

Lecture 10

Empirical Research Methods IN4304

Qualitative Oriented Research Flexible Research

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Previous lecture

Methods to measure sensitivity of stimuli

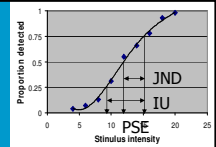
- Method of Constant Stimuli
- Method of Limits
- Method of Adjustment

Methods to measure preference

- Paired Comparison
- Sorting Method
- Triangle or Three-Sample Method

PSE Point of subjective equality. Point where 50% of the responses report stimuli

IU – Interval of Uncertainty. Interval between 25% and 75% of responses report stimuli



JND – Just Noticeable difference. Stimuli change between PSE and point where 75% of the responses report stimuli (DL_{upper})

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Today

- Data sources
- Examples of qualitative data analysis methods such as
 - Case study
 - Grounded Theory
 - Content Analysis
 - Interpretative Phenomenological Analysis
- Reliability and Validity in context of qualitative research

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Learning outcomes of this lecture

After today's lecture you should be able:

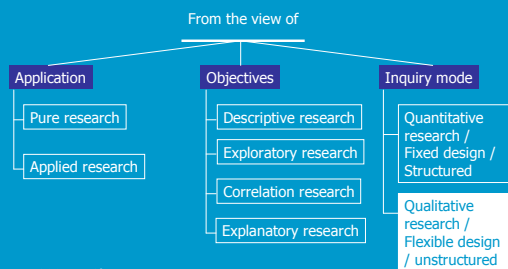
- to explain common features in qualitative data analysis
- to explain type of research questions that can be studied with qualitative research methods
- to explain the set up of case study analysis, grounded theory analysis, content analysis and interpretative phenomenological analysis
- to list ways to cope with validity threats in qualitative data analysis

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Type of research



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Type of research questions

- What is participants' perception or experience of X (the topic)?
- In what way do people construct their perceptions or manage their talk?
- What are the concepts that underlie and explain X for people?
- Is a theory or hypothesis supported by the way people report their experience of or feelings about X?
- Interpretive Phenomenological Analysis (IPA) or possibly Grounded Theory
- Discourse Analysis
- Grounded Theory
- Content Analysis

(Coolican, 2004)

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Data sources

- Participant observation field notes
- Informal or semi-structured interviews
- Focus group discussion
- Open-ended questions (interview or questionnaire)
- In-depth case study (mixture of interviews, observations, records)
- Participants' notes and diaries
- Observation of advertisements, wall paintings, graffiti etc

(Coolican, 2004)

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Common features of qualitative data analysis

- Give codes to initial set of material
- Adding comments, reflections etc (memos)
- Trying to identify similar phrases, patterns, themes, relationships, sequences, difference between groups etc
- Taking these patterns, themes, etc to next wave of data collection
- Gradually elaborating a small set of generalisations
- Linking these generalisations to a formalized body of knowledge (theories or constructs)

(Robson, 2002)

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Comparing research traditions in qualitative research

- **Focus**
- Discipline origin
- Data collection
- Data analysis
- Narrative form

(Robson, 2002)

Grounded Theory

- Developing a theory grounded in data from the field

Ethnography

- Describing and interpreting a cultural and social group

Case Study

- Developing an in-depth analysis of a single case or multiple cases

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Comparing research traditions in qualitative research

- Focus
- **Discipline origin**
- Data collection
- Data analysis
- Narrative form

Grounded Theory

- Sociology

Ethnography

- Cultural anthropology, sociology

Case Study

- Political science, sociology, evaluation, urban studies, and many other social sciences

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Comparing research traditions in qualitative research

- Focus
- Discipline origin
- **Data collection**
- Data analysis
- Narrative form

Grounded Theory

- Typically interviews with 20-30 individuals to 'saturate' categories and detail a theory

Ethnography

- Primarily observation and interviews during extended time in the field

Case Study

- Multiple sources – documents, archival records, interviews, observations, physical artefacts

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Comparing research traditions in qualitative research

- Focus
- Discipline origin
- Data collection
- **Data analysis**
- Narrative form

Grounded Theory

- Open coding, axial coding, selective coding

Ethnography

- Description, analysis, interpretation

Case Study

- Descriptions, themes, assertions

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Comparing research traditions in qualitative research

- | | |
|---|--|
| <ul style="list-style-type: none"> • Focus • Discipline origin • Data collection • Data analysis • Narrative form | <p>Grounded Theory</p> <ul style="list-style-type: none"> • Theory or theoretical model <p>Ethnography</p> <ul style="list-style-type: none"> • Description of the cultural behaviour of the group <p>Case Study</p> <ul style="list-style-type: none"> • In-depth study of a 'case' or 'cases' |
|---|--|

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'Good' flexible design

- Rigorous data collection procedure
- Framed with assumptions of flexible approach (evolving design, presentation of multiple realities, researcher as instrument, focus on participants' view)
- The study is informed by existing traditions of enquiry
- The tradition need not to be pure
- Project starts with a single idea or problem
- The study includes detailed account of procedure and analysis
- Data is analysis using multiple levels of abstractions
- Report writing is clear and engaging and helps the reader to experience of being there.

(Robson, 2002)

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Skills flexible design investigators

- Question asking
- Good listening
- Adaptiveness and flexibility
- Grasp of the issues
- 'Lack of bias' (aware of biases)

(Robson, 2002)

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Case Study

Case study – Development of detailed, intensive knowledge about a single 'case', or of a small number of related 'cases'

Type of case studies:

- Individual case study
- Set of individual case studies
- Social group study
- Studies of organisations and institutions
- Studies of events, roles and relationships
- But also Studies of ICT systems

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Case Study – concurrent data analysis activities

Data reduction

Data display
Conclusion drawing
Verification

- Focus of study
- Sampling
- Summaries/abstracts
- Coding
- Writing memos

(Robson, 2002)

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Case Study – concurrent data analysis activities

Data reduction

Data display
Conclusion drawing
Verification

- Session summary sheet
- Document sheet
- Matrix (e.g. time-ordered matrix, Role-ordered matrix, Conceptually clustered matrix, effect matrix)
- Network (diagram) (e.g. context chart, event flow, activity records, decision modelling, cognitive map, causal network)

(Robson, 2002)

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Case Study – concurrent data analysis activities

Data reduction
Data display
Conclusion drawing
Verification

Ways to generate meaning:

- Search for patterns, themes and trends
- Seeing plausibility
- Clustering
- Making metaphors
- Counting
- Making contrasts and comparisons
- Subsuming particulars into the general
- Search for relations between variables
- Building logical chain of evidence

(Robson, 2002)

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Case Study – concurrent data analysis activities

Data reduction
Data display
Conclusion drawing
Verification

Assessing data quality

- Checking for representativeness
- Checking for researcher effects

Testing patterns

- Triangulation
- Weighting the evidence
- Checking meaning of outliers
- Using extreme cases
- Following up surprises
- Looking for negative evidence

Testing explanations

- Making if-then test
- Ruling out spurious relationships
- Replicating a finding
- Checking out rival explanations
- Getting feedback from informants

(Robson, 2002)

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Content Analysis

- Search of qualitative material (especially text) to find 'coding units' (usually words, phrases or themes); analysis often concentrates on quantitative treatment of frequencies but can be purely qualitative approach (Coolican, 2004).

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Content analysis -Steps

- Start with a research question
 - Decide on a sampling strategy
 - Define the recording unit (e.g. words, paragraphs, whole items)
 - Construct categories for analysis (desirable exhaustive and mutually exclusive), look at for example at:
 - Subject matter, direction, values, goals, methods, traits, actors, authority, location, conflicts, endings
 - Test the coding on sample and assess reliability
 - Carry out the analysis
- (note the qualitative version focuses mainly on the abstracted themes (categories))

(Robson, 2002)

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Content Analysis - Example

Table 3
Numbers and percentages of postings according to topic category and study.

Category	Posted content that falls in category			
	First study		Second study	
	Freq.	In %	Freq.	In %
Time	0	0	7	10
Human (social)	8	10	21	29
Environment (location)	3	2	14	19
Object	13	17	21	29
Activity	27	35	24	33
Right here, right now (situatedness)	40	51	N.A.	N.A.
Emotion (explicit)	6	8	11	15
Everyday event	7	9	13	18
Positive	76	96	73	100
Offensive	0	0	2	3

- End the sentence, starting with: *today I like, I like, Today I love, I dream about...etc*

- Categories and number of coding in 2 data sets of posipost messages. Categories are not mutually exclusive
- Inter-rater reliability expressed in Cohen's Kappa ranged from 0.7 tot 1.

(Kanis *et al.*, 2009)

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Interpretative Phenomenological Analysis (IPA)

- "Approach that attempts to describe an individual's experiences from their own perspective as closely as possible, but recognises the interpretive influence of the researcher on the research product" (Coolican, 2004, p. 241).
- Analysis data obtained from techniques such as interview, diaries, or focus group

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Interpretative Phenomenological Analysis (IPA) - Stages

- Stage 1 - **Notes**: after couple of thorough reads, start making notes (any reflection notion at all, objections to what is said, knee-jerk associations, links to previous work etc)
- Stage 2 - **Themes**: What is going on in a section of the text, look at transformation of meaning units. Themes might recur
- Stage 3 - **Structure**: potential structure of experience (grouping of themes into superordinate themes, and relations between themes)
- Stage 4: - **Summary**: results are presented around the themes for example in table with referenced to text quotations (Crabtree, 2004)

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Grounded Theory Analysis

Grounded theory study – “An approach which emphasizes the systematic discovery of theory from data, so that theories remain grounded in observations of the social world, rather than being generated in the abstract” (Robson, 2002, p. 548)

Done in 3 stages

1. Find conceptual categories in the data
2. Find relationships between these categories
3. Conceptualize and account for these relationships through finding core categories

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Grounded Theory Coding

- **Open Coding**
- Axial Coding
- Selective Coding

•The analytic process through with concepts are identified and their properties and dimensions are discovered in data
•Data is split in units (e.g. sentences, paragraph)

•Question: What is this piece of data an example of? -> Label (can be more label per unit)

“I think teens use drugs as a release from their parents [“rebellious act“]. Well, I don't know. I can only talk for myself. For me, it was an experience [“experience“].” (Strauss and Corbin, 1998).

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Grounded Theory Coding

- Open Coding
- **Axial Coding**
- Selective Coding

•The process of relating categories to their subcategories, termed “axial” (theoretical coding), linking categories at the level of properties and dimensions

Drugs example

Code Labels: Liberated self, easy access, novel experiences, negative drug talk, challenging the adult stance -> “limited experimenting”

Categories: Experimenting with drugs (from Limited experimenting to Hard core use) (Strauss and Corbin, 1998).

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Grounded Theory Coding

- Open Coding
- Axial Coding
- **Selective Coding**

• The process of integrating and refining the theory
•Decide on the central (core) category (what is the research all about?)

•Drug example: Central idea “Teen Drug Use: A Rite of Passage” (Strauss and Corbin, 1998).

•Integration: Using the concepts and linkages to write storyline or making diagrams

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Reliability and Validity in flexible design

- Some qualitative researchers might not agree on the relevance of concepts such as reliability and validity because:
 - Every observation in a social context is unique and cannot be repeated
 - Knowledge is situated so difficult to generalise
 - Knowledge (observation of events) is subjective
- Underlying problem might be the way reliability and validity is normally operationalised.

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Threats to validity in flexible design

- **Description**; inaccuracy or incompleteness of data
- **Interpretation**; imposing a framework or meaning on the data
- **Theory**; not considering alternative explanation
- **Reactivity**; the way researcher's presence may interfere with observation or the setting
- **Respondent bias**; 'help' or 'hinder' research
- **Research bias**; assumptions and preconceptions of researcher

(Robson, 2002)

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Strategies for dealing with threats to validity

	Reactivity	Research bias	Respondent bias
Prolonged involvement	-	+	-
Triangulation	-	-	-
Peer debriefing/support	no effect	-	no effect
Member checking	-	-	-
Negative case analysis	no effect	-	no effect
Audit trail	no effect	-	no effect

- (Robson, 2002)

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Summary

Common feature

- Codes, Memos, Finding patterns & themes, Analysis feeds in next data cycle, Focus small set generalisation, and Generalisation to theory

Research question

- Perception / experience
- Concept underlie phenomenon for people
- Study theory about reported experience

Setup Case study analysis, grounded theory analysis, content analysis and interpretative phenomenological analysis

Dealing with validity threats

- Prolonged involvement
- Triangulation
- Peer debriefing/support
- Member checking
- Negative case analysis
- Audit trail

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This week in practicum

Week 4.3

- MANOVA

Week 4.6

- Correlation, regression, analysis
- Power analysis
- Sample size

Deadline of handing in coursework 11/6/2010

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Next time

Week 4.7 (1/6/2010) Exam training

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- Robson, C., (2002) *Real world research: A resource for social scientists and practitioner-researchers* (2nd ed). Malden: MA, Blackwell.
- Strauss A., and Corbin, J., (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed). Thousand Oak: Sage Publications.

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