



Analysing Qualitative Data

You Asked Them, Now What to Do
With What They Said

Tutorial notes:

<https://rebekahwillson.com/chiir/>

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CHIIR
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The plan

- Qualitative data
- Deductive and inductive approaches
- Qualitative codes, data coding, and themes
- Thematic analysis
- Hands-on data coding
- Discussion
- Coffee break @ 3:00



*Disclaimer – this is a
whirlwind tour



QUALITATIVE DATA



Qualitative data

- Often defined by absence – not numerical, not gathered by measurement
- Generally textual data
 - Interviews, long-answer questionnaires, documents, etc.
- Requires different data gathering and analysis methodologies



Qualitative research

- Generally human focussed
 - Experiences, perceptions, behaviours, beliefs
- Holistic, constructionist, interpretative approaches
- Researcher is involved in the research
- Explores “why” questions** (Given, 2016)

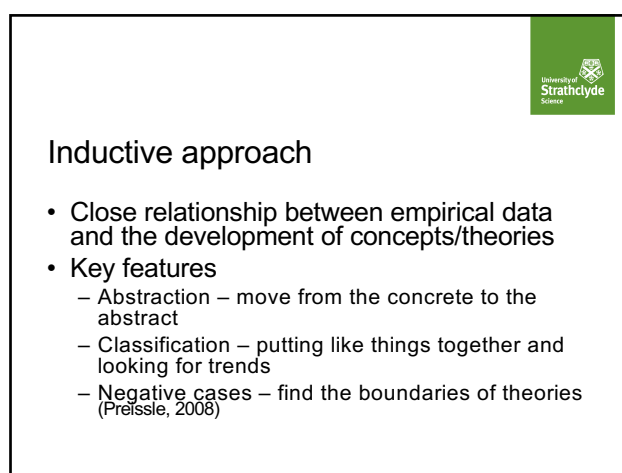
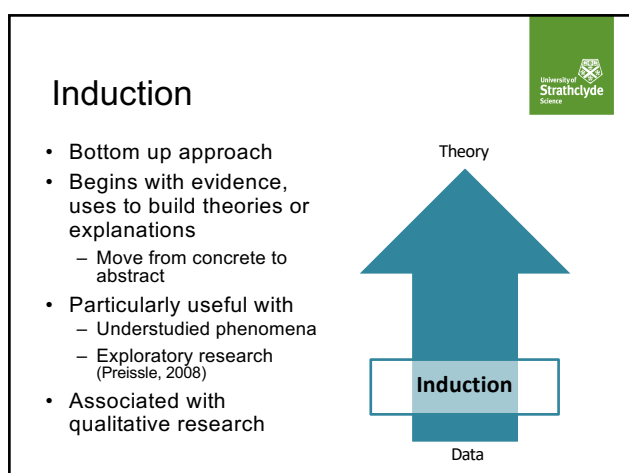
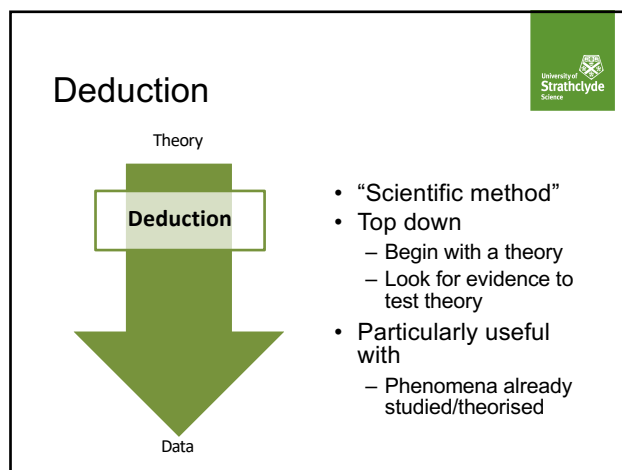
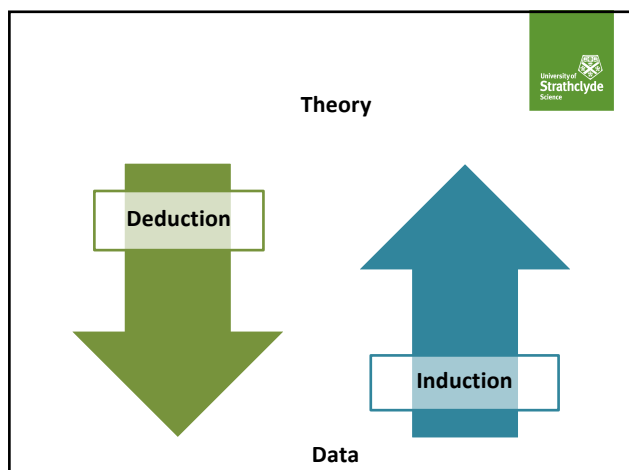


The challenge of qualitative research

- Many approaches
- Little agreement
- Difficult to pin down
- Messy



INDUCTION AND DEDUCTION





Challenges with induction

- Does not fit the “scientific method”
- Feels be less scientific or rigorous
 - No numbers to deal with
 - No one way to analyse
- Qualitative data cannot be treated the same as quantitative



CODES, CODING, THEMES



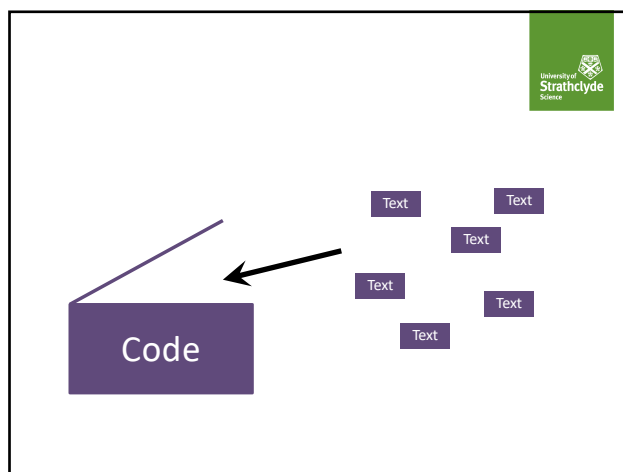
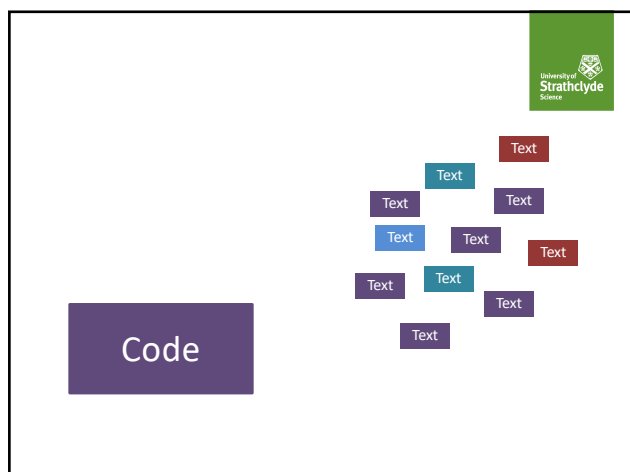
Qualitative codes

- Codes and coding are the basis for most qualitative analysis
- Codes: “the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon” (Boyatzis, 1998, p. 63; cited in Braun & Clark, 2006)
 - Concepts or labels used to describe important elements of data
 - Identified through explicit criteria*



Qualitative coding

- Coding: the act of segmenting and categorising data
 - “identifying potentially interesting events, features, phrases, behaviors, or stages of a process and distinguishing them with labels” (Benaquisto, 2008, p. 86)
- Organise into meaningful groups
- Used to reduce the data or generate ideas and concepts



Iterative coding

- Coding is often done in successive rounds that are increasingly defined and explanatory
 - Revisit categories, combine or divide, resolve contradiction (Julien, 2008)
- Particularly important for inductive analysis
- Often code in 2 rounds

Iterative coding

- Initial coding – stick close to the data; simple and short codes; look at/code for actions; code line-by-line; not concerned about relation
- Focussed coding – process of refining coding; using more significant or frequent initial codes to sift through data
 - Make decision about best codes that make analytic sense (Benaquisto, 2008; Charmaz, 2006)

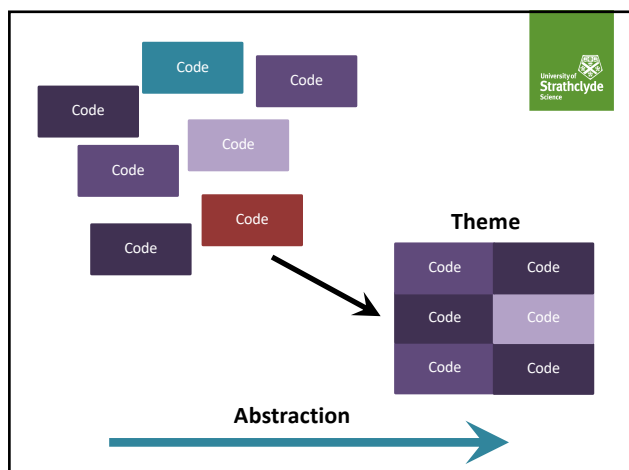
University of Strathclyde Science	
Codes - Initial	Text
	And it doesn't surprise me that after 10 years of early-adoptive dematerialization, all the identity work and now the seduction of physical objects has come back in full force. Now it's kind of a pendulum: we move between the virtual and the real a great deal. And we have historically--that's hardly a new thing. I suspect that part of what we're seeing with the Etsy maker and that whole spectrum is a kind of need for physical things because so much has become digital, and in fact, what's being manifested in some of these places is really a reprise of physical stuff. Physicality has kind of come back.

University of Strathclyde Science	
Codes - Initial	Text
Early adopters Chose virtual	And it doesn't surprise me that after 10 years of early-adoptive dematerialization, all the identity work and now the seduction of physical objects has come back in full force. Now it's kind of a pendulum: we move between the virtual and the real a great deal. And we have historically--that's hardly a new thing. I suspect that part of what we're seeing with the Etsy maker and that whole spectrum is a kind of need for physical things because so much has become digital, and in fact, what's being manifested in some of these places is really a reprise of physical stuff. Physicality has kind of come back.
Attraction of the physical Move between physical and virtual	
Historical movement	
Emergence of "maker" Need for the physical Increase in the digital	
Return of the physical	

University of Strathclyde Science	
Codes - Focussed	Text
"Dematerialisation"	And it doesn't surprise me that after 10 years of early-adoptive dematerialization, all the identity work and now the seduction of physical objects has come back in full force. Now it's kind of a pendulum: we move between the virtual and the real a great deal. And we have historically--that's hardly a new thing. I suspect that part of what we're seeing with the Etsy maker and that whole spectrum is a kind of need for physical things because so much has become digital, and in fact, what's being manifested in some of these places is really a reprise of physical stuff. Physicality has kind of come back.
Need for physical	
Shifting need	
Need for physical	

Themes

- "A theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set" (Braun & Clark, 2006, p. 82)
 - More about importance than prevalence



Themes

- Built from codes
- Analytical (rather than descriptive)
- Increased level of abstraction
- Explanatory power

Theme	Text
Increasing Need for Physical Representations of Identity	And it doesn't surprise me that after 10 years of early-adoptive dematerialization, all the identity work and now the seduction of physical objects has come back in full force. Now it's kind of a pendulum: we move between the virtual and the real a great deal. And we have historically--that's hardly a new thing. I suspect that part of what we're seeing with the Etsy maker and that whole spectrum is a kind of need for physical things because so much has become digital, and in fact, what's being manifested in some of these places is really a reprise of physical stuff. Physicality has kind of come back.

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Science

Rigour

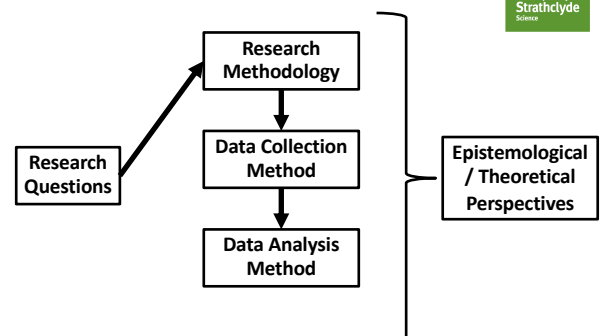
- Trustworthiness and credibility through iterative analysis, negative examples, triangulation
- Clearly defined codes and themes
 - Use of a codebook
 - Codes are comprehensive and mutually exclusive
- Clearly defined process
 - Noting decisions made – and reasoning

Inter-coder reliability

- Work with other researchers
 - Shared development of codes and codebook
- Compare similarity of coding between researchers
 - Reliability coefficient of .60 is acceptable (Julien, 2008)

THEMATIC ANALYSIS

Your data analysis methodology should be in line with your research approach





Thematic analysis

- Thematic analysis: “a method for identifying, analysing and reporting patterns (themes) within data” (Braun & Clark, 2006, p. 79)

Organisation → Interpretation



Thematic analysis

- Organises and describes data but also helps interpret
 - Rich, in-depth description of the data
- Semantic (explicit) level analysis
 - Start with description and move to theorising about significance and broader meanings
- Latent (interpretive) level analysis
 - Goes beyond semantic level
 - Focus on underlying ideas, assumptions, ideologies



Thematic analysis

- Inductive or deductive approach
 - Flexibility
- No theoretical or epistemological basis
 - Independent



Thematic analysis steps

1. Familiarize yourself with your data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report

(Braun & Clark, 2006)

Thematic analysis steps



1. Familiarize yourself with your data
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6. ~~Producing the report~~

(Braun & Clark, 2006)

Thematic analysis steps



1. Familiarize yourself with your data
 2. ~~Generating initial codes~~
 3. ~~Searching for themes~~
 4. ~~Reviewing themes~~
 5. ~~Defining and naming themes~~
 6. ~~Producing the report~~
- Read over you data (more than once)
 - Take notes
 - Consider trends
 - Important words
 - Salient features

(Braun & Clark, 2006)

Thematic analysis steps



1. Familiarize yourself with your data
 2. **Generating initial codes**
 3. ~~Searching for themes~~
 4. ~~Reviewing themes~~
 5. ~~Defining and naming themes~~
 6. ~~Producing the report~~
- Descriptive
 - Code for as many patterns as possible
 - Can code all data or particular features
 - Looking for interesting features in the data
 - Semantic or latent
 - Can use initial and focussed codes

(Braun & Clark, 2006)

Thematic analysis steps



1. Familiarize yourself with your data
 2. ~~Generating initial codes~~
 3. **Searching for themes**
 4. ~~Reviewing themes~~
 5. ~~Defining and naming themes~~
 6. ~~Producing the report~~
- Look at how codes are similar/different
 - Are there patterns?
 - Do codes fit together?
 - Sort codes into potential overarching themes
 - Use maps or lists
 - Look for relationships between themes and levels of themes
 - Major themes, sub-themes

(Braun & Clark, 2006)

Thematic analysis steps

1. Familiarize yourself with your data
 2. Generating initial codes
 3. Searching for themes
 4. Reviewing themes
 5. Defining and naming themes
 - ~~6. Producing the report~~
- Refine themes
 - Collapse together, break apart, remove uninformative
 - Make clear distinctions between themes
 - Two levels
 1. Review theme - coded data extracts (is there a pattern?)
 2. Review data set (do themes accurately reflect the data? Is anything missing?)
 - Results in thematic map*
- (Braun & Clark, 2006)

Thematic analysis steps

1. Familiarize yourself with your data
 2. Generating initial codes
 3. Searching for themes
 4. Reviewing themes
 5. Defining and naming themes
 - ~~6. Producing the report~~
- Further refine themes
 - Define them clearly – what is each theme about?
 - Not paraphrasing
 - Identify what is of interest and why
 - Analysis for each theme – what it contributes and how it works with other themes
 - Analytical power
 - Name themes
- (Braun & Clark, 2006)

Practical considerations

- Code extracts inclusively
- Code at multiple codes/themes
- Data coding - print, digital, or both?
- Data management
 - NVivo, ATLAS.ti

HANDS-ON CODING



Hands-on coding

- Work in pairs or small groups (~30 minutes)
- Decide on an deductive/inductive approach
 - Are you familiar with research on technology adoption/enjoyment of technology?
- Follow thematic analysis steps
- Time to discuss as a large group



Large group discussion

- Issues
- What works
- What doesn't work
- What questions remain



Hands-on coding

- Deductive/inductive approach
1. Familiarize yourself with your data
 2. Generating initial codes
 3. Searching for themes
 4. Reviewing themes
 5. Defining and naming themes
 6. Producing the report



Large group discussion

- Issues
- What works
- What doesn't work
- What questions remain

government cut the budget by 7% across the board. And so when I was negotiating start-up funds, I did not feel like I was in a very strong negotiating position, in that sense. And so I definitely did not get the research funding to start up that I would have liked. And so that's a big source of stress, which has led to a lot of applying for grants and things like that and trying to taper, find cost effective ways to do research. And I think that's going to be a theme moving forward, 'cause we're just going to have less money for those sorts of things.

B: Right. So then in your research work, so it sounds like you were heavily involved in a lot of different research projects, a lot of different collaborators in your doctoral studies and in your masters degree. Have you noticed any differences in how from a PhD student to now? I mean you said you have RAs and all the rest of it, I mean, you know, did you have those as a PhD student or?

J: I did but it's very different now. I find the biggest problem is I feel like a manager now. I've got people running studies and doing things and I just have meetings all the time. Meetings with people all the time and I feel like I have no time to write. It's, you know, I'll have two hours this afternoon to write and that'll be, whereas when you're a PhD student it's like, "I've got the next five days to think about this problem," [both laugh] and there's no time to do those sorts of things. I've two hours to try and hammer out, you know, a good chunk of this manuscript that I need to get out and so that's kind of the, but I'm constantly I'm coordinating people. Coordinating people and projects and money and budgeting and all these things I didn't have to do before. I just had to come up with ideas and then do them at a reasonable rate and that was fine. So that's the biggest one in terms of my time and, so I'm spending a lot less time, it feels like, doing the research. I'm spending a lot more time telling other people how to do research and solving their problems and those sorts of things. So that's the one thing. And the other thing I've really noticed that's changed and it's kind of almost, humankind, cause time... I wouldn't have said...

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Education
Health
Media
Physical Sciences
Preparation with others
Research with others
Statistical
Institutional support - or lack
Responsibility and independence
Self-Exchange - Colleagues
Feeling supported
Documentation

Ways of working

Ways of working

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Home Files Referen... Cite Ways of working

Item	Files	Referen...	Cite	Ways of working
Not Using	0	0	24	
Theme 1 - University month	0	0	16	
Non-social information seeking	0	0	21	
Induction	26	46	21	
Documentation	32	60	16	
Impact of policies and procedures	21	40	16	
Bureaucracy	22	50	16	
Institutional support - or lack	34	67	16	
Theme 2 - Mediating between known and unknown	0	0	16	
Ways of Mediating	0	0	11	
Learning by doing	9	13	16	
Models	12	38	16	
Learning-Help From Others	42	167	17	
Preparedness and Expectations	28	60	21	
Difference-Comparison	32	61	7	
Identity	12	15	21	
Ways of working	22	40	8	
Responsibility and independence	30	77	16	
Theme 3 - Engaging with colleagues	0	0	16	
Theme 4 - Affective experience	0	0	16	

Summary

of random areas. They're just, they're all happens to be interesting. I think. So it is something I need to think about in terms of, maybe, the next 5 years, you know actually developing a bit more specific that I can be known for. And I guess the happiness stuff works well in that way.

File: Interview/Jessie - First Interview
3 references coded, 2.80% coverage

Reference 1: 0.80% coverage

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Reference 2: 1.48% coverage

But in general it's just a completely different skill set. It's actually really throws me. Over the last three years of teaching undergrad I'd kind of developed a style, lecture style. And

Further reading

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>

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– Various articles

Thank you

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