology or phrases used.
- **Organize them into coherent categories** that summarise and bring meaning to the text.

This can be fairly labor-intensive depending on the amount of data you have. **But this is the crux of qualitative analysis.** It involves reading and re-reading the text and identifying coherent categories.

Coding involves assigning abbreviated codes of a few letters, words or symbols and placing them next to the themes and ideas you find in the text (see below). This will help organize the data into categories. Provide a descriptive label (name) for each category you create. Be clear about what you include in the category and what you exclude.

As you categorise the data, you might identify other themes that serve as subcategories.

Continue to categorise until you have identified and labeled all relevant themes.

The following example shows categories that were identified to sort responses to the questions



Example 1: A survey collected qualitative data about HR induction training of new staff from trainers, HR managers and new employees:

Question	Categories
	<i>Responses to the question were sorted into:</i>
1. What makes a quality induction program?	Staff (Stf), relevance (Rel), participation (Part), timeliness (Time), content (Con)
2. What is the benefit of a mentoring program for new employees?	Benefits to employee (Y), benefits to mentor (M), benefits to company (Com), benefits to trainers (Trn)
3. What do you need to continue your learning about your job?	Practice (P), additional training (Trg), time (T), resources (R), feedback (Fdbk), mentor (M), uncertain (U)

Possible code abbreviations are given in parentheses.

In this example, the focus of the analyst is upon grouping the responses by question (see above) – then coding the unitised “chunks” using the categories shown.

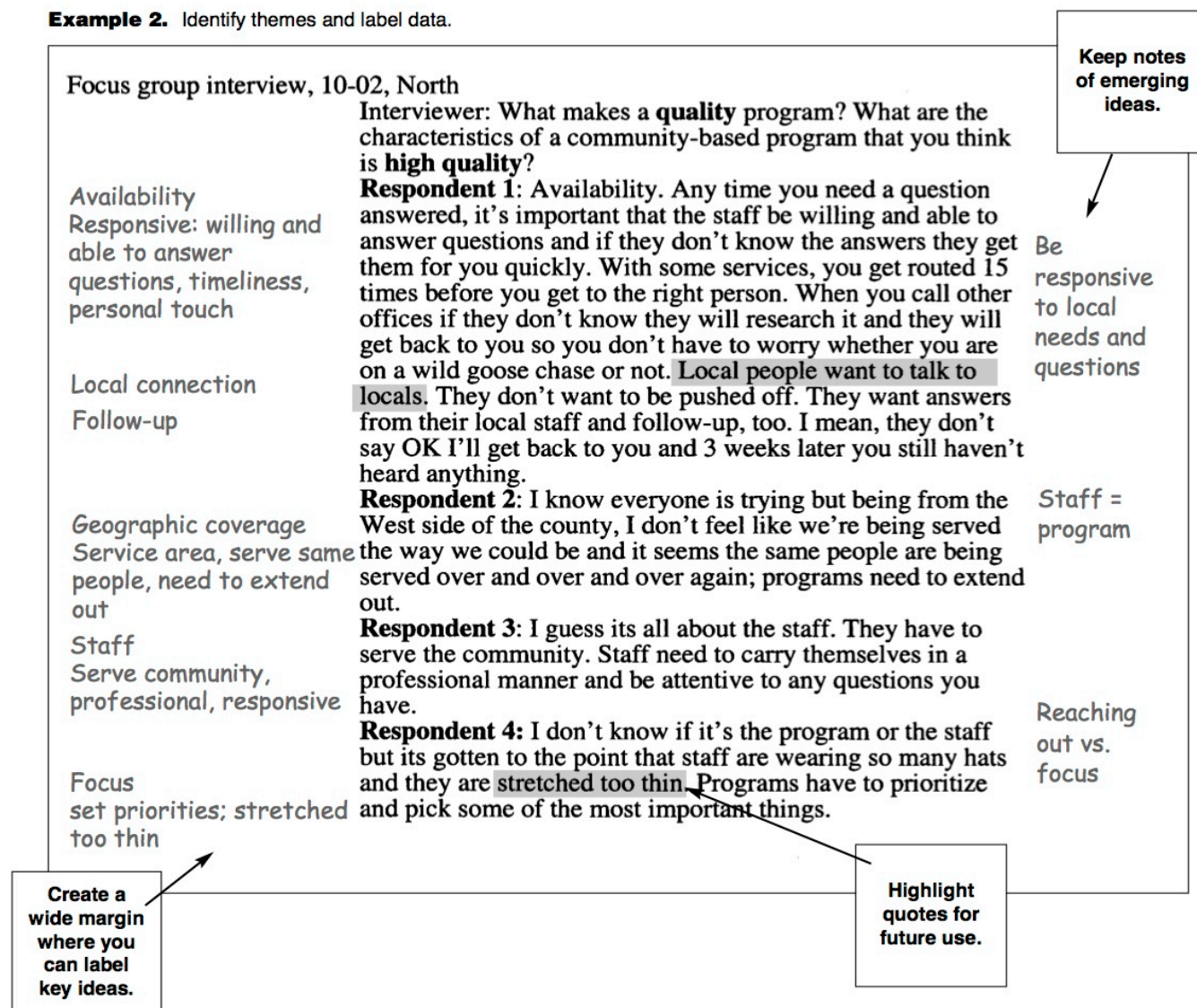
Often, an analyst will undertake initial coding and categorising by annotating a transcript of the text (e.g. transcripts of interviews) directly – pencilling in possible category names and codes in the margins of the transcript. Using hard copy print outs, this can facilitate subsequent grouping and regrouping of sample subsets (or categories) by (literally) cutting up the transcripts and sorting the resulting “chunks”. Using CAQDAS software, the same result can be achieved by entering codes and categories into a worksheet (see below), then filtering the data using “sort-by-code”.



Example of coding / unitising by annotation:

The example transcript is from a focus group about community support programmes and the responses from community members participating in the focus group. The aim of the focus group was to evaluate the issues involved in proposals to extend the support programme into wider geographical regions:

Example 2. Identify themes and label data.



If you wanted to use CAQDAS to record and annotate the transcript, then the data, coding labels and comments could be copied across into a worksheet similar to the one on the next page (using Excel):

	A	B	C	D	E	F
1	Question 2	from survey, Sept 2002	What	is greatest impact the community group has had on the community to date?		
2	ID	Category	Code	Narrative	Notes	
3	1	Service	FRC	Getting a child care and resource center		
4	2	Collaboration	Focus, common goal	Focused diverse interests on a particular issue. Worked to accomplish goal of mutual interest		
5	3	Service	Parenting info	Increase information on parenting issues		
6	4	Education	Share info	Sharing knowledge of resources between service providers		
7	5	Collaboration	Coor	Bringing together agencies on behalf of the community		
8	6	Education	Parent ed	Parent education		
9	7	Collaboration	interagency effort	Establishment of an interagency effort		
10	8	Service, collaboration	FRC, people together	Getting a family resource center established; brought people together from different groups		
11	9	None yet	None	Nothing as yet. Do have complete faith that we will eventually make a huge difference		
12	10	Service	Res	More resources available in community		
13	11	Service	services	Increased services		
14	12	Collaboration	sense of cohesion	Fostering a sense of cohesiveness among community agencies to address those issues that permeate our society		
15	13	Collaboration	Coordination, common goal	Brings together government employees as well as key school, community offices, etc. All work for a common goal or understanding of each others' needs and programs and serve the public in their best interest.		
16						
17						
18						

Step 4 Identify patterns and connections within and between categories.

As you organize the data into categories — either by question or by case — you will begin to see patterns and connections both within and between the categories. Assessing the relative importance of different themes or highlighting subtle variations may be important to your analysis. Here are some ways to do this:

Within category description

You may be interested in summarizing the information pertaining to one theme, or capturing the similarities or differences in people's responses within a category. To do this, you need to assemble all the data pertaining to the particular theme (category).

- What are the key ideas being expressed within the category?
- What are the similarities and differences in the way people responded, including the subtle variations?

It is helpful to write a summary for each category that describes these points.

Larger categories

You may wish to create larger super categories that combine several categories. You can work up from more specific categories to larger ideas and concepts. Then you can see how the parts relate to the whole.

Relative importance

To show which categories appear more important, you may wish to count the number of times a particular theme comes up, or the number of unique respondents who refer to certain themes.

These counts provide a very rough estimate of relative importance. They are not suited to statistical analysis, but they can reveal general patterns in the data.

Relationships

You also may discover that two or more themes occur together consistently in the data. Whenever you find one, you find the other. For example, employees with little previous experience consistently list friendship as the primary benefit of the mentoring program. You may decide that some of these connections suggest a cause and effect relationship, or create a sequence through time. For example, respondents may link improved performance to a good mentor relationship. From this, you might argue that good mentoring causes improved employee performance.

Such connections are important to look for, because they can help explain why something occurs. But be careful about simple cause and effect interpretations. Seldom is human behavior or narrative data so simple.

Ask yourself:

- How do things relate?
- Which data items support this interpretation?
- What other factors may be contributing?

You may wish to develop a table or matrix to illustrate relationships across two or more categories.

Look for examples of responses or events that run counter to the prevailing themes.

- What do these countervailing responses suggest?
- Are they important to the interpretation and understanding?

Often, you learn a great deal from looking at and trying to understand items that do not fit into your categorisation scheme.



Step 5 Interpretation – Bringing it all together.

Use your themes and connections to explain your findings. It is often easy to get side tracked by the details and the rich descriptions in the data. But what does it all mean? What is really important? This is what we call interpreting the data — attaching meaning and significance to the analysis.

A good place to start is to develop a list of key points or important findings you discovered as a result of categorizing and sorting your data. Stand back and think about what you have learned.

- What are the major lessons?
- What new things did you learn?
- What has application to other settings, projects, research?
- What will those who use the results of the analysis be most interested in knowing?

Too often, we list the findings without synthesising them and tapping their meaning.

Develop an outline for presenting your results to other people or for writing a final report. The length and format of your report will depend on your audience. It is often helpful to include quotes or descriptive examples to illustrate your points and bring the data to life.

A visual display might help communicate the findings. Sometimes a diagram with boxes and arrows can help show how all the pieces fit together. Creating such a model may reveal gaps in your investigation and connections that remain unclear. These may be areas where you can suggest further study.



Pitfalls to avoid

Finally, with any qualitative analysis, keep in mind the following cautions.

Avoid generalizing.

The goal of qualitative work is not to generalize across a population. Rather, a qualitative approach seeks to provide understanding from the respondent's perspective. It tries to answer the questions:

“What is unique about this individual, group, situation or issue? Why?”

Even when you include an open-ended question on a survey, you are seeking insight, similarities, differences, the individual's own perspective and meaning.

The focus is on the individual's own or unique response. Narrative data provide for clarification, understanding and explanation — not for generalizing.

Choose quotes carefully.

While using quotes can lend valuable support to data interpretation, often quotes are used that only directly support the argument or illustrate success. This can lead to using people's words out of context or editing quotes to exemplify a point.

When putting together your final report, think about the purpose for including quotes. Do you want to show the differences in people's comments, give examples of a typical response relative to a certain topic, highlight success?

In any event, specify why you chose the selected quotes. Include enough of the text to allow the reader to decide what the respondent is trying to convey. Confidentiality and anonymity are also concerns when using quotes. Even if you do not give the person's identity, others may be able to tell who made the remark. Consider what might be the consequences of including certain quotes.

- Are they important to the analysis and interpretation?
- Do they provide a balanced viewpoint?

Get people's permission to use their words. Check with others about the usefulness and value of the quotes you select to include.

Address limitations and alternatives.

Every study has limitations. Presenting the problems or limitations you had while collecting and analysing the data helps others better understand how you arrived at your conclusions.

Similarly, it is important to address possible alternative explanations. What else might explain the results? Show how the evidence supports your interpretation

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