



## **Research Methods in Health Science Education**

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Theory & The Research Thought  
Process

# Today

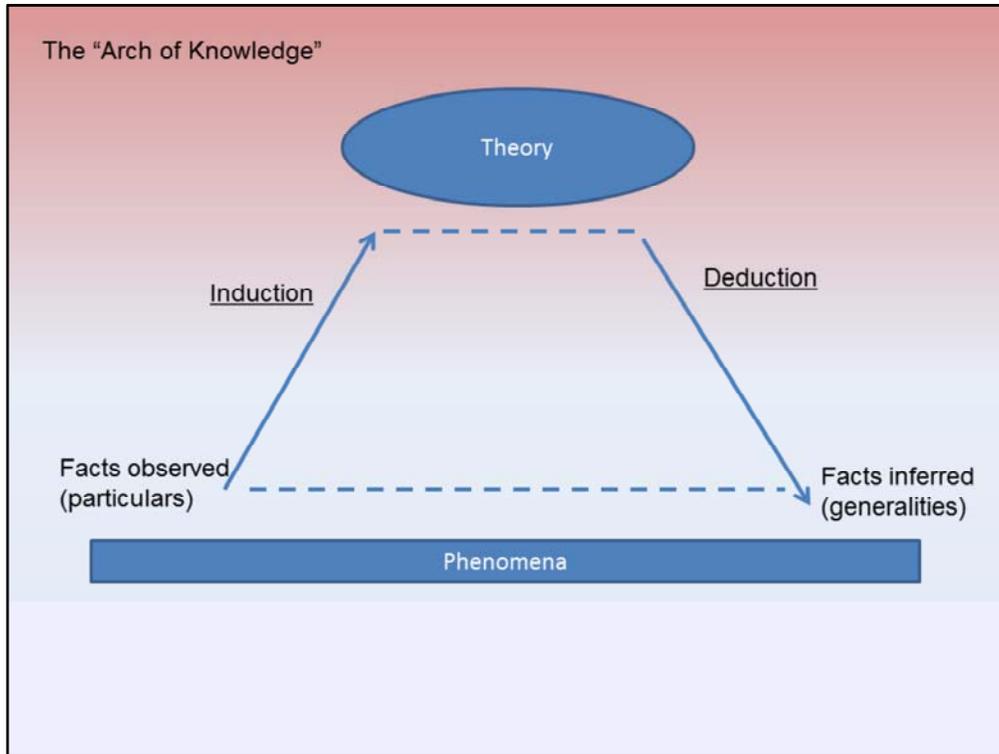
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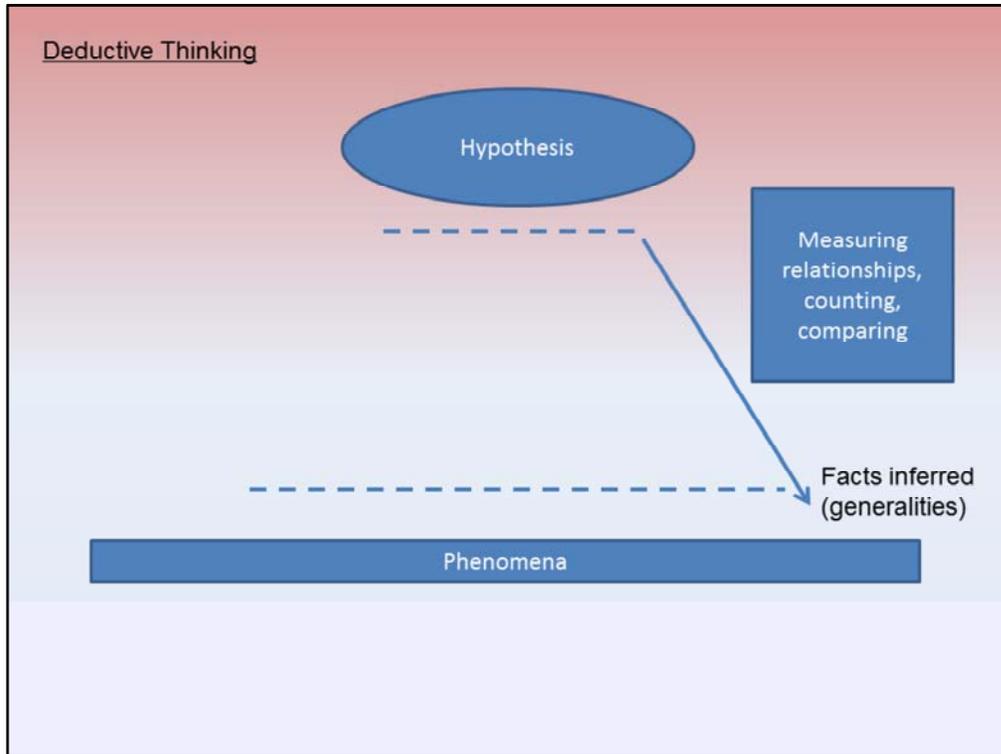
- Theory + Research Thinking Processes
  - Creswell, Chapter 3

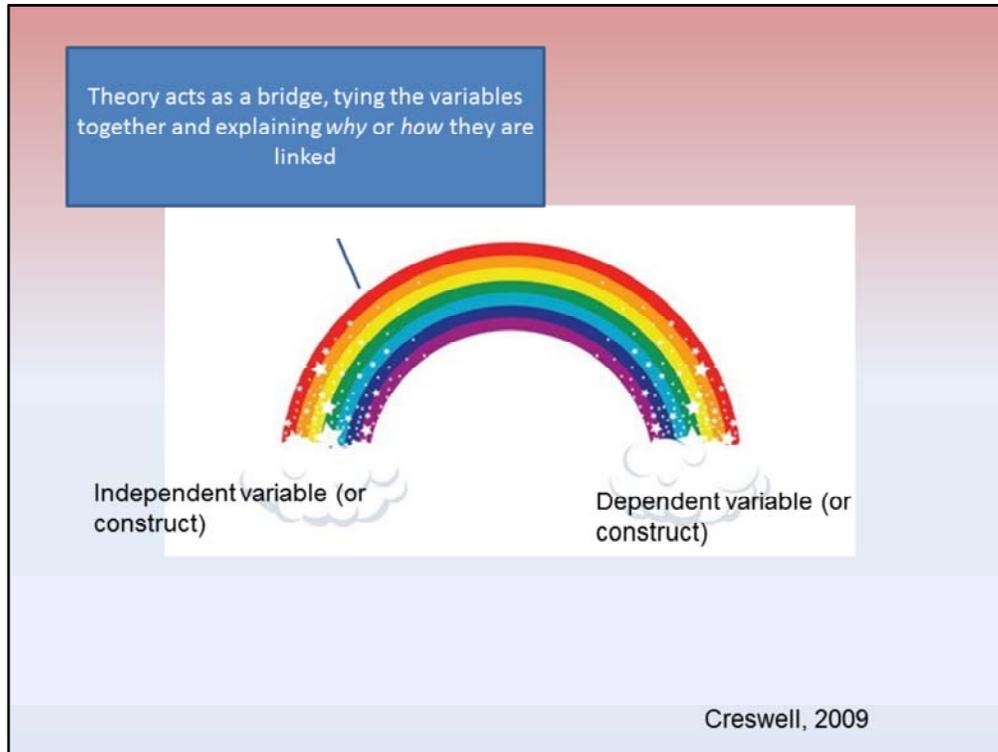
## What is a “theory”?

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“interrelated set of constructs formed into propositions, or hypotheses, that specify the relationship among constructs. A theory might appear in a research study as an argument, discussion, or a rationale and it helps to explain (or predict) phenomena that occur in the world” (Creswell, 2009, p.51).

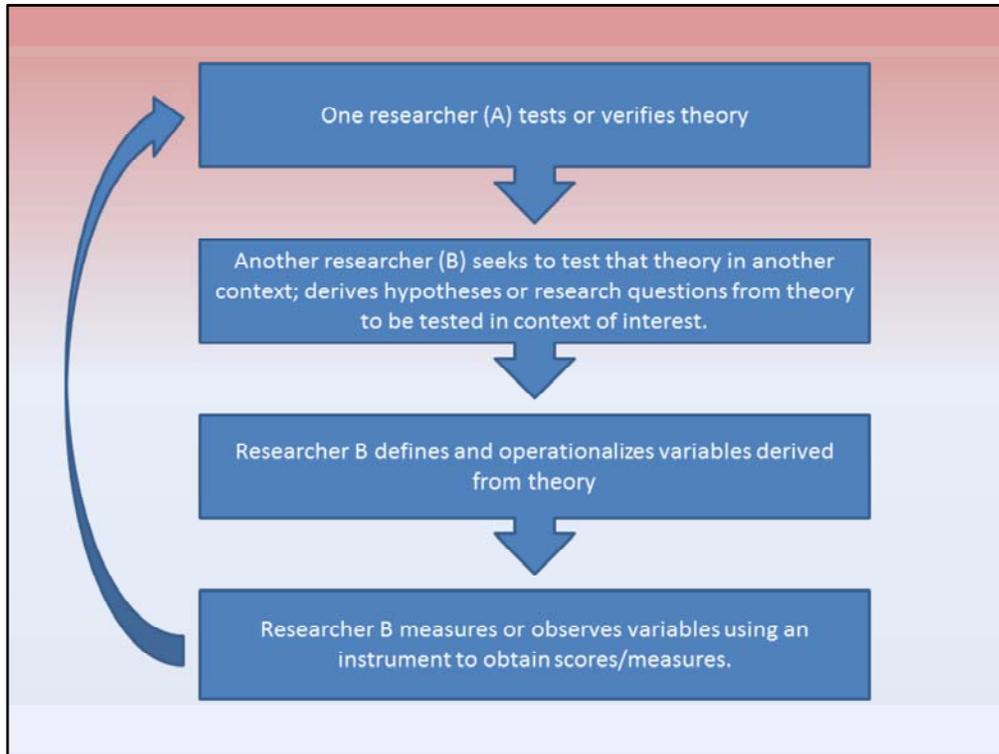






Metaphor of the rainbow as a bridge which links independent and dependent variables together, explaining how and why they are linked, or why one would expect the independent variable to explain or predict the dependent variable.

This theory is used at the start of the study, and the objective of the study is to test or verify a theory rather than developing it. The researcher advances a theory, collects data to test it, and then reflects on its confirmation or disconfirmation by the results. The theory becomes a framework for the entire study, an organizing model for the research questions or hypotheses and for the data collection procedure.



Researcher B can then make a statement about whether or not Researcher A's theory holds true in B's context of interest.

Example: Theory that the greater the centralization of power in a single leader, the more disenfranchised the followers feel. Researcher B wants to test whether this holds true for staff working in a long term care facility. Do they feel more disenfranchised the less power they have? Does this impact upon their work. Step 1: derive hypotheses or research questions that relate to this particular context.

## Quant: Need to start with a theory

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- Hypotheses/research questions should be grounded in theory (existing knowledge).
- This is sometimes called a theory base, theoretical rationale, or your theoretical perspective.
- Without this “scaffolding” approach of building on prior knowledge, your research is at risk of wasting time and resources.

## Why do we need a theoretical rationale?

- Justifies the investigation of these particular variables.
  - Does the colour of a child's toothbrush relate to the number of cavities that child will get before age 10?

Silly and a waste of time. Unless.....



- Jones (2010) has shown that if a child is pleased with the colour of his toothbrush, he is more likely to brush regularly, and for a longer duration.
- Smith and colleagues (1970) have established that duration of brushing is correlated with number of cavities.

## Theory in qualitative research

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2 main ways:

1. Theoretical perspective or lens which informs the research, providing an overall orienting lens.
2. Theory which is generated inductively from data.

There are two main ways that theory is used in qualitative research. The first way incorporates theory at the beginning of the research, as a way of acknowledging the researcher's perspective on the issue. Qualitative researchers use different names for this, including theoretical perspective, theoretical framework, or theoretical lens. The second way is when theory is generated as a product of the research.

## Theoretical lens/perspective

- Indicate how researcher positions self in the study
  - Personal, cultural, historical context.
- Orient researcher to what is important.
  - Marginalization
  - Empowerment
- Orient researcher to who should be studied
  - Women
  - Homeless people
  - Minority groups

A theoretical perspective is used to acknowledge the way the researcher approaches the research and the assumptions, experiences, and priorities that individual brings to the research project. As you may remember from the module on epistemological worldviews or paradigms, qualitative researchers following constructivist and related paradigms believe that it is impossible for the researcher to be completely neutral and objective, and that it is better to acknowledge the assumptions and experiences which inform the way the researcher thinks about the research than to pretend these factors don't exist, or can be completely set aside. Acknowledging the theoretical perspective which informs the way the researcher thinks about the research topic is one way of doing this type of reflexivity. You may wish to look up more about reflexivity, as it is an important way of ensuring quality in qualitative research.

A theoretical perspective is also used to orient the researcher to issues of importance in the research, to particular groups or individuals who are important to include to answer the question.

For example, we might be interested in studying interprofessional leadership in healthcare teams. Using a social theoretical perspective we might look at the interpersonal relationships between health care providers. If we used a critical social perspective we might further focus on issues of power and hierarchy between clinicians. On the other hand, if we used an organizational management perspective we might be interested in examining efficiencies of workflow, the ways in which potential safety issues are identified and brought to the attention of management etc. These perspectives can be helpful in refining qualitative research questions, data collection and data analysis. It helps you figure out what's important and what should be considered.

## Examples of theoretical perspectives

- Feminist perspectives
- Racialized discourses
- Critical theory
- Queer theory
- Disability inquiry
- Marxism
- Post-Modernism



There's no authoritative list of theoretical perspectives, and many perspectives come from particular disciplines, for example social, historical, organizational perspectives.

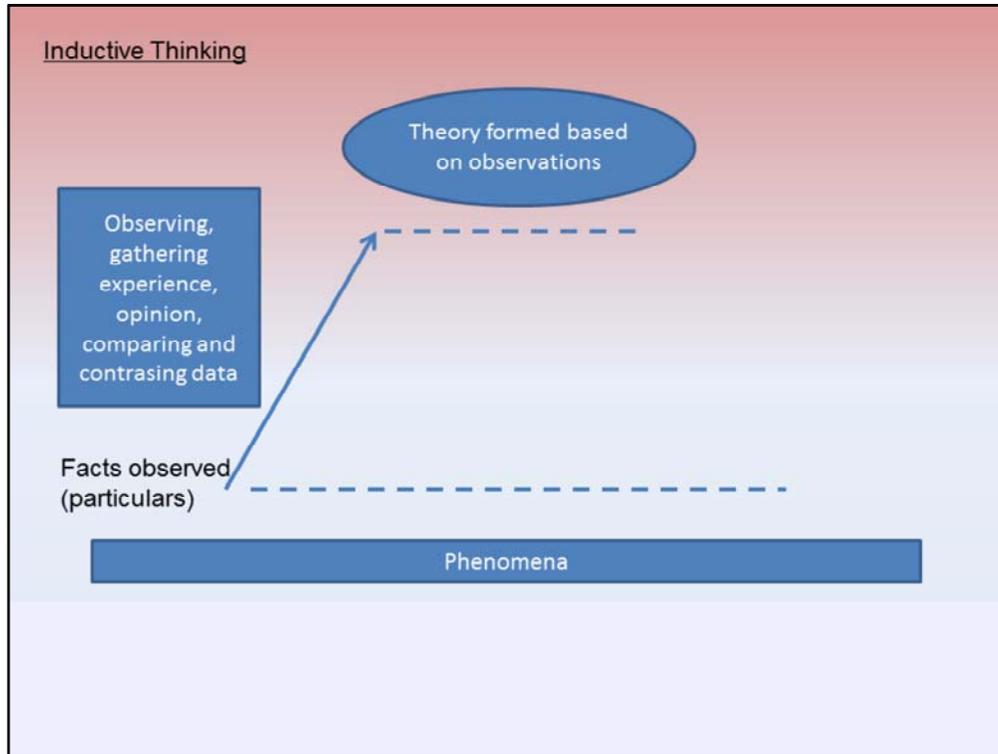
At the beginning of this section I noted that theoretical perspectives are sometimes called theoretical lenses. I think the metaphor of a lens is helpful when thinking about the purpose of these perspectives. A lens brings certain things in focus, and sometimes helps us to see things that might not have been visible, or might have been kind of fuzzy without that lens. The lens doesn't shield or blind us to other aspects, it just helps focus the field of vision to a particular element.

## Theory as the end result of qualitative inquiry



J. Parsons

In several qualitative methodologies, creating a theory is the end result of a research project. The methodology of Grounded Theory is perhaps the most well-known example of this. The whole aim of the project is to analyze data to be able to describe what is taking place and theorize about why. In qualitative research, we do this through inductive reasoning.



Starting with the data that's gathered, the researcher compares and contrasts these particular instances in an effort to identify broader patterns and commonalities between the particulars.

One of the main differences between conclusions drawn from inductive reasoning and conclusions drawn from deductive reasoning is that inductive reasoning always has to allow for the possibility that the conclusion may be false, even if all the premises are true. This is because the conclusion that has been drawn has been drawn from a particular set of observations and there is always the possibility that there was an instance which was not observed which may contradict all the observed instances and therefore falsify the conclusion.

Let me explain:

## Karl Popper's White Swans

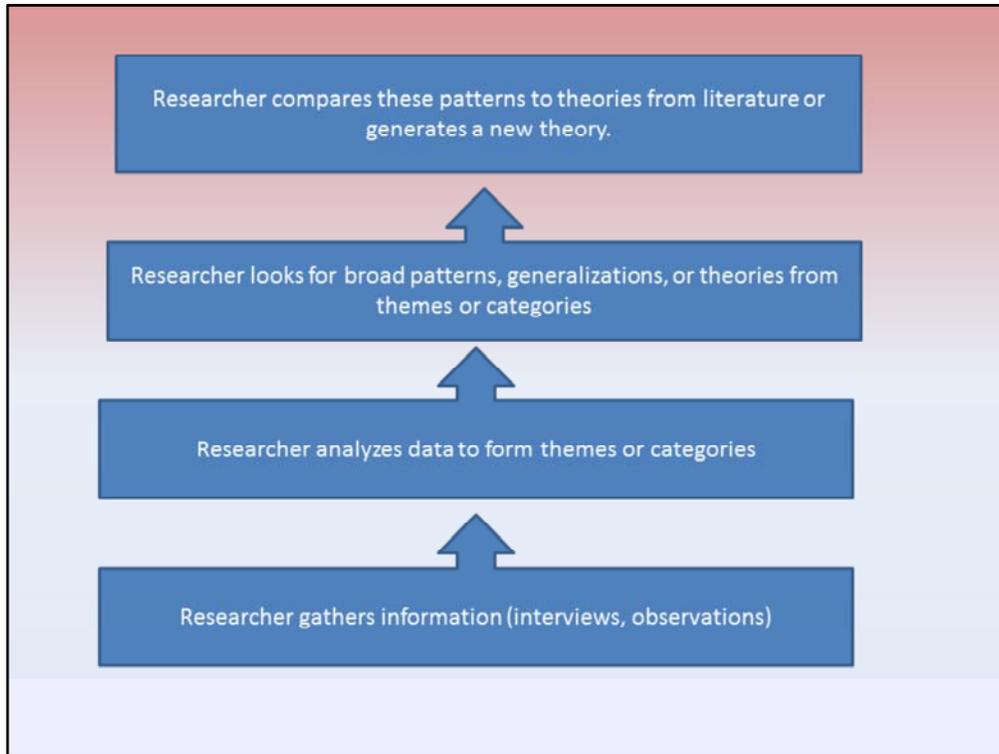


You might be conducting research about the colour of swans. You observe many swans, all over the country, in many different places. Every single swan you see is white. Therefore, you conclude, all swans are white.

This is inductive reasoning- you are making a theory about the general based on observations of the particular.

However, there is always the possibility that somewhere there is a black swan. Or a blue swan. Or a swan with polka-dots. It's impossible to say that your theory about white swans will always hold true. It can only be absolutely true for the swans that you have observed.

The example of the swans was made famous by philosopher of science Karl Popper.



So therefore, the process of qualitative research goes something like this. The researcher gathers all her data, looks at these particulars and tries to identify commonalities between them, then looks at these commonalities and tries to further identify broader patterns or generalities. With this emerging theory based on the data observed, the researcher goes to the literature and compares her emerging theory to other similar theories. The researcher may then go back to her data and see if the existing theory fits, or if it should be modified for the particular context in which her data was gathered. Alternatively, there may not be any similar theories in the literature, and so the researcher may generate a new theory.

## Points to Ponder ...

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How do inductive and deductive thought processes affect the type of data you might collect?

- Working with the same type of data, could you analyze it both inductively and deductively?

How are a quantitative theoretical rationale and a qualitative theoretical lens similar? How are they different?

## References

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Grix, J. (2002). Introducing students to the generic terminology of social research. *Politics*, 22(3), 175-186.