



FH KREMS
UNIVERSITY OF APPLIED
SCIENCES

Qualitative Research Methods



erlebnis → studium

Data Analysis

- 1. Principles that guide qualitative Analysis (FG)**
- 2. Analysis Principles (FG)**
- 3. Analysis Considerations (FG)**
- 4. Approaching data analysis**
- 5. Sorting and Coding the data**
- 6. Interpretation**

- Key characteristics of focus group analysis include:
 - a disciplined process
 - systematic steps
 - a defined protocol
 - verifiable results

1. Analysis must be systematic

Two dimensions:

- The manner by which data are gathered and handled
- Specific processes used by the analyst

Both dimensions require that the analyst follows a **prescribed, sequential process**.

Systematic analysis procedures help ensure that results will be as **error-free** as possible.

Systematic Steps in Data Gathering:

- Sequencing questions to allow maximum insight
- Capturing and handling data
- Coding data
- Participant verification
- Debriefing between moderator and assistant moderator
- Sharing of reports with participants and stakeholders

2. Analysis must be verifiable

A process that would permit another researcher to arrive at similar conclusions using available documents and raw data.

Researchers must continually be careful to avoid the trap of selective perception.

Participant verification of key points during the FG.

3. Analysis requires time

Focus group analysis begins earlier and usually lasts longer than analysis used in quantitative research procedures.

Data inquiry and data analysis are simultaneous activities – they occur together.

4. Analysis is jeopardised by delay

Recent discussions interfere with the recollection of earlier focus groups and critical information may be lost.

Several procedures are advised: exercise care in scheduling the focus groups, assistant moderator, debriefing.

5. Analysis should seek to enlighten

...to lift the level of understanding to a new plateau.

New information vs. confirmation of earlier suspicions and/or theory in social science.

- What was known and then confirmed or challenged by this study?
- What was suspected and then confirmed or challenged by this study?
- What was new that wasn't previously suspected/known?

Other procedures that may assist the analyst:

- Present the results in terms of topologies, continuums, diagrams, or metaphors that depict how FG participants view the topic of study.

6. Analysis should entertain alternative explanations

- Work with team members – cross examination of suggestions.
- Analysts seek interpretations that explain a sufficient number of the cases.
- They attempt to find disconfirming evidence.
- They make efforts to explain the outliers, the unusual cases, or those that have a minority view.
- Sometimes the absence of patterns can be a meaningful discovery.

7. Analysis is improved with feedback

Analysis benefits from multiple insights and perspectives.

FG participants: feedback at the end of the FG itself or later through mailing out the draft summary

Co-researchers (research team): they know about the purpose and details of the study and their background in research procedures is advantageous.

Experts: individuals who are knowledgeable about the audience, the subject under investigation, or qualitative research methodology.

8. Analysis is a process of comparison

- The most useful strategy in qualitative analysis is finding patterns, making comparisons, and contrasting one set of data with another.
- The researcher compares data within a group and also among groups.

9. Analysis is situationally responsive

- The researcher refines the quest for knowledge en route.
- Questions are adjusted and fine-tuned en route.
- Sample size is clarified en route.

1. Focus group analysis is unique

- Focus group analysis uses many qualitative analysis strategies and approaches (observations, conversation, background materials, demographic characteristics).
- Participants influence each other, opinions change, and new insights emerge.
- Discussion is evolutionary building on previous comments and points of view.

2. Let your objectives guide the analysis

- Guidance on themes, areas of comparison, and the overall focus of the analysis
- The objectives help determine what is examined and what is not.
- One easily get sidetracked or diverted to other interesting topics (emerging topics can be important – research plan has to be amended and change has to be documented)

3. Don't get locked into one way thinking

- The more you know about the topic and the participants, the more you are able to make comparisons, understand interrelationships, and derive meaning from comments.
- Unfortunately, that same familiarity can also limit your thinking.

4. Questions are the raw material of analysis

- Analysis is directly related to the questions asked in the focus group.
- Questions that are confusing, complex... difficult/impossible to analyse.
- Not all questions deserve analysis at the same level – “throw-away” questions that are designed to set the stage
- Attention should be placed on questions that are at the heart of the study (backbone of the study).

5. Effective analysis goes beyond words

- The analyst should observe all factors in the communications: body language, gestures, and tones of voice.
- The actions and behaviours of focus group participants may tell you a lot.

6. Analysis can move progressively to higher levels

Early findings and insights can be incorporated into later focus group interviews for the purpose of confirmation or amplification.

Examples:

"Let me share with you some topics that have emerged from earlier groups ...; tell me your reactions"

"In our earlier groups we've been hearing about...; what do you think about it?"

"We've been hearing some comments about ...and we are not sure what to make of it; what do you think?"

"Help us understand"... "Does this explain how it works?"...

7. Computers can help – or hinder

- In FG participants answer questions out of sequence (not all comments are neatly placed in specific sections).
- Analysts may wish to move data around – placing all responses to a particular question to compare and contrast responses.
- Analysts can use special software to code and then retrieve information across several FG.
 - Benefit: it fosters a consistent and systematic strategy
 - Danger: that the analysis is using only partial data and may therefore overlook important factors
 - Computers can provide mis-leading signals when overemphasis is placed on counting as opposed to other analysis options
 - In some situations, knowing who is speaking is of critical importance

8. Analysis must have the appropriate level of interpretation

Raw data

Description

Interpretation

Recommendation



- **Raw data:** exact statements of focus group participants.
- **Descriptive Statements:** summary statements of respondent comments prepared by the analyst.
- **Interpretation:** process of presenting the meaning of data as opposed to a summary of data.
- **Recommendation:** solution strategies.

9. Analysis takes special skills

Much of the analysis relates to the mental makeup of the analysts:

- Are they open to new ideas?
- Are they able to step outside of their personal experience and express ideas from the vantage point of others?
- Are they sufficiently secure with their own feelings to allow and even encourage others to offer divergent views?

It is clearly beneficial if the analyst has had exposure to multiple ways of thinking and knowing.

Superior communication skills, both oral and written, are also essential.

- Consider the words
- Consider the context and tone of the oral comment

Comment

Translation

"This was GOOD!"

It was good.

"This was GOOD?"

It was supposed to be good, but wasn't.

"THIS was good!"

This one was good, others were not.

"This WAS good."

It used to be good, but not any more.

- Consider the internal consistency

- Consider
 - the frequency (how often was it said?),
 - the extensiveness (how many people said it?), and
 - the intensity (how strong was the opinion or point of view?)of the comments
- Consider the intensity of the comments
- Consider the specificity of responses
- Consider what was not said
- Find the BIG IDEAS!

4. Approaching data analysis

- Analysis breaks down or divides some complex whole into its constituent parts (i.e. from the Greek, *analyzein*, to break up)
- Through analytical operations researchers dissect, reduce, sort, and reconstitute data.
- Researchers use analysis to manipulate data.

- Analysis is an on-going process – a constant state of reflection (on ideas, on the interviews).
- Question your interpretation – your bias brought into it.
- Are you drawing on your experience/knowledge?
- Think about how the data were generated – what was said and not said; elicited or unelicited.

5. Sorting and Coding the data

- Sorting and ordering of the data
 - e.g. focus group discussions and semi-structured interviews transcripts are less ordered
- The researcher will start to make some interpretive sense of them and to build explanations and arguments.
- The distinction of these two tasks is a blurred one.

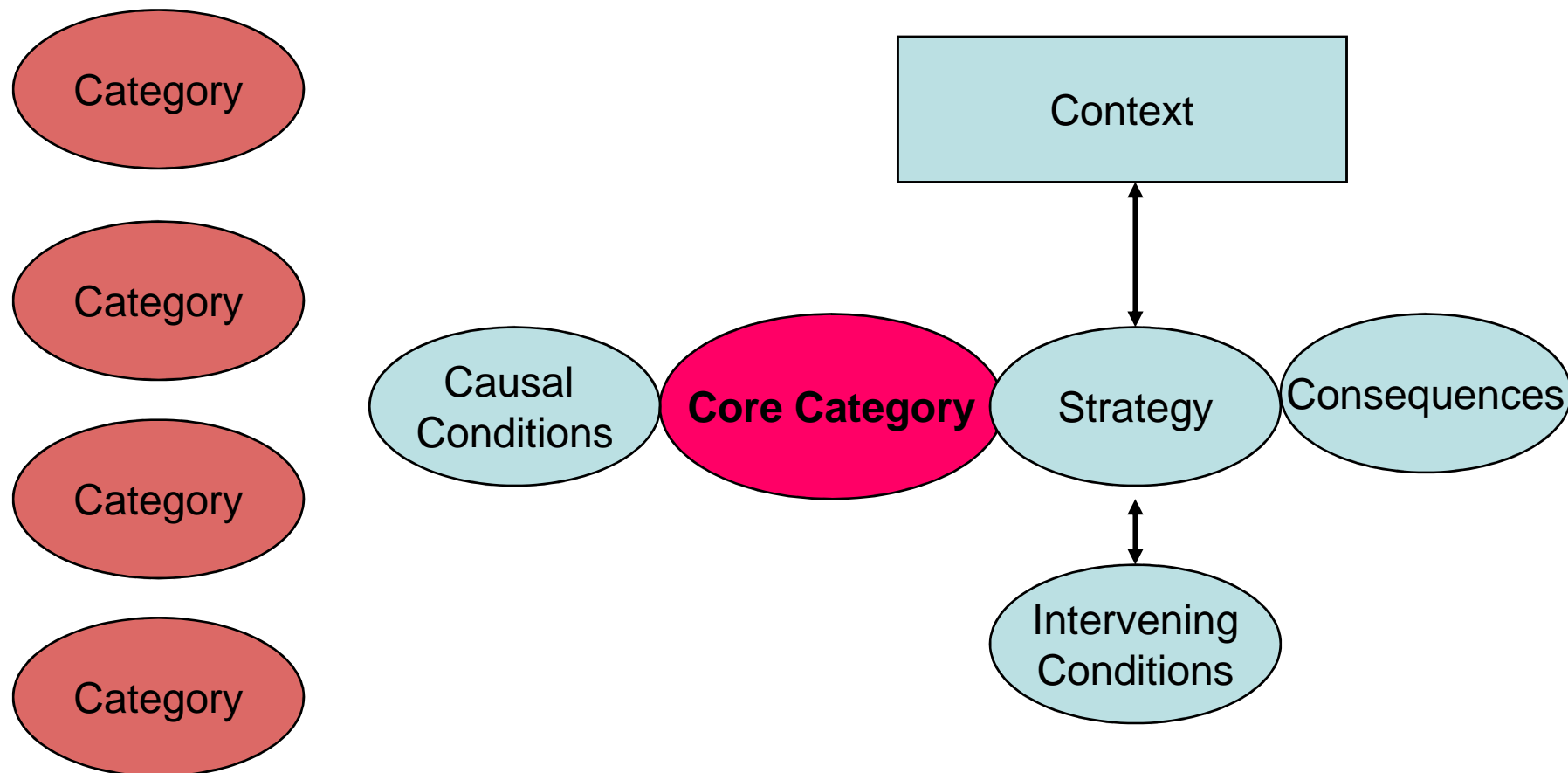
- **Coding** (categorising, indexing) = attaching tags or labels to “chunks” of data to enable objective and systematic analysis.
- Codes are keys to arranging the mass of data into patterns.
- Coding can be performed:
 - with the assistance of special **software programs** or
 - **manually**.

- **Creation of the codes:**
 - List of codes from the conceptual framework/key variables/key themes **prior to fieldwork.**
 - Inductive approach: deciding on the codes until the data is collected, and then examine it for ideas, themes, key concepts, that could be codes = **open coding.**
 - Combination of both methods.
- Categories/codes are usually determined from the research topics/questions.

- **Two steps are usually involved:**
 - Assigning codes to words, sentences, or paragraphs:
 - researcher goes through the data and writes the code against each paragraph/sentence (thematic coding)
 - Comparisons and contrasts between the coded material (axial coding, selective coding):

- **There are limitations of the treatment of categories as though they are variables**
 - **your indexing categories may refer to complex and/or specific processes which cannot be reduced to a static or simple variable or type**
 - **if the rest of your research design is based on semi-structured or non-standardised data generation techniques.**

- **Axial coding:**
 - A “coding paradigm” that seeks to identify causal relationships between categories
 - relating categories to each other
 - building connections between categories, i.e. categories and sub-categories
- **Selective coding:**
 - researcher selects one open coding category and places it at the centre as the “Central Phenomenon” and then relates all other categories to it.



- The researcher presents this using a logic diagram in which a **central phenomenon** is identified,
- explores **causal conditions** (i.e., categories of conditions that influence the phenomenon),
- specifies **strategies** (i.e., the actions or interactions that result from the central phenomenon),
- identifies the *content* and **intervening conditions** (i.e., the narrow and broad conditions that influence the strategies),
- and delineates the **consequences** (i.e., the outcomes of the strategies) for this phenomenon.

Systematic steps

- Familiarise yourself with the data (transcripts and tapes)
- Develop a few trial categories (trial run)
- When you begin trying to index/code
 - discover how workable (or not) the categories are
 - simultaneously begin developing new categories
- Review categories for any overlap and ambiguity
- Keep your research questions nearby
 - constantly cross-check between them and your data in the process of developing and applying categories
- Develop notes and records on the construction of the categories – devise a clear set of definitions of what each category constitutes as well as instructions about how to apply them.
 - **Intercoderreliability**
 - **Intracoderreliability**

Expert Interviews

- **Transcription** often only of thematic relevant sections of the interview
 - pauses, tone of voice are often not transcribed
- **Paraphrasing** (quotations or otherwise paraphrasing) in researchers own words
 - aim is to condense the material/data set
 - content of the interview are “reproduced” sequentially
- **Sorting** of the paraphrases and assigning a “heading”/category (for every single interview)
- **Consolidation** of the various interviews
 - comparison: different positions, contradictions, differences
- **Conceptualisation:** examination of the comments/themes as regards scientific categories/theoretical debates.
- **Theoretical generalisation:** empiricism and theories are linked
 - theories are inadequate
 - theories are falsified
 - theories are supported

Meuser und Nagel (1991)

- they facilitate and enhance the indexing and retrieval process
- enable to index a large number of categories more efficiently than you could by hand
- they can trace relationships between indexing categories where categories occur simultaneously or in a particular sentence
- facility of building trees or hierarchies of categories

Trough the following operations researchers organise data, extract meaning, arrive at conclusions, and generate or confirm conceptual schemes and theories that describe the data:

1. CATEGORISATION

- Process of classifying or labelling units of data.
- Researchers categorise data during the process of **coding**.

2. ABSTRACTION

- It surpasses categorisation in that it collapses more empirically grounded categories into higher-order conceptual constructs.
- It groups previously identified categories into more general, conceptual classes.

3. COMPARISON

- Explores differences and similarities across incidents within the data currently collected and provides guidelines for collecting additional data.
- Researcher explicitly compares each incident in the data with other incidents appearing to belong to the same category, exploring their similarities and differences.
- Comparison processes are used to select whom to interview or observe to sample differences and similarities between them on variables of interest.

4. **DIMENSIONALISATION**

- involves identifying properties of categories and constructs.
- once a category has been defined, the analyst may explore its attributes or characteristics along continua or dimensions.

Dimensional Range (construct: experience)

complete..... incomplete
perfect..... imperfect
organised..... disorganised

5. **INTEGRATION**

- through axial coding and selective coding (paradigm model – conditions, context, strategies, outcome).
- the use of metaphors may enhance this process.

6. ITERATION

- Involves moving through data collection and analysis in such a way that preceding operations shape subsequent ones – moving back and forth between stages.
 - **What data are collected:** on the basis of analysis of preceding interviews the analyst can modify what questions are asked or what domains are investigated.
 - **From whom are data collected:** the types of individuals chosen for succeeding ones, e.g. working married women vs. nonworking wives.
 - **Inferences based on data record:** interpretations are continuously revised as more of the text is grasped by the interpreter.
 - **Inferences based on entire data set:** back-and-forth procedure between each interview and the entire set of interviews.

7. REFUTATION

- Involves deliberately subjecting one's emerging inferences to empirical scrutiny.
- Techniques: negative case analysis, testing by context,...
- It is recommended to have a general stance of scepticism toward one's developing ideas.