

Methodological Paradigms

Greetings! Dr. Elizabeth Pope here. This screencast will introduce you to the concept of a methodological paradigm in research.

Learning Objectives

By the end of this screencast, you will:

- Understand what a methodological paradigm is.
- Be familiar with objective vs. subjective ontologies.
- Have comprehension of the various methodological paradigms in qualitative research.

Ways of Understanding Reality

Behind every research study is an assumption about the nature of reality. The term for the nature of reality is “ontology” and it is a term used in a variety of fields. The dictionary definition of the term ontology is: “a branch of metaphysics concerned with the nature and relations of being; a particular theory about the nature of being or the kinds of things that have existence.” (Merriam-Webster). Your understanding of the nature of reality is an underlying concept of any research project. Thus, how you answer “what is the nature of reality” will influence your approach to research.

Ontology is an important theoretical concept in research that impacts how individual researchers conduct research. Additional theoretical concepts that influence how research is conducted include:

Epistemology (answering the questions: what is valid knowledge within reality? How is knowledge created? And what is the relationship between knowledge and the knower?)

And methodology (answering the question: how do we gather knowledge about the world?). These questions all have answers to them within and outside the context of research. What this means is that we are all philosophers in a sense. Think about these questions, you probably already have answers for them. Maybe your answers come from what you know about education, religion, and/or other aspects of your personal worldview.

In research, theoretical stances in each of these categories are organized into a framework that influences how a researcher designs and conducts a study. These frameworks are called methodological paradigms. Each paradigm followed in research has its own assumptions about ontology and epistemology and the methodologies that relate. So, think of a paradigm as a net of sorts that includes ontology, epistemology, and methodology.

Identifying Different Paradigms (and Your Own)

Michael Crotty (1998) is one of the most cited researchers in social science that explains the different paradigms, their history and development, and their use. He explains, “Research students and fledgling researchers – and, yes, even more seasoned campaigners – often express

bewilderment at the array of methodologies and methods laid out before their gaze. These methodologies may appear more as a maze than as pathways to orderly research. There is much talk of their philosophical underpinnings, but how the methodologies and methods relate to more theoretical elements is often left unclear” (p. 1).

Each researcher determines their own methodological paradigm – but certain theoretical perspectives fit better together than others based on the assumptions they hold.

When we look to the figure to the left here, you can see the flow of how these concepts relate to each other. In determining an appropriate methodological paradigm, Crotty recommends you build from the bottom up. So, researchers ask themselves, “What methodologies and methods will we be employing in the research we propose to do?” and “How do we justify this choice and use of methodologies and methods?” The answer to your second question lies in your research purpose and questions. There will be methodologies that will help you gather the data you need and others that won’t apply.

The paradigms come in next – to justify your choice of methods, your theoretical assumptions play an important role. For Crotty the next step is to identify your theoretical perspective. Theoretical perspectives are these methodological paradigms, they are your stances on epistemology and ontology that inform your methodology.

Crotty tells us:

Justification of our choice and particular use of methodology and methods is something that reaches into the assumptions about reality that we bring to our work. To ask about these assumptions is to ask about our theoretical perspective (i.e. methodological paradigm which consists of epistemology and ontology). It also reaches into the understanding you and I have of what human knowledge is, what it entails, and what status can be ascribed to it. What kind of knowledge do we believe will be attained by our research? What characteristics do we believe that knowledge to have? Here we are touching upon pivotal issues. How should observers of our research – for example, readers of our thesis or research report – regard the outcomes we lay before them? And why should other researchers take these outcomes seriously? These are epistemological questions. Already our two initial questions have expanded. (p. 2)

We find ourselves with four questions now:

- What methods do we propose to use?
- What methodology governs our choice and use of methods?
- What theoretical perspective lies behind the methodology in question?
- What epistemology informs this theoretical perspective?

Crotty’s Definitions

The answers to these four questions form the foundation of any research project. According to Crotty the definitions of each are here and I’ve given you some examples for each category. I’ll let you take a moment to read through them.

- Method: “the techniques or procedures used to gather and analyse data related to some research question or hypothesis.” Like questionnaires, surveys, experiments, interviews, or focus groups.
- Methodology: “the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of your methods to the desired outcomes.” Like experimental, quasi-experimental, survey, interview, or narrative studies.
- Theoretical perspective: “the philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria.” I.e. your methodological paradigm like positivism, interpretivism, or critical realism.
- Epistemology: “the theory of knowledge established in the theoretical perspective and thereby in the methodology.” Like objectivism, constructionism, or subjectivism. (p. 3).

Paradigms in Quantitative Research

Regardless of whether you conduct qualitative or quantitative research, you will follow a methodological paradigm. However, the approach to this is quite different in the two areas of research. The most obvious difference is that there is much more variety of theoretical perspective in qualitative research than there is in quantitative research. Because of this, this topic is one of a much greater level of discussion for qualitative researchers.

Quantitative research methods typically have a theoretical perspective of objectivism – the idea that objective knowledge is measurable and knowable. Crotty explains the objectivist epistemology as “meaning, and therefore meaningful reality, exists as such apart from the operation of any consciousness. That tree in the forest is a tree, regardless of whether anyone is aware of its existence or not. As an object of that kind, it carries the intrinsic meaning of ‘tree-ness’. When human beings recognize the tree, they are simply discovering a meaning that has been lying there in wait for them all along” (p. 8).

The research methodologies of quantitative research use methods that collect data under this assumption. These methodologies or study designs include experimental studies, quasi-experimental studies, descriptive studies, correlational studies, etc. The methods would then be the instruments used to actually collect the data such as surveys, tests, etc.

So, let’s look to Crotty’s chart here filled in with examples from quantitative research. Objectivism usually follows a positivist theoretical perspective. It uses methodologies like experimental and survey research. The methods used to generate data are scaled surveys, measurements, and questionnaires.

Paradigms in Qualitative Research

While quantitative research follows an objectivist or positivist paradigm, qualitative researchers follow a variety of paradigms that are more interpretive in nature. These “interpretive frameworks” within qualitative research are “guided by a set of beliefs and feelings about the world and how it should be understood and studied” (Denzin & Lincoln, 2000, p. 19). Such paradigms are guided by epistemological stances that look to how knowledge is created through

experience in the world and ask the researcher to make use of their own assumptions and interpretations that they themselves bring to any research project.

There are four major methodological paradigms within qualitative research: positivist & postpositivist, constructivist-interpretive, critical, and feminist-post-structural. Each of these paradigms often hold to relativist ontologies which assume the existence of multiple realities constructed from the understandings of individual people). They follow interpretive epistemologies which adhere to the belief that there is an interaction between individuals and what is known about the world and that these interactions shape our understandings of the world (examples of these being constructionism and subjectivism).

If we look to the chart on the left adapted from Crotty's work, we can see how these theoretical ideas fit together.

A Qualitative Example

Qualitative researchers will often explain which paradigm they follow and how their study fits within this paradigm. For example, if a researcher follows a methodological paradigm of critical realism their ontology is one of realism (the assumption that there is a real world that exists independently of our perceptions and theories) and an epistemology of constructivism (the assumption that individual people construct their own understanding of reality by making meaning of their experiences, thus this objective real world can only be understood through the subjective lens of personal experience). Methodologies that would help researchers gather data about knowledge created from person experience include basic qualitative research, case study research, and grounded theory research among others. Methods used to gather these data may include interviews, observations, and focus groups because the researcher would be seeking to understand individual perspectives of the experience under study.

Conclusions (References Slide)

Researchers, particularly qualitative researchers, should keep theory close at hand when designing a study. Theory as methodological paradigms determines how we conduct research, and is methodologically focused (as opposed to a theoretical framework which is more content based in relationship to the subject under study). Researchers must ask themselves: What do I believe about reality? Is it independent of our own experiences with it, thus it is measurable objectively? Or is it our own experiences with it that matter and thus we need to understand perspective and individual understanding? How you answer these questions will often determine whether you'll take a qualitative or quantitative approach to research.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Thousand Oaks, CA: SAGE.

Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: SAGE.