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What is research? A conceptual understanding

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"*Scientific research is research, but not all research is scientific.*"

The global knowledge economy is not unaffected by the concepts of supply and demand. The ability to supply research findings is core business among knowledge producers such as universities and research centres. In fact, research outputs are a measure of evaluation. Rapid improvement in information technology has provided wider access to data to the extent that almost anyone with a mouse and internet access becomes a quasi-researcher. So what then is research and what is it that brings reliability and validity to research? These are the questions the following piece seeks to answer.

Definition

"Life without inquiry is not worth living for a human being" (Socrates). Socrates (469–399 BC) was one of the major figures of the intellectual revolution in the fifth century Athens. He determined that people were not wise because they thought that they knew things when they did not. It was only in the sense that he was aware of his own ignorance that he found he was wiser than other people. It is this awareness of the need to know, the act of inquiry and deductive or inductive reasoning that results in the generation of new knowledge.

Rene Descartes (1596–1650) believed that we can only be sure of our own existence because we perceive through the activity of the mind. "*Cogito, ergo sum*" ("*I think; therefore I am.*"). By this logic knowledge generation is central to man's existence. However, the act of gathering information and checking data alone is not considered research. It is at best data collection that is crucial for our everyday existence. The many ways of acquiring knowledge include through tradition, authority, logical reasoning, experience, intuition, borrowing and the scientific method. Of these ways, the scientific method is the most sophisticated and reliable.

In science, research is the diligent systematic enquiry into nature and society to validate and refine existing knowledge and to generate new knowledge. It has several characteristics below that define it, the absence of which would reduce it to the simple (but important) act of gathering information.

Characteristics

1. Relevance
   Research must be predicated on content and contextual relevance, without which is not only purposeless but also unethical. Research processes consume time, material resources and cognition. It is considered unethical to waste scarce resources or to subject participants to processes that have a high futility quotient.
2. Conceptions of research
   Research, when conceptualised may intend certain outcomes. Generating a model/theory is a conceivable outcome, as is recommending an intervention, informing policy making, having a documenting purpose or even informing legislation. Research may be basic or applied.
3. Research orthodoxies
   Parochial demarcations at undergraduate level are acceptable, but should be avoided in postgraduate research in an attempt to globalise the debate or research site. Researching attitudes, perceptions, experience are common goals but in the context of emergency care should be linked to their influence on belief and clinical practice. Positivism is commonly selected as a research paradigm. This is prob-

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ably due to the strong biomedical influence of the undergraduate emergency care training. There is much room for qualitative research in the field as this gives a voice to often marginalised communities and practitioners. Research designs serve to capture the blue print of the study. It holds the researcher accountable to a predetermined process and is also a criterion for ethics approval. After-all, bad science is bad research!

4. Theoretical orientations
   Theoretical orientation serves to frame the research in terms of scope, whilst also providing a proverbial anchor in the literature. These may include: grand theories, substantive theories, feminism, critical theories and eco-systemic trends. Consider, for example, the recent uprisings in Egypt and Libya. There are theories that can inform our understanding of these events. Political theory frames the discourse in communities that are alienated and divorced from the State, who lack political and civil rights that defines a narrow political space. The discourse also includes party politics and inter-ethnic strife. Essentially, in a fight for and against democracy, political priorities conflict with community interests. Psychological discourse, developmental theory and sociological theory can also inform an understanding of these and other events.
   From an ethnographic point of view, these events reflect the culture of an emergent democracy with respect to elections, campaigns, voter registration, electioneering, collecting data and grouping. The culture of resistance indicated by boycotts, marches, stone throwing, pamphleteering and entrenched forms of resistance and expression are also reflected. Without theoretical underpinnings or interrelated set of assumptions, such a deep and considered perspective would be difficult. Theoretical framework positions research in the discipline or subject in which one works.
5. Ethical framework
   Finally research must have beneficence, non-maleficience and respect for autonomy of the participant. Due consideration must be afforded to groups for the potential of group harm. As clinicians entering the research world, the lean is likely to be toward some contrived benefit for the patient community. This may lead to therapeutic misconception: the incorrect notion that research must have a therapeutic outcome. The researcher and the researched are infact mutually exclusive and whilst clinical research might inform treatment protocols later, it is not an immediate expectation of the research.

So, scientific research is research...if it adheres to the definition prerequisite of systematic enquiry...and not all research is scientific if it is constrained to the task of gathering data, outside of a well defined problem and in the absence of an ontological lens and supporting theory.

Conflict of interest

None

Further reading

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