“Data analysis is a systematic search for meaning. It is a way to process qualitative data so that what has been learned can be communicated to others. Analysis means organizing and interrogating data in ways that allow researchers to see patterns, identify themes, discover relationships, develop explanations, make interpretations, mount critiques, or generate theories. It often involves synthesis, evaluation, interpretation, categorization, hypothesizing, comparison, and pattern finding. It always involves what H. F. Wolcott calls “mindwork”… Researchers always engage their own intellectual capacities to make sense of qualitative data.” (Hatch 2002, 148)

An Introduction

This document is meant to be an introduction to qualitative research for those already familiar with quantitative research. Throughout this document, the two approaches will often be compared to illustrate the distinctive elements of qualitative research. Please note that the Research Support Group does view either methodological approach as superior to the other. The research question is the best determinant of the most appropriate methodology or a combination of the two.

Qualitative vs Quantitative: Questions & Approach

In comparison to quantitative research, qualitative inquiry employs different philosophical assumptions; strategies of inquiry; and methods of data collection, analysis and interpretation (Creswell 2009, 173). A qualitative approach emphasizes the qualities of entities, processes and meanings that are not experimentally examined or measured in terms of quantity, amount, intensity or frequency (Denzin and Lincoln 2000, 8). Put another way, quality refers to a thing’s essence and ambience - the what, how, when and where of it. Qualitative research thus refers to the meanings, concepts, definitions, characteristics, metaphors, symbols and description of things (Berg 2007). The research questions often stress how social experience is created and given meaning. The value-laden nature of such an inquiry stresses the relationship between the researcher and subject(s), as well as the situational constraints that shape the inquiry (Denzin and Lincoln 2011).

It may be helpful to review a list of characteristics common to several qualitative methods. Though the list below is not exhaustive (Creswell 2009, 175-6), it offers a sense of well-known qualitative research methods.

- Research is often conducted in the field, allowing direct interaction with the people being studied in their context.
- Researchers collect data themselves by examining documents, observing behavior or interviewing participants.
- Multiple sources of data are preferred over a single source; this requires the researcher to review all data, make sense of it and organize it into categories or themes that cut across all sources.
- Researchers often build their patterns, categories and themes from the bottom up (inductive analysis).
The focus is on learning the meaning participants hold rather than the meaning brought in by the researcher.

The research is often an emergent, shifting process in response to the field.

The qualitative researcher interprets what is seen, heard and understood. This must be seen in light of the researcher's background, history, context and prior understanding.

The researcher tries to develop a complex picture of the problem or issue by reporting multiple perspectives and identifying multiple factors involved.

**Qualitative Methods**

Various research methods and techniques are available for interpretive studies; they draw from phenomenology, hermeneutics, feminism, deconstructivism and may take the form of ethnographies, interviews, psychoanalysis, cultural studies, participant observation, grounded theory, just to name a few. The researcher will select the best method(s) based on his/her research question: will the researcher study individuals (narrative, phenomenology); explore processes, activities and events (case study, grounded theory); or learn about the broad cultural-sharing behavior of individuals or groups (ethnography) (Creswell 2009, 177)?

**Qualitative Data**

Qualitative data does not look like quantitative data. Its form will be a result of the selected methods, which are influenced by a researcher's theoretical orientation. In this way, data is associated with the motivation for choosing a subject, the conduct of study and ultimately the analysis (Berg 2007). Common qualitative data-gathering techniques include interviews, focus groups, ethnography, sociometry, unobtrusive measures, historiography and case studies, among others. Each approach has advantages and limitations such as level of intrusiveness, opportunity to review during collection process, proximity to natural field setting and amount of bias based on the presence of the researcher. The resulting pieces of data may take the form of text, audio or video files, photographs or field notes.

**Data Analysis**

As a researcher selects strategies of inquiry, it is important to realize these will have a dramatic influence on procedures of analysis and interpretation. Data collection in the field can take a long time, however, the researcher can continually reflect, analyze and then adjust the research during this time. Pieces of data ought to be carefully labeled and organized in such a way that eases ongoing analysis. This process of analysis involves making sense out of data recorded in text, image, audio and/or video formats.

It may be helpful to think of the following steps (Creswell 2009):

1. Organize and prepare the data for analysis
2. Read through all the data. Gain a general sense of the information and reflect on the overall meaning.
3. Conduct analysis based on the specific theoretical approach and method (eg. narrative, content, grounded theory, discourse, archival, semiotics and phonemic analysis techniques). This often involves coding or organizing related segments of data into categories.
4. Generate a description of the setting or people and identify themes from the coding. Search for theme connections.
5. Represent the data within a research report.
6. Interpret the larger meaning of the data.
Use of Computer-Assisted Qualitative Data Analysis Software

Today’s researcher will likely store his or her data electronically. Beyond storage and organization, computer software programs may also be helpful for indexing and sorting large amounts of data. Computer-assisted qualitative data analysis software (CAQDAS) is useful for coding data, disaggregating it into manageable components and identifying or naming these segments. Emerging concepts, categories and themes can be easily coded, recorded or edited throughout the entire process.

It is important to understand that in qualitative research, software programs cannot do the analysis for you – not with the same output expectations of SPSS or SAS. The software will not read the text and decide what it means; the researcher is still the main tool for analysis (Weitzman 2000). The software may provide tools to help analyze, nevertheless the researcher must learn data analysis methods. Never replace flexibility, creativity, insight and intuition with systematic and mechanical analysis of qualitative data (Leech and Onwuegbuzie 2007).

How can a software program be used to facilitate analysis? (Weitzman 2000, 805-6)

- Making notes
- Writing up
- Editing
- Coding
- Storing data
- Searching and retrieving data
- Data ‘linking’
- Memo-ing
- Performing Content analysis
- Displaying data
- Drawing and verifying conclusions
- Building theory
- Mapping data graphically
- Writing reports

Reliability and Validity

Accounting for validity and reliability in qualitative research projects looks quite different from quantitative projects. Reliability is an examination of the stability or consistency of responses. To increase the consistency and reliability of a project, document all procedures, and if possible set up a detailed protocol. Other reliability procedures include (Creswell 2009, 191):

- Check transcripts for obvious mistakes
- Make sure there is no drift in definitions of codes or applications of them during the coding process.
- If working with a team, coordinate and document communication from meetings.
- Cross-check codes with different researchers by comparing results that are independently derived.

Qualitative validity is based on determining if the findings are accurate from the standpoint of the researcher, the participant or the readers (Creswell 2009, 190). For more details, search for literature about trustworthiness, authenticity and credibility of data analysis. Procedurally, a researcher can check for the accuracy of the findings by employing a combination of multiple validity strategies: triangulation; member checking; rich, thick description; clarify researcher bias; include negative or discrepant information; spend prolonged time in the field; use peer debriefing; use an external auditor.

Presenting the Data

Research findings will eventually be presented to a wider audience, typically in written format. Specific to theoretical approach, results could take the following form: chronological narrative of an individual’s life (narrative research), a detailed description of an experience (phenomenology), a theory generated from the data (grounded theory), a detailed portrait of a culture-sharing group (ethnography), or an in-depth analysis of one or more cases (case study) (Creswell 2009, 193). The results of a qualitative study should
include themes derived from the data, a thorough description of the themes, and multiple perspectives from participants or detailed descriptions of the settings or individuals to support these themes.

Conclusion
This document provides a very simple overview of the breadth of qualitative research. To learn more about specific methods or theoretical frameworks, it may be helpful to begin with the resources listed below.

Bibliography


