

# Qualitative Research Methods in Medical Education: an Overview

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# Presentation Outline

- ➊ Introduction to Qualitative Research and its characteristics
- ➋ A Glimpse of Qualitative Approaches and Methodologies
- ➌ Data Sampling Methods in Qualitative Research
- ➍ Data Collection Methods in Qualitative Research
- ➎ Data Analysis in Qualitative Research
- ➏ Validity and Reliability in Qualitative Research
- ➐ Take Home Messages

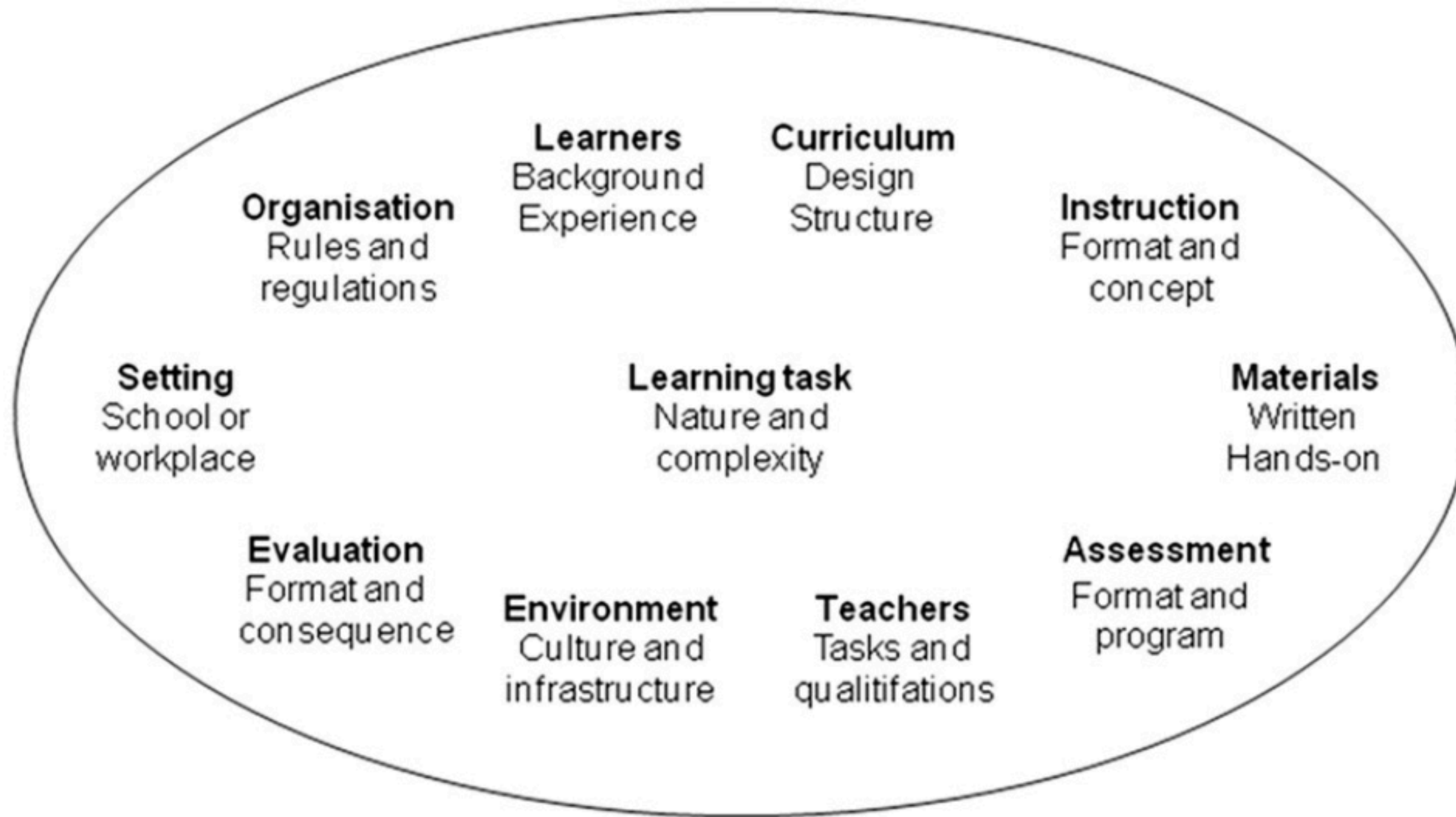


# Short Self-Introduction

- Please call me Anyta!
- I'm 28 this year
- Jakarta, Indonesia
- Research Interests: Clinical education, learning environment, professionalism
- Medical Doctor with a Master in Medical Education
- Thesis: How medical students use feedback in clinical rotations
- Worked in Department of Medical Education, Faculty of Medicine, Universitas Indonesia
- よろしくおねがいします🙏

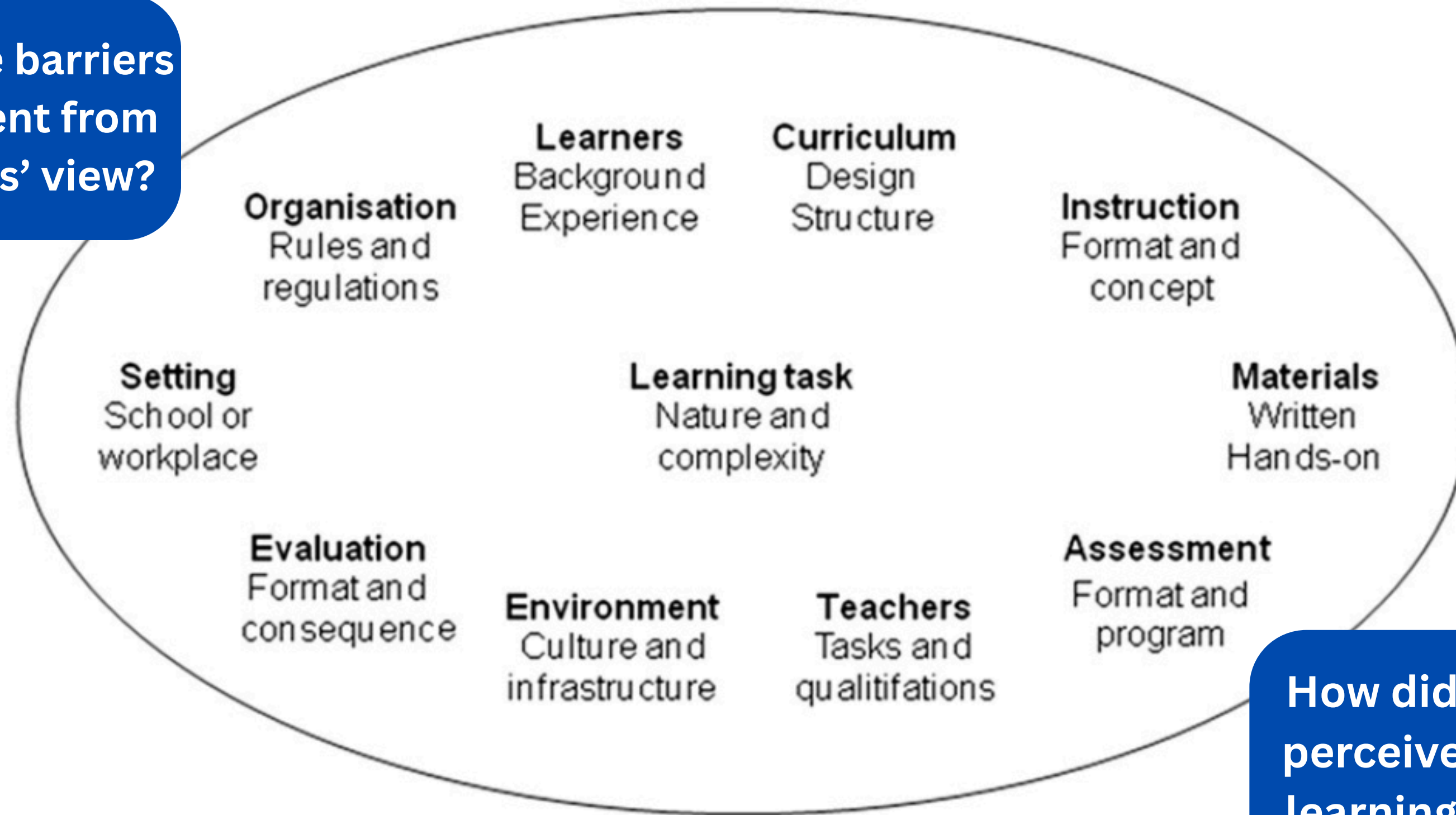


# Research in Medical Education



# Research in Medical Education

What are the barriers of assessment from the teachers' view?



How did students perceive a certain learning method?

# 1 Introduction to Qualitative Research

*“study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them”*

*“Qualitative researchers study social, relational, and experiential phenomena, situated within everyday contexts”*

- Questions: How, why, what is the nature of...

Explore meanings

Derive understanding

Provoke new ways of  
thinking

Explain processes

Describe experiences

# **1 Introduction to Qualitative Research**

- Three uses of Qualitative Research:

**Preliminary to  
Quantitative  
Research**

**Supplemental to  
quantitative data**

**Explore complex  
phenomena  
unreachable to  
quantitative  
research**

# Quantitative and Qualitative Research in Medical Education? A Case of OSCE & Students' Anxiety

**"What is the relationship between medical students' levels of test anxiety and their performance in the OSCE?"**

Quantifying associations and relationships

Making claims to generalisability

**"How do medical students experience and cope with test anxiety during OSCEs?"**

Explore the underlying meanings of phenomenon

Careful understanding of experiences on the situated context

**Not opposite poles, but different and complementary ways to view a phenomena**

# **1** Characteristics of Qualitative Research

**Natural Setting**

**Researcher as Key  
Instrument**

**Researcher's  
Reflexivity**

**Multiple data  
sources**

**Participants'  
multiple  
perspectives and  
meanings**

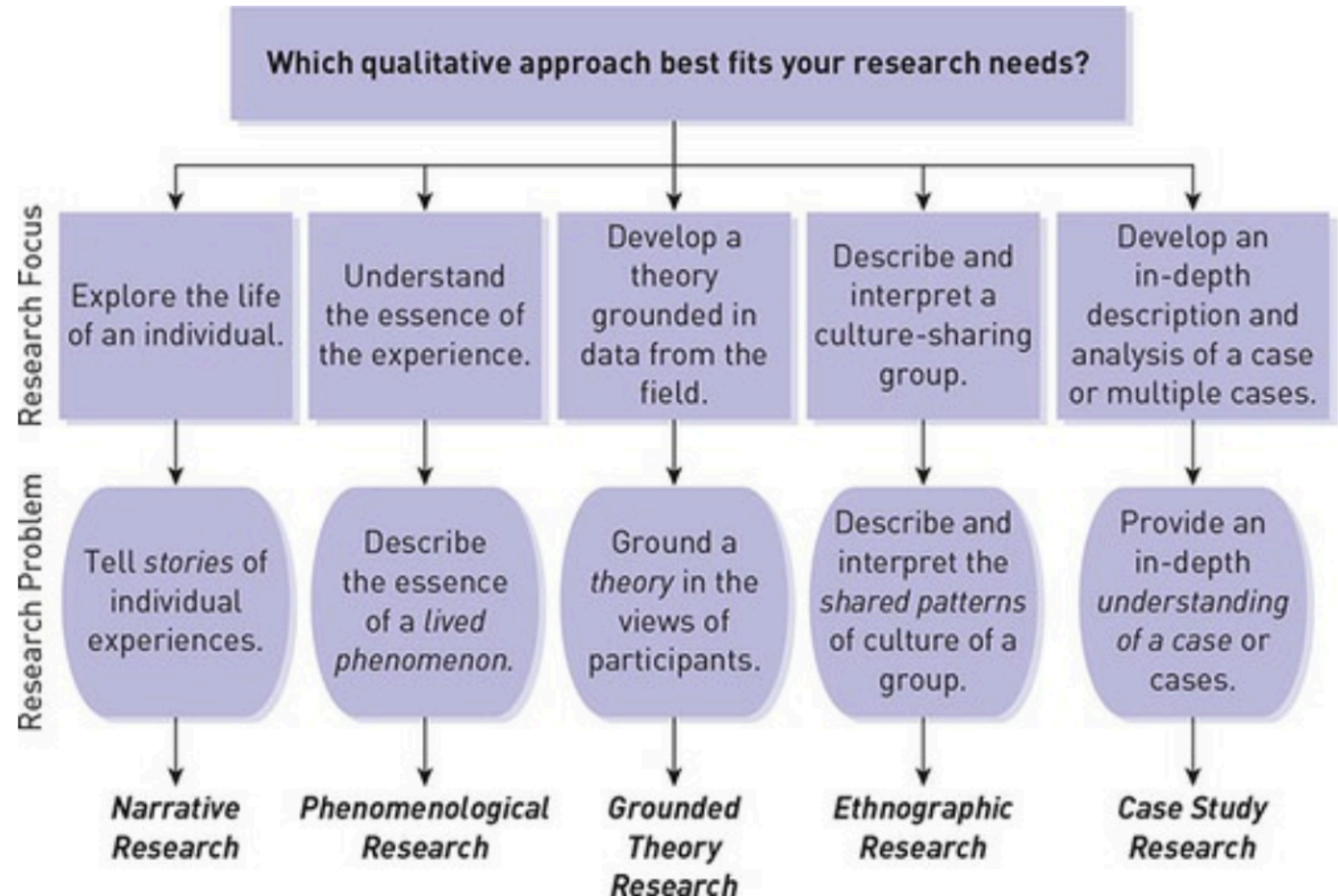
**Context-  
dependent**

**Complex reasoning  
through inductive-  
deductive**

**Emerging Research  
Design**

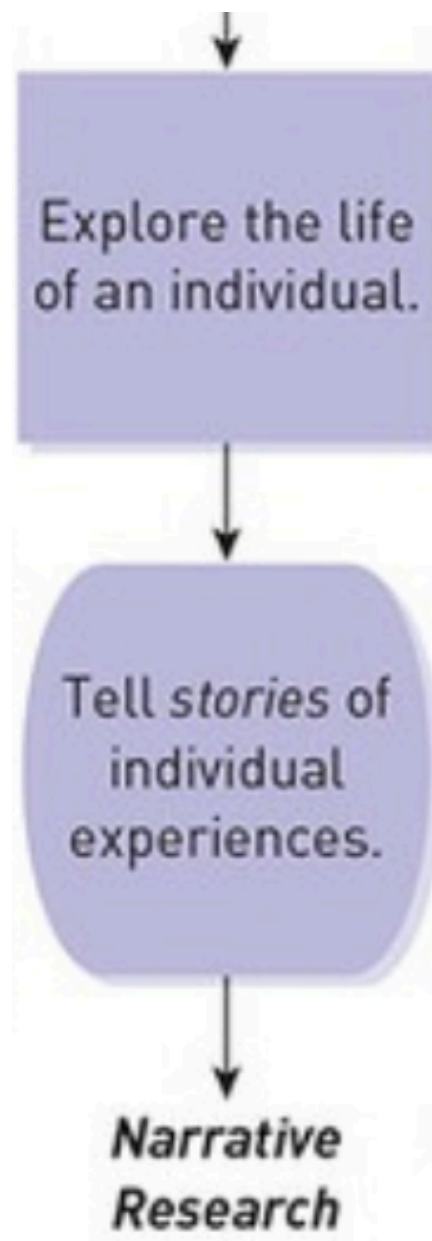
## 2 Qualitative Approaches and Methodologies

- Use of a recognized qualitative approach
  - One of which is **Creswell's five approaches** to qualitative research



## 2 Qualitative Approaches and Methodologies

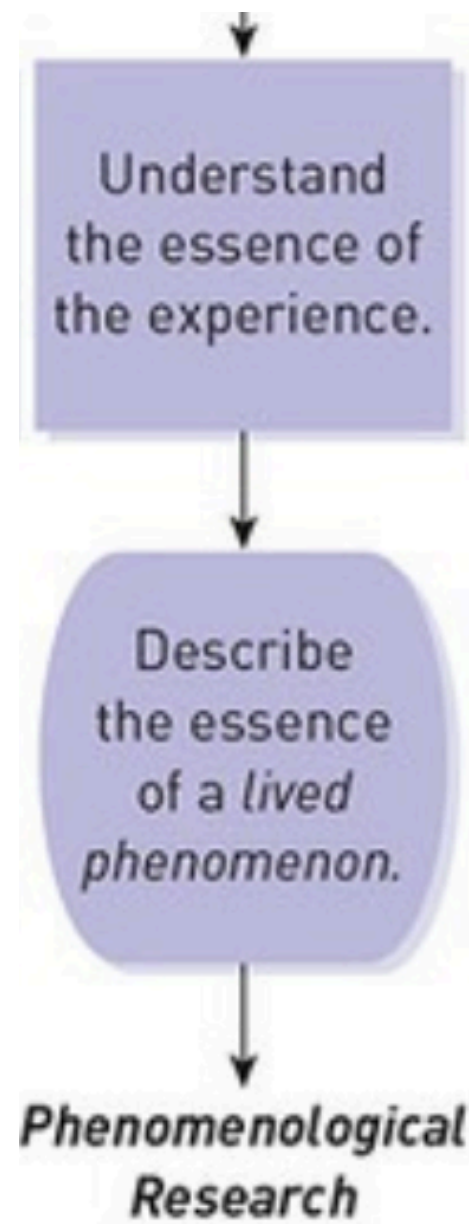
### (1) Narrative Research



- Experiences as expressed in lived and told stories of individuals
- Focusing on studying one or two individuals
  - chronologically order / life stages
  - turning points / tensions and consequences
- Biographical study, autoethnography, etc.
- Example:
  - Ruohotie-Lyhty's (2013) exploration of professional identity of two newly qualified language teachers in Finland → role of reflection on life experiences as a useful means of supporting identity development.

## 2 Qualitative Approaches and Methodologies

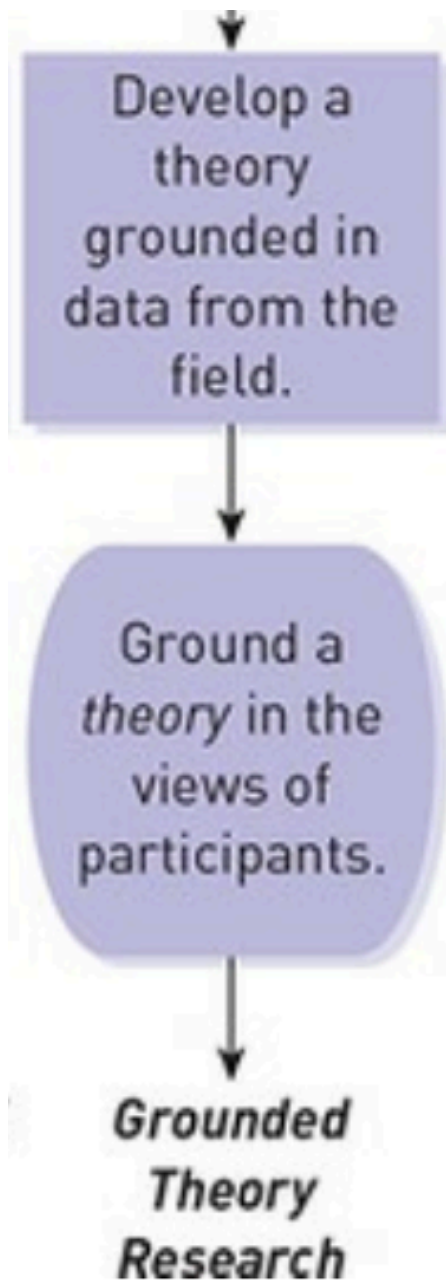
### (2) Phenomenological Research



- Common meaning for several individuals of their experience of a concept / phenomenon → reducing them to a universal essence
- Focusing on studying a group of individuals who all experienced the phenomenon
  - “what and how” in depth understanding of the phenomenon
  - subjective and objective approach
  - bracketting of researchers’ experience
- Example:
  - Master thesis study: an exploration on how medical students’ perceive the experience of using feedback in clinical settings

## 2 Qualitative Approaches and Methodologies

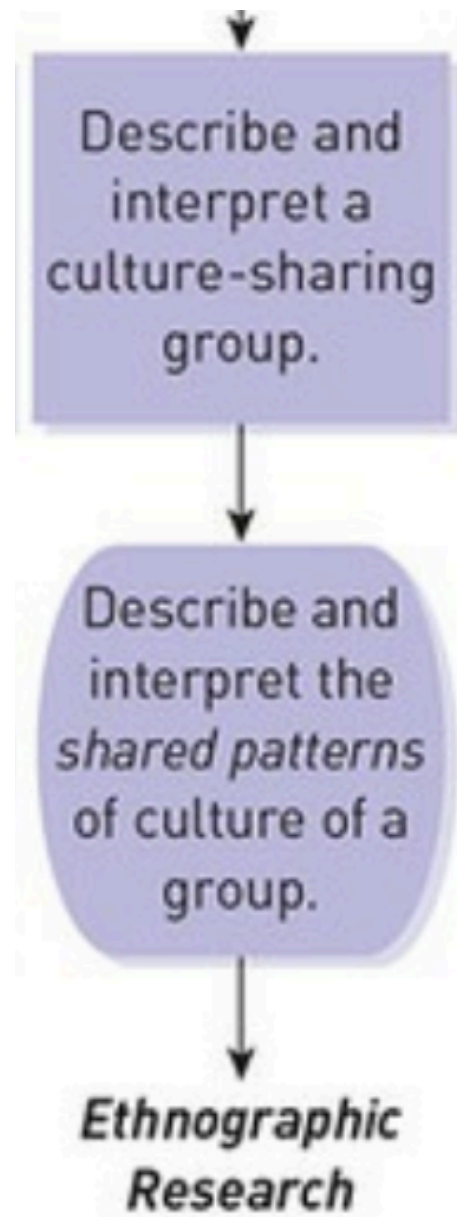
### (3) Grounded Theory Research



- Move beyond description → generate / discover a theory
- Theory does not come off the “shelf” but “grounded” from data: actions, interactions and social processes of people
- Framework as a base for further research
- Focusing on a process or an action
  - simultaneous and iterative data collection and analysis → constant comparative
  - researchers’ memoing process
- Example:
  - Sethi, et al. (2017) Exploring the tensions of being and becoming a medical educator → theory of professional identity formation and its tensions on medical educators

## 2 Qualitative Approaches and Methodologies

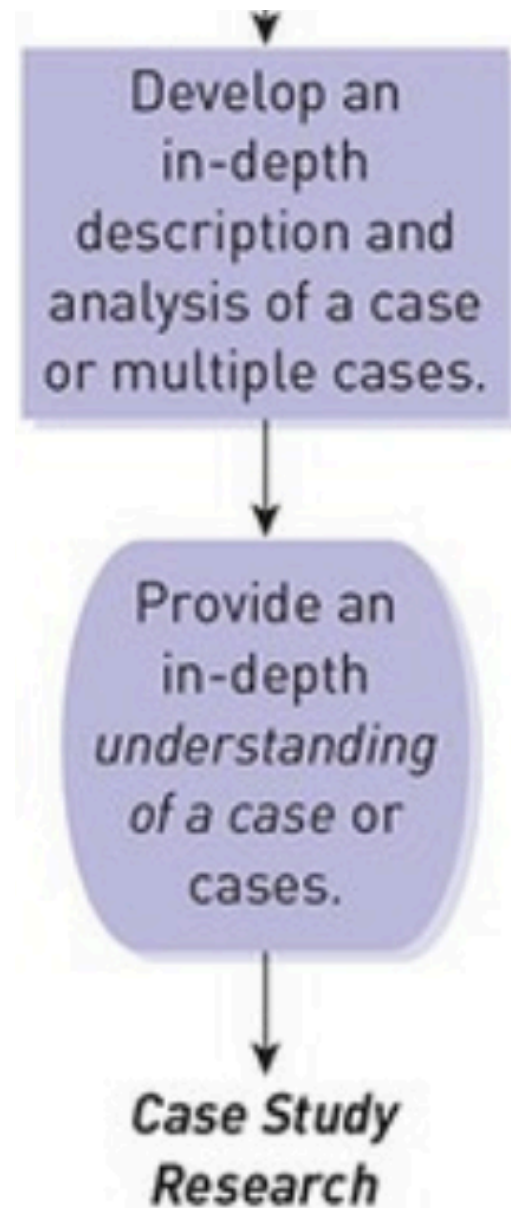
### (4) Ethnographic Research



- “*describes and interprets the shared and learned patterns of values, behaviors, beliefs, and language of a culture-sharing group*”
- Focusing on a culture-sharing group
  - complex, complete description of the culture → meaning, behavior, language and interaction of the group
  - immersed in day-to-day lives of participants
- Example:
  - Dong, et al. (2023) Experiences of nurses working in nurse-led clinics in Traditional Chinese Medicine hospitals: A focused ethnographic study

## 2 Qualitative Approaches and Methodologies

### (5) Case Study Research



- “*study of a case (or cases) within a real-life, contemporary context or setting*” → reports in-depth understanding of the case
- Focusing on a case / multiple cases
  - a case bounded by time and place
  - to illustrate a unique case (intrinsic case) or to understand a specific issue, problem, or concern through selected case/s (instrumental case)
- Example:
  - Humprey-Murto, et al. (2022) Training physicians and residents for the use of Electronic Health Records—A comparative case study between two hospitals

## ② Qualitative Approaches and Methodologies

### Apart from the five methodologies..

- **Qualitative Descriptive Studies:** Description of basic nature: who, what and where
  - example: qual. desc. studies what challenges and supports do medical students describe during their clinical rotations?
- **Action research:** Producing social change through process → cycle of planning, implementing change and reflecting on the consequences
  - example: action research on an implementation of a new curriculum
- **Discourse analysis:** Analysis of a socially situated language → to make explicit what is normally taken for granted about language use
  - example: a discourse analysis to investigate the changes in language use in the teaching encounters of a physician–teacher who was enrolled in a peer-coaching program

**...and many more.**

## 3 Data Sampling Methods of Qualitative Research

- Goal of qualitative: aim of rich data, instead of generalizability → non-probability sampling!
- Purposive sampling method
  - Seek for participants with a certain criteria → provide information for our research goals
  - Maximum variation approach, Snowballing approach, etc.
- Sample size: not a question of how many subjects
  - Data saturation → recurrent trends and no new emerging themes
  - Considerations:
    - aim of the study, sample specificity, quality of dialogue, analysis strategy, use of theory (in some cases)

## 4 Data Collection Methods of Qualitative Research

**Interviews**

**Focus Group  
Discussion**

**Observation**

**Documents, Texts,  
Visuals**

## 4 Data Collection Methods of Qualitative Research

### Interviews

- Individual
- Unstructured, Semi-structured, In-depth
- Skill and experience of interviewer

### Focus Group Discussion

- 4-12 participants
- Group dynamics
- Social desirability bias?

### Observation

- Naturally observing participants
- Access and time
- Participant reactivity

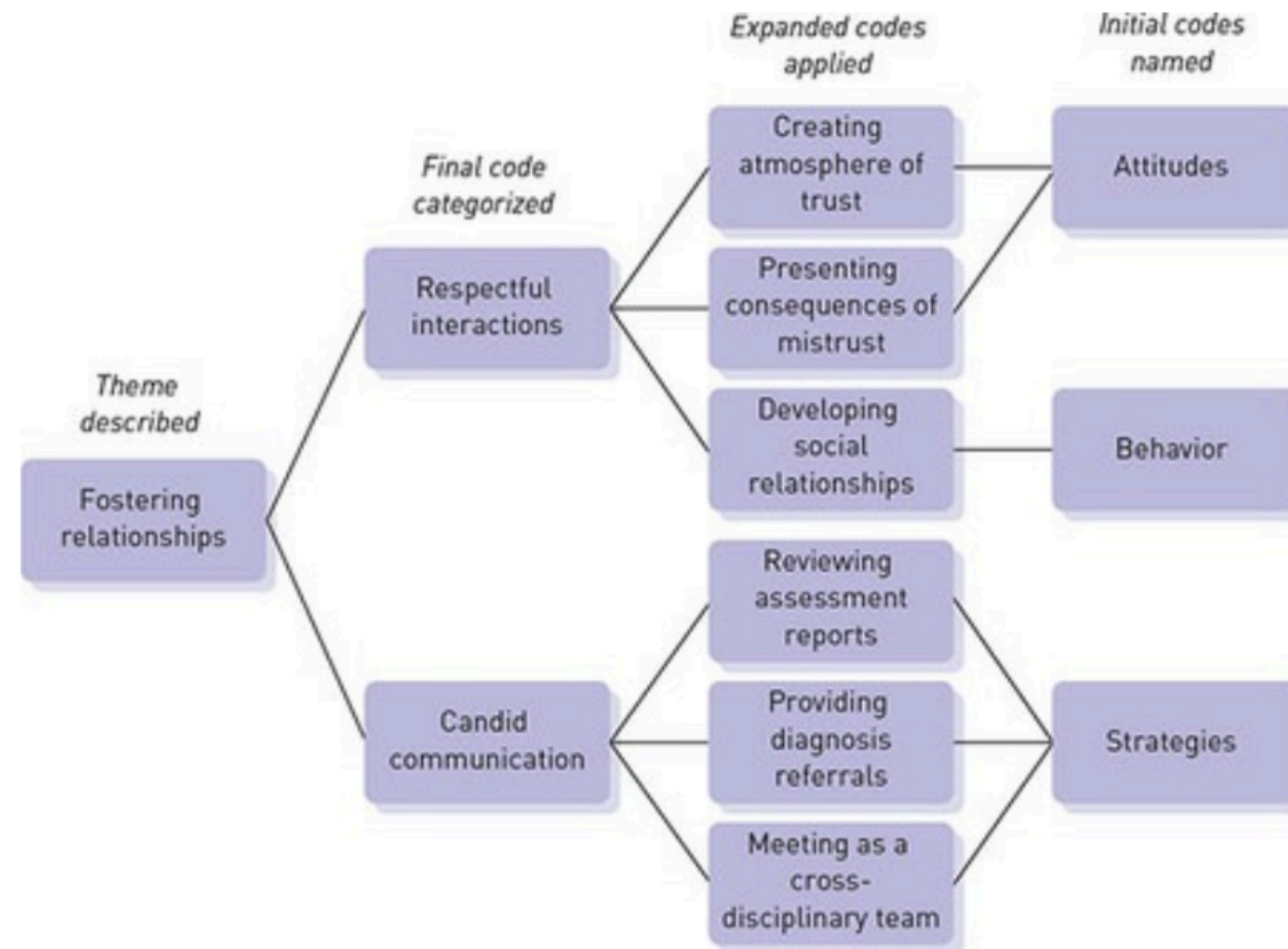
### Documents, Texts, Visuals

- Analysis of documents
- Access
- Alignment with research questions

## 5 Data Analysis of Qualitative Research

- Involves a lot of reading, reflecting and questioning the meaning of the data → immersing yourself with the data
- Coding → a process of sorting or organising the data
  - Codes are then categorized, which will be organized into themes
- Development of codebook
- Analysis is informed by which methodological approach used
- Use of computer programs → only assists the labeling process, analysis should always be done by researchers!


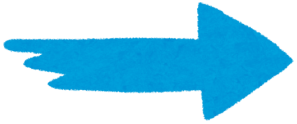


# 5 Data Analysis of Qualitative Research



## 6 Validity and Reliability of Qualitative Research

- Instead of validity and reliability, Lincoln and Guba (1985)

suggested these terms:

- **Credibility**: confidence in the truth value of data & interpretation  **Triangulation, Member Checking**
- **Transferability**: how well studies could be transferred to other settings  **Rich Description of Context**
- **Confirmability**: accuracy of the findings based on the viewpoints of the participants 
- **Dependability**: trustworthiness of the study findings  **Auditing of Research Process**

## 6 Validation Strategies Qualitative Research

### Researcher's Lens

1. Triangulation:
  - Data Source
  - Data Collection Method
  - Investigator
2. Negative case analysis
3. Engaging in Reflexivity

### Participant's Lens

1. Member Checking
2. Prolonged engagement  
/ observation
3. Collaborating with  
participants

### Reader / Reviewer's Lens

1. Documentation / Audit  
trail
2. Rich, thick description  
of context
3. Peer review / debriefing

## 7 Take Home Messages

- Decide whether your research question fits the qualitative research
- Decide which approach fits your research question, and use a recognized approach
- Consider your sampling criteria and methods
- Design your data collection methods and analysis process
- Ensure and exhibit rigor! → consider validation strategies!
- Always align with the RQ and approach!



# References

- Creswell JW, Poth CN. Qualitative inquiry & research design: choosing among five approaches. California: Sage Publications; 2018.
- Ng SL, Baker L, Cristancho S, Kennedy TJ, Lingard L. Qualitative research in medical education: methodologies and methods. In: Swanwick T, Forrest K, O'Brien BC. Understanding medical education: evidence, theory, and practice. 3rd ed. Oxford: Wiley Blackwell; 2019
- Tavakol M, Sandars J. Quantitative and qualitative methods in medical education research: AMEE Guide No 90: part I. Med Teach. 2014;36(9):746-56.
- Tavakol M, Sandars J. Quantitative and qualitative methods in medical education research: AMEE guide no. 90: part II. Med Teach. 2014;36(10):838-48.
- Ringsted C, Hodges B, Scherpbier A. 'The research compass': an introduction to research in medical education: AMEE Guide no. 56. Med Teach. 2011;33(9):695-709.