

# RESEARCH PARADIGMS



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# LEARNING OBJECTIVES



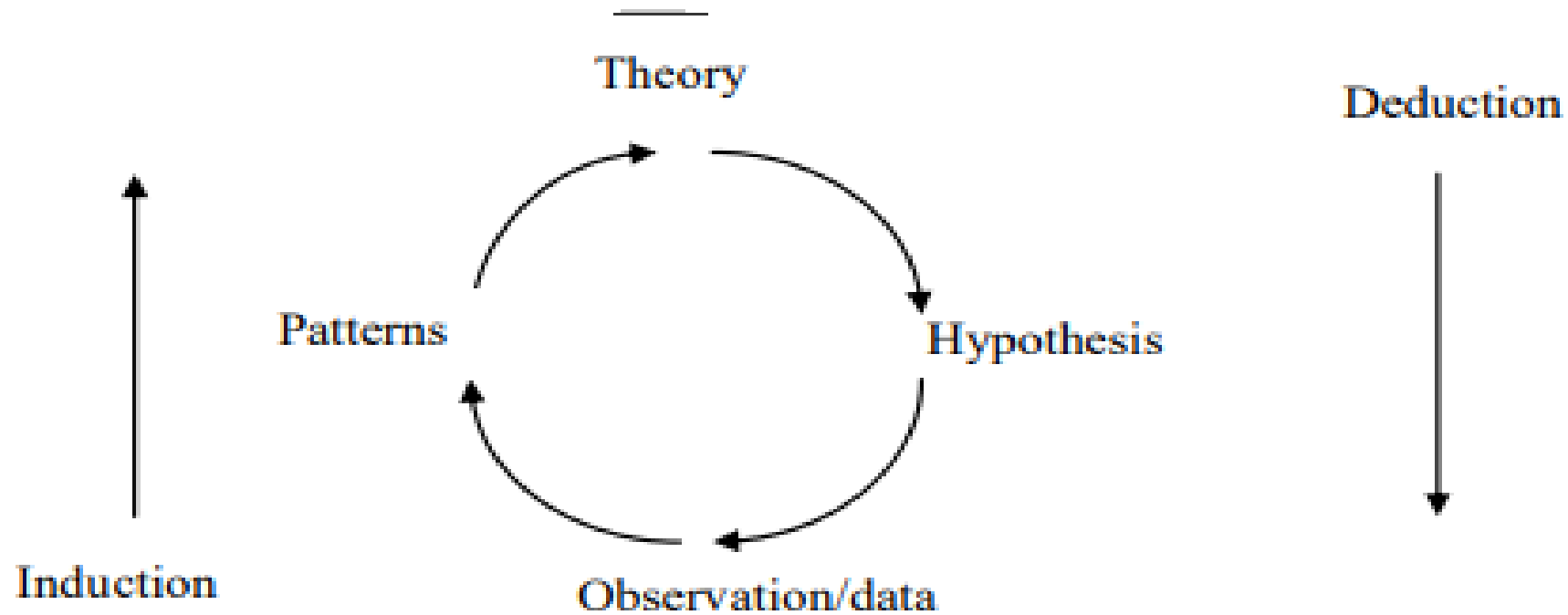
- **After this lecture you should be able to:**
  - Understand the meaning of research paradigm.
  - Recognise the components of research paradigm.
  - Describe the types of research paradigms.
  - Distinguish between quantitative and qualitative ontologies and epistemologies.



# Emic- Etic distinction

- Terms addressing rules of language.
- Emic from phonemic
- Etic are from phonetic .
- Emic refers to constructs or behaviours that are unique to an individual, sociocultural context that are not generalizable. For example, the Jewish High Holy Days or the Christian Easter celebration are not universally acknowledged, as these concepts are religion specific
- Etic refers to universal laws and behaviours that transcend cultures and apply to all humans. For example, the concept that people are biological organisms is an etic concept in that we all need to eat, drink, and sleep to survive.

# The 'research wheel', adapted from Johnson and Christensen (2004:18)





# Research paradigm

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# WHAT IS MEANT BY A PARADIGM?

- **Meaning of “paradigm” in the English Cambridge Dictionary**

*“Model of something, or a very clear and typical example of something”*

- **ORIGIN:** late 15th century.: via late Latin from Greek **paradeigma**, from **paradeiknunai** ‘**show side by side**,’ from **para-‘beside’** + **deiknunai** ‘**to show**.’

*“Paradigms are general framework or view points : literally „points from which to view“. They provide ways of looking at life and are grounded in sets of assumptions about the nature of reality”  
(Babbie, 1998)*

# BACKGROUND ABOUT RESEARCH PARADIGM

- The word paradigm was first used by the American philosopher Thomas Kuhn (1962) to indicate to *philosophical way of thinking*.
- The word paradigm has its origin in Greek where it means *pattern*.
- A research paradigm is “the set of common beliefs and agreements shared between scientists about how problems should be understood and addressed” (Kuhn, 1962).
- It includes the abstract beliefs that shape how a researcher views the world, and how s/he interprets and performs within that world.

(Kivunja & Kuyini, 2017)



# BACKGROUND ABOUT RESEARCH PARADIGM (CONTINUED)

- It is not a methodology, but a philosophy that directs the process of research in a specific manner.
- Paradigm is:
  - The way of comprehension of the world reality and investigating it (Rehman & Alharthi, 2016).
  - The framework that directs research and practice in a field (Willis, Jost, & Nilakanta, 2007).
  - The lens by which the researcher can view and comprehend the reality (Shek & Wu, 2018).
- The paradigm and the research questions determine data collection and analysis methods most suitable for research (Mackenzie & Knipe, 2006).



# BACKGROUND ABOUT RESEARCH PARADIGM (CONTINUED)

- The selected paradigm should guide the selection of the research methodology.
- It is important for the quality of the process that there is coherence throughout the research between the paradigm and method.

(Creswell & Clark, 2007)



# COMPONENTS OF RESEARCH PARADIGM

1. Ontology

2. Epistemology

3. Methodology

4. Methods

(Scotland, 2012).



Ontology



Epistemology



Methodology



Methods

Objectivism  
Constructivism  
Subjectivism

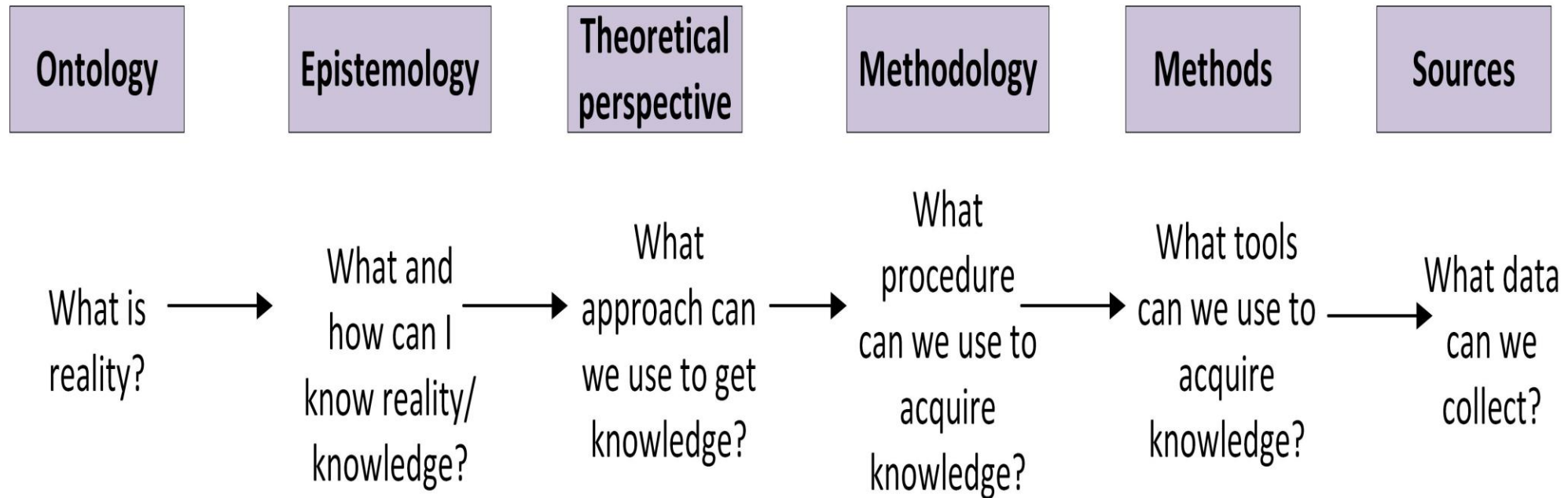
Positivism  
Interpretivism  
Feminism  
Postmodernism  
etc.

Action research  
Case study  
Survey research  
Ethnography  
Grounded theory  
etc.

Questionnaire  
Interview  
Observation  
etc.



# Components of Research Paradigm



Adapted from Hay (2002) pg. 64 and Crotty (1998)

*Ontology and epistemology are to research what 'footings' are to a house: they form the foundations of the whole edifice. (Grix, 2004, p. 59).*

# ONTOLOGY

- The term Ontology is from two Greek words (**onto, which means 'being or existence' and logia, which means 'science, study or theory'**) (Antwi & Hamza, 2015).
- A view of the nature of reality - whether it is external or internal to the knower (Willis, Jost, & Nilakanta, 2007).
- Ontology identifies the nature and shape of social reality and what can be recognized about this reality (Antwi & Hamza, 2015).
- The ontological questions are:
  - ❖ What is the form and nature of reality?
  - ❖ Is this reality external to social actors?

(Guba & Lincoln, 1994).



# Examples of ontological questions

- What is a thing?
- What are the fundamental parts of the world?
- How they are related to each other?

# ONTOLOGY (CONTINUED)

- **There are two broad contrasting positions:**

1. Objectivism: holds that there is an independent **reality- External reality**

2. Constructionism: assumes that **reality** is the product of social processes- **Constructed reality.**

(Neuman & Kreuger, 2003)





# ONTOLOGY CONTINUED

- The ontological question leads the investigator to ask what type of reality is existent: a **single**, reality or socially constructed **several (multiple)** realities.

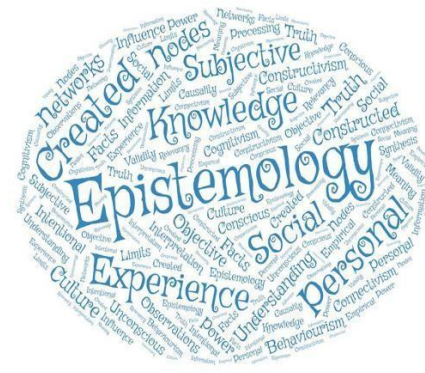
(Patton, 2002)

# Epistemology

- Epistemology : **The study of knowledge**
  - Its nature
  - Its possible scope
  - Its necessary limits



# EPISTEMOLOGY



- The term epistemology comes from the Greek word **epistēmê**, which means knowledge or understanding (Trochim & Donnelly, 2001).
- Epistemology is the **philosophy of knowledge** or how we come to know (Trochim & Donnelly, 2001).
- Epistemology is closely linked to ontology and methodology (Krauss, 2005).
- Ontology involves the philosophy of reality, epistemology addresses **how we come to know that reality** while methodology identifies the particular practices used to attain knowledge of it (Krauss, 2005).



# EPISTEMOLOGY

- Put simply, in research, epistemology is used to describe how we come to know something; how we know the truth or reality;

# Types of Knowledge

1. Practical knowledge: knowledge that is skills-based, e.g. being able to drive or use a computer.
2. Knowledge by acquaintance: knowledge that doesn't involve facts but familiarity with someone or an objects, e.g. I know my mother, I know what an apple looks like.
3. Factual knowledge: knowledge based on fact, e.g. I know that the sun rises every morning – I know it is true.



- Epistemologists are concerned with **propositional knowledge**.
- **Knowing- that** some proposition is true.

# Epistemology

- Epistemologists typically do not focus on procedural or acquaintance knowledge, however, instead preferring to focus on *propositional knowledge*.
- A proposition is something which can be expressed by a declarative sentence, and which purports to describe a fact or a state of affairs, such as “Dogs are mammals,” “ $2+2=7$ ,”
- Note that a proposition may be true or false; that is.
- Statements of propositional knowledge (or the lack thereof) are properly expressed using “*that*”-clauses
- For example, “He *knows that* Houston is in Texas,” or “She does *not know that* the square root of 81 is 9.”



# Proposition

A **proposition** is a sentence expressing something true or false

- The *content* or *meaning* of a meaningful declarative sentence that may be true or false
- the meaning of such a sentence: *I am warm* always expresses the same proposition whoever the speaker is





# Tripartite Analysis of Knowledge

Knowledge= Justified True Belief

# What is Knowledge?



Justified

True

Belief



# Three Conditions of Knowledge.

1. The Truth condition.
2. The Belief condition.
3. The Justification condition.

# The Truth Condition

- Most epistemologists have found it overwhelmingly reasonable that **what is false cannot be known.**
- For example, Hillary Clinton did not win the 2016 US Presidential election. Consequently, nobody knows that Hillary Clinton won the election. One can only know things that are true.



# The Belief condition

- The general idea behind the belief condition is that you can only **know what you believe**.
- Failing to believe something precludes knowing it.
- One might “believe” something by virtue of being pretty confident that it’s probably true.
- Someone who considered Clinton the favourite to win the election, might be said to have “believed” that Clinton would win.

# The Justification condition

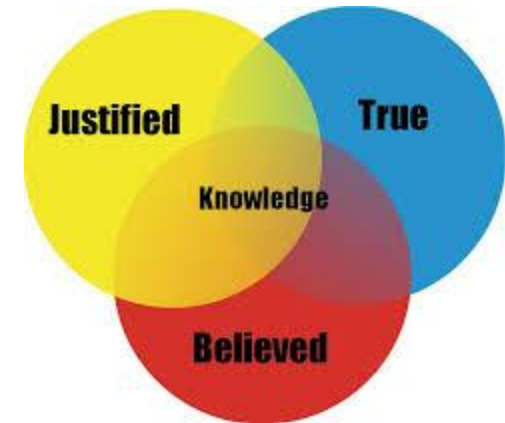
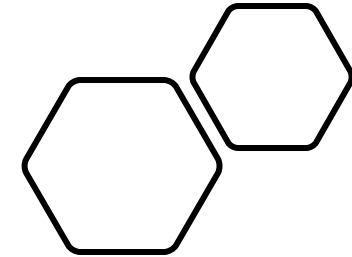
- In the JTB account of knowledge, knowledge is a **true-belief which is justified.**
- Propositional knowledge requires justification.
- It requires that a knower has adequate indication that a known proposition is true. That adequate indication constructs a sort of evidence and such evidence is known as **epistemic justification.**
- Epistemic justification is needed to exclude co-incidentally true belief such as lucky guess mark, and to provide for the adequate relation between the belief and truth condition for propositional knowledge.



# Knowledge as Justified True Belief

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- What do we mean when we say we know something like, “I know my friend Tom is sitting next to me”?
- Or, in formal terms, what does “I know that p” mean?
- Traditionally, it means three things:
  - We have to *believe that p*.
  - Our belief in p has to be *justified*, warranted or backed up by sufficient evidence.
  - Our belief in p has to be *true*.



# EPISTEMOLOGY (CONTINUED)

- A related view of the type of knowledge that can be generated and standards for justifying it (Willis, Jost, & Nilakanta, 2007).
- Epistemic understanding determines type of knowledge available to, or required by the researcher to place them within a given topic area (Rapport et al., 2018).



# EPISTEMOLOGY (CONTINUED)

- **Epistemological Questions:**
  - ❖ What does knowledge mean?
  - ❖ "How is knowledge acquired?"
  - ❖ How do we know what we know?
  - ❖ How can the researcher come to know this reality?
  - ❖ What is the basis for true knowledge?
  - ❖ Are there limitations to what we know?



# EPISTEMOLOGY CONTINUED

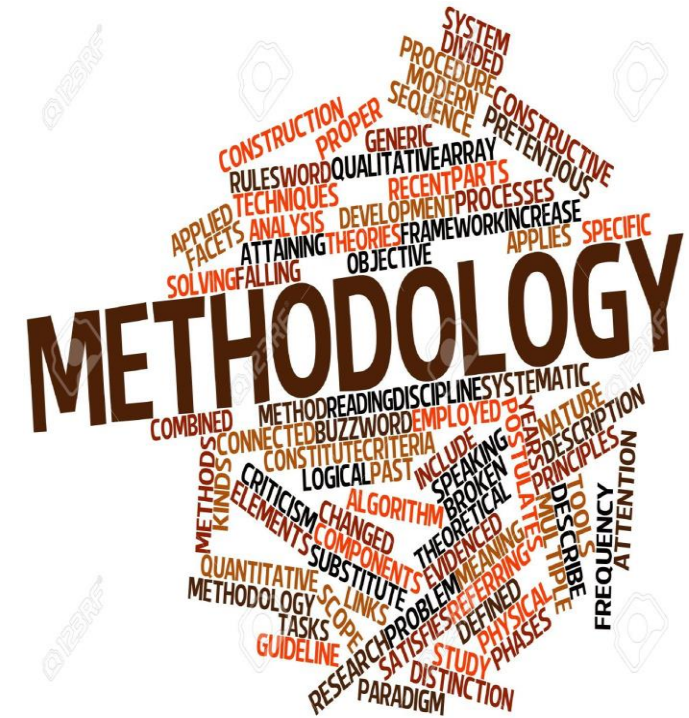
- Singular truth (reality) is assumed, then the researcher must be one of **objective** detachment to be able to reveal , how things really are?
- Multiple realities are assumed, then the researcher would reject the idea that people should be investigated like objects of natural sciences. Rather, they need **subjective** understanding of the phenomenon in its contexts.

(Patton, 2002)



# METHODOLOGY

- A disciplined approach to generating knowledge (Willis, Jost, & Nilakanta, 2007).
- The pathway or approach of action that justifies the selection and employment of certain methods (Crotty, 1998).



# METHODOLOGY

- O'Sullivan et al. explicitly defined **research methodology** as the *steps researchers use to collect and analyse data.*
- The steps involve:
  - (a) deciding when and how often to collect data;
  - (b) developing or selecting measures for each variable;
  - (c) identifying a sample or test population;
  - (d) choosing a strategy for contacting subjects;
  - (e) planning the data analysis; and
  - (f) presenting the findings

# METHODOLOGY

- It guides the researcher in deciding what type of data is required for a study and which data collection tools will be most appropriate for the purpose of his/her study.



# METHODOLOGY

- The methodological question leads the researcher to inquire *how the world should be studied*.

(Rehman & Alharthi, 2016)



# METHODS

- The means of collecting and analysing data.
- Selection of methods depend on the design of the study and the research questions.

(Rehman & Alharthi, 2016)



# METHODOLOGY AND METHODS

*Methodology can be viewed as a map, and the method can be viewed as a sequence of steps to move between two points on this map (Jonker & Pennink, 2010).*



# KEY RESEARCH PARADIGMS

1. Positivism.

2. Post positivism .

3. Constructivism (interpretivism).

4. Pragmatism

(Hallebone & Priest, 2008)



# POSITIVISM

- Positivism sees social science as an organized method for combining **deductive logic** with **precise empirical observations** of individual behaviour in order to discover and confirm a set of **causal** laws that can be used to predict **general** patterns of human activity.

(Neuman & Kreuger, 2003)



# POSITIVISM

- Positivism postulates that reality exists independently of humans (social construction) and the reality is controlled by unchangeable laws (Rehman & Alharthi, 2016).
- Positivism suggests that it is possible to formulate these laws and describe them using genuine statements (Rehman & Alharthi, 2016).
- It is frequently utilised to test theories or hypothesis (Taylor & Medina, 2011).

# POSITIVISM (CONTINUED)

- The social world is treated like the natural world (**cause-effect relationship between variables**). Therefore, it is possible to make probabilistic **predictions and generalizations**.
- The reality is **context free** (the researchers will get similar conclusions regarding the phenomenon in different times and places, no complete understanding of the phenomenon)= insensitivity to context, complexity and change.
- The epistemological position is **objectivism** (Researchers are objective observers to examine phenomena that exist independently of them and they do not influence the observed phenomenon).

(Rehman & Alharthi, 2016)



# POSITIVISM (CONTINUED)

- Observation and verification are essential features of positivism.
- knowledge is objective and quantifiable.
- The world is real and not socially constructed.
- Positivism is the primary base for quantitative research (Rehman & Alharthi, 2016).
- Synonymous with Scientific method, Empiricism, and Objectivism (Mack, 2010).



# POSITIVISM (CONTINUED)

- Scientific research in a positivist paradigm focuses on prediction.
- The hypothetico-deductive model of science is used to facilitate the research process, taking a theory-verification approach.
- Research operates in an objective world, where the researcher does not interact with study participants to minimize bias.
- Theories of nature depend on empirical data, with larger samples used to make generalizations.

# CRITICISM OF POSITIVISM PARADIGM



- The issue of separation between the researcher and the researched phenomenon, and of considering that the researcher and the researched phenomenon have an independent existence has been claimed as problematic.
- It has been argued that it is impossible for the researcher to investigate particular events without permitting for researcher interests and values interfering or interacting with the investigation.

# POST POSITIVISM (CRITICAL REALISM)

- Post positivism appeared as a result to criticism directed toward positivism.
- Assumptions:
  - Reality exists independent of the observer.
  - Potential of the researcher's beliefs and values affecting the observed phenomenon.

(Rehman & Alharthi, 2016)





# POST POSITIVISM (CRITICAL REALISM)

- Post positivism rejects the neutrality and human detachment that are characteristic of logical positivism.



# POST POSITIVISM (CONTINUED)

- It is a revolt against the limitations of positivism which (positivism) solely associates itself with empiricism and rejects the existence of individual/subjective perspective of facts.
- Post-positivistic paradigm promotes the triangulation of qualitative and quantitative methods that explores the diversity of facts researchable through various kinds of investigations but respecting and valuing all findings as the essential components for the development of knowledge
- One of the most prominent characteristics of post positivist research is using triangulation within and between methods (Bisman, 2010).
- It has been well established that mixed method is the preferred technique/ method of post positivists in order to explore multiple viewpoints to gain deeper consideration of the research problem (McEvoy & Richards, 2006).

# POST POSITIVISM (CONTINUED)

- Researchers in the postpositivist tradition are **critical realists** in that they support the notion that objects exist, but this recognition is accompanied by an understanding that some cannot be observed by the senses or experimentally tested. Knowledge is, then, always open to further investigation and the truth of any matter is always forthcoming.



# CONSTRUCTIVISM (INTERPRETIVISM)

- Aims to :
  - Understand the social phenomenon in its context (**contextualised investigation**).
  - Understand how people make sense of their world and, thereby, **construct** meaning.
- Depends on qualitative data collection over an extended period of time (e.g. ethnography and case studies).
- Researchers interact with the subjects of study to obtain data (research is based and depends on the researcher's interests).
- Data analysis approach is inductive, i.e. the researcher attempts to discover patterns in the data, categorise them under broad themes to understand a phenomenon and generate theory.

(Krauss, 2005)

# CONSTRUCTIVISM (INTERPRETIVISM)

- The main distinction between constructivism philosophy and positivism relates to the fact that while positivism argues that knowledge is generated in a scientific method, constructivism maintains that knowledge is constructed by scientists



# CONSTRUCTIVISM (CONTINUED)

- Interpretive research does not predefine dependent and independent variables, but focuses on the **full complexity of human sense making as the situation emerges** (Antwi & Hamza, 2015).

# CONSTRUCTIVISM (CONTINUED)

- The constructivism philosophical paradigm is associated with the qualitative research approach. This is the case because:
  1. the paradigm seeks to understand a phenomenon under study from the **experiences or angles of the participants**.
  2. Also, the researcher **constructs meanings** from the phenomena under study through **his own experiences and that of the participants in the study**.
  3. In his quest to find the true state of the situation under study, he sometimes **engages** in the activities as they are carried out by residents in the **natural settings** so that he experiences it himself or see others experiencing it.
  4. Moreover, like the qualitative researcher, constructivists assert that reality is **subjective** because it is from the individual perspectives of participants engaged in the study and are thus **multiple or varied**.



# CONSTRUCTIVISM (CONTINUED)

- In general, **qualitative research** is based on constructivist ontology:
  - No objective reality.
  - There are multiple realities (i.e. truths, worldviews) constructed by human beings who experience a phenomenon of interest.

(Krauss, 2005)



# CONSTRUCTIVISM (CONTINUED)

- Researchers spend enough time with the participants in their natural contexts to feel confident that they are capturing the real facts of the phenomenon under study. Spending far too little time in research settings is a serious flaw in constructivist work.

# CONSTRUCTIVISM (CONTINUED)

- **Research is considered to be of good quality if it has:**
- Credibility (internal validity).
- Transferability (external validity).
- Dependability (reliability).
- Confirmability (objectivity).

(Guba & Lincoln, 1994)



# The differences between constructivism and positivism paradigm

<b>Philosophy</b>	<b>Constructivism</b>	<b>Positivism</b>
<i>Type of research</i>	Qualitative	Quantitative
<i>Methods</i>	Open-ended questions, emerging approaches, text and/or image data	Closed-ended questions, pre-determined approaches, numeric data
<i>Research practices</i>	<p>Positions researcher within the context</p> <p>Collects participant-generate meanings</p> <p>Focuses on a single concept or phenomenon</p> <p>Brings personal values into the study</p> <p>Studies the context or setting of participants</p> <p>Validates the accuracy of findings</p> <p>Interprets the data</p> <p>Creates an agenda for change or reform</p> <p>Involves researcher in collaborating with participants</p>	<p>Tests or verifies theories or explanations</p> <p>Identifies variables of interest</p> <p>Relates variables in questions or hypotheses</p> <p>Uses standards of reliability and validity</p> <p>Observes and then measures information numerically</p> <p>Uses unbiased approaches</p> <p>Employs statistical procedures</p>



# PRAGMATISM



- Pragmatism is not always referred to as a paradigm or philosophy of science since it is not **committed to a single philosophy**.
- Pragmatism originates from the Greek word **pragma**, which means action, activity or the work done.
- The philosophy that encourages people to find processes that work in order to achieve the desired ends.
- It is rather concerned with the best practical way to answer a research question. As such the **research question is the pivotal point for the selection of method**.
- Pragmatism is mostly associated with mixed methods research.

(O'Neil & Koekemoer, 2016)



# PRAGMATISM

- Pragmatic approach is 'to rely on a version of **abductive reasoning** that move back and forth between induction and deduction' to connect theory and data.
- It can convert observations into theories and then assess those theories through action.
- This abductive process is often employed by researchers who **combine** qualitative and quantitative methods in a sequential fashion where the inductive goals of a qualitative approach are based on the deductive results from a quantitative approach, and vice versa.



# PRAGMATISM

## Advantages;

1. Helps to provide a **more complex understanding** of the problem that would otherwise not have been assessable by using only a single approach (qualitative or quantitative ones)
2. pragmatism brings quantitative and qualitative approaches together to **build on their strengths and weaknesses**. The strength of qualitative is often the weakness of the quantitative approach and vice versa. Qualitative research, due to the limitations related to a small number of stakeholders that could be interviewed and topics that could be discussed during the interviews, cannot claim for bringing insights on the breadth of the issues. In the contrary, quantitative studies often fail to address the depth of reactions and contextual factors.

## Challenges:

**Time and commitment for the research.**

# Additional Reading

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Thank you.

