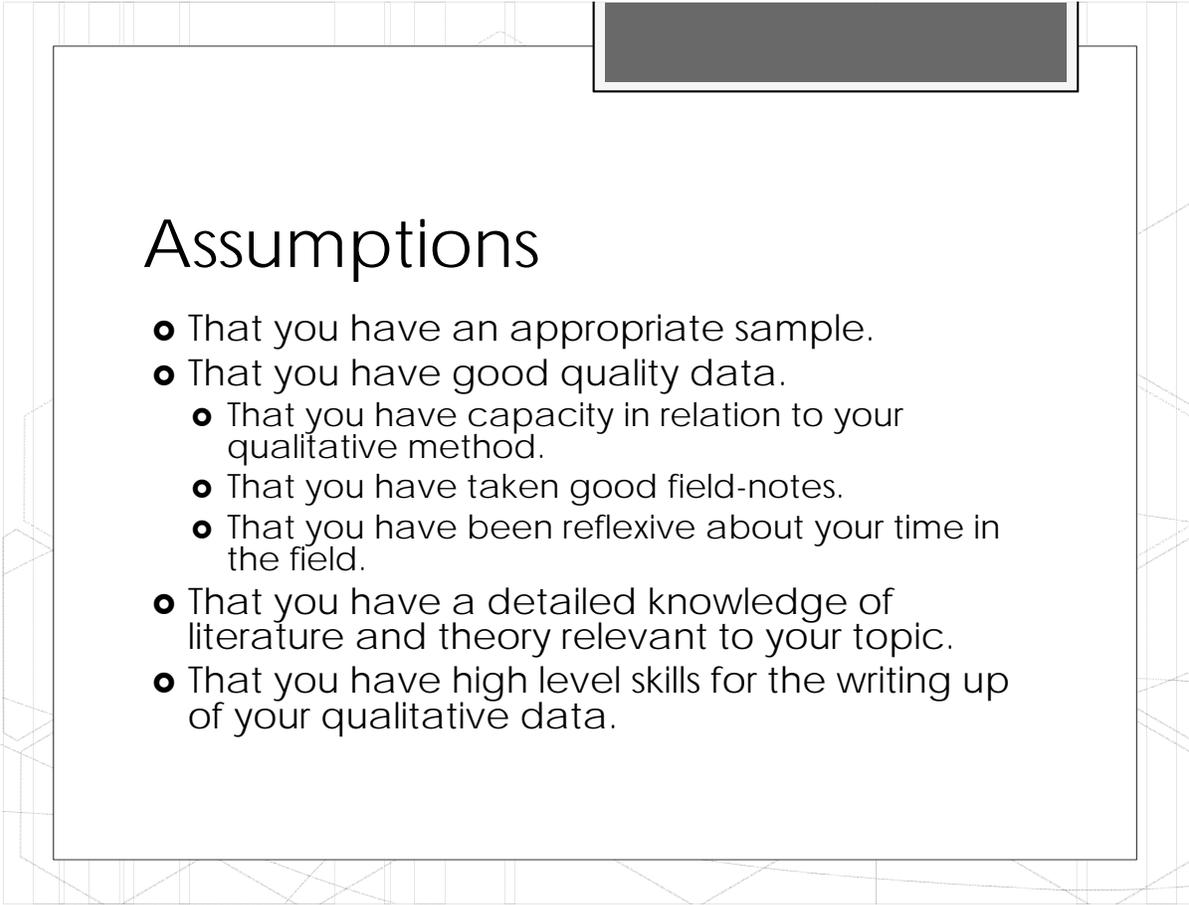




Qualitative Data Analysis

Barbara Pini



Assumptions

- That you have an appropriate sample.
- That you have good quality data.
 - That you have capacity in relation to your qualitative method.
 - That you have taken good field-notes.
 - That you have been reflexive about your time in the field.
- That you have a detailed knowledge of literature and theory relevant to your topic.
- That you have high level skills for the writing up of your qualitative data.

Analysing Data

- Le Compte and Schensul (1999) define analysis as the process a researcher uses to reduce data to a *story* and its interpretation.



What is data analysis? The Qualitative Metaphor

- The culminating phases in the criminal justice process (Dey 1993)
- Jigsaw puzzle (LeCompte 2000)
- Symphony based on three notes –noticing, collecting and thinking, Seidel and Kelle (1995)
- Choreography of a dance (Janesick 2000)
- Kaleidoscope (Dye, Schatz, Rosenberg and Coleman 2000)

What can we glean about qualitative data analysis from these metaphors?

Data Analysis

- Recursive
- Iterative
- Time-consuming
- Complex
- Intuitive
- Creative



Common Pitfalls beginning researchers make in analysing qualitative data (Beck 2003)

- Data shuffling
- Premature closure
- Overly delayed closure

When do you begin data analysis?

- In one pile to your left are a hundred or so pages of transcripts of interviews. In the middle of the table is a stack of field notes, from your on-site observations, and to the right of that is a box of documents, you collected, thinking they might be relevant to your study....now what? Where to begin? Overwhelmed? ...It is doubtful that you will be able to come up with any findings. You have undermined your entire project by waiting until after all the data are collected before beginning your analysis (Merriam 2009, p. 170).

When do you begin data analysis? NOW!

- Analysis not left until the end
- To avoid collecting data that are not important the researcher must ask:
 - How am I going to make sense of this data?
- As they collect data the researcher must ask
 - Why do the participants act as they do?
 - What does this focus mean?
 - What else do I want to know?
 - What new ideas have emerged?
 - Is this new information?

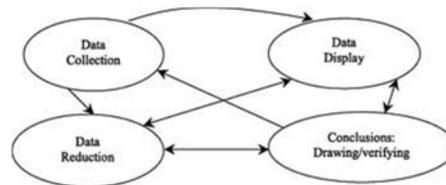
There are many types of qualitative data analysis

- Discourse analysis
- Conversation analysis
- Narrative analysis
- **Thematic analysis**
 - **Examining commonality, examining differences and examining relationships in data (Gibson and Borwn 2009: 128-129).**

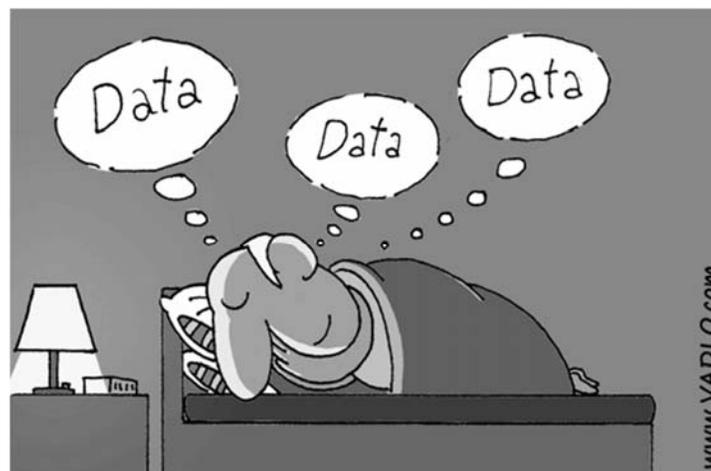
Miles and Huberman Three Stages in Qualitative Data Analysis

- *1. Data reduction*
- *2. Data display*
- *3. Conclusion drawing/verification*

Miles and Huberman (1994)



How do I 'do' qualitative data analysis? Starting: Immersion



How do I 'do' qualitative data analysis?

Starting: Immersion

- a process whereby researchers immerse themselves in the data they've collected by reading or examining some portion of the data in detail (Borkan 1999).
- read the data and read the data again and again.
- perhaps keep your RQ/RA in front of you.
- think about a few questions that you want your analysis to answer and write them down.

How do I 'do' qualitative data analysis? Coding

- A code in qualitative research is a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of data.
- Coding is heuristic (to discover) and cyclical.
- As Miles and Huberman (1994, p.56) note:
 - Codes are tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study. Codes are usually attached to 'chunks' of varying size – words, phrases, sentences or whole paragraphs.
- Coding is the process of organising and sorting data.
- A personal filing system.
- Gibson and Brown (2009: 13) 'a code draws attention to a commonality within a dataset'.
- You code systematically but it is not an 'exact science' – it involves interpretation.

Coding of Data

- Rapley (2011: 280) claims that beginning to code data is a frightening process.
- Begin by writing codes alongside the transcripts (Hennick et al 2011).
- Begin by writing case summaries (summary of each interview/focus group etc), Look for similarities/differences and use this process to begin a list of codes (Harding 2013)
- Morris (2015) suggests following immersion pick out notable quotes and then code.
- Begin with a single document Tesch (1990, pp. 142-145).
- Agar (1991: 190) recommends something similar i.e. starting by intensively examining a small bit of data, rather than intensively coding data.
 - My point at the moment is just that this critical micro-level work requires looking at a few detailed passages, over and over again, doing the dialectic dance between an idea about how text is organized and a couple of examples, figuring out what I was looking at, how to look at it, and why...That critical way of seeing, in my experience at least, comes out of numerous cycles through a little bit of data, massive amounts of thinking about that data, and slippery things like intuition and serendipity...For that, you need a little bit of data, and a lot of right brain (Agar, 1991: 190-194).

When you move into your own home, you're alone. There is no bustle of people around the house. I miss having someone to chat to when I get home. I put the TV or some music so there's some background noise, the silence makes me feel so alone. Sometimes I will be sat watching trash TV and thinking I should be out doing something rather than watching this rubbish. I read a lot but sometimes I am too tired and just want to veg out. But it's been good to move out of mum and dads as it's not healthy to rely on them as they won't last forever. I become independent and made my own decisions. It's good they still there when I need them. It's good to have some distance as when I was at home I was arguing a lot with my dad and that was made me decide it was time to go.

Argument with Dad
Relation with father

feelings

Living alone

New relationship with parents

Independence

Old relationship with parents

An example of "old school" coding

QDA/ph

Coding a Page from a Sample Interview Transcript

The Process of Reconstructing Curriculum in a Rural High School Setting

Codes Here

Close-knit community

Health of community or community values

Change is threatening

Visionary skills of talented People

JJ: One thing, Lucy, that I've heard talked about was the fact that schools reflect the strengths of communities. What do you perceive as strengths of Greenfield as a community and how that relates to schools?

LU: Well, I think Greenfield is a fairly close-knit community. I think people are interested in what goes on. And because of that, they have a sense of ownership in the schools. We like to keep track of what our kids are doing and feel a connection to them because of that. The downside of that perhaps is that kids can feel that we are looking TOO close. But most of the time, that is the nurturing environment that we do provide an atmosphere of concern and care. To back up, you said the health of the community itself is reflected in schools. A lot of times communities look at schools and say they are not doing this or they aren't doing that, or we're missing something in our schools. I think perhaps we look at the school and see, this is probably a pretty conservative community overall, and look to make sure that what is being talked about in the schools really carries out the community's values. There is a little bit of an idealization I think, perhaps in terms of what we thought of "basic education." [And I think there might be a tendency to hold back a little bit too much because of that idealization of "you know, we learned the basics, the reading, the writing and the arithmetic."] So you know, any change is threatening. And I think that goes for the community as well as what we see reflected at the school. Sometimes that can get in the way of trying to do different things. I think, again, idealization, older members of the community forget, some of the immaturity that they experienced when they were in school and forgetting that kids are kids. So there is a little bit too much of that mental attitude. But for the most part, I think there is a sense of we're all in this together, and concern for the kids.

JJ: In terms of looking at leadership strengths in the community, where does Greenfield set in a continuum there with planning process, understanding the need to plan, forward-thinking, visionary people. You talked about that a little bit before.

LU: I think there are people that have wonderful visionary skills. I would say that the community as a whole would be ... would not reflect that. I think there are people who are driving the process, but the rest of the community may be lagging behind a little bit. I think we have some incredibly talented people who become frustrated when they try to implement what they see as their ...

Themes (And other Ideas) Here

Potential theme: The community

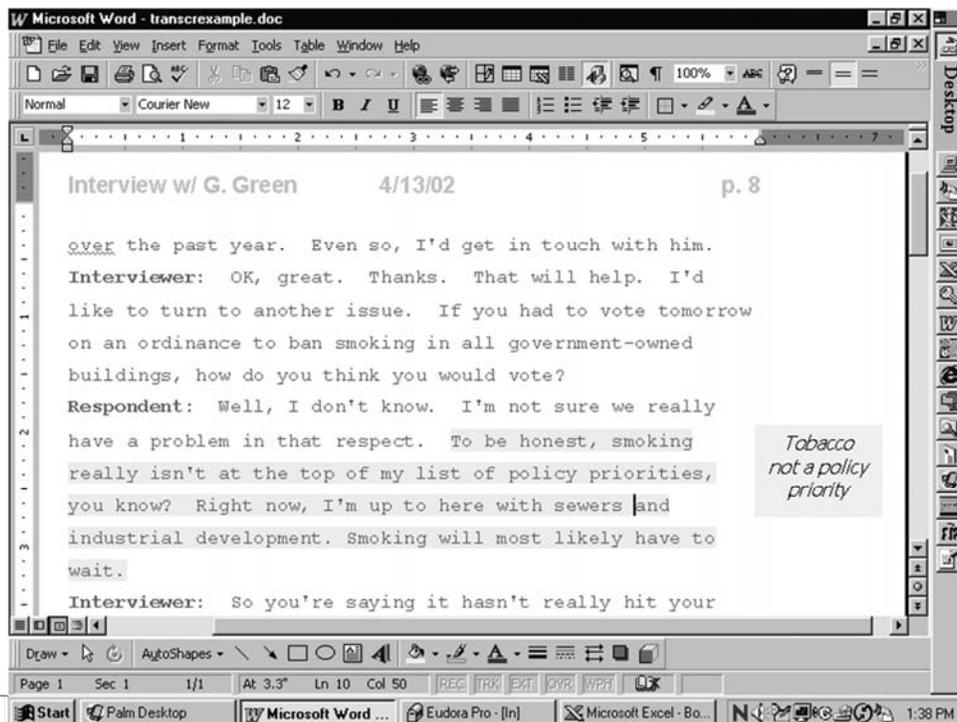
Idea: getting a good sense here for the community and its values

A good quote

Potential theme: Leader

Idea: returns to description of community again

If you've entered your data into a word processing file, you might highlight quotes and type category labels in the margins. It is a good idea to leave a wide margin when you create the file so you have space to type in the margins.



How do you decide on codes?

- Pre-set (often referred to as 'a priori codes'). These codes are derived from your research questions, literature, theoretical framework, prior knowledge of the subject matter. Deductive.
- Open or emergent codes. These are those ideas, concepts, actions, relationships, meanings that come up in the data that are different from the pre-sent code. Inductive.
- A hybrid.

How do you code?

- A systematic way to code data is to ask yourself the following questions as you read the text:
 - What is this saying? What does it represent?
 - What is this an example of?
 - What do I see is going on here?
 - What is happening?
 - What kind of events are at issue here?
 - What is trying to be conveyed?

What do you code?

- Richards and Morse (2007: 146) 'if it moves, code it'.
- Some argue that all data should be coded as we can't be sure it is not important (e.g. Wolcott 1994)
- Others argue only most salient portions should be coded (Seidman 2006) and avoid 'over-coding' and ending up with too many codes so that list becomes unmanageable (Barbour 2008).
- Balance this advice against 'the risk of failing to code a part of the transcript that could assist in the identification of any important theme'. Can introduce codes that are discarded later (Harding 2013: 84).

How long will coding take?

- A single-spaced page of transcribed field notes has about 50 lines. It might contain 5-10 codes. A 2 day field trip usually generates 40-80 such pages, even when the researcher is disciplined. Coding each page might run about 5-10 minutes, once the codes are familiar; in the beginning, you should count 10-15 minutes...So 'inexperienced' coding of a 2 day data set might take up to 3 days; later it could be done in a day and a half or so. Taking more than 2 coding days per contact day is a signal of too-fine units of analysis, too much multiple coding, too many codes, or a weak conceptual (Miles and Huberman 1994: 66).

Using the constant comparative method (Harding 2013)

- Constant Comparative Method of Data analysis is looking for similarities and differences across your data.
- Harding (2013) recommends a way into your data analysis is using this process with a couple of transcripts.
- Add more cases to the analysis to increase complexity

After you have an initial list of codes – what do you do?

- Revise codes (drawing on data memos):
 - Add, collapse, expand and revise the coding categories.
 - Sometimes what one expects to find in data are not there so some pre-codes may need to be eliminated.
 - Sometimes codes need to be broken down into sub-codes in order to better organise the data.
 - Place codes into categories which were 'free' codes previously
 - Identify new codes/Rename codes

NB: Because coding is ongoing and changing you need to keep a record of your codes as it demonstrates your interpretive process.

The difference between codes and themes

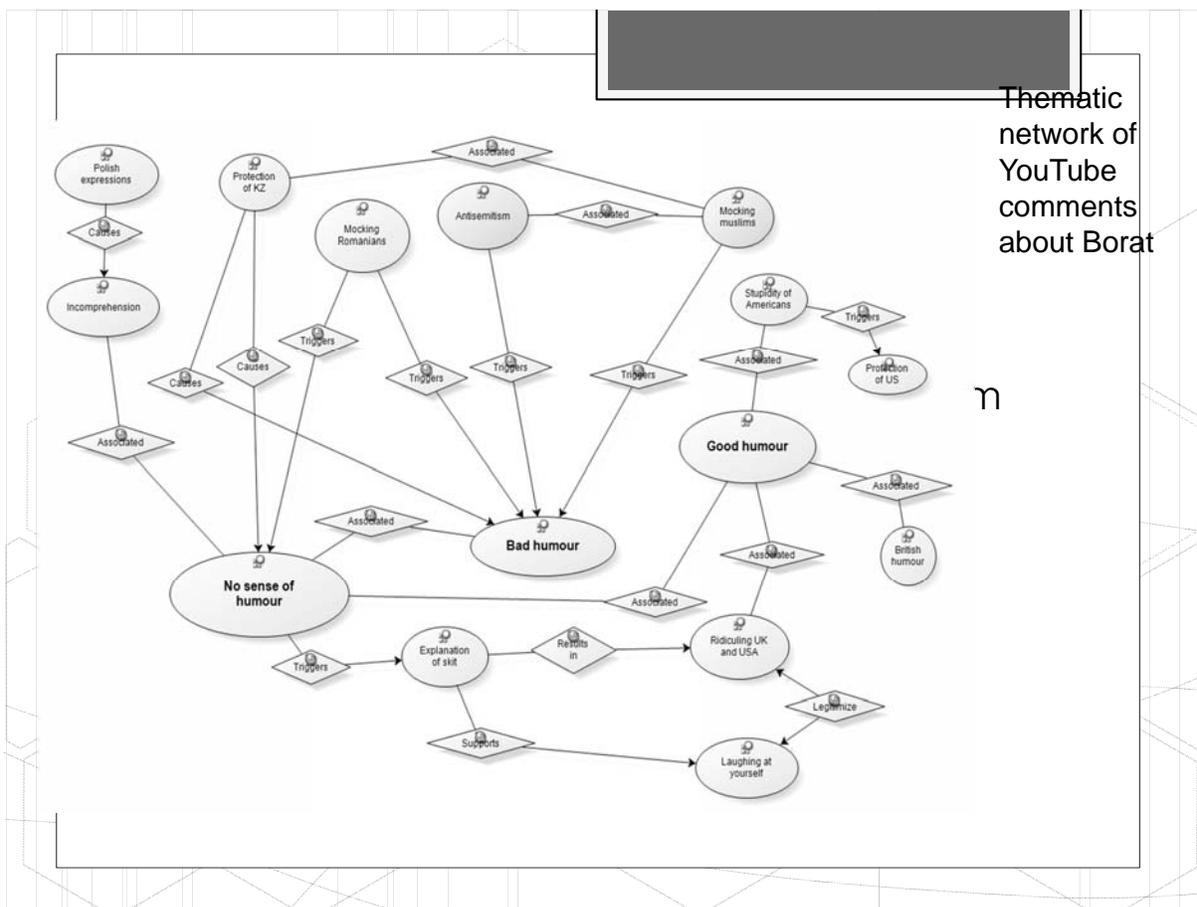
- Several qualitative texts recommend coding for 'themes' (so they assume code and theme are one and the same).
- Saldana (2013: 14) says a 'theme is an outcome of coding, categorization, or analytic reflection, not something that is, in itself, coded).
- Themes should emerge as you consider the relationship between codes (e.g. why some codes occur and others don't). Your themes (with a great deal more work) will form the basis of your narrative.

Characteristics of themes (Harding 2013)

- May be drawn from different sections of an interview transcript/from different codes. You are looking for connections between different elements of the data.
- May not be referred to directly.
 - Sometimes issues don't "jump out" at you until someone says something particularly vehemently or articulately. However, this does not mean that it isn't present in earlier transcripts. Once sensitized, you may be surprised to find home many other instances you can find (Barbour 2008: 216).
- Often the most difficult part of thematic analysis
- Allows you to build theory.

From codes to themes - displays

- There are numerous legitimate ways to move from codes to final narrative, but core among them is systematic work and adherence to logic.
- Systematic analysis is advanced when codes are put into “data displays” which reflect the researcher’s judgments about the data
- Data displays link various codes and help to build themes
- Organise data by type (interviews, observations, documents)
- Affinity diagrams.
- Organise data by participants or site combinations.
- Hierarchical trees visually representing themes and relations.
- Comparison tables – themes, participants, sites

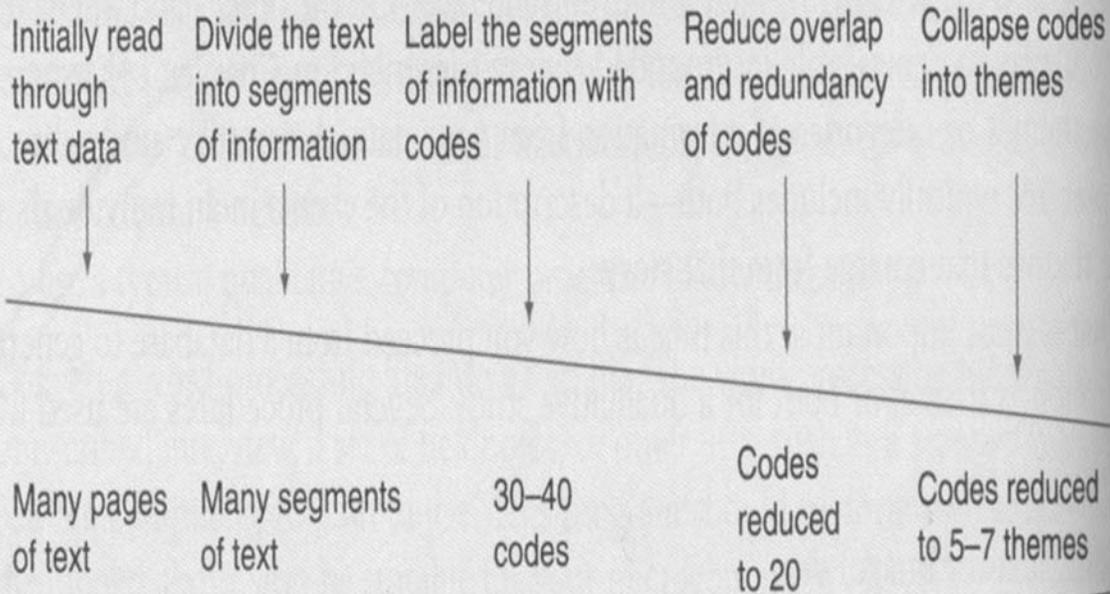


Or, you might use Excel to organize and categorize your data

	Code	Margin Note	Respondent	Date	Page	Quote
1	Competing priorities	Tobacco not a policy priority	GG	04/13/2002	8	To be honest, smoking really isn't at the top of my list of policy priorities, you know? Right now, I'm up to here with sewers and industrial development. Smoking will most likely have to wait.
2	How to approach problem	Perception that knowledge leads to cessation	GG	04/13/2002	9	Shouldn't the health department start by telling people in our county that smoking is bad for them? It seems like people must not know that, because they just keep right on smoking anyway.
3	Govt role	Workplace smoking policies not a public policy issue	FH	04/15/2002	2	I haven't really thought before about people being exposed at work as a public policy issue. I mean, it's really up to the people who oversee the workplace, isn't it?
4	Govt role	Concerns about county ability to enforce worksite policies	FH	04/15/2002	4	I can't see what good a worksite policy will do... We at the county won't have any power to enforce it anyway.
5						

Example data set

A Visual Model of the Coding Process in Qualitative Research



Data – Beyond Summary and Description

- Wolcott (1990: 29) suggests thinking of description as subtle analysis and the more overtly analytical/interpretive sections as heavy-handed, even 'intrusive' analysis.
- Going beyond description to 'the taxing business of trying to grasp what is actually going on' (Eagleton, 2003: 223).
- Mills (2007: 122) differentiates between analysis and interpretation – 'put simply, analysis involves summarizing what's in the data, whereas interpretation involves making sense of – finding meaning in – that data'.
- This level of analysis takes it for granted that 'there is no unmediated version of the event' (Hollway and Jefferson, 2000: 151). In other words, all of the ways that people understand the world are filtered through systems of meaningmaking, so the researcher scrutinises the data for evidence of discourses, paradigms, meaning repertoires, values and attitudes, which construct knowledge, talk and practices. This facilitates a degree of abstract thinking (theorising) about the concepts underpinning the data and allows you to draw some general inferences.

How to 'Read' Qualitative Data

- Literally
 - The actual words and language used – the literal content of the data
- Interpretively/Critically/Reflexively/Theoretically
 - What does this mean?
 - Constructing or documenting a version of what you think the data mean or represent
 - Reading through or beyond the data.
 - Exploring the implicit norms or rules with which an interviewee is operating and the discourses that influence people.
 - Locates the researcher as part of the data gathered.

Common strategies for ensuring quality in qualitative data analysis in the literature

- Audit trail
- Member checking
- Negative case analysis
- Peer debriefing
- Prolonged engagement in field
- Triangulation (methods, participants, sites)
- Thick description
- Attention to sampling (theoretical/purposeful)
- Reflexivity

You will find discipline specific strategies for ensuring quality in qualitative research

- Anney, V. N. 2014. Ensuring the quality of the findings of qualitative research: looking at trustworthiness criteria. *Journal of Emerging Trends in Educational Research and Policy Studies*. 5 (2): 272-281.
- Lietz, C. A., Langer, C. L. Furman, R. 2006. Establishing trustworthiness in qualitative research in social work: Implications from a study regarding spirituality. *Qualitative Social Work*. 5(4): 441-458.
- Johnson, R. and Waterfield, J. 2004. Making Words Count: The Value of Qualitative Research. *Physiotherapy Research International* 9(3): 121-31.
- Sandelowski M. 2015. A matter of taste: evaluating the quality of qualitative research. *Nursing Inquiry*. 22 (2): 86-94.
- Sinkovics, R., Penz, E. & Ghauri, P. 2008. Enhancing the trustworthiness of qualitative research in international business. *Management International Review*. 48: 689-714.

How long should analysis go on?

- The answer is “it’s hard to say!” Analysis depends on the nature of the study, the amount of data, and the analytic abilities of the researcher. But typically, it takes longer than analysis for quantitative studies.

Strategies for Qualitative Data Analysis LeCompte and Schensul (1999)

- Focusing on theoretical framework
- Reviewing the research questions
- Creating vignettes
- Writing some history
- Describing a social process
- Creating summaries of interviews or other data sets
- Creating collections of quotations
- Drawing a conceptual framework
- Writing in a narrative form
- Developing a metaphor
- Writing up critical event/s
- Making a list of most important facts

Strategies for Qualitative Data Analysis Miles and Huberman (1994)

- Noting patterns and themes
- Seeing plausibility
- Clustering
- Making metaphors
- Counting
- Making contrasts
- Partitioning variables
- Subsuming particulars into the general
- Noting relations between variables
- Finding intervening variables
- Building a logical chain of evidence

Software

- Basit (2003: 143) 'The choice will be dependent on the size of the project, the funds and time available, and the inclination and expertise of the researcher'.
- What are the advantages/disadvantages of using software in the analysis process?

Quality and Qualitative Data Analysis

Some thoughts on quality and qualitative research

- How do we know the findings are 'worth paying attention to' (Lincoln and Guba 1985, p. 290)?
- How can we be sure that an "earthy", "undeniable", "serendipitous" finding is not, in fact wrong (Miles and Huberman 1994)?
- Schram (2006) describes qualitative research as 'contested work in progress' and the qualitative predisposition as 'embracing complexity, uncovering and challenging taken-for-granted assumptions- and being 'comfortable with uncertainty' (15, 6, 7).
- Precision in description and stringency in meaning interpretation correspond in qualitative interviews to exactness in quantitative measurements (Kvale 1996: 32).
- The issue of quality criteria in constructivism is...not well resolved, and further critique is needed (Guba and Lincoln, 1994: 114).

Traditional Criteria for Judging Quantitative Research

- Reliability – generally understood to concern the replicability of research findings and whether or not they would be repeated if another study, using the same or similar methods, was undertaken.
- Validity – traditionally understood to refer to the 'correctness' or 'precision' of research.
 - Internal validity
 - External validity



Unreliable & Invalid



Unreliable, But Valid



What criteria should we use to judge the quality of qualitative research?

The Replication Perspective

- Some qualitative researchers have little issue with the terms validity and reliability (e.g. Minichiello, Aroni and Hays, 2008; Morse 1999).
- Methodological anarchy offers a clearly negative message to research funding agencies, namely; don't fund qualitative research because even its proponent have given up claims to reliability and validity. Moreover, in such an environment, can we wonder that qualitative researcher's potential audiences (e.g., the medical professions, corporations, trade unions) take its 'findings' less than seriously (Silverman 2000: 290).
- Clavarion, Najman and Silverman (1995) 'scientific criteria' should be fitted to 'qualitative research'.

The Parallel Perspective

- Some qualitative researchers have criticised the use of these terms validity and reliability in qualitative research and Proposed 'parallel' criteria.' (Lincoln and Guba 1985; Leininger, M. 1994; Altheide & Johnson 1994; Tong et al 2007; Tracy 2010).
- Lincoln and Guba (1985) call for 'trustworthiness' of qualitative research to be judged in terms of
 - credibility (internal validity)
 - transferability (external validity)
 - dependability (reliability)
 - confirmability (objectivity)

Entirely New Criteria

- Some have argued for criteria specific to an epistemological perspective or qualitative methodological approach (Creswell 2007).



Leininger, M. (1994). Evaluation criteria and critique of qualitative research studies. In J. M. Morse (Ed.), *Critical issues in qualitative research methods*.

- Credibility
 - Ensuring that the researcher uses active listening, reflection and empathic understanding to grasp what is 'true' to informants in their lived environment
- Confirmability
 - Repeated direct participatory and documented evidence observed or obtained from primary sources
- Meaning-in-context
 - Understanding data within holistic contexts (participants' contexts)
- Recurrent patterning
 - Using repeated experiences, events to identify patterns etc
- Saturation
 - Full immersion by the researcher in the phenomena being studied; getting 'thick' data to know fully what is being studied
- Transferability
 - Examining general similarities of findings in similar environmental situations

Popay and Williams, G. 1997. Qualitative research and evidence-based healthcare. Journal of the Royal Society of Medicine. 35 (91), pp.32-37.

- The privileging of 'subjective meaning' – the research illuminates the subjective meaning, actions, and context of those being researched.
- Responsiveness to social context – the research design is adaptable/responsive to real-life situations.
- Purposive sampling – the sample produces the knowledge necessary to understand participants' location in structures and processes.
- Adequate description – the reader can interpret the meaning and context of what is researched.
- Data quality – different sources of knowledge about the same issues are compared.
- Theoretical and conceptual adequacy – the research describes the process of moving from the data to interpretation.
- Typicality – claims are made for logical rather than probabilistic generalisations.

Tracy (2001) Qualitative quality: Eight 'big-tent' criteria for excellent qualitative research. Qualitative Inquiry. 16, pp. 837-851.

- Worthy topic
- Rich rigor
- Sincerity
- Credibility
- Resonance
- Significant contribution
- Ethics
- Meaningful coherence



Critique of any criteria

- Some have argued against fixed, universal criteria for qualitative research and critiqued what they call 'criteriology' (e.g. Bochner 2000; Schwandt 1996; St Pierre 2006).
- Schwandt (1996: 59) argues for saying 'farewell to criteriology' or to the 'regulative norms for removing doubt and settling disputes, about what is correct or incorrect, true or false.

These debates have been manifest in generalizability arguments

- Some have argued that qualitative research is not supposed to be generalizable.
 - I suggest that while qualitative studies are not generalizable in the traditional sense of the word, nor do they claim to be, that they have other redeeming features which makes them highly valuable in the education community. Partial generalizations may be possible to similar populations, but I feel that even this should not be a primary concern of qualitative research (Myers 2000)
- Some have argued that qualitative research is generalizable but this needs to be understood different in qualitative work and perhaps even a different term used.
 - 'Qualitative research is generalizable. Criterion for determining generalizability, however, differs from quantitative inquiry...The knowledge gained is not limited to demographic variables: it is the fit of the topic or the comparability of the problem that is of concern. Recall it is the knowledge that is, generalisable' (Morse, 1999: 5-6).
 - '...the aim is to make logical generalizations to a theoretical understanding of a similar class of phenomenon rather than probabilistic generalizations to a population' Popay et al 1998: 348).
 - Yin (2003) differentiates between "statistical generalization" (projection of quantitative findings across broad populations from which an experimental-type sample was randomly drawn) and "analytic generalization" (the more customary qualitative objective of obtaining a greater depth, richness, detail and understanding of some phenomena).

The Debate Goes On

- Why would qualitative scholars develop criteria even if they critique it? Because criteria, quite simply, are useful. Rules and guidelines help us learn, practice and perfect (Tracy 2010, p. 838).
- Your view about criteria and issues of quality in qualitative research will depend upon your epistemological position.
- Blog Post:
<https://abbarker.wordpress.com/2016/08/24/quality-in-qualitative-research/>

Writing Up Qualitative Data

Presenting the Data

- Need a clear and logical sequence (major to minor themes, chronological etc)
- Think like a novelist:
 - What is the basic story?
 - Context (think like a novelist)
 - Authorial voice? (Bringing your own voice/perspectives to bear on the data).



“Ultimately, voice is the writer’s personal style coming through in the writing. It’s as complex and varied as human personality itself.”

(Jack Hart, *A Writer’s Coach: An Editor’s Guide to Words That Work*. Pantheon, 2006)

Key Principles

- Be selective (with examples, quotes, cases).
- Think! What are you expecting the data to do? Always be guided by the argument, the story, and then choose what data you need to show and tell your story, evoke it, substantiate it.
- Don’t overwhelm your reader with too much detail but some context is necessary.
- Be rigorous and thorough. Make clear the relationship of the data you have selected to those you have not.
- Do not ‘cherry pick’ – selecting data that suits your argument and ignoring those that don’t.
- Test and challenge your own arguments and assumptions in ways that the reader can see.

Quoting Participants

Tips

- Using quotes strengthens analysis .
- Provide frame of reference for quote.
- Interpret all quotes.
- Find balance between quotes and your description and analysis.
- Quotes are not the text "speaking for itself."
- Short quotes may be better than long ones.
- Use only the best quotes.
- Using quotes is useful:
 - When they describe a phenomenon particularly well.
 - To show cases or instances that are unusual.
 - As evidence, illustration, explanation.
- To enhance readability.
 - To give participants a voice.
 - To show data that is unexpected.

ICE

- Introduce the quotation
- Cite the quotation
- Explain the quotation



See how other researchers do it

- Read/scan qualitative research journals and reports with analysis in mind, rather than topic, and you may find some useful examples of how others go about analysis and the means by which they write up their findings.