Action   PAR   Research

"The PAR methodology was developed as an antithesis to the dominant research paradigm",

In which "research 'experts' control both the **production and distribution of knowledge**".

previous chapters...today   tomorrow

Two-fold aim: citizens' empowerment + debiasing/improving social research.

PAR for giving youth voice = YPAR

Definition: "an innovative approach to **positive youth and community development** based in **social justice** principles in which young people are trained to conduct **systematic research** to improve their lives, their communities, and the institutions intended to serve them" (LPC Consulting Associates, 2012).

"YPAR is an **orientation**, rather than a method, that challenges dominant assumptions about who **holds and creates knowledge**" → "Youth are considered experts who generate valid knowledge" (Ozer et al., 2020).

Data analysis

Simply: **the process of discovering useful information by evaluating data**

collecting, modelling, and analysing **data** to extract insights that produce knowledge /support decision-making

Data: "unprocessed collections of raw observations, evidence, information, or empirical materials that can be interpreted in numeric and nonnumerical forms. Data create the bridge between the content and method providing firsthand evidence or observation" (LeFebvre, in Allen, 2017).

Such as (in the case of YPAR) interview or focus group transcripts, surveys, field notes, historical documents, newspaper articles, pictures, face-to-face conversations, social media…but also Big data and Metadata.

Step 1: **Data collection**

"YPAR focuses on **data-based inquiry** and **evidence generation** grounded in deep understanding of the problem to inform solutions that challenge power structures and promote second-order change"

quantitative and **qualitative** data collection

collecting non-numerical data

Qualitative

Quantitative
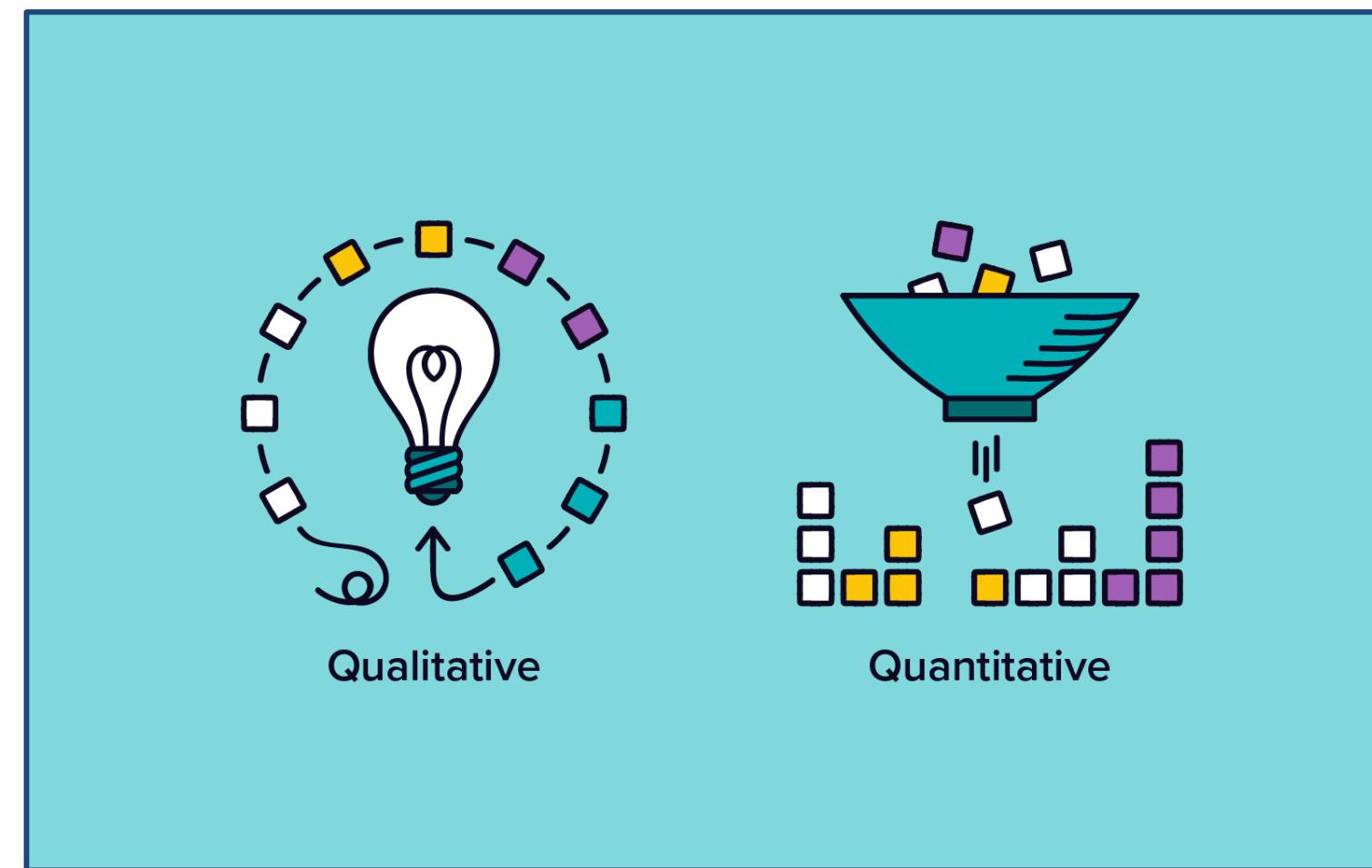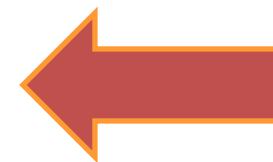
collecting **numbers**

Step 2: **Data cleaning**

Data cleaning (or data cleansing, or data scrubbing): "the process of improving the quality of data by correcting inaccurate records from a record set".

"detecting and modifying, replacing, or deleting incomplete, incorrect, improperly formatted, duplicated, or irrelevant records, otherwise referred to as "dirty data," within a database. Data cleaning also includes removing duplicated data within a database" (Willes, in Allen, 2017).

**Data enhancement**: integrating data by adding related information

Harmonization (or normalization) of data: merging data from different data sets to obtain one cohesive data set.

Crosscheck humans/technologies

At this point:

Data set

Letters/text

Numbers

Qualitative data analysis

Quantitative data analysis

Mixed

At this point:

Data set

Letters/text

Numbers

Qualitative data analysis

Quantitative data analysis

Considering YPAR (even if not exclusively)

Mixed

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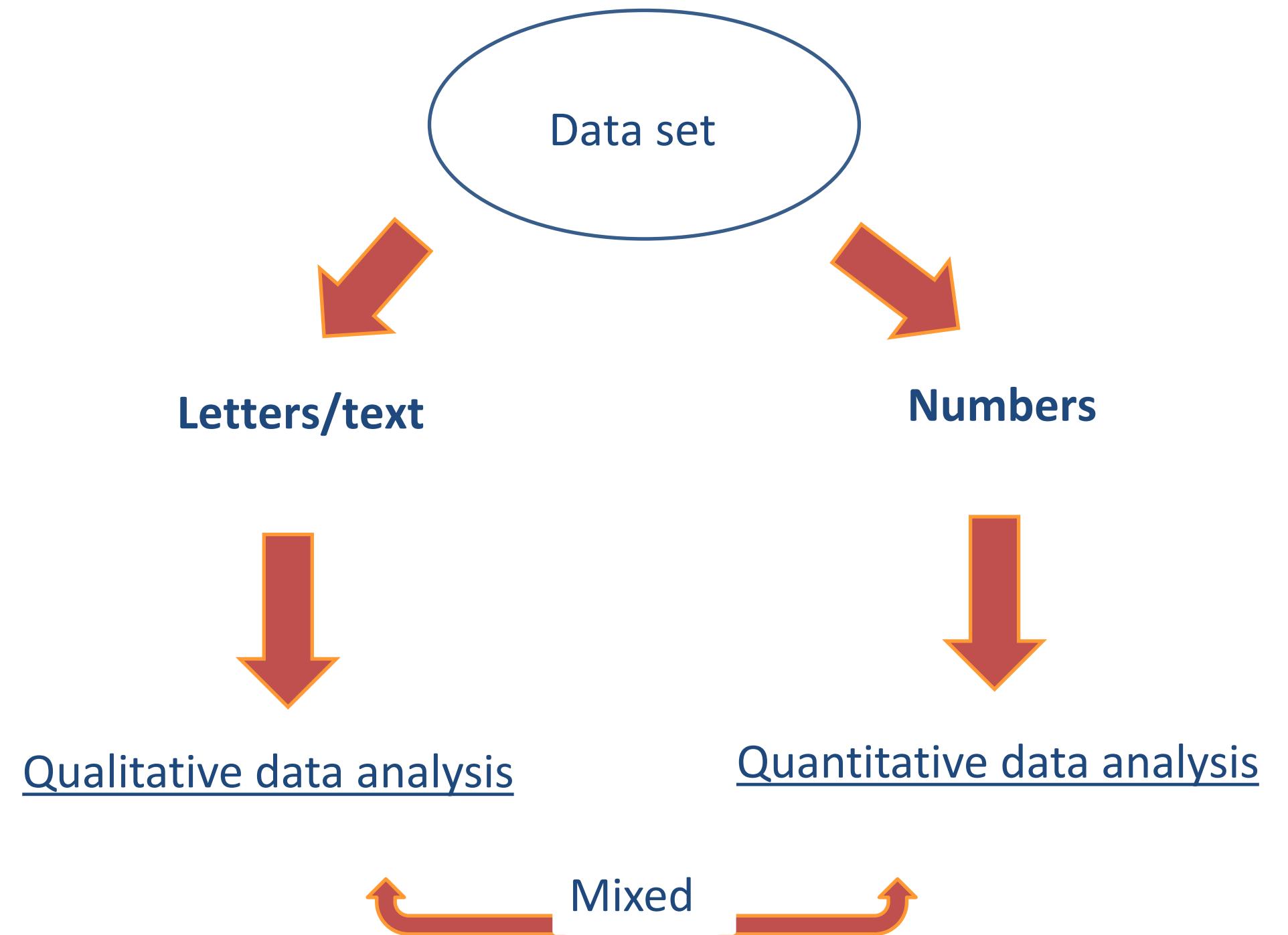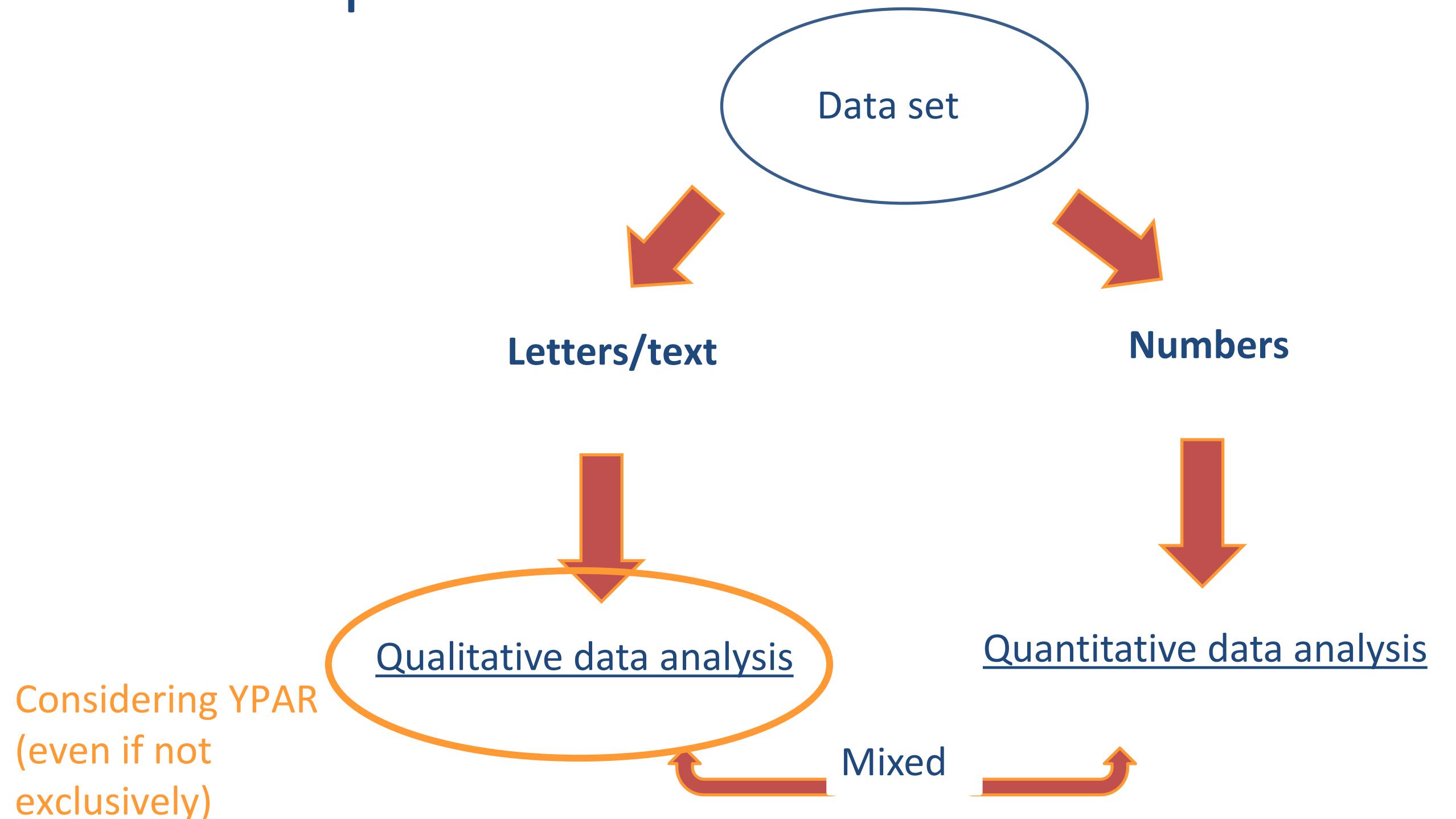
Step 3: **Organising the (qualitative) data**

- **Data Logging (or data documentation)**: to record the raw data in a recorded sheet. "purpose of documenting simultaneously the data collected through every form of data collection, researcher's description, feelings, view and insights as well as assumptions and ongoing ideas about the subject matter"

- **Anecdotes**: "to streamline the data log to make comprehensive notion of the data collected", "summarizing the chronological sequence on the narrative explanation"

- **Vignettes**: "Narrative or story investigations on the interpretation of person, knowledge or circumstances that the researcher describes", it seeks for an "higher sense of understanding about the phenomenon and allow the capturing of themes".

(Akinyode & Khan, 2018)

Step 4: **Data coding**

"the process of transforming collected information or observations to a set of meaningful, cohesive categories. It is a process of summarizing and re-presenting data in order to provide a systematic account of the recorded or observed phenomenon" (Ye Sun in Allen, 2017).

First stage: **to develop codes (categories)**

Second stage: **to review the developed categories and use them to code the data**

Third stage: **to find Themes, Patterns, and Relationships**, taking a step back and observe the coded data.

Fourth stage: **to streamline the data and summarise to get them ready for analysis.**

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Step 5a: **Qualitative data analysis**

Qualitative data analysis (QDA) is the process of organising, analysing, and interpreting qualitative data to capture themes and patterns, answer research questions, and (eventually) identify actions to take.

2 different approaches for running qualitative data analysis:

Deductive Approach: the process of analysis that is based on existing structure(s) or hypothesis(es), testing the implications of a pre-existing social theory with the data collected.

Inductive Approach: the process of developing a new theory or hypothesis for data analysis, finding themes, patterns, and relationships in the data and work to develop a theory that can explain them.

Used to analyse data collected through interviews, focus groups, participant observation, documents analysis, case study research, ethnography…

Qualitative data analysis techniques: **Content analysis**

Content analysis is used <u>to identify patterns in various forms of (recorded) communication, analysing the purpose, messages, and effect of the content</u>. Content analysis can also help determine the intent of the content producers and the impact on target audiences.

Content analysis steps:
1. Identify data sources
2. Determine data criteria
3. Develop coding for the data
4. Analyse the results

CONTENT
IS THE KING
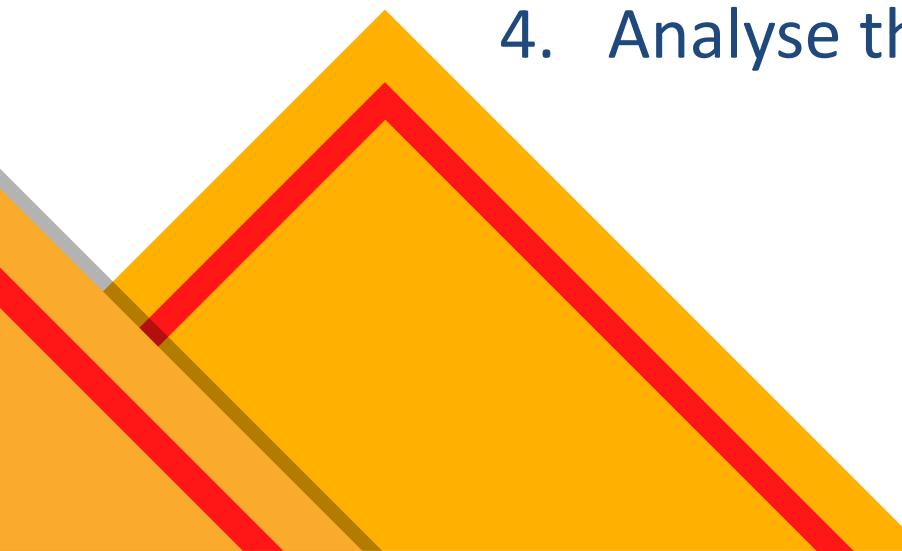
# Qualitative data analysis techniques: **Discourse analysis**

Discourse analysis helps provide an understanding of the social and cultural context of verbal and written communication throughout conversations (it may include nonverbal cues). Discourse analysis aims to investigate the social context of communication and how people use language to achieve their aims, such as evoking an emotion, sowing doubt, or building trust.
"Discourse analysis is sometimes defined as the analysis of language 'beyond the sentence'" (Tannen)

Discurse analysis steps:
1. Define the research question
2. Select the content types
3. Collect the data
4. Analyse the content

Language

Discourse analysis

Practice

Context
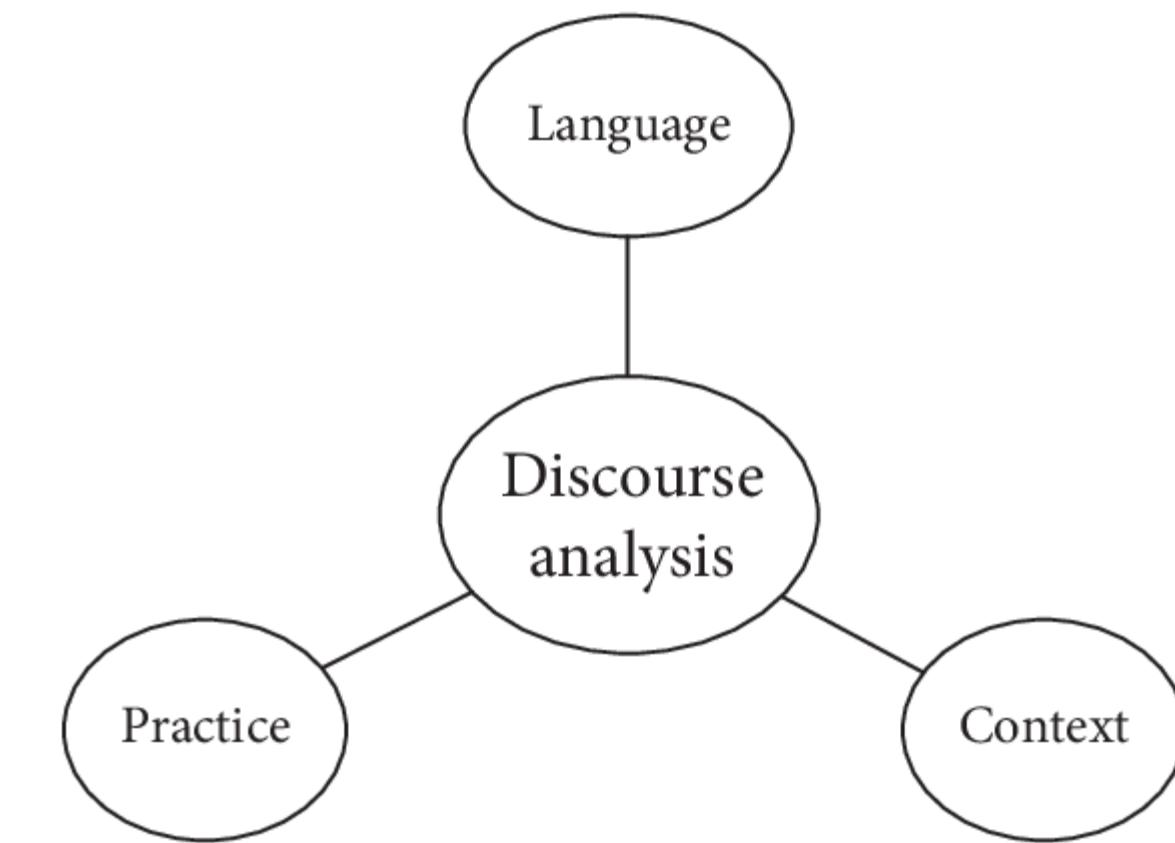
Qualitative data analysis techniques: **Grounded theory**

The Grounded theory is considered a "strategy of comparative analysis for **generating theory**" that "puts a high emphasis on theory as process" (Glaser & Strauss, 1967).
Initially: analysis of a single case to formulate a theory (formulating, testing and reformulating prepositions. Then: additional cases are examined to see if they contribute to the theory.

This approach refers to theory that is "grounded in or developed inductively from a set of data"

Grounded theory is an **inductive methodology** which works in opposite way to traditional research.

Grounded theory steps:
1. **Codes**: Anchors are identified to collect the key points of data
2. **Concepts**: Codes of similar content are collected to be able to group the data
3. **Categories**: Broad groups of similar concepts are formed to generate a theory
4. **Theory**: A collection of explanations are generated that explain the subject of the research (hypothesis)

Qualitative data analysis techniques: **others...**

Narrative analysis
This method involves the reformulation of **stories** presented by respondents taking into account context of each case and different experiences of each respondent.

Textual Analysis
Method to study and understand texts. It includes exploring the languages, symbols, patterns, pictures in the **text.**

Framework analysis
"An inherently comparative form of **thematic analysis** which employs an organized structure of inductively- and deductively-derived themes (i.e., a framework) to conduct cross-sectional analysis using a combination of data description and abstraction" (Goldsmith, 2021)
It consists of several stages such as familiarization, identifying a thematic framework, coding, charting, mapping and interpretation.

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At this point:

Data set

Letters/text

Numbers

Qualitative data analysis

Quantitative data analysis

Mixed

Can also be applied to YPAR

Quantitative data analysis

Quantitative data analysis: methods for **analysing numerical variables**, e.g. statistics, percentages, calculations, measurements, and other data.

Quantitative data analysis techniques typically include working with algorithms, mathematical analysis tools, software to manipulate data...

Collection → Cleaning → Exploratory Data Analysis → Model Building → Model Deployment

Each techniques has a different approach to extracting value from the data

Quantitative data analysis techniques: **Regression analysis**

Type of statistical analysis method that determines the **relationships between independent and dependent variables.**

CAUSE(S)   **EFFECT(S)**

manipulating the values of independent variables, what is the impact of the changes on the dependent variable?
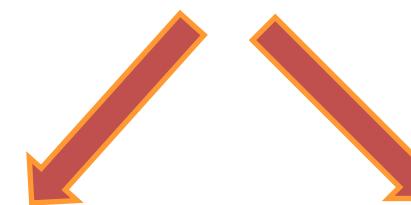
Simple linear regression analysis
An independent variable: Y
A dependent variable: X

Multiple linear regression analysis
various independent variables: Y, Z, W…
A dependent variable: X

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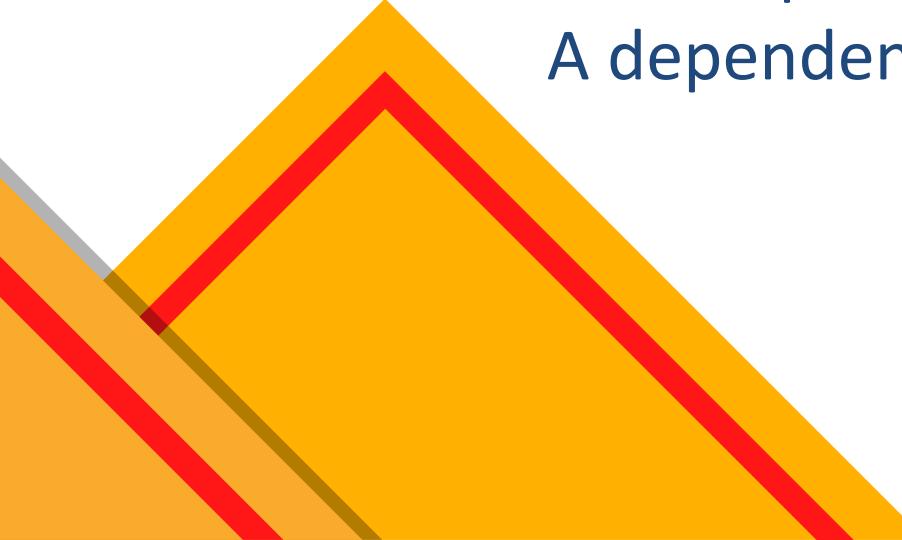
Quantitative data analysis techniques: **Hypothesis analysis**

Data analysis technique that uses sample data to test a hypothesis. Hypothesis analysis is a statistical test method to validate an assumption and determine if it's plausible or factual.
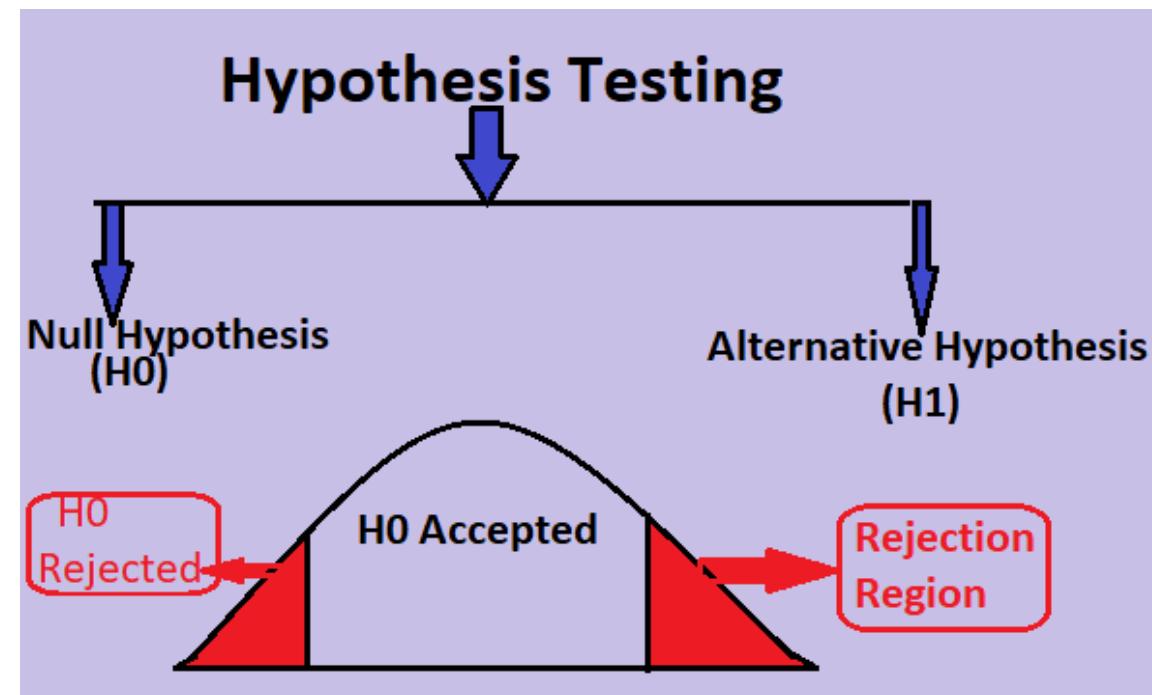
Two hypotheses developed: only one of them can be true.


Null hypothesis (H0)
i.e. no difference between two groups represented in the data

Alternative hypothesis (H1)
the opposite of the null hypothesis

Aim of the researcher: to demonstrate that a difference does exist between the groups in the study, therefore rejecting the validity of the null hypothesis

Triangulation
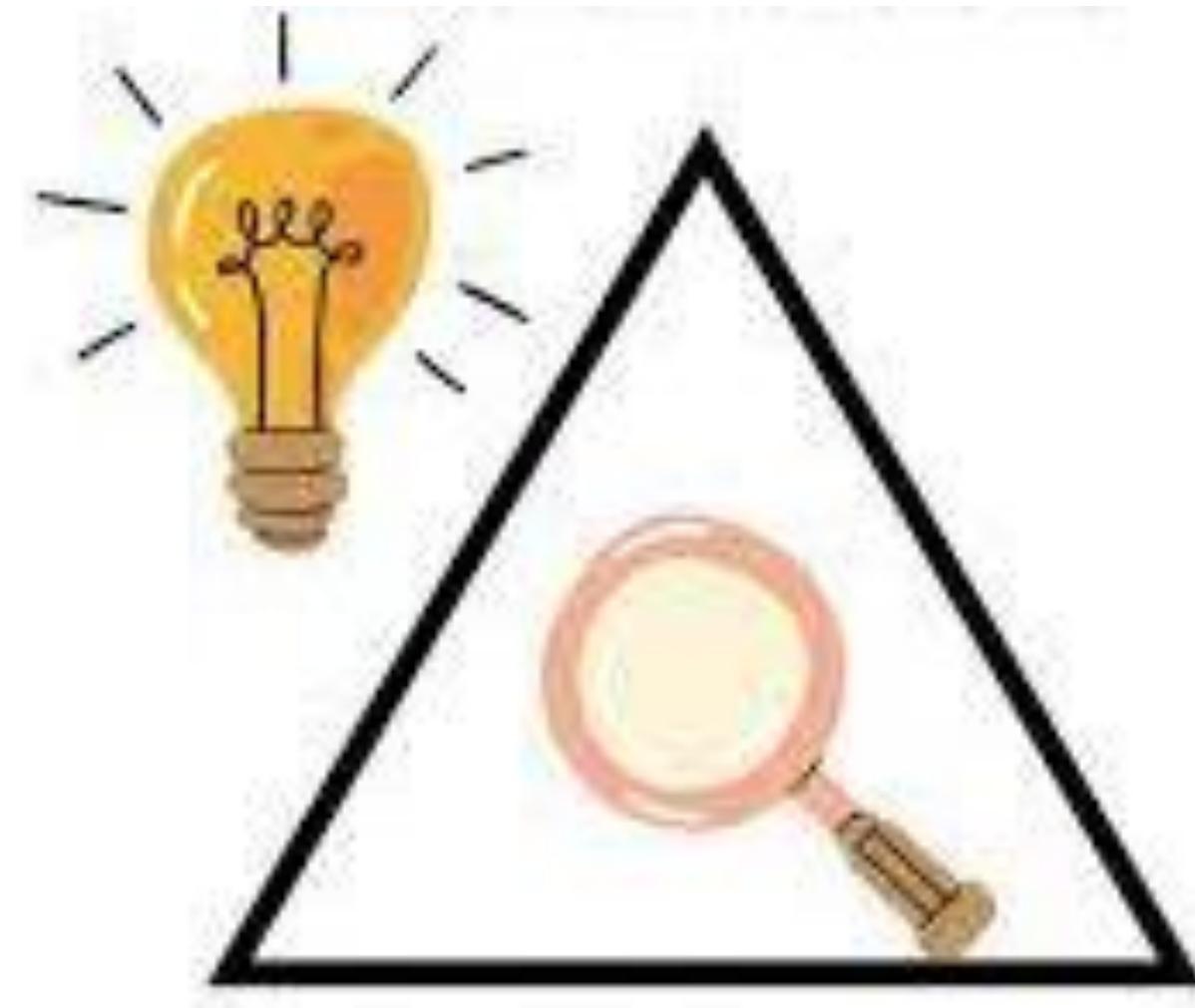
Triangulation: "bringing together different sources and types of data on the same topic to see whether the results that come from one type of data collection confirm or contrast with the results from another type of data collection"

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YPAR HUB: http://yparhub.berkeley.edu/

Maryville University - Master's in Data Analytics materials: https://online.maryville.edu/blog/data-analysis-techniques/#:~:text=The%20two%20primary%20methods%20for,insights%20from%20different%20data%20types

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