

Scientific Methods and Presentation Skills



(ED150006)

Session 6 | 23 November 2023

Qualitative Research



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Draft syllabus

Session	Date	From	To	Room	Topic	Assignments
1	19/10/23	9:45	11:15	2370	The nature of inquiry, research goals, aims and questions	
1	19/10/23	11:30	13:00	2370	Finding a research topic, Defining research topics, Writer's block, 2-min exercise	
2	26/10/23	9:45	11:15	2370	Finding and defining research topics contd. Paradigms, theory and research	
2	26/10/23	11:30	13:00	2370	The dialectics of research; final exam structure	
3	02/11/23	9:45	11:15	Online	Literature Research 2	Literature Research 1 +
3	02/11/23	11:30	13:00	Online	Literature Research 2	Research Topic
4	09/11/23	9:45	11:15	2370	Black raven paradox, research design	Group Formation
4	09/11/23	11:30	13:00	2370	conceptualization, operationalization and measurement, ethics of research	
5	16/11/23	9:45	11:15	2370	Stylistic Writing I	
5	16/11/23	11:30	13:00	2370	Case studies, Literature review, Citations, Plagiarism	
6	23/11/23	9:45	11:15	2370	Stylistic Writing II	
6	23/11/23	11:30	13:00	2370	Qualitative research, evaluation research, unobstrusive research	
7	30/11/23	9:45	11:15	2370	Presentation Skills	List of 10 References
7	30/11/23	11:30	13:00	0670ZG	Presentation Skills	
8	07/12/23	9:45	11:15		Dies Academicus, no class	
9	14/12/23	9:45	11:15	2370	Presentation Skills	
9	14/12/23	11:30	13:00	0670ZG	Presentation Skills	
10	21/12/23	9:45	11:15	2370	Quantitative research methods, elaboration model, experiments	Draft Literature Review
10	21/12/23	11:30	13:00	0670ZG	Econometric estimations	
11	11/01/24	9:45	11:15	2370	Presentation Skills	Draft Presentation
11	11/01/24	11:30	13:00	0670ZG	Presentation Skills	
12	18/01/24	9:45	11:15	2370	Survey research	
12	18/01/24	11:30	13:00	0670ZG	Designing a survey, exercise to create a survey	
13	25/01/24	9:45	11:15	2370	Data collection methods	
13	25/01/24	11:30	13:00	2370	Prisoners dilemma, Thesis structure and layout, writing and publishing, Career paths	
14	01/02/24	9:45	11:15	2370	Final presentations	Final presentation
14	01/02/24	11:30	13:00	2370	Final presentations	
15	08/02/24	9:45	11:15	2370	Final presentations	
15	08/02/24	11:30	13:00	2370	Final presentations	
	19/02/24					Final report

Qualitative research

Qualitative Research Paradigms

1. Naturalism
2. Ethnography & Ethnomethodology
3. Grounded Theory
4. Case Studies
5. Participatory Action Research

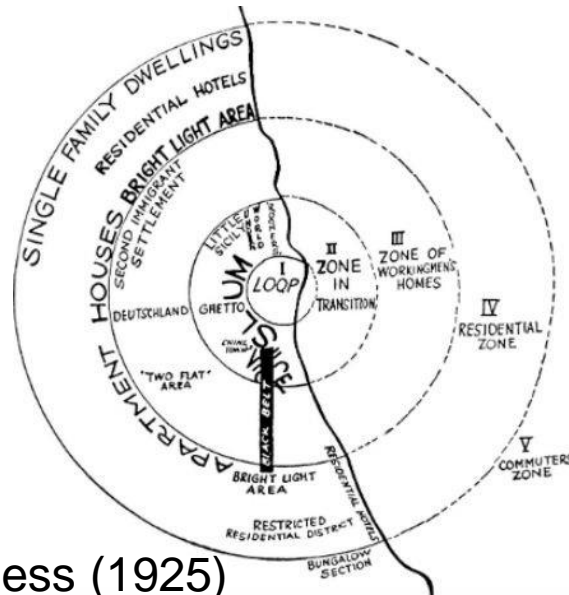
Qualitative Research Paradigms (1)

Naturalism is an approach to field research based on the assumption that an **objective social reality** exists and can be observed and reported accurately (*natural laws govern everything*).

Chicago School in 1920's and 1930's
(*sociology as a science*)



Hugo Van Lawick (National Geographic)



Burgess (1925)

Example: Ernest Burgess hypothesis of social disorganization.

- Concentric circle pattern of urban development, the first model to explain social organization within urban areas

Qualitative Research Paradigms (2)

Ethnography is a **report on social life** that focuses on detailed and accurate descriptions rather than explanations:

- Scientific description of peoples and cultures with their customs, habits, and mutual differences
- Focuses on participant observation – researchers are usually part of the setting
- Almost a type of case study
- *Example: The Philadelphia Negro*

Ethnomethodology is an approach to the **study of social life** that focuses on the discovery of implicit, usually unspoken assumptions and agreement, or how social order is produced through social interaction:

- Methodology within ethnography
- Focuses on the way people make sense of their everyday world. People are seen as rational actors but employ practical reasoning rather than formal logic to make sense of and function in society
- *Example: Surfers at the Englischer Garten*

Qualitative Research Paradigms (3)

Grounded Theory is an **inductive** approach to the study of social life that attempts to generate a theory from the **constant comparing of unfolding observations**.

- A qualitative method that enables you to study a particular phenomenon or process and discover new theories that are based on the collection and analysis of **real world data**

- Guidelines:

- Think conservatively
- Obtain multiple viewpoints
- Periodically step back
- Maintain an attitude of skepticism

- *Example: Exploring health care professionals decision making when managing end stage heart failure care*
A purposive sample was used to recruit participants that included 16 registered nurses, 15 doctors and 16 patients. Data were collected using semi-structured interviews and focus groups over a 12-month period of fieldwork concluding in 2017. The interviews were recorded and transcribed and the data were analysed using constant comparison

Qualitative Research Paradigms (4)

A Case Study is the **in-depth examination of a single instance** of some social or geographic phenomenon.

- They involve **the analysis and synthesis of the similarities, differences and patterns across two or more cases that share a common focus or goal**

• Often, **multiple case studies** are compared against each other. However, how comparable they are?

- *Example: A study that looked at 22 communities across the United States that have developed coordinated community-based programs to assist rape victims.*

Qualitative Research Paradigms (5)

Participatory Action Research is an approach to social research in which **the people being studied are given control** over the purpose and procedures of the research.

- Involve participants who take action for positive change
- Emancipatory Research is research conducted for the purpose of benefiting disadvantaged groups.

Examples: a study undertaken to support a self-help group in a remote Aboriginal Australian community. The research team provided support to community members, who acted as researchers, to explore the main issues affecting their lives, identify the resources available to them, and take actions to improve their lives. The participants were actively involved through in-depth interviews, informal discussions, and participant observations.

Researcher's Role

Investigator as Participant, Researcher or Observer? *Depends!*

Reactivity is the problem of social research subjects potentially reacting to being studied, thus altering their behavior from what it would have normally been.

- *Example: Hawthorne Effect (1924-32 study on the impact of light on productivity at the Hawthorne Works)*

Emic Perspective

- Be part of the study group to fully understand their behavior

Etic Perspective

- Keep distance to study group to remain objective

Strengths of Qualitative Field Research

Strengths of Qualitative Field Research

- **Effective** for studying subtle nuances in attitudes, behaviors and social processes over time
- **Flexibility** throughout research process, requires of the researchers the ability to change and adapt the process following emerging results. Flexibility also with data collection methods
- **Inexpensive** (equipment, sample size) but data collection cannot be automated

Weaknesses of Qualitative Field Research

Weaknesses of Qualitative Field Research

- No appropriate **statistical analyses**
- Usually not “**repeatable**”
- Risk to be **subjective**, influenced by the view of the researcher. It is very hard not to inject own bias and perspective in data collection, and interpretation, very hard not to influence the data collection process – it can also happen in quantitative research!

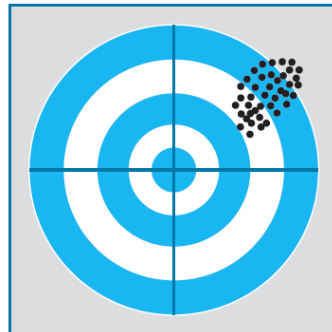
Validity & Reliability of Qualitative Research

Validity

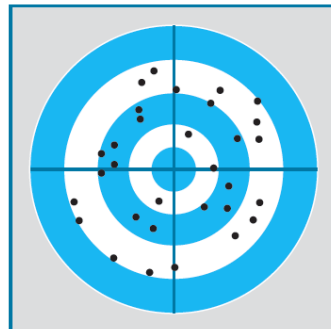
- How accurate represents the truth
- Qualitative Research tends to have greater validity than quantitative and experimental measurements because it is not reductionist (*why rather than what*)

Reliability

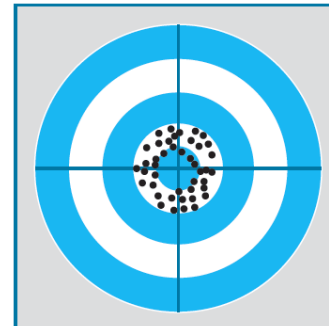
- How consistent, reproducible it is
- Qualitative Research has potential problems with reliability because it is hard to keep uniform processes



Reliable but not valid



Valid but not reliable



Valid *and* reliable

Ethics and Qualitative Field Research

Potential ethical issues:

- Privacy concerns – confidentiality (*data anonymization*)
- Staying objective despite direct contact with research subjects (*researcher's role as instrument*)



Wake up quiz

Please go to

<https://tweedback.de/ztkm>



Evaluation research

Evaluation Research

Research undertaken to determine the **impact** of some planning **intervention**, such as a program aimed at solving an urban problem.

Very practical research – to assess an object, program, practice, activity, or system to provide information that will be of use in decision-making.

Can use qualitative and quantitative methods

Origin: Social scientists, administrators, planners and policy-makers with an interest in deciding on programs and activities. Very popular in civil engineering

Evaluation Research



Example from Denver, Colorado, to test out a concept before committing to a permanent installation:

- The city wants to implement protected bike-lanes
- They tested it out using a pop-up protected bike-lane, a temporary installation of a protected bike lane, often implemented quickly and inexpensively using materials such as cones or planters

4th Street Pop-Up Bike Lanes in San José, CA

Various infrastructure “treatments” were installed along the route



Parklet located at south end of pop-up bikeway



Northbound contraflow lanes



Two-way cycletrack



Trees as barriers along bikeway



Wooden planter boxes as barriers along bikeway



Plastic wave-shaped delineators along bikeway

Source: Hilary Nixon (2018) Evaluating San José’s 4th Street Pop-Up Bikeway: What Does The Public Think? Project 1795. Mineta Transportation Institute. San José, CA, USA.

Topics for Evaluation Research

Appropriate topics are those with **practical significance**.

Most common applications

- Evaluate planning programs
- Monitor program implementation
- Assess program utility

Purposes of Evaluation Research

- Influence decision makers
 - Decide whether to implement a program
 - Develop a rationale for action
 - Determine if a program is working
-
- Evaluation research can be done before, during and after the planning process for different reasons

Auto-Dominated Street in Munich



Street Becomes a Meadow



Meadow Fills With Life



Pitfalls of Evaluation Research

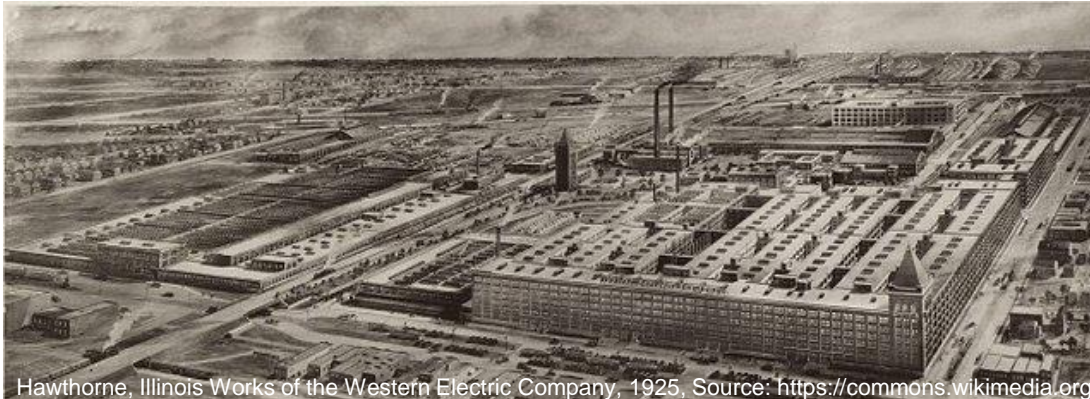
Interfering events

Stochastic effects

Measurement unreliability

Maturation effects: individuals change during evaluation period

Hawthorne effect: individuals change behavior in response to their awareness of being observed



Hawthorne, Illinois Works of the Western Electric Company, 1925, Source: <https://commons.wikimedia.org>

Unobtrusive research

Unobtrusive Research

Non-participant observation. The researcher observes and records the behavior of individuals or groups without their knowledge or active participation. The goal of unobtrusive research is to minimize the influence of the researcher on the behavior being studied

Types of Unobtrusive Research

1. Content Analysis
2. Analysis of Existing Statistics

Content Analysis

Content Analysis is the study of **recorded human communications** (i.e., books, websites, paintings, laws).

Topics Appropriate for Content Analysis:

“Who says what, to whom, why, how, and with what effect?”

Main objective: understand how a particular topic or issue is being represented.

Example 1: Examining TV commercials to understand the portrayal of climate change in advertising.

Example 2: Analyzing the lyrics of popular songs to understand how they reflect societal attitudes towards certain issues.

Coding in Content Analysis

Manifest Content: search for concrete terms



Latent Content: find the underlying meaning



Strengths/Weaknesses of Content Analysis

Strengths

- Economy of time and money
- Allows for the correction of errors
- Permits the study of processes occurring over time
- Research has little (if any) effect on subjects
- Reliability

Weaknesses

- Limited to recorded pieces of communications
- Validity (bias, lack of context, limited focus)

Analyzing Existing Statistics

Example

- Larger households tend to have more cars
 - Affluent households tend to have more cars
 - Ergo: Larger households appear to be more affluent
- Questionable conclusion. Ecological Fallacy?

Units of Analysis

- By nature, existing statistics describe groups.
- Risk of Ecological Fallacy: a logical **fallacy** in the interpretation of statistical data where inferences about the nature of individuals are deduced from inference for the group to which those individuals belong
 - *Example: City A has higher crime rate than city B, city A has more foreigners than city B, hence foreigners must be criminals. Wrong, crimes could have been conducted by natives only.*

Analyzing Existing Statistics

Problems of Validity

- Logical Reasoning
- Replication

Problems of Reliability

- Quality of Existing Statistics may be questionable (use of aggregated results instead of original data)

Ethics and Unobtrusive Measures

- Source need to be selected without expectation of certain outcome
- Sometimes even unobtrusive measures can raise the possibility of violating subjects' privacy - observe things the observed doesn't want the public to know, or studying communications that have private information
- The general principles of honest observation, analysis, and reporting apply to all research techniques.

Qualitative data analysis

Definition: Qualitative Data Analysis

The **non-numerical** examination and interpretation of observations (words, numbers, etc.), for the purpose of **discovering underlying** meanings and patterns of relationship.

Discovering Patterns in terms of

- Frequencies (repetitions)
- Magnitudes (most important concepts or themes)
- Structures (organization by themes, concepts or categories)
- Processes (coding, memo-writing, identify key themes and concepts)
- Causes (factors that cause certain outcomes)
- Consequences (factors related to certain outcomes)

Linking Theory and Analysis

Discovering Patterns through **cross-case analysis**: an analysis that involves the examination of more than one case.

- **Variable-oriented analysis**: an analysis that describes and/or explains a particular variable.
 - Example: car-ownership
- **Case-oriented analysis**: an analysis that aims to understand a particular case or several cases by looking closely at the details of each.
 - Example: explain travel behavior in Munich as much detail as possible, being influenced by car-ownership

Linking Theory and Analysis

Semiotics is the study of signs and the meanings associated with them: *The science of signs*.

What is the meaning of:

- ..."say cheese"?
- ...a cross?
- ...a horseshoe?



Conversation Analysis (CA) is a meticulous analysis of a conversation, based on a complete transcript that includes pauses, hems and haws.

Qualitative Data Processing

Steps:

- Coding: Classification and labeling of concepts in qualitative data analysis
- Memoing: Writing memos (taking notes) that become part of the data for analysis.
- Concept Mapping: Graphic display of concepts and their interrelations, useful in the formulation of theory.



Example provided by <http://www.csiro.au/education/crestquiz/concept.html>

Evaluating the Quality of Qualitative Research

1. How credible are the findings?
2. How has knowledge or understanding been extended by the research?
3. How well does the evaluation address its original aims and purpose?
4. How well is the scope for drawing wider inferences explained?
5. How clear is the basis of evaluative appraisal?
6. How defensible is the research design?
7. How well defended are the same design/target selection of cases/documents?
8. How well is the eventual sample composition and coverage described?
9. How well was the data collection carried out?
10. How well has the approach to, and formulation of, analysis been conveyed?
11. How well are the contexts of data sources retained and portrayed?
12. How well has diversity of perspective and content been explored?
13. How well has detail, depth, and complexity of the data been conveyed?
14. How clear are the links between data, interpretation, and conclusions?
15. How clear and coherent is the reporting?
16. How clear are the assumptions/theoretical perspectives/values that have shaped the form and output of the evaluation?
17. What evidence is there of attention to ethical issues?
18. How adequately has the research process been documented?

Ethics and Qualitative Data Analysis

Qualitative data analysis tends to be **subjective**: challenge to avoid bias in the interpretation of data. [Note that quantitative research neither is objective! But quantitative data tend to be more objective.]

Since the qualitative data analyst will know the identity of subjects, protecting their **privacy** requires special care. [ensure data privacy]