Chapter 11

Descriptive and interpretive approaches to qualitative research

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Qualitative research methods today are a diverse set, encompassing approaches such as empirical phenomenology, grounded theory, ethnography, protocol analysis and discourse analysis. By one common definition (Polkinghorne, 1983), all these methods rely on linguistic rather than numerical data, and employ meaning-based rather than statistical forms of data analysis. Distinguishing between measuring things with words and measuring them in numbers, however, may not be a particularly useful way of characterising different approaches to research. Instead, other distinctive features of qualitative research may turn out to be of far greater importance (Elliott, 1999):

- emphasis on understanding phenomena in their own right (rather than from some outside perspective);
- open, exploratory research questions (vs. closed-ended hypotheses);
- unlimited, emergent description options (vs. predetermined choices or rating scales);
- use of a special strategies for enhancing the credibility of design and analyses (see Elliott, Fischer and Rennie, 1999); and
- definition of success conditions in terms of discovering something new (vs. confirming what was hypothesized).

Space limitations preclude a complete survey of this rapidly growing field of research methods. Instead, we will focus on what are today regarded as established, well-used methods within the descriptive–interpretive branch of qualitative research. (In particular, we will not cover discourse analysis, e.g., Potter and Wetherell, 1987; Stokoe and Wiggins, this volume, or ethnography.) These methods came into their own in the 1970s and 1980s, and have become mainstream in education, nursing, and increasingly in psychology, particularly in non-traditional or professional training schools. Because there is now an extensive history with these methods, standards of good research practice have emerged (e.g., Elliott et al., 1999).

Descriptive–interpretive qualitative research methods go by many ‘brand names’ in which various common elements are mixed and matched according to particular researchers’ predilections; currently popular variations include grounded theory
(Henwood and Pigeon, 1992; Strauss and Corbin, 1998), empirical phenomenology (Giorgi, 1975; Wertz, 1983), hermeneutic-interpretive research (Packer and Addison, 1989), interpretative phenomenological analysis (Smith, Jarman, Osborn, 1999), and Consensual Qualitative Research (Hill, Thompson, Williams, 1997). Following Barker, Pistrang and Elliott (2002), we find the emphasis on brand names to be confusing and somewhat proprietary. Thus, in our treatment here, we take a generic approach that emphasises common methodological practices rather than relatively minor differences. It is our hope to be able to encourage readers to develop their own individual mix of methods that lend themselves to the topic under investigation and the researchers’ preferences and style of collecting and analysing qualitative data.

In the approach to qualitative research we present here, we begin with the formulation of the research problem, followed by a discussion of issues in qualitative data collection and sampling. We will then go on to present common strategies of data analysis, before concluding by summarising principles of good practice in descriptive-interpretive qualitative research and providing suggestions for further reading and learning.

Formulating the problem

Previously, some qualitative researchers believed that it was better to go into the field without first reading the available literature. The reason for this position was the belief that becoming familiar with previous knowledge would ‘taint’ the researcher, predisposing them to impose their preconceptions on the data and raising the danger of not being sensitive enough to allow the data speak for themselves in order to reveal essential features of the phenomenon. It is our view that this approach is somewhat naive. For one thing, it is now understood that bias is an unavoidable part of the process of coming to know something and that knowledge is impossible without some kind of previous conceptual structure. Far from removing the researcher’s influence on the data, remaining ignorant of previous work on a phenomenon simply ensures that one’s work will be guided by uninformed rather than informed expectations.

For this reason, the formulation of the research problem in qualitative research is similar in many ways to that in quantitative research. As a consequence, before commencing data collection, researchers carefully examine available knowledge and theory, carrying out a thorough literature search that includes up to date information on the topic of investigation. Strauss and Corbin (1998) refer to this as ‘theoretical sensitivity’ quoting Pasteur’s motto, ‘Discovery favours the prepared mind’.

An important feature of this initial phase, however, is that the researcher should become as aware of possible of the nature of their pre-understandings of the phenomenon, as these are likely to shape the data collection, analysis and interpretation. At the same time, the researcher should regard their expectations lightly, in a way that is open to unexpected meanings.
The formulation of research problem is guided by the traditional questions: e.g., What do we know about the phenomenon? Why is it important to know more? What has influenced previous research findings (methodology, social context, researcher theory)? What do we want to make clearer by the new study? Note that the problem formulation itself may not imply a need for a qualitative approach. Therefore, the researcher should not prejudge the question of whether they will use qualitative methods for the study. Instead, use of a qualitative strategy should emerge as a means to answer the particular research questions (Elliott, 1995, 2000).

The research questions leading to employing qualitative data collection and analysis strategies are usually open-ended and exploratory in nature. Barker et al. (2002) suggest that exploratory questions, suitable as the base for qualitative inquiry are typically used when: (a) there is little known in a particular research area; (b) existing research is confusing, contradictory, or not moving forward; or (c) the topic is highly complex. As to the aim of exploratory questions, Elliott (2000) sees the following types:

- **Definitional**: What is the nature of this phenomenon? What are its defining features? (e.g., What does it mean for patients with metastatic breast cancer to experience help in this existential support group treatment?)

- **Descriptive**: What kinds or varieties does the phenomenon appear in? What aspects does it have? (e.g., In what ways do adolescent patients in a cognitive behavioural treatment for diabetes self-care change?)

- **Interpretive**: Why does the phenomenon come about? How does it unfold over time? (e.g., What is the story or sequence of patients’ improvement in a post-surgery cardiac rehabilitation programme? What changes led to what other changes?)

- **Critical/action**: What’s wrong (or right) about the phenomenon? How could it be made better? (e.g., What complaints do patients have about a specialist sleep disorder clinic?)

- **Deconstruction**: What assumptions are made in this research? Whose social or political interests are served by it? (e.g., What are the cultural and sociopolitical implications of the way in which patient outcome has been measured in behavioural medicine research, such as focusing on pathology as opposed to health?)

### Data collection

While the formulation of the research problem does not distinguish sharply between quantitative and qualitative research traditions, data collection often differs dramatically. There is a difference in the format of the data, but also in the general strategy for obtaining the data. As to the format, simply stated, qualitative inquiry looks for verbal accounts or descriptions in words, or it puts observations into words (occasionally it also uses other forms of description, e.g., drawings by children with leukaemia). Another major difference is that it uses open-ended questions. However, more importantly, it also uses
an open-ended strategy for obtaining the data. By ‘open-ended’ we mean not only that participants are encouraged to elaborate on their accounts, or that observations are not restricted to certain pre-existing categories. Rather, open-endedness refers to the general strategy of data gathering. It means that inquiry is flexible and carefully adapted to the problem at hand and to the individual informant’s particular experiences and abilities to communicate those experiences, making each interview unique.

There are several methods of obtaining information for qualitative inquiry. Qualitative interviews are the most common general approach, with semi-structured and unstructured interview formats predominating. In these forms of interview, participants are asked to provide elaborated accounts about particular experiences (e.g., tell me about a time when your asthma was particularly severe). The interviewer should have basic skills plus additional training in open-ended interviewing; such interviews are very similar to the empathic exploration found in good person-centred therapy (Mearns and Thorne, 1999). Good practice is to develop an interview guide that helps the interviewer focus the interview without imposing too much structure. Hill et al. (1997) recommend providing interviewees with a list of questions before the interview.

Variant formats
Self-report questionnaires are used much less in qualitative research, because they typically do not stimulate the needed level of elaboration sought by the qualitative researcher. However, given time and space constraints, questionnaires may be used as well. In that case they naturally consist of open-ended questions and ask respondents for elaboration, examples, etc. A good practice is to build in the opportunity to follow-up on questionnaires by phone interview (Hill et al., 1997) or email correspondence, as responses often do not provide enough elaboration to understand the respondents’ point.

A popular alternate form of qualitative interview is the focus group (see Wilkinson, this volume, for more information), a group format in which participants share and discuss their views of a particular topic (e.g., needed services for teenagers with spina bifida), allowing access to a large number of possible views and a replication of naturalistic social influence and consensus processes. A special form of qualitative interview, used, for example, in research on helping processes (e.g., between breast cancer patients and their partners; Barker, Pistrang and Rutter, 1997), is tape-assisted recall. Here, a recording of an interaction is played back for the interviewee so that they can recall and describe their experience of particular moments (Elliott, 1986). Finally, think-aloud protocols (McLeod, 1999) are special forms of interview in which the participant is asked to verbalise their thought processes as they deal with a problem (e.g., managing an episode of high blood sugar).

When observational methods are used in qualitative research they typically make extensive use of field notes or memos. These notes are primarily descriptive and observational
but may also include the researcher’s interpretations and reactions, as long as these are clearly labelled as such. Qualitative observational methods often use non-interview archival data, such as tape recordings and associated transcripts of doctor–patient interactions. (Projective techniques can also be used as methods of data collection in qualitative research but are rarely seen, especially in clinical and health psychology.)

There are three key aspects typical of the data collection in descriptive/interpretive qualitative research worth mentioning at this point:

First, despite the fact that data collection in qualitative research generally does not use pre-existing categories for sorting the data, it always has a focus. The focus is naturally driven by the specific research questions. (At the same time, however, the general research approach encourages constructive critique and openness to reassessment of the chosen focus, if the data begin to point in a different direction.)

Second, qualitative interviews are distinguished by their deliberate giving of power to respondents, in the sense that they become co-researchers. The interviewer tries to empower respondents to take the lead and to point out important features of the phenomenon as they see it. For example, respondents may be encouraged not only to reveal aspects of their experiences that were not expected by the researcher, but also to suggest improvements in the research procedure.

Last but not least, a triangulation strategy is often used in this kind of research, with data gathered by multiple methods (e.g., observation and interviewing). This strategy can yield a richer and more balanced picture of the phenomenon, and also serves as a cross-validation method.

**Specifics of sampling**

Sampling in qualitative research, as in the quantitative tradition, is focused on the application of findings beyond the research sample. However, we cannot talk about generalisability in a traditional sense of stratified random sampling. Qualitative research does not aim at securing confidence intervals of studied variables around exact values in a population. Instead, qualitative research typically tries to sample broadly enough and to interview deeply enough that all the important aspects and variations of the studied phenomenon are captured in the sample – whether the sample be 8 or 100! Generalisability of specific population values or relationships is thus replaced by a thorough specification of the characteristics of the sample, so that one can make judgements about the applicability of the findings. As to the sample size, qualitative research does not use power analysis to determine the needed \( n \), but instead mostly commonly uses the criterion of saturation (Strauss and Corbin, 1998), which means adding new cases to the point of diminishing returns, when no new information emerges. Obviously, given the nature of the data collected, and the time-consuming nature of analysis (see below) the size of the samples is usually much lower than in quantitative research.
In order to satisfy the saturation criterion, the most common sampling strategy used in qualitative research can be labelled as *purposeful sampling* (Creswell, 1998). That is, if the study aims to depict central, important or decisive aspects of the investigated phenomenon, then sampling should assure that these are covered. In the grounded theory tradition, where the result of the study is a complete theory of the phenomenon, the preferred sampling strategy is referred to as *theoretical sampling*. This kind of sampling is driven by the need of the researchers to cover the relevant aspects of developing theory. Obviously then, sampling in qualitative research can and should be flexible and should reflect the research problem, ranging from sampling for maximum variation to focusing in-depth on a single exceptional case (see sampling strategies in Miles and Huberman, 1994).

**Data analysis in descriptive/interpretive qualitative research**

Qualitative research also requires *flexibility* during the analysis phase as well, with procedures developing in response to the ongoing analysis. *Critical challenge* is a key but sometimes overlooked aspect of qualitative data analysis, as the researcher uses constant critical (but not paralysing) self-reflection and challenging scepticism with regard to the analysis methods and the emerging results. We could say that all steps of the analysis are taken prudently with much reflection. *Checking* and *auditing* all steps of the analysis is natural part of the qualitative research, as well as careful archiving of each step of the analysis for later checking. The analysis has also to be *systematic* and *organised*, so the researcher can easily locate information the data set and can trace provisional results of the analysis back to the context of the data.

However, in spite of cherishing flexibility, qualitative research often employs a general strategy that provides the backbone for the analysis. In grounded theory, this strategy is referred to as *axial coding* (Strauss and Corbin, 1998); in consensual qualitative research (Hill *et al.*, 1997), it takes the form of a set of general *domains* that are used to organise the data (e.g., context → illness onset → coping → outcome).

We provide here a general framework for descriptive/interpretive qualitative research. We use this framework in our own work (e.g., Elliott *et al.*, 1994; Timulak and Elliott, 2003) and note that it is similar to and influenced by comparable frameworks used by other researchers (e.g., Hill *et al.*, 1997). Even in our own research work, however, it is just a general structure that we use flexibly and, as appropriate, modify or add to.

**Data preparation**

The first step of analysis is data preparation. The data are usually obtained in the form of notes and tape recordings. In case of tape recordings, the data are first transcribed verbatim. In case of the combination of researcher observational notes and transcribed recordings, the notes are usually interwoven with the transcripts, often using different fonts, so that the researcher’s voice can be clearly distinguished from the informant’s
voice in the data. During this stage of the analysis, it is worthwhile to read the whole
data set, so that the researcher can get the whole picture of the studied phenomenon.
During this initial reading, insights and understandings begin to emerge and are
written down as memos. This is a kind of pre-analysis that can influence future steps of
the analysis because the first relevancies start to unfold.

During or after the initial reading an initial editing of the data often takes place.
Obvious redundancies, repetitions, and unimportant digressions are omitted. One must,
of course, be sure that the deleted data do not constitute important and relevant aspects
of the phenomenon. Checks in the form of independent and challenging auditing
processes by either the main analyst or others can be applied here also.

Delineating and processing meaning units

Next, we start to divide the data into distinctive meaning units (cf. Rennie, Phillips and
Quartaro, 1988; Wertz, 1983). Meaning units are usually parts of the data that even if
standing out of the context, would communicate sufficient information to provide a
piece of meaning to the reader. The length of the meaning unit depends on the judge-
ment of the researcher, who must assess how different lengths of meaning unit will
affect the further steps of the analysis and who also should adopt a meaning unit size
that is appropriate to their cognitive style and the data at hand. Generally, the longer
the meaning unit is the bigger number (variety) of meanings it contains but the clearer
its contextual meaning will be.

As we delineate the meaning units, we can shorten them by getting rid of redund-
ancies that do not change the meanings contained in them. For example, in a study of
significant events in cognitive therapy with a diabetic patient, the data might read:
‘What was important for me was that the therapist verbalised exactly how I feel about
my diabetes. The words she used helped me to be more aware of the things about it
that I am having trouble with.’ A shortened version of this, which we would use in the
further analysis, might then look as follows: ‘T verbalised exactly how P felt about her
illness – it helped P to be more aware of what aspects of it P is having trouble with.’
(T stands for the therapist and P for the patient.)

The meaning units are the units with which we do the analysis. However, it is good to
be able to trace them back to the full data protocol, in case we need to be able clarify
something from the context. For that reason it is a very good idea to assign a consec-
utive code (in numbers and letters) to each meaning unit. The code should localise the
unit in the original protocol. For example, if for each case we use different letter, we
immediately know where meaning unit H82 came from. This procedure facilitates
auditing.

Finding an overall organising structure for the data

Naturally, different sets of meaning units describe different aspects of the phenomenon.
From their pre-research understanding of the phenomenon and their first reading of
the data the researcher already has some ideas about some very broad headings for
organising the phenomenon into different processes or phases, referred to as *domains*. In fact, the researchers often introduce this structure into the data from the beginning via the interview question themselves. Nevertheless, the researcher typically waits until they finally sit down to code the data before developing a formal version of this organising framework in relation to the first one or two data protocols. Consistent with this practice, Hill *et al.* (1997) recommend sorting the data into domains that provide a conceptual framework for the data, referred to in grounded theory as *axial coding* (Strauss and Corbin, 1998). As noted, this framework for meaningfully organising the data should be flexible and tested until it fits the data. It is important that the researcher always be open to using the data to restructure the organising conceptual framework. Critical auditing and testing out different possible frameworks are both useful strategies here.

In studies reported in the literature, it is possible to find various kinds of relationship between domains, including temporal sequence (these things happened before these things), causes (this influenced this), significations (that is what this thing means now), etc. We typically find a variety of different types of structuring. Sometimes the domains may also mirror the different sources of the data, e.g., different kinds of observation, different kinds of self-report. If it is conceptually meaningful or in cases when the researcher is not sure about the structuring the data for the moment, it is possible to assign some data to more than one domain.

**Generation of categories**

Next, the meaning units are *coded* or *categorised* within each of the domains into which they have been organised. The categories evolve from the meanings in the meaning units. The word *category* refers to the aim of discerning regularities or similarities in the data (Glaser and Strauss, 1967). Creation of categories is an interpretive process on the part of the researcher (or in many cases the team of researchers, cf. Hill *et al.*, 1997), in which the researcher is trying to respect the data and use category labels close to the original language of participants. On the other hand, ideas for categories also come in part from the researcher’s knowledge of previous theorising and findings in other studies. Categorising is thus an interactive process in which priority is given to the data but understanding is inevitably facilitated by previous understanding. It is a kind of *dialogue with the data*. (In grounded theory this step is referred to as *open coding*.)

The initial label for a category may come from the first occurrence of the meaning in some meaning unit; however, during the analysis it is typically refined as similar meanings are incorporated from subsequent meaning units. This evolving refining of categories means that some meaning units may eventually need to be reassigned to different categories.

In this process, the meaning units are *constantly compared* (Glaser and Strauss, 1967) to each other and to the emerging categories, until all the data are sorted. At this point the analysis may contain thin or undeveloped categories or groups of categories lacking
differentiation or multiple examples (i.e., not adequately saturated). The researcher reflects whether these will be left out of the findings as not contributing sufficiently to the understanding of the phenomenon. Our position is that no data should be left out in this step, because idiosyncratic aspects of the phenomenon can inform the study in interesting ways. After all, qualitative research is interested in the different aspects of the examined phenomenon; therefore, it should not discard some of them just because they are infrequent.

The next step in creating the categories is often categorising the categories. In this process we would be looking for similarities and regularities between the already established categories. Thus, we typically establish categories of the first order that categorise meaning units, categories of the second order that categorise the categories of the first order, and so on leading to a hierarchy of categories, with the bottom level including the meaning units and more and more abstract categories evolving (e.g., Rennie, 1990, who created a taxonomy of clients’ experiences in therapy sessions).

In some studies, it is meaningful to do the categorisation separately for each case from the sample (e.g., if we have a lot of data for each case, or if we expect variance within the cases). In that situation, the categorisation of the data for each case is followed by the cross-case analysis (Elliott et al., 1994; Hill et al., 1997) examining similarities and dissimilarities across cases.

A key aspect of the categorisation is a delineation of the relationships between the categories. These relationships usually respect the structure of the domains but they may also evolve their own structure, if the data suggest it. The relationships among categories are often pictured in the form of figures or diagrams.

**Abstracting the main findings**

The generation of categories usually ends with a taxonomy that describes and interprets the whole phenomenon as it was contained in the gathered data. As qualitative analysis is a very complex endeavour and deals with many details, the taxonomies that result from it are often overwhelming and do not convey directly the essence of the phenomenon. The essence of the phenomenon is, however, the aim of the analysis, so it is very important for the researcher avoid the temptation to stop with a set of categories and not take the next step of abstracting the main findings from the category structure. This abstracting follows the rule of essential sufficiency, which means that we are looking for the simplest way to fully depict the phenomenon. We are looking for what constitutes the main findings contained in the categorisation or taxonomy, so that we can communicate them clearly to the reader. Thus, we may also ask of our results, What categories are required to communicate the essence of the phenomenon?

This part of the analysis usually employs graphs, diagrams, figures, tables, and narratives (e.g., the typical story of recovering from an eating disorder). It is a step aiming at grasping the essence of the phenomenon. This step, too, is carefully documented so that it can be tracked back to the data.
We can think of this part of the analysis as about the ultimate categorisation of the categorisation, or as about marketing what we found, or as about abstracting the results of our work. (In grounded theory this step is referred to as selective coding.)

Validity of analysis
The validity of the analysis is assessed throughout the study, as previously noted. To accomplish this, a constructively sceptical process of independent auditing is recommended. Although it is best for researchers to employ careful internal auditing throughout the analysis, the major auditing step typically occurs after a complete draft analysis has been produced.

In addition, there are several other useful validation strategies. Validation by research participants is common, and involves presenting the results to the original informants or others like them in order to obtain feedback and correction. Another strategy, triangulation, involves comparing data collected by different methods (including quantitative). Collection of more cases may also be useful, particularly if auditing identifies problems with inadequate saturation of categories. Finally, resonance with the reader of the research paper is an essential form of validation in qualitative research. To facilitate this, the qualitative study should ground the findings in many illustrative examples, so readers may make their own judgements.

Interpretation of the results
Although categorisation of data uses interpretive strategies, one should not confuse this with the interpretation and discussion of the findings, which is done in qualitative research as in any other kind of research, after the findings are presented. As in quantitative research, it is important to place one’s qualitative findings within a context of previous theory and research findings. We can do this partly by reflecting thoroughly on the methodological influences and limitations shaping the results of our study (and previous studies). Probing the implications of our research can also include subjecting the existing literature to the same kind of rigorous process of analysis and categorisation as we used with our own data. In addition, it is also important to locate our findings within a socio-historical and scientific context, and to imagine useful further research.

Reviewing and critiquing qualitative research
In this chapter, we have tried to provide guidance on good practice in descriptive–interpreative qualitative research. Some of the key points of evaluation can be summed up in the following guidelines (see Elliott et al., 1999, for more detail and examples of good and bad practice for each):

1 Own your perspective. Describe your theoretical orientation and personal interest in the research: values, interests, commitments, assumptions, expectations, and the role these played in the study.
2 Describe your sample: Provide relevant features of the research participants and their life circumstances (e.g., age, gender, ethnicity, social class; variations in kind of experience described).

3 Ground categories in examples: Provide one or two concrete examples or each category (can be brief or extended).

4 Provide one or more credibility checks, including checking results with the original informants or others similar to them; using multiple qualitative analysts; using an additional analytic auditor (or a review by the original analyst); comparing two or more varied qualitative perspectives; or comparing results with quantitative data or external factors.

5 Organise categories to provide coherent understanding of how they fit together: Provide a data-based narrative, map, framework, or underlying structure to organise the phenomenon for the reader (e.g., memorably-named core categories or figures).

6 Accomplishing general vs. specific research tasks: For a general understanding of a phenomenon, use an appropriate sampling strategy and range of instances (informants or situations). For understanding a specific instance, make sure it has been studied and described systematically and comprehensively.

7 Allow readers to evaluate whether your categories resonate with their first- or second-hand experience of the phenomenon: Use concrete, rich language in order to help readers judge whether it has accurately represented the phenomenon.

Conclusions

Over the past 20 years, rigorous qualitative research methods have brought a breath of fresh air to the social sciences and increasingly to the health sciences, in particular re-habilitation and nursing. While our colleagues were at first highly suspicious of these approaches, they have subsequently learned that the kinds of methods we have been describing do not pose a threat to traditional quantitative methods but rather offer a useful complement for enriching, enlivening, and illuminating quantitative results. Nevertheless, these methods remain generally under-utilised by psychologists, including health psychologists. We urge readers to take the plunge by adopting a more pluralist approach to research incorporating the methods described here along with other, more traditional approaches.

Further reading

Miles and Huberman (1994), Denzin and Lincoln (2000), and Creswell (1998) provide varied but useful general treatments each covering a range of approaches to qualitative research. The central sources for the particular version of qualitative research described in this chapter are Rennie et al. (1998) and Wertz (1983); see also Strauss and Corbin (1998) on grounded theory; Hill et al. (1997) on Consensual Qualitative Research, and
Smith et al. (1999) on interpretative phenomenological analysis. For a more extended survey of a broad range of qualitative approaches to studying the change process in psychotherapy, see Elliott, Slatinck and Urman (2001).

References


