

Inductive vs Deductive Approaches

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Intended learning objectives

- By the end of this week and next week's session, you will be able to:
- Understand what an inductive research approach is?
- Understand what a deductive research approach is?

What is an inductive approach?

- Also called inductive reasoning, inductive logic or bottom-up approach.

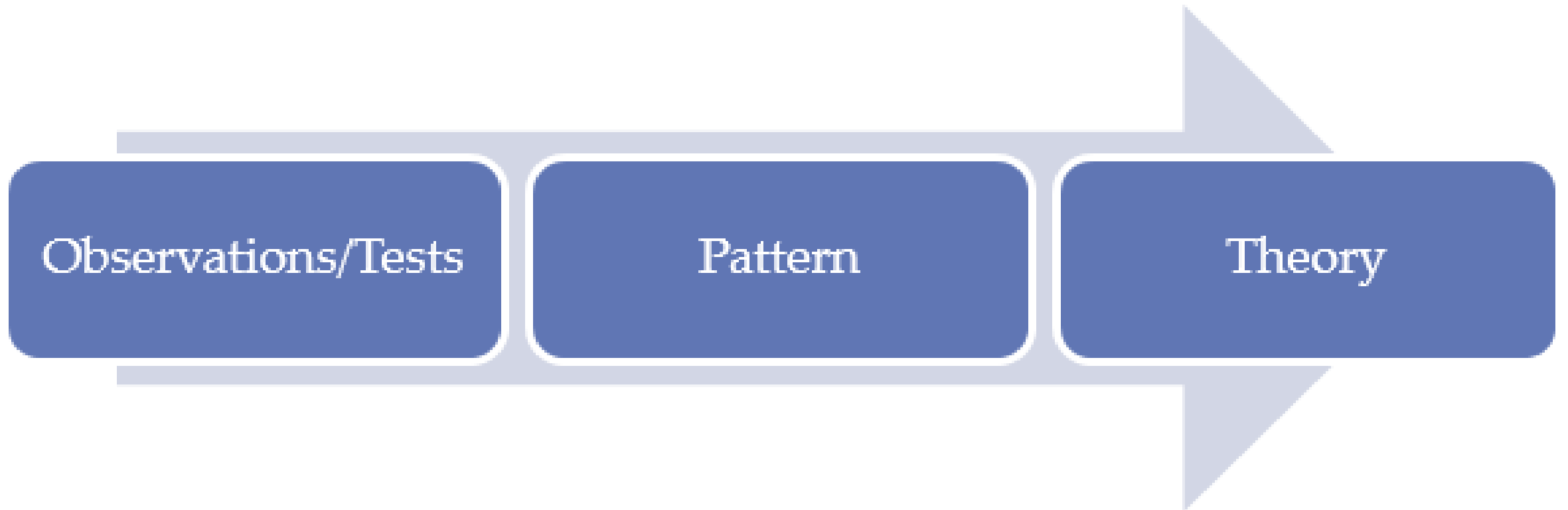
“**Induction:** this is the process by which we draw a general conclusion from individual instances or observations. The benefits of an inductive approach...are that it allows flexibility, attends closely to context and supports the generation of new theory”
(Warwick Education Studies Centre)

What is an inductive approach?

- “inductive reasoning is often referred to as a “bottom-up” approach to knowing, in which the researcher uses observations to build an abstraction or to describe a picture of the phenomenon that is being studied” (Lodico *et al.*, 2010)
- “involves the search for pattern from observation and the development of explanations – theories – for those patterns through series of hypotheses” (Bernard, 2011)

Visual
representations

• **INDUCTIVE**



Simplified example

- 1. Observation

This green apple is sour.

- 2. Pattern

All tasted apples are sour

- 3. Theory

All green apples are sour.



Example

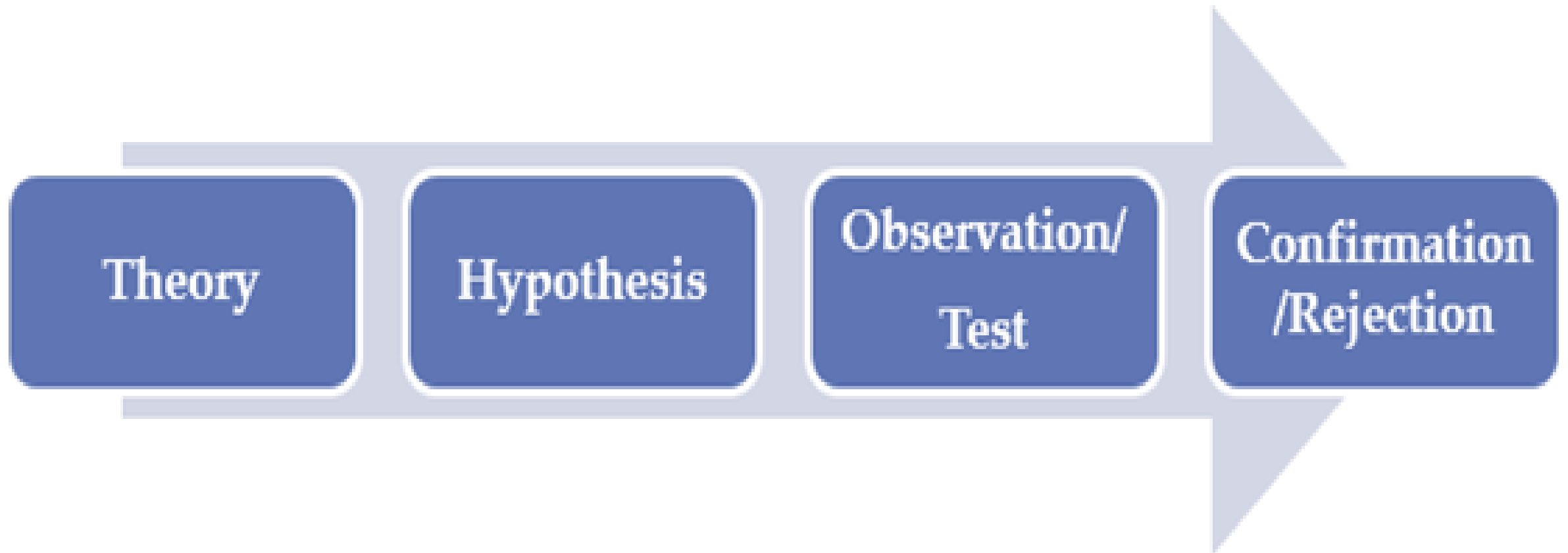
- Explore teachers' perspectives on small class size.
- Teacher 1: Small class size is beneficial for sts because.....
- Teacher 2: it's helpful for me in managing my class.
- Teacher 3: small class size help students achieve better...
- Teacher 4: it could helpful for some but not so much for some others...

What is a deductive approach?

- Also known as deductive logic, deductive reasoning or top-down approach.
- A deductive approach is concerned with “developing a hypothesis (or hypotheses) based on existing theory, and then designing a research strategy to test the hypothesis” (Wilson, 2010)

Visual
representations

- DEDUCTIVE



Simplified example

- 1. Theory

Colour of apples predicts its taste.

- 2. Hypothesis

If green, then it is sour.

- 3. Test

Taste a large number of apples.

- 4. Conclusion

Accept/reject.



Example

- Small class size predicts students' achievements.
- Experiment: Divide cohort to two groups.

Control group

Experimental

- Test students achievement after studying in small size class.

Based on these definitions:
which of the articles is
inductive and which is
deductive?

Brief Comparison

Deductive

- Classroom Learning Environments and the Mental Health of First Grade Children

Inductive

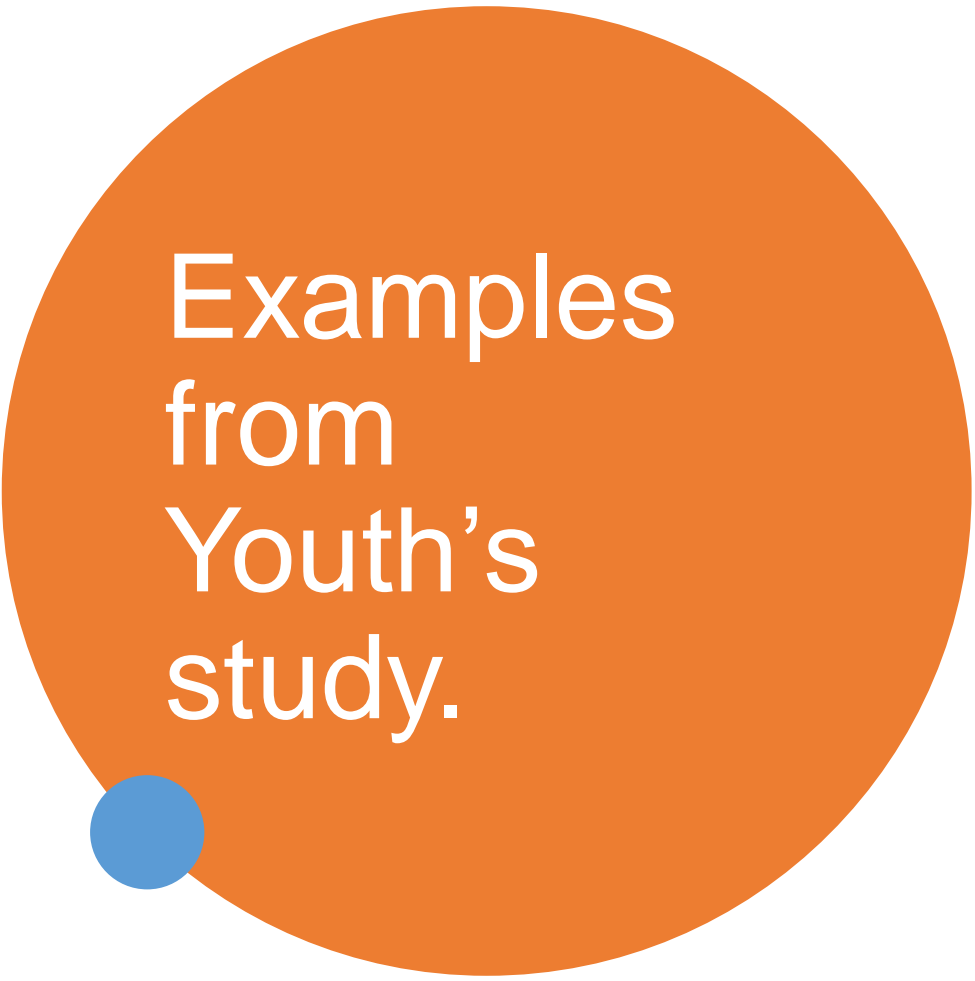
- Enhancing Empowerment and Leadership Among Homeless Youth in Agency and Community Settings: A Grounded Theory Approach

- “the manner in which one asks the research question is important, because it determines to a large extent the research methods that are used to study it” (Strauss and Corbin 1998, p. 41).

- Implies that the research procedure needs to be problem-oriented.



The
indication
of the
research
question



Examples
from
Youth's
study.

- How do homeless youth exercise leadership and decision-making in agency and community settings?
 - —→ Open-ended
 - What agency processes encourage the empowerment of homeless youth in agency and community settings?
 - Process oriented.

Sampling Procedure

- Convenience/purposeful sampling strategy.
- (1) being 18–24 years of age; (2) having spent at least 2 weeks away from home in the month before the interview; and (3) providing verbal informed consent.
- a wide range of situations to maximise the sample variation.
- By focusing on youth from distinct service levels, we were ensuring a broader range of perspectives about their street histories and agency involvement.

Sampling procedure

- depends on the researchers' decision regarding what kind of participants would contribute appropriate data.
- The PI has been collaborating with the agency since 2003, as the organization was involved in three additional multi-city studies on innovative programs serving street youth in three cities, migration and transience patterns among homeless youth in four cities, and trauma coping strategies among homeless youth in three cities.
- The researcher as an instrument/tool of research.

Techniques
to spot the
difference
between
inductive
and
deductive
approaches
in pps

Look at where the author starts.

Look for the hypothesis or the question made.

What sort of data collection tools were used.

Type of analysis.

Conclusion.

Data Collection tools for the youth paper:

Flexible tool.

Focus Group interviews.

Open-ended questions.

Conclusions made!

- Youth Voice and Ownership

Involvement in the resident council will result in increased youth voice and access to staff.

Homeless youth who have an increased voice in agency programming will demonstrate greater motivation to participate in agency programs and to improve their lives.

Learning environment and children's mental health paper

Theory!

- The Sociology of Children's Mental Health.
- A Social Structural and Personality Approach: Classroom Environments and Stress Crossover to Children's Emotional Well-Being
- Children's Status, School Strains, and Mental Health

Hypotheses

- Hypothesis 1:

Among first graders, negative features of classroom learning environments are associated with more emotional and behavioural problems.

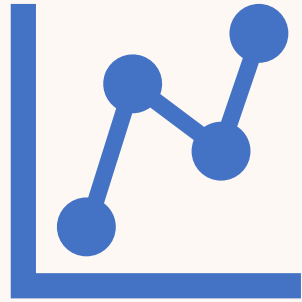
- Hypothesis 2:

Negative features of classroom learning environments affect poor and minority children more negatively than they do middle-class and white children.

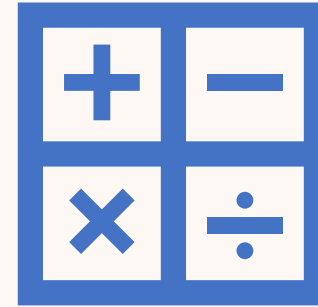
Data Collection Tools

- Controlled instrument.
- Survey.
- Close-ended questions.

Analysis




Statistical tests.



Numerical data.



Conclusion made!



Can we say that the deductive approach starts where the inductive ends?

The answer isn't inevitably YES!

Quant vs Qual/Inductive vs deductive!

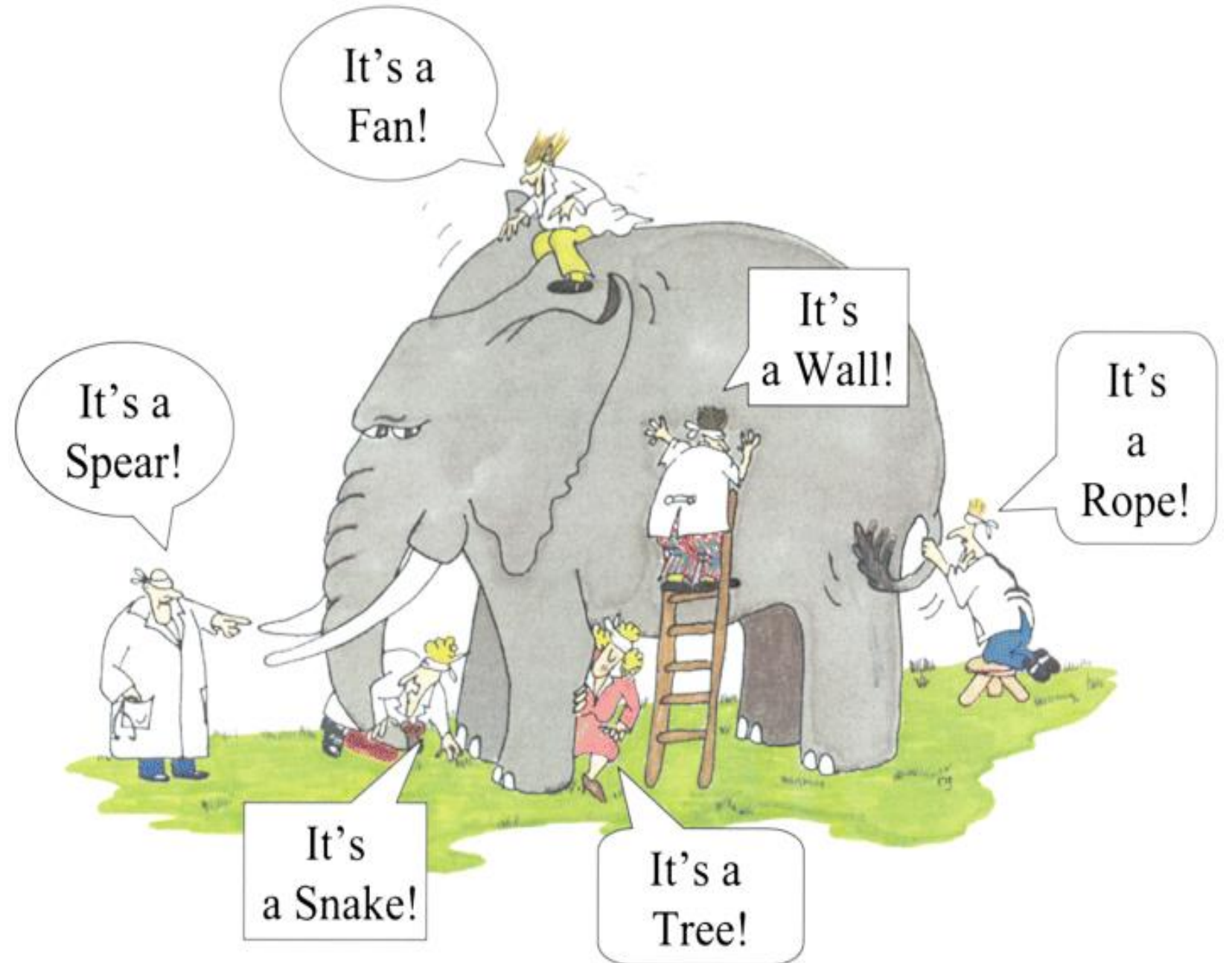


Quantitative (Positivist)
Objective reality
Causal
Samples/populations
Contrived Variables
Numerical
Statistical

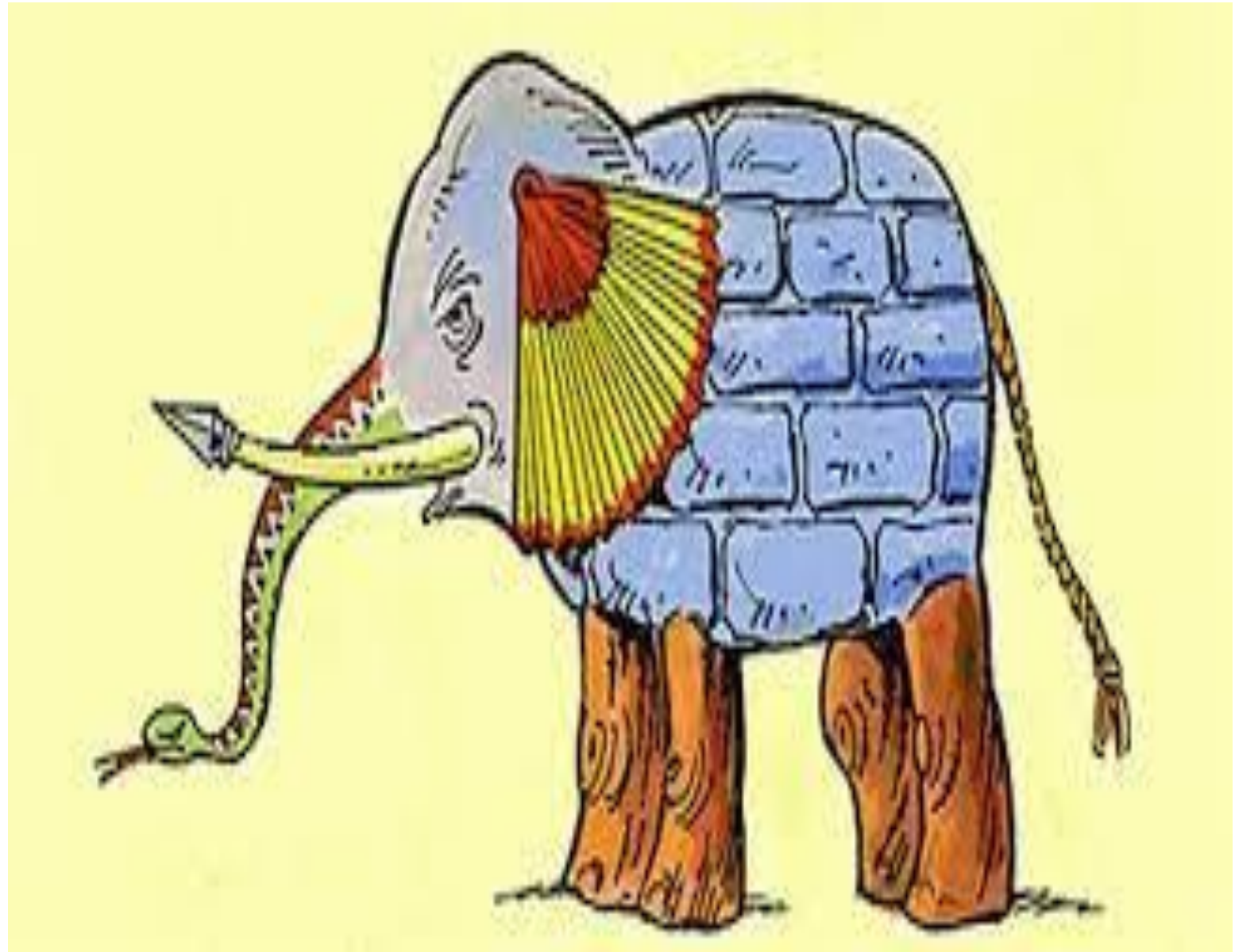


Qualitative (postpositivist)
Subjective reality
Meanings
Personally involved
Study cases Actors in
natural settings
Verbal & pictorial data

The Blind men and the elephant



Their
Representation



Moral of the story

The most interesting part about this story is that since none of the men can experience the elephant in its entirety on his own, the only way to fully grasp the whole thing would be to share and accept each others' perceptions and then add them all together. If each men were able to do this, the entire picture of the elephant could be realized. But, in their utter insistence on being right, each man is doomed to never see the entire picture.

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