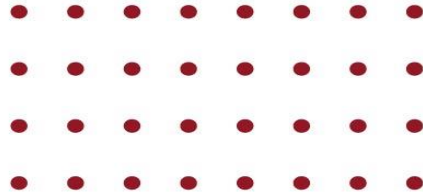
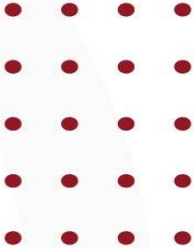


# Research Methodology for PhDs



## Session 7-1 Topics

- Qualitative research methods
  - -deep interviews
  - -semi-structured interviews
  - -focus groups
  - -observations as a Field research

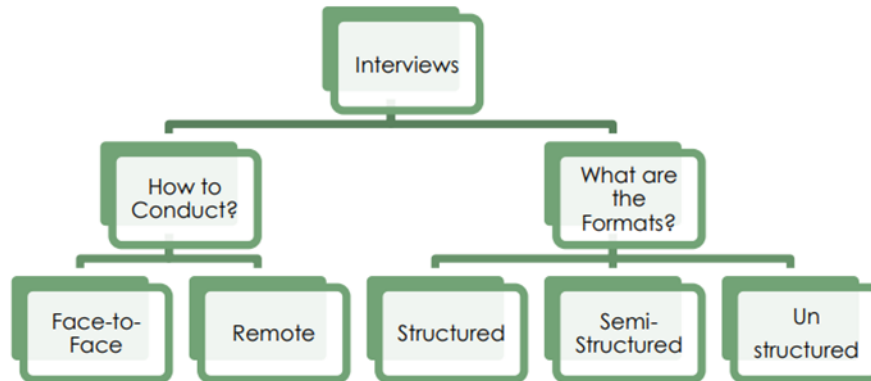


# Interviews

An interview is a qualitative research method that relies on asking questions in order to collect data.

Interviews involve two or more people, one of whom is the interviewer asking the questions.

There are several types of interviews, often differentiated by their level of structure.



# Structured Interviews

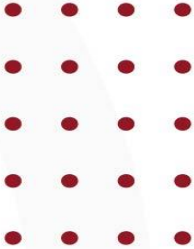
In this method ordering and wording of the questions are similar for all interviewees. Thus, a specific protocol is used during scheduled interviews.

These techniques offer different merits as they can be helpful to minimize the biases and the required time.

The conductor can control the process better, and also the results can be coded and analyzed easier. However, this method does not prepare the chance of any elaboration since they act as spoken questionnaires.

Therefore, some researchers only recommend this format when sociodemographic information needs to be extracted (Doody, 2013).

Those are looked mostly as surveys, we discuss surveys in Quantitative section



# Unstructured Interviews

The interview questions are asked with more flexibility and indirectly.

Therefore, the interviewer starts with some broad questions based on the research question and continues with the more specific ones;

The questions are based on the answers provided by the interviewees.

Themes are comprised in the guides instead of specific questions.



## Unstructured (Deep, In-depth) Interviews

Kvale & Brinkmann (2009) explain in-depth interviews as a distinct type of conversation – a “research conversation” about a general topic – governed by its own set of rules and guidelines.

Zhang & Wildemuth (2009) emphasize their role in capturing people’s experiences “without imposing any a-priori categorization that may limit the field of inquiry.”

# Unstructured (Deep, In-depth) Interview Features

## Rich, Detailed Data:

- They capture the nuances of personal experiences and attitudes.

## Flexibility:

- Adapting to the respondent's narrative, in-depth interviews can uncover unexpected themes and insights.

## Emotional Depth:

- Going beyond factual responses, they explore the emotional and psychological dimensions of the subject matter.



# Key Insights

## The Interviewer's Role:

- Think of yourself as a 'miner', extracting valuable information, and as a 'traveler', who journeys through the narratives of your interview participants.

## The Purpose of Interviews:

- Your goal is to create meaning from the interviewees' stories, not just data collection. Interpretation is key to capturing the lived experience.

## Ethical Standards:

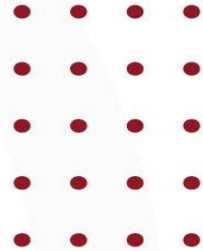
- Prioritize ethical standards like informed consent and confidentiality. Respect for the interviewee's story underpins the integrity of your research.

## Interviewing Skills:

- Develop the craft of interviewing with close listening, nuanced questioning, and rapport-building to foster a rich, open dialogue.

## Data Analysis:

- Go through the iterative qualitative analysis process, applying coding by hand or with software like Delve to turn your interview data into clear insights





# Preferrable Areas of Implementation

## Grounded Theory:

- In-depth interviews help in developing or refining theories based on real-world observations and experiences.

## Ethnographic Research:

- In ethnographic studies, these interviews provide deep personal insights that complement observational data, offering a holistic view of the cultural or social context being studied.

## Case Studies:

- They allow for a detailed examination of individual cases, enriching the analysis with personal narratives and experiences.



## Semi-Structured Interviews

Semi-structured interviews are a blend of structured and unstructured interviews. While the interviewer has a general plan for what they want to ask, the questions do not have to follow a particular phrasing or order.

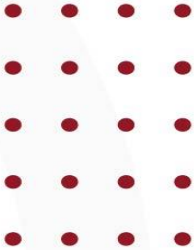
Semi-structured interviews are often open-ended, allowing for flexibility, but follow a predetermined thematic framework, giving a sense of order. For this reason, they are often considered “the best of both worlds.”

However, if the questions differ substantially between participants, it can be challenging to look for patterns, lessening the generalizability and validity of your results.

## Semi-Structured Interviews Preferred Areas

You have prior interview experience. It's easier than you think to accidentally ask a leading question when coming up with questions on the fly. Overall, spontaneous questions are much more difficult than they may seem.

Your research question is exploratory in nature. The answers you receive can help guide your future research.



# 4 Types of Interviews

- **Natural, social conversation**
- Builds a **trusting environment**
- **Nonverbal cues**
- Facilitates **sharing stimuli**

- **Flexibility** - location & schedule
- **Sampling integrity** - broad geographic areas & hard-to-reach individuals
- Participant may prefer **no eye-to-eye contact**
- **Saves time & money**

- **Detailed, thoughtful responses**
- **Empowers participants**
- **Sampling integrity** - broad geographic areas & hard-to-reach individuals
- **Saves time & money**

- **Various response/data formats** (voice, text, video, image)
- **Data integrity** - does not rely on recall
- **Advantages of other modes** (sampling integrity, convenience)

**Face-to-Face**  
In-person, online

**Phone**

**Email**

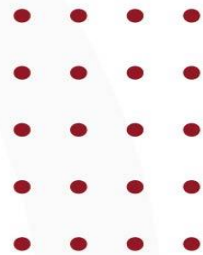
**Mobile**  
for in-the-moment research

- May alter **how the interview is conducted & responses**
- May weaken **participant cooperation** - scheduling or discomfort with the eye-to-eye mode

- Difficulty **building rapport**
- Lack of **nonverbal cues**
- Shorter **interview length**

- Difficulty **building rapport & participant engagement**
- Lack of **nonverbal cues**
- **Sampling integrity** - literacy, computer and email access issues

- Difficulty **building rapport**
- Limited **opportunity to explore meaning**
- Participant may **not share all relevant content**
- **Sampling integrity** – mobile access & usage skills



@Margaret R. Roller

## Focus Groups

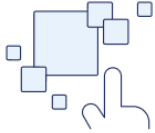
A focus group is a research method that brings together a small group of people to answer questions in a moderated setting.

The group is chosen due to predefined demographic traits, and the questions are designed to shed light on a topic of interest.



# Focus Groups Method Step-by-Step

1



Choose a topic

2



Define research scope and hypotheses

3



Determine your focus group questions

4



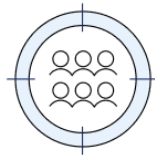
Select a (co-)moderator

5



Recruit your participants

6



Set up your focus group

7



Host your focus group

8



Analyze the data and report the results



# Tips

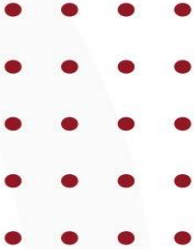
A friendly and conversational tone

Language or phrases that resonate with focus group participants

Straightforward and accurate

Each item includes one aspect and doesn't merge multiple topics

Clarify complex questions for more precise answers



# Focus Groups Pros & Challenges

## Advantages

- A great complement to other mediums like online surveys and online polls. Focus groups give you access to why a customer feels a certain way about a product, and surveys help you collect supporting feedback in large batches.
- Immediate access to customer opinions, making data collection and analysis quick and convenient.
- Highly flexible to adapt to the needs and opinions of the group members.
- Easy to conduct regular discussions to eliminate inaccurate results due to current market outlooks.
- Focus groups are perfect sources to understand the true feelings and perceptions of your selected target audience.

## Disadvantages

- Creating a representative sample is tough. Small-size sample makes focus groups unreliable.
- Due to the limited sample size, you cannot guarantee respondent anonymity, which may affect their willingness to speak freely.
- Getting honest opinions on sensitive topics can make the depth of analysis difficult.
- Data analysis is vulnerable to inaccuracy and observer research bias.

©<https://www.questionpro.com/blog/focus-group>



# Observations

Observational studies are sometimes referred to as natural experiments or as a quasi-experiment.

The term quasi-experiment is used to suggest a design in which, certain structural features are added to provide information about researcher's hidden biases.

©P.M. Ekka (2021). A review of observation method in data collection process. IJRTI proceedings

## Observations as a Field Work

Fieldwork is a form of inquiry in which one is immersed personally in the ongoing social activities of some individual or group for the purposes of research. Fieldwork is characterized by personal involvement to achieve some level of understanding that will be shared with others. (p. 44)

observation of people in situ; finding them where they are, staying with them in some role which, while acceptable to them, will allow both intimate observation of certain aspects of their behavior, and reporting it in ways useful to social science but not harmful to those observed. (p. 3).

11.1 Introduction

## Observation as a data collection method can be structured or unstructured.

- In structured or systematic observation, data collection is conducted using specific variables and according to a pre-defined schedule.
- Unstructured observation, on the other hand, is conducted in an open and free manner in a sense that there would be no pre-determined variables or objectives.

## Participating Observation

*Participant observation* is when you not only observe people doing things, but participate to some extent in these activities as well. The main idea is that you are talking with people and interacting with them in an attempt to gain an understanding of their beliefs and activities *from the inside*.

## Observation Example

Observations How our Audio processing Impacts on Hard of hearing People Job in a Call Center

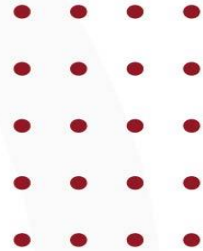
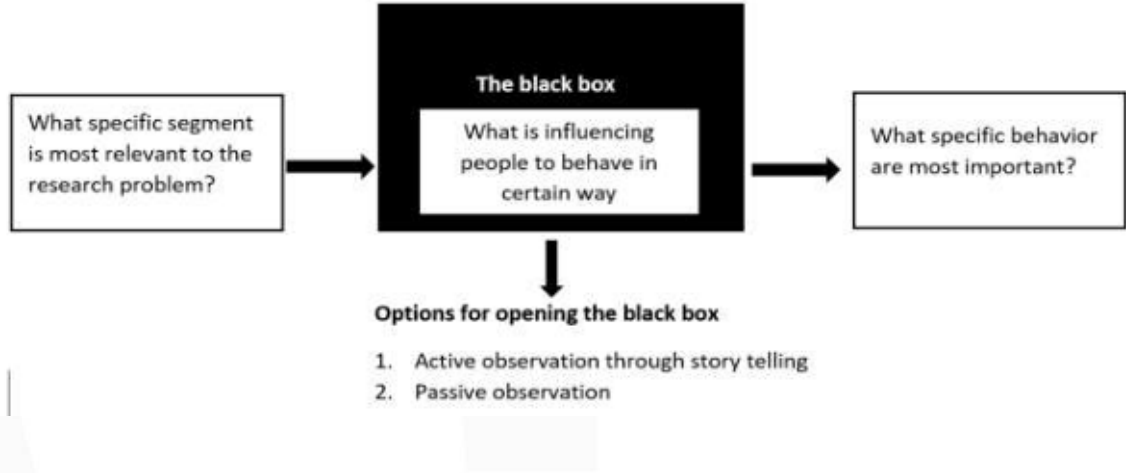


Observation



Participate Observation

# 3-Step Observation Procedure



## 3-Step Observation Procedure

In a social phenomenon there is a three-step procedure, in observational research that involves answering these questions:

- What specific segment is most relevant to the problem?
- What specific segment is most relevant to the problem?
- What is influencing people to behave in a particular manner?



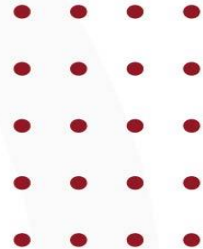
# Observation Main Pros & Challenges

## ADVANTAGES

- Observation is among the common methods which is used in all sciences, whether physical or social.
- It has greater universality of practice.
- It is very easily followed and accepted.
- It allows the researcher to directly see what people do, rather than just relying on what people say they did.
- It collects data where and when an event or activity is occurring.
- It does not rely on people's willingness or their ability to provide information or not.

## DISADVANTAGES

- It is susceptible to observers' bias
- It is also susceptible to the "Hawthorne Effect", which says, people usually perform better when they know that they are being observed.
- It is usually time-consuming and expensive as compared to other methods of data collection.
- It fails to explain that why people behave as they do (arguable!)





## Session 7-2 Topics

- Quantitative research methods
  - -ethnographic research
  - -case study
  - -action research

# Ethnographic Research

Ethnography is a qualitative method for collecting data often used in the social and behavioral sciences.

Data are collected through observations and interviews, which are then used to draw conclusions about how societies and individuals function

## Ethnographic Research

Ethnography is a study through direct observation of users in their natural environment rather than in a lab.

The objective of this type of research is to gain insights into how users interact with things in their natural environment.

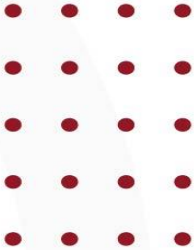
# Participating in Ethnography Research

an ethnographer becomes integrated in a community, he or she will talk to many people in order to become familiar with their way of life and to refine the research ideas.

Not everyone that an ethnographer interacts with is necessarily a participant in the research study.

Participation depends on the type of information that is collected and how the data are recorded.

If you are recording information that is specific to a person and about that person's experiences and opinions, and if that information can be identified with a specific person(whether anonymous or not), that person becomes a participant in the study.



# Types of Ethnography Research

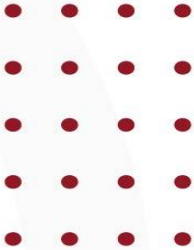
Holistic

Semiotic

Critical

Auto

Netnography



# Ethnography Research Techniques

observations,

taking field notes,

informal conversations,

interviews,

document analysis,

surveys,

filming and photography.



## Main Risks

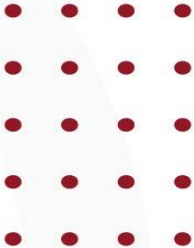
Intimate Involvement of a researcher

Legal, social, economic harms for participants

Loss of Confidentiality

Sample relevance

Effect of an observer (Haushoffer)



# Case Study

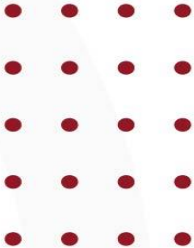
a research methodology that has commonly used in social sciences.

a research strategy and an empirical inquiry that investigates a phenomenon within its real-life context.

Case studies are based on an in-depth investigation of a single individual, group or event to explore the causes of underlying principles.

a descriptive and exploratory analysis of a company, market, group or event.

A case study research can be single or multiple case studies, includes quantitative evidence, relies on multiple sources of evidence and benefits from the prior development of theoretical propositions.





## Case Study Preferable Area

This method of study is especially useful for trying to test theoretical models by using them in real world situations.

For example, if an anthropologist were to live amongst a remote tribe, whilst their observations might produce no quantitative data, they are still useful to science.

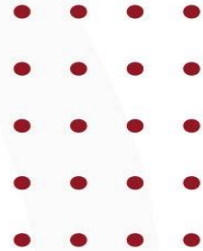
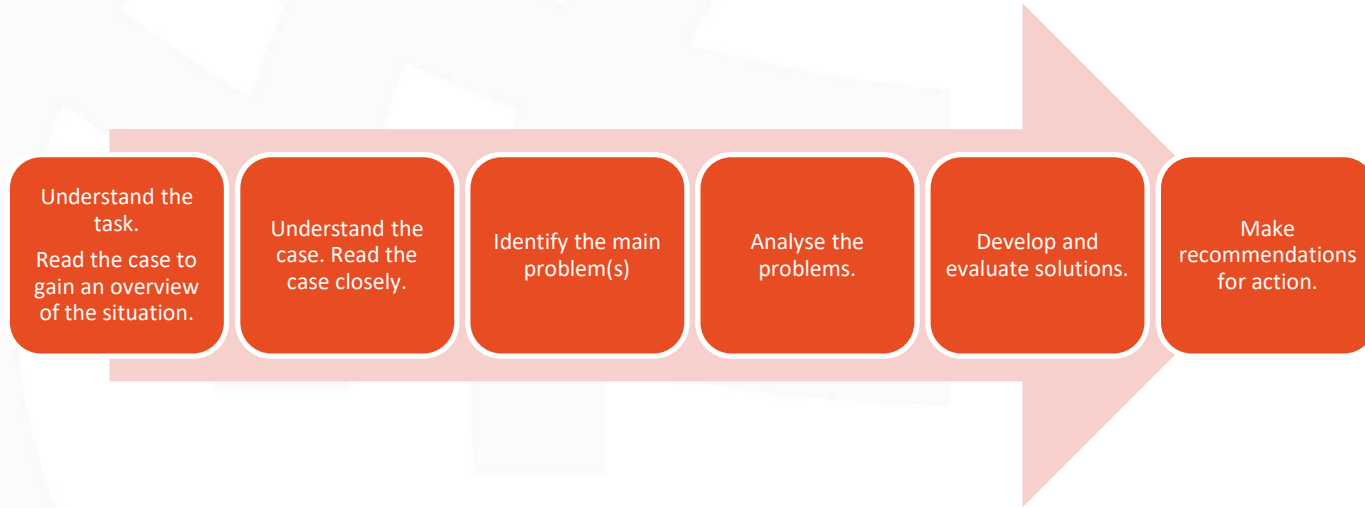
By contrast, research case studies are written primarily for researchers, not students. Research cases are used as empirical evidence to convince other researchers of the applicability (or inapplicability) of a particular theory or proposition. If the case is first published as part of a research article, the particular point that the research article makes is likely to be new to those reviewing the paper (i.e. other experts in the same field). The purpose of research cases is thus to contribute to knowledge in a particular field

# Case Study Parts

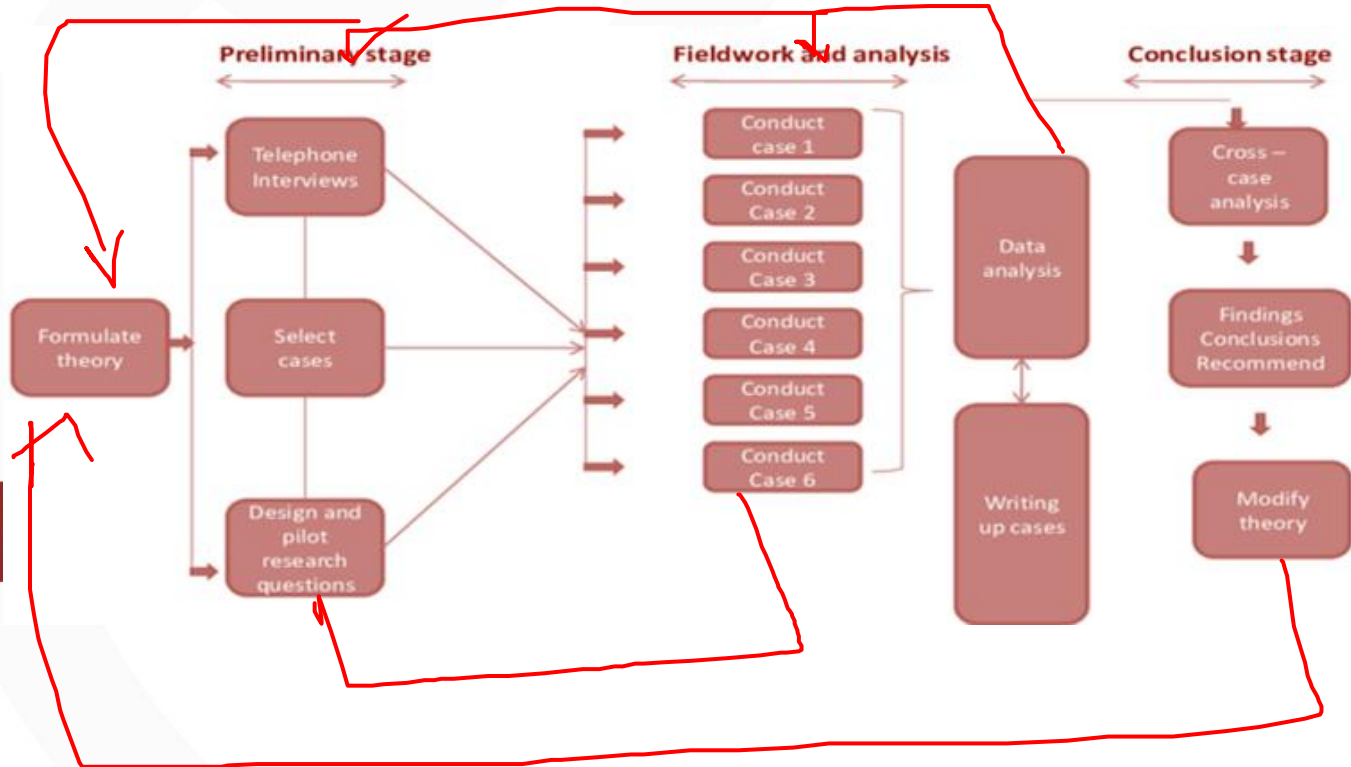
1. A case study is an empirical inquiry that
  - investigates a contemporary phenomenon within its real-life context, especially when
  - the boundaries between phenomenon and context are not clearly evident.
2. The case study inquiry
  - copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
  - relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
  - benefits from the prior development of theoretical propositions to guide data collection and analysis.



# Case Study Six-Step Process



# Case Study Process



©James Seligman

# Some of Case Study Types

## Illustrative Case Studies

- These are primarily descriptive studies. They typically utilize one or two instances of an event to show what a situation is like.
- Illustrative case studies serve primarily to make the unfamiliar familiar and to give readers a common language about the topic in question.

## Exploratory (or pilot) Case Studies

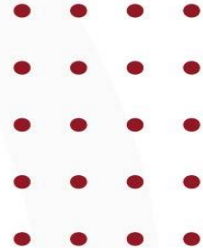
- These are condensed case studies performed before implementing a large scale investigation. Their basic function is to help identify questions and select types of measurement prior to the main investigation.
- The primary pitfall of this type of study is that initial findings may seem convincing enough to be released prematurely as conclusions.

## Cumulative Case Studies

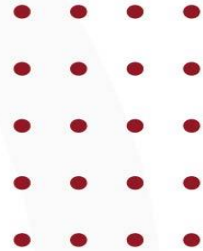
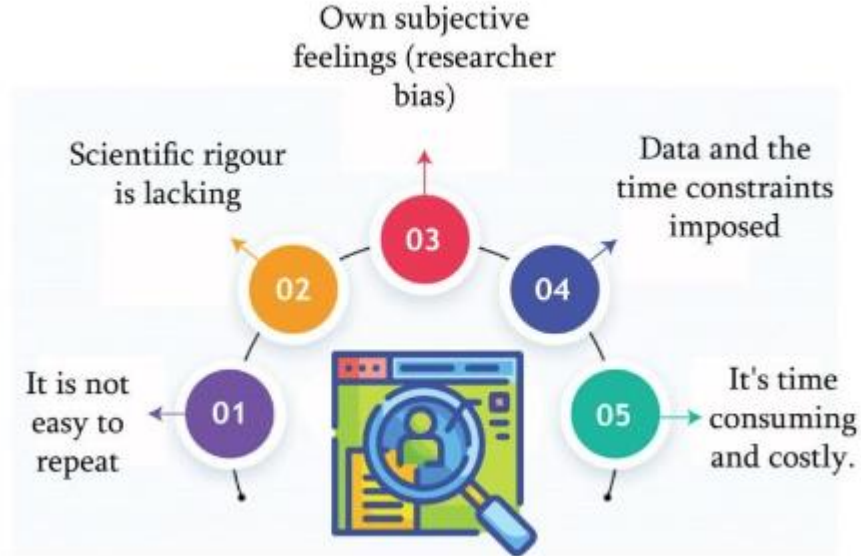
- These serve to aggregate information from several sites collected at different times. The idea behind these studies is the collection of past studies will allow for greater generalization without additional cost or time being expended on new, possibly repetitive studies.

## Critical Instance Case Studies

- These examine one or more sites for either the purpose of examining a situation of unique interest with little to no interest in generalizability, or to call into question or challenge a highly generalized or universal assertion.
- This method is useful for answering cause and effect questions.



## Case Study Challenges



# Action Research

Action research is a research method that aims to simultaneously investigate and solve an issue.

In other words, as its name suggests, action research conducts research and takes action at the same time.



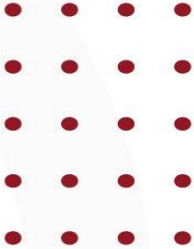
# Types of Action Research

## Participatory action research

- emphasizes that participants should be members of the community being studied, empowering those directly affected by outcomes of said research.
- In this method, participants are effectively co-researchers, with their lived experiences considered formative to the research process.

## Practical action research

- focuses more on how research is conducted and is designed to address and solve specific issues.





# Action Research Models

## Operational (or technical) action research

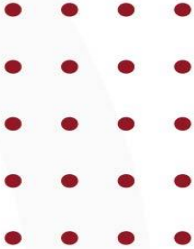
- is usually visualized like a spiral following a series of steps, such as
- “planning → acting → observing → reflecting.”

## Collaboration action research

- is more community-based, focused on building a network of similar individuals (e.g., college professors in a given geographic area) and compiling learnings from iterated feedback cycles.

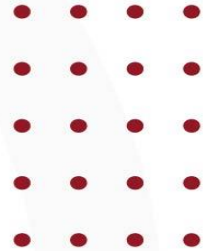
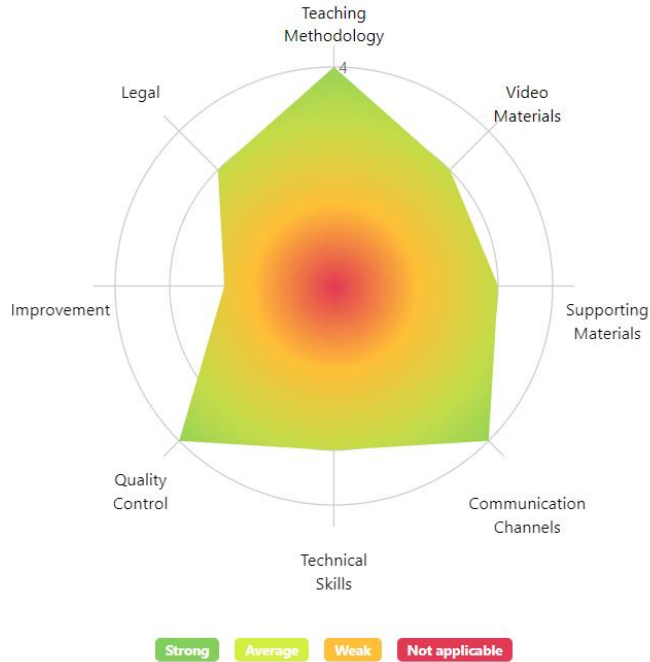
## Critical reflection action research

- serves to contextualize systemic processes that are already ongoing
- (e.g., working retroactively to analyze existing school systems by questioning why certain practices were put into place and developed the way they did).



# Action Research Example

Virtual Learning – building math fuzzy model & deliver classes



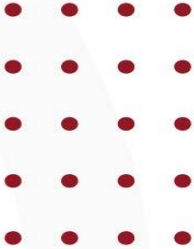
# Action Research Advantages and Challenges

## Advantages

- Action research is highly adaptable, allowing researchers to mold their analysis to their individual needs and implement practical individual-level changes.
- Action research provides an immediate and actionable path forward for solving entrenched issues, rather than suggesting complicated, longer-term solutions rooted in complex data.
- Done correctly, action research can be very empowering, informing social change and allowing participants to effect that change in ways meaningful to their communities.

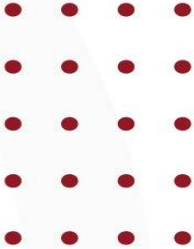
## Disadvantages

- Due to their flexibility, action research studies are plagued by very limited generalizability and are very difficult to replicate. They are often not considered theoretically rigorous due to the power the researcher holds in drawing conclusions.
- Action research can be complicated to structure in an ethical manner. Participants may feel pressured to participate or to participate in a certain way.
- Action research is at high risk for research biases such as selection bias, social desirability bias, or other types of cognitive biases.



## Criteria for Method Selection

- Appropriate to your research objective;
- Able to elicit a form of data appropriate to testing your hypothesis/hypotheses or addressing your research question(s);
- Feasible given time, resource and organizational constraints and requirements;
- Adequately piloted;
- Ethically sound;
- Agreed and accepted by the organization;
- Used appropriately, in the context of its original formulation and development;
- One you feel comfortable with, being confident and well rehearsed in its use before you use it 'for real'.







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