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Introduction to Research Methods

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MGM 333

Part 1: Starting the research process

CH1: Major research paradigms

Lecture 1

Chapter
01

Major research paradigms





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Session Outline

Chapter
01

Session Outline

- ☐ Research Definition
- ☐ Characteristics of Scientific Research
- ☐ The research hierarchy
- ☐ Research methodology
- ☐ Research method
- ☐ Research techniques
- ☐ Research instrument
- ☐ A research paradigm



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Research Definition

- ❑ Research is an organized, systematic, data-based, critical, objective, scientific inquiry into a specific problem that needs a solution.
- ❑ Research is the process of finding solutions to a problem after a thorough study and analysis of the situational factors.



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Characteristics of Scientific Research

1. Purposiveness
2. Rigor
3. Testability
4. Replicability
5. Precision
6. Objectivity
7. Generalizability
8. Parsimony

- We will explain each of these characteristics in the context of the following example:

Consider the case of a manager who is interested in investigating how employees' commitment to the organization can be increased

- The manager has started the research with a definite aim or purpose.
- The focus is on increasing the commitment of employees to the organization, as this will be a beneficial in many ways.

- An increase in employee commitment will translate into less turnover, less absenteeism, and increased performance levels, all of which would definitely benefit the organization.

- A good theoretical base and a sound methodological design would add rigor to a purposive study.
- Rigor means carefulness, and the degree of exactitude الدقة in research investigations

- In the case of our example of increasing the commitment of employees

- Let us say that the manager of an organization asks 10 of its employees to indicate what would increase their level of commitment to the organization.
- If the manager depends solely on the basis of their responses reaches to several conclusions on how employee commitment can be increased, the whole approach to the investigation would be unscientific

- After taking random selection of employees of the organization, and the study of previous research done of the area of organizational commitment, the researcher develops certain hypotheses on how employee commitment can be enhanced.

- Then these hypotheses can be tested by applying certain statistical tests to the data collected for the purpose.
- Scientific research tends itself to testing logically developed hypotheses to see whether or not the data support the hypotheses that are developed

- The results of the tests of hypotheses should be supported again and again when the same type of research is repeated in other similar circumstances.
- If the results are repeated, we will gain confidence in the scientific nature of our research

- **Precision** refers to the closeness of the findings to reality based on a sample.
- **Confidence** refers to the probability that our estimations are correct.

- It is not enough to be precise, but it is also important that we can confidently claim that 95% of the time our results would be true and there is only a 5% chance of our being wrong. This is also known as confidence level.
- The greater the precision and confidence we aim at in our research, the more scientific is the investigation and the more useful are the results

- The conclusions drawn through the interpretation of the results of data analysis should be objective.
- The conclusions should be based on the facts of the findings derived from actual data, and not on our own subjective or emotional values.
- The more objective the interpretation of the data, the more scientific the research investigation becomes.

- Generalizability refers to the scope of applicability of the research findings in one organizational setting to other settings.
- The wider the range of applicability of the solutions generated by research, the more useful the research is to the users

- Parsimony refers to simplicity in explaining the phenomena or problems that occur, and in generating solutions for the problems.
- Economy in research models is achieved when we can build into our research framework a lesser number of variables that would explain the variance far more efficiently than a complex set of variables that would only marginally add to the variance explained.



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The research hierarchy

- I would like to establish the way I use some standard research terms and the connections between those terms from the outset.
- Figure 0.1 describes the connections and relationships between various levels of the research hierarchy using work by Guba and Lincoln (1989) and building on that to include all major elements of a research study.

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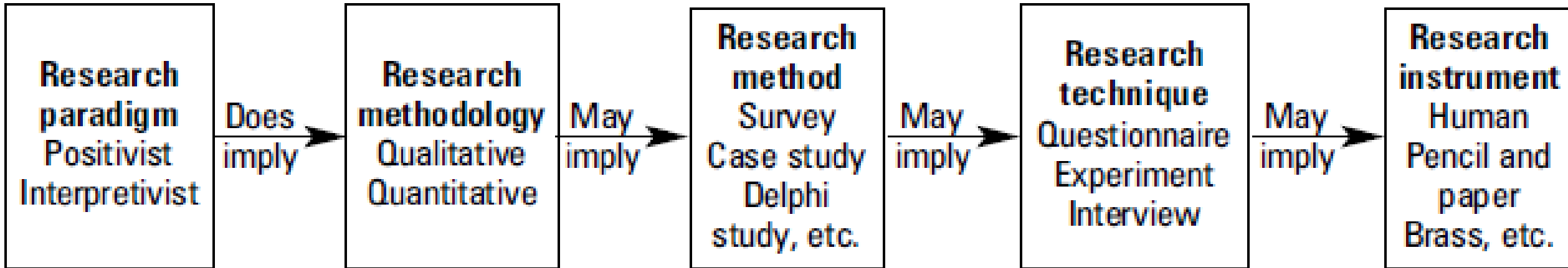


Figure 0.1 The research hierarchy (Pickard, 2002; Pickard and Dixon, 2004)



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Research methodology

- This is the theoretical perspective of the research, that is the overall nature of the research activity, although the term is applied to many aspects of the research process in various disciplines.
- I believe there are only two fundamental methodologies: qualitative or quantitative. However, a methodology does not necessarily imply a particular research method.

- A methodology is perspective, the angle the researcher wishes to take on the question being asked.
- An example of this would be examining use of a service by the users of that service; it may be that the angle is one of 'how many?', 'how often?' or 'when?'; this would be a quantitative angle on the question. On the other hand the angle could be 'why?', 'how?' or 'how do they feel about it?'; this then would be a qualitative angle.



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Research method

- This is the bounded system created by the researcher to engage in empirical investigation – the overall approach, often referred to as a ‘strategy’.
- Models of the research process rarely make any distinction between research methods and research techniques but take for granted some implicit understanding of the distinction.

- This is not the ideal approach to a rigorously constructed research design.
- A research method is not defined by the techniques employed within it to harvest data, but by the driving purpose of the investigation.
- Research methods include: case study; survey; action research and so on.



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Research techniques

- These are the individual data collection techniques applied within the method.
- The most obvious example of lack of distinction between method and techniques is the use of the terms 'survey' and 'questionnaire'; very often the two are used interchangeably within the research methods literature.

- This is misleading, as a survey can include a variety of data collection techniques and is far more than a single questionnaire; it is in fact a research method.
- There are many techniques which are strongly associated with particular research methods and this is perfectly legitimate, but it is wrong to assume that a method dictates a technique.

- Research design should be flexible enough to ensure that questions are addressed in the most appropriate manner without limiting potential discovery and innovation.
- A technique is the approach taken to data collection, the way in which empirical evidence will be harvested from the source. 'Techniques' refers to interviews, questionnaires, focus groups, and so on



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Research instrument

- This is the device that is designed or trained to collect the data necessary to provide insight or offer answers to the questions being asked.
- When engaging in experimental research the instrument used could well be a 'brass' instrument, a term that has emerged from laboratory experimentation, when much of the equipment was made of brass.

- This term is applied now to refer to all experimental apparatus, although it may not of course all be 'brass'. The 'pencil and paper' instrument is the term used to describe a physical questionnaire, the paper or online artefact rather than the technique, as it has been written by the researcher and will be added to by the research participant.
- In interpretivist research the 'human' instrument is the researcher, someone who has been trained to look, feel, respond and collect data within a natural setting, sometimes using an additional instrument, sometimes not.



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Research Paradigms

- Whether we are concerned with the philosophical forces driving the research or not, all research models begin at that philosophical level which defines the paradigm.
- Here I am using the interpretation of paradigm originally provided by Kuhn (1970) as a means of viewing the world, influencing but not controlling the assumptions and direction of research.

- This interpretation views paradigms as ‘the beliefs, values, techniques, and so on shared by members of a given [scientific] community’ (Kuhn, 1970, 146) and they ‘provide the concrete puzzle solution or exemplar of how to solve a scientific problem’ (Seale, 1998, 12).

- A paradigm, then, comes before the theoretical perspective of the research.
- It is the 'world view' that is accepted by members of a particular scientific discipline which guides the subject of the research, the activity of the research and the nature of the research outputs: ' (Corbetta, 2003, 11).

- Research paradigm is ‘a philosophical or theoretical framework of a scientific school or discipline...’ (Merriam Webster Dictionary, 2007)

Why does it matter?

- 'paradigm issues are crucial; no inquirer ought to go about the business of inquiry without being clear about just what paradigm informs and guides his or her approach (Guba and Lincoln, 1998 p.218).
- What makes up the philosophical and theoretical framework of a scientific discipline?



Why does it matter?

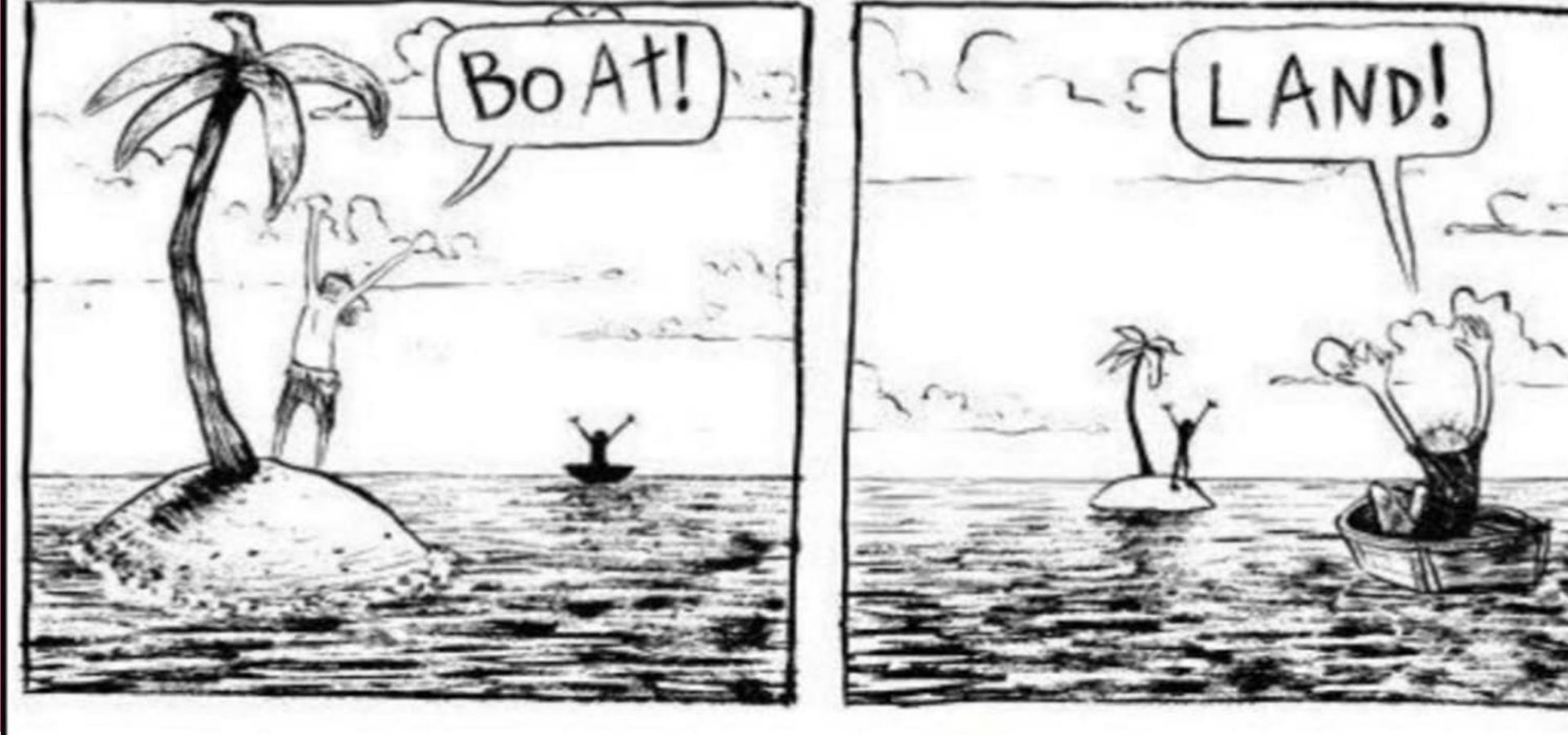
- **Ontology** - is the nature of reality, different ways of constructing reality; 'how things are' and 'how things really work' (Denzin & Lincoln, 1988 p.210)
- **Epistemology** - is the philosophy of how we can know that reality; different forms of knowledge of that reality.
- **Methodology** - is the practice of how we come to know that reality; the tools we use to know that reality.

Paradigm differences The three questions then are;

- ❖ **What is the nature of reality?** - This is the ontological question concerning the nature and form of reality.
- ❖ **What is the nature of the relationship between the knower and the known?** – This is the epistemological question.
- ❖ **How we can come to know it?** - This is the methodological question.







Optimist: Glass is half full.

Pessimist: Glass is half empty.

Realist: Both of them are right.

Scientist: Glass is never empty. It is half water, half air.

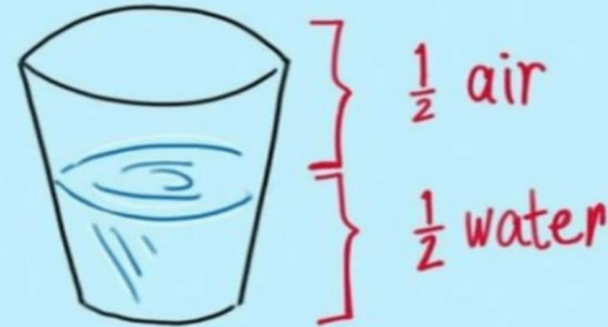
Engineer: Glass is twice the size it needs to be.

Cynic: Who the hell drank the other half?

Worrier: The remaining half will evaporate in the next hour.

Opportunist: Thanks for debating while I drink it.

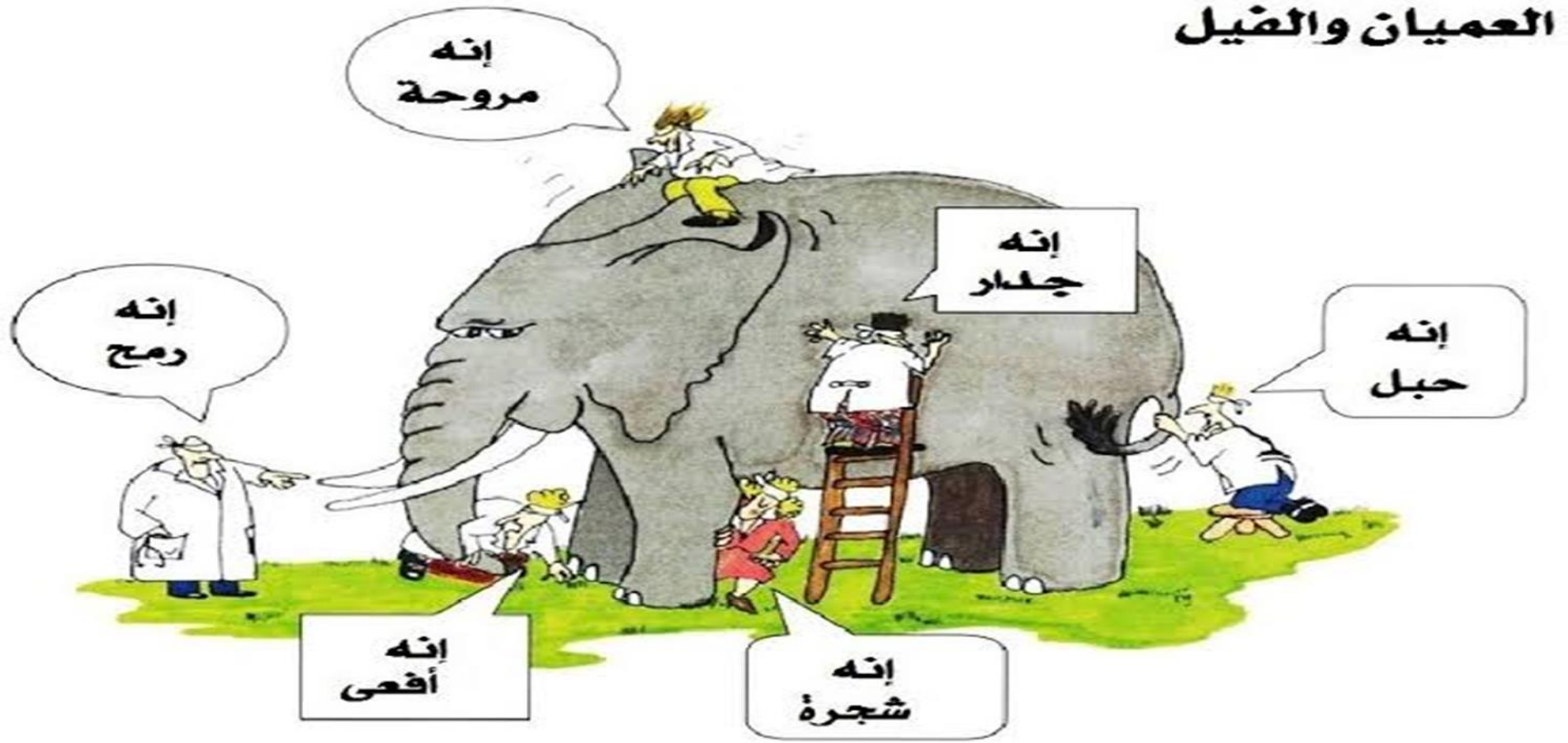
Nihilist: Throw it away, I don't care



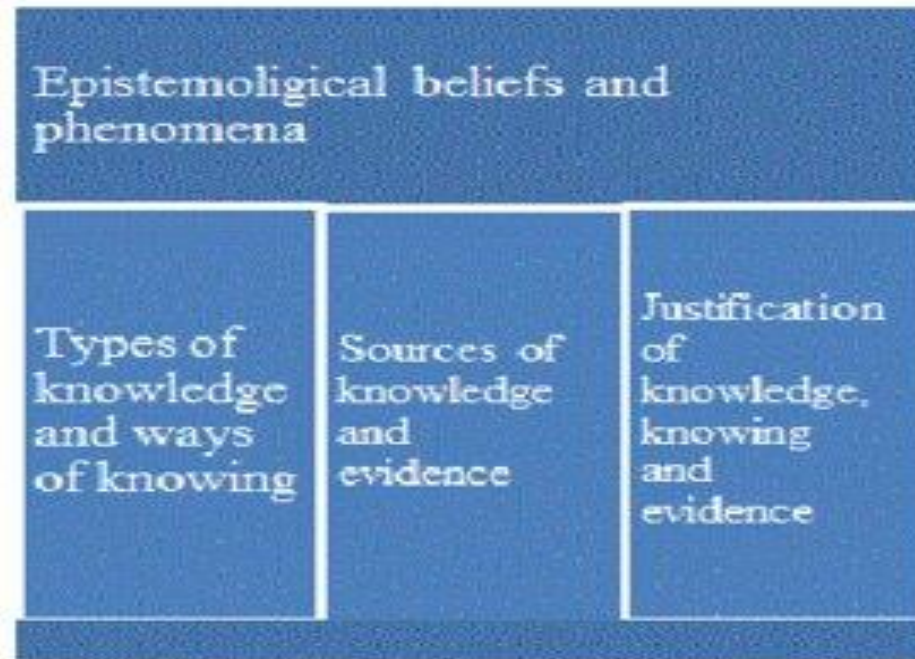
**technically,
the glass is always
full.**



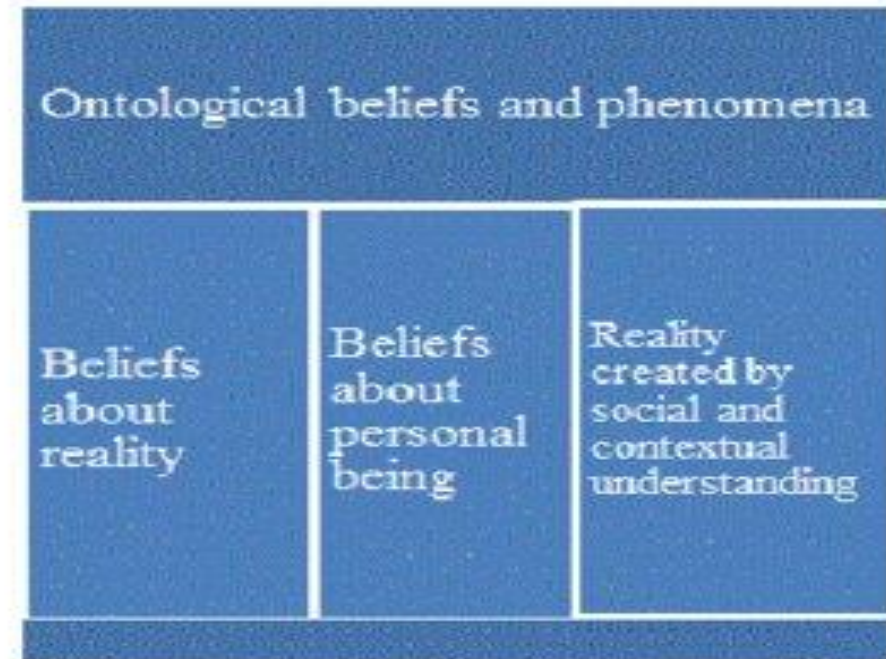




Epistemology
Explicit and implicit knowledge



Ontology
Nature of reality and being





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Thank You

