AM Last Page: A Guide to Research Paradigms Relevant to Medical Education

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In order to design or interpret qualitative and quantitative research, one should have some understanding of the assumptions that underpin them. Below, we provide an overview of some of the concepts underlying four philosophical paradigms in medical education research and illustrate the relationships between them

Paradigm: A philosophical framework that underlies and affects research activities. What are the assumptions underlying one's views on reality and knowledge? (Synonyms: theoretical or epistemological stance, world view)

There is one truth, and it can be observed.

Post-Positivism There is one truth, but it can never be truly observed.

Critical Theory Multiple truths exist, and they are influenced by power relations among people.

Constructivism Multiple truths are constructed by and between people

Ontology: Theory of the view on reality. What is the nature of physical and social reality?

Realism Reality is objectively observable and exists independently of the human knower. The world is operated by laws of cause and effect. Variables can be observed, measured, and predicted.

Critical Realism Reality is assumed to exist, but evidence in research is fallible due to the complexity of the enquiry.

Historical Realism Reality is shaped by structures of social, political, cultural, economic, ethnic, and gender factors.

<u>Relativism</u> Reality is socially and experientially based; multiple realities exist. change, conflict, and/or become more crystallized.

Epistemology: Theory of knowledge. What are the origin, nature, and limits of knowledge about reality?

Radical Objectivism Knowledge is independent of the human knower. People can provide an objective, value-free description of reality.

Relative Objectivism Knowledge is conjectural and based on hypotheses that have not yet been falsified. Objective knowledge about reality is the ideal, which cannot be achieved.

Relative Subjectivism Knowledge is valuedependent, is influenced by power relations, and is the result of interaction between researcher and participants

Radical Subjectivism Knowledge consists of constructions that arise from interaction between researcher and participants.

Methodology: Strategic approach to answer the research question and to gain knowledge. What is the research design?

Verification Knowledge is gained through hypothesis generation and testing (deduction). It focuses on prediction and control of phenomena. The aim is to produce generalizable data.

Falsification Knowledge is gained by testing if hypotheses can be disproved, using a deductive approach. Outcomes are never totally objective.

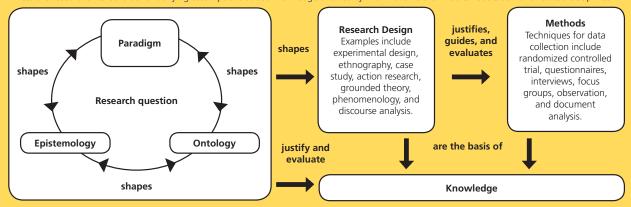
Transformation Knowledge is gained by raising participants to a different level of consciousness and thereby empowering them.

<u>Interaction</u> Knowledge is gained by an inductive approach: recognizing, understanding, developing, and contrasting constructions through dialogue.

Ouantitative research

Qualitative research

As illustrated below, an understanding of research paradigms can guide researchers in designing and performing medical education research. Each step invites the researcher to consider underlying assumptions about knowledge and reality within the field of medical education and related disciplines.



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