




Conceptualizing & categorizing research paradigms, methodologies & methods

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1. In general
2. In positivist tradition
3. In non-positivist (qualitative) tradition

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2. Leads to different paradigms, affecting:
 1. How questions framed
 2. How problems investigated
 3. How results interpreted
 4. Implications for policy & practice


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Introduction to research paradigms


(Some slides in this preliminary section are credited to Blake Poland)

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3. Three dominant ontological/epistemological paradigms
 1. (Post) positivist
 2. Constructivist
 3. Critical perspective


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Introduction to research paradigms

1. Two fundamental set of questions re:
 1. Nature of reality (ontology)
 2. Knowledge of reality (epistemology)
2. Role of critical thinking & deepening social analysis

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Insights

1. Inter-related roles of
 - Values, ideologies
 - Theory
 - Evidence
2. Plasticity of terms
3. Overlapping boundaries between paradigms

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Insights (cont.)

- 4. Variety of questions & variety of methods to answer questions
- 5. Paradigms define themselves **in contrast to** other paradigms

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“Qualitative” vs “quantitative”

- can refer to paradigm, methodology, design, methods, procedures, data type, data analysis, ... (i.e., “plasticity”)
- Not very helpful distinction...?
- A mine-field...!!!

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Conceptualizing & categorizing research

- Many ways to categorize research
- Depends on perspective: distal, intermediate, proximal
 - **Distal**: according to **paradigm**
 - **Intermediate**: according to **methodology**
 - **Proximate**: according to **design & methods**

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Research methodologies in the positivist tradition

1. Defining characteristics
2. Classifications
 1. Campbell & Stanley (1963)
 2. Cochrane Collaboration etc.

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Relationships among...

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graph TD; P[Paradigms] <--> M[Methodologies]; M <--> Me[Methods]; Me <--> D[Data]; D <--> A[Analysis];
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Positivist tradition

- Ontology: there is a reality
- Epistemology: this reality can be known
- Moving beyond theology and metaphysics as the basis of knowing
- Science as the basis of knowing (Age of Enlightenment...)
- Development of scientific method

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Scientific method

- Explores cause and effect relationships
- Proposes and tests hypotheses
- Tests null-hypothesis (i.e., “no effect”)
- Focuses on specific variables (independent variables, dependent variables, etc.)
- Examines the effect of systematically manipulating/controlling variables

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Scientific method (cont.)

- Concerned with two kinds of validity:
 1. **Internal validity:** can one legitimately draw the conclusions from the study?
 2. **External validity:** to what extent can one extrapolate from the findings, generalizing to the larger population?

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Scientific method (cont.)

- Uses quantifiable measurements and observations (though may be qualitative variables)
- Minimizes sources of bias (i.e., experimenter, measurement, selection, attrition, performance, detection, reporting, etc.)

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Campbell & Stanley (1963) classic classification system

1. Pre-experimental designs
2. Quasi-experimental designs
3. True experimental designs

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Scientific method (cont.)

- Concerned to control/measure likelihood of error in drawing conclusions (statistics):
 1. **Type I error:** incorrectly concluding that there is a statistically significant effect (phenomenon), when none exists in reality (i.e., **incorrectly rejecting** the null-hypothesis)
 2. **Type II error:** failing to conclude that a statistically significant effect (phenomenon) exists (i.e., failing to **reject** the null-hypothesis)

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Template for experimental designs

Time	T-N	T	T+N
Observation at time (T+/- N)	Observation at Time (T-N)	Observation at Time (T)	Observation at Time (T+N)
Random selection &/or assignment			
Experimental condition #1		Experimental group #1	
Random selection &/or assignment			
Experimental condition #N		Experimental group #2	
Random selection &/or assignment			
Control Group		Control group	

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True experimental designs (Campbell & Stanley, 1963)

1. Pretest-posttest control-group design	Group A ® O-X-O (® =random assignment to groups) Group B ® O----O
2. Posttest only control-group design	Group A ® X-O Group B ® O
3. Solomon four-group design	Group A ® O-X-O Group B ® O----O Group C ® X-O Group D ® O

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Qualitative research: definition (cont.)

.... Involves the studied use and collection of a variety of empirical materials -- *case study, personal experience, introspective, life story, interview, observational, historical, interactional, and visual texts*— that describe routine and problematic moments and meanings in individuals' lives.

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Research methodologies in the non-positivist (qualitative) tradition

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Qualitative research: definition (cont.)

Accordingly, qualitative researchers deploy a wide range of interconnected methods, hoping always to get a better fix on the subject matter at hand."

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Qualitative research: definition (Denzin & Lincoln, 1994)

"Qualitative research is multimethod in focus, involving an interpretative, naturalistic approach to its subject matter.


This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, in terms of the meanings people bring to them. (cont....)

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Qualitative research: functions

- *Evaluation*
 - an *alternative* (more appropriate?) approach to "quantitative" evaluation
 - Qualitative methods for generating data
 - Non-statistical methods for analyzing & interpreting data
 - *Complements* quantitative research
- *Understanding*
 - to understand the meaning of human action


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Qualitative research: methodologies

- Associated with use of non-experimental (non-positivistic) methodologies, such as:
 - Interviewing
 - Observations
 - Focus groups
 - Document analysis
- More likely to employ non-quantitative measures/indicators or descriptions of phenomena

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Quantitative and/or qualitative?

- Use mixed methods
 - Employs range of methodologies & measures
 - Mixed methods is current "best advice" re. quantitative *and/or* qualitative research methodologies
- Overstated dichotomy?

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