Designing a Project

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Introduction

- The Research Question
- Feasibility
- Qualitative Research
- Quantitative Research
- Ethical Issues
The Planning Stage Phase

State questions and hypotheses, identify variables → Determine design structure → Identify population and sample → Design instruments and classify: operational definitions → Select statistical test for resolving hypotheses

(Black, 1999; Doing Quantitative Research)
The Research Question

- Types of Questions
  - Descriptive (Designs)
  - Explorative
  - Evaluative (Process)
  - Predictive
  - Explanatory

- Population
- Hypothesis/Theories
- Existing Literature
Feasibility

- Cost
  - Staff
  - Supplies
  - Compensation
  - Continuing Education
  - Travel

- Time
  - Planning
  - Scheduling
  - Literature Search
  - Data Collection
  - Analyzing
  - Representation
Qualitative, Quantitative, & Mixed Methodology

- **Description**

- **Differences**

<table>
<thead>
<tr>
<th>Scientific method</th>
<th>Quantitative Research</th>
<th>Mixed Research</th>
<th>Qualitative Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deductive or “top-down”</td>
<td>Deductive and inductive</td>
<td>Inductive or “bottom-up”</td>
<td>The researcher generates new hypotheses and grounded theory from data collected during fieldwork</td>
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<tr>
<td>The researcher tests hypotheses and theory with data</td>
<td></td>
<td></td>
<td>Behavior is fluid, dynamic, situational, social, contextual, and personal</td>
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<tr>
<td>View of human behavior</td>
<td>Behavior is regular and predictable</td>
<td>Behavior is somewhat predictable</td>
<td></td>
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<tr>
<td>Most common research objectives</td>
<td>Description, explanation, and prediction</td>
<td>Multiple objectives</td>
<td>Description, exploration, and discovery</td>
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<tr>
<td>Focus</td>
<td>Narrow-angle lens, testing specific hypotheses</td>
<td>Multilens focus</td>
<td>Wide-angle and “deep-angle” lens, examining the breadth and depth of phenomena to learn more about them</td>
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<tr>
<td>Nature of observation</td>
<td>Attempt to study behavior under controlled conditions</td>
<td>Study behavior in more than one context or condition</td>
<td>Study behavior in natural environments</td>
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<tr>
<td>Nature of reality</td>
<td>Objective (different observers agree on what is observed)</td>
<td>Commonsense realism and pragmatic view of world (i.e., what works is what is “real” or true)</td>
<td>Subjective, personal, and socially constructed</td>
</tr>
<tr>
<td>Form of data collected</td>
<td>Collect quantitative data based on precise measurement using structured and validated data collection instruments (e.g., closed-ended items, rating scales, behavioral responses)</td>
<td>Multiple forms</td>
<td>Collect qualitative data (e.g., in-depth interviews, participant observation, field notes, and open-ended questions)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>The researcher is the primary data collection instrument</td>
</tr>
<tr>
<td>Nature of data</td>
<td>Variables</td>
<td>Mixture of variables, words, and images</td>
<td>Words, images, categories</td>
</tr>
<tr>
<td>Data analysis</td>
<td>Identify statistical relationships</td>
<td>Quantitative and qualitative</td>
<td>Search for patterns, themes, and holistic features</td>
</tr>
<tr>
<td>Results</td>
<td>Generalizable findings</td>
<td>Corroborated findings may generalize</td>
<td>Particularistic findings</td>
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<td></td>
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<td></td>
<td>Representation of insider (i.e., “emic”) viewpoint</td>
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<td></td>
<td></td>
<td></td>
<td>Present multiple perspectives</td>
</tr>
<tr>
<td>Form of final report</td>
<td>Statistical report (e.g., with correlations, comparisons of means, and reporting of statistical significance of findings)</td>
<td>Eclectic and pragmatic</td>
<td>Narrative report with contextual description and direct quotations from research participants</td>
</tr>
</tbody>
</table>
Qualitative Research

- Conceptual Context of Theory and Literature
  - Will Theory Change the Lens?
- Methods
  - Sampling Design
  - Site Selection
    - Gaining Access
  - Data Collection Techniques
- Analysis
- Representation
Qualitative Research: Researcher Role

- Exploiter
- Intervener/Reformer
- Advocate
- Friend
Qualitative Research: Validity

- Prolonged Engagement
- Triangulation
- Peer Review
- Negative Case Analysis
- Researcher Bias
- Member Checking
- Rich, Thick Description
Quantitative Research: Designs

- Experimental Design vs. Observational Study
  - Describe
  - Advantages vs. Disadvantages
    - Cost
    - Control
    - Time Consuming
    - Guidelines
    - Generalizability
Quantitative Research: Data Collection: The Sample

- Sample
  - Representative of the Population
  - Sampling Techniques
    - Simple Random Sample (SRS)
    - Stratified
    - Cluster
    - Systematic
    - Convenience (or Purposeful)
  - Difficulties
    - Consent
    - Missing Data: Non-Response & Drop-outs
    - Geographical Barriers
  - Sample Size
Sample Design

- Independent Sample
- Repeated Measures
- Matched Pairs
Quantitative Research: Data Collection Methods and Studies

- Questionnaire
- Interview
- Observation
- Retrospective
- Prospective
- Using Technology

Are your methods and/or instruments reliable and valid?
Quantitative Research: Analysis

- Descriptive Statistics
- t-Test
- Chi-square
- Nonparametric
- Modeling
Ethical Issues

- Responsible Research
  - Deception
  - Ability to Withdraw
  - Confidentiality
  - Debriefing Participants
  - Reciprocity
Conclusion

- Plan Adequately
- Review the Literature
- Talk to Experts
- Quality IN = Quality OUT
- Questions