Nuts & Bolts of Library Research

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Nuts & Bolts of Library Research

2019 Summer Workshop Series
July 2, 2019 | Jessica Serrao | Clemson Libraries
Learning Outcomes

By the end of the workshop, participants will:

- Understand common research designs used in librarianship and how those relate to the research question.

- Know the components of a research proposal and how to plan a research project.

- Leave with a list of resources available to help you through each step of the research process.
Outline

1. Components of a Research Paper
2. The Research Question
3. Types of Research Designs
4. Methods (Qualitative and Quantitative)
5. Data Collection
6. Data Analysis
7. The Research Proposal
Research as an Hourglass

- Very general
- Increasingly specific subheadings that focus and funnel toward research question

- Very specific answerable question

- Method readings and details of the process of your study

- The data you culled from your sources
- One paragraph synopsis or overview of your data

- What did your data mean? How does it compare with literature?

- Where could you go from here?

Introduction
- Literature Review
- Subheading 1
- Subheading 2

Research Question(s)
- Methodology
- Results
- Short Synopsis of Findings

Discussion & Conclusions
- Future Research

Bibliography & Appendices
The Research Question

Project Goal

(Objective) (Problem)

Objective

Objective

Objective

RQ

RQ

RQ

RQ

RQ

In

In

In

In

In

In

Survey or IDI questions, observation fields
Tiered Approach Example

Overall Goal: To evaluate the impact of the info literacy instruction program.

Objective 1: To identify which aspects of the program were most successful.
   Research Question A: What are participants’ perspectives on the active learning component of the program.

Objective 2: To measure the impact of the program on participants’ information literacy skills and knowledge.
   Hypothesis A: The intervention will improve participants’ info lit knowledge and skill sets.
Tiered Approach Exercise

Overall Goal
To understand the role of active learning in online information literacy instruction.

Objectives
1. To assess the effectiveness of active learning activities in online classes.
2. To describe the advantages and disadvantages of active learning activities in online classes from the student perspective.

Research Questions
1. Do students in online classes with active learning activities perform better than those in traditional online classes?
2. Do students in online classes with active learning activities have a higher satisfaction level than those in traditional online classes?
3. What are student perceptions of the content, length, and implementation of the active learning activities in online classes?
Research Question Can Be…

**Descriptive**
Descriptive questions seek to describe an observed social phenomenon and find out “what is happening” or “what exists.”

What are student perceptions of the content, length, and implementation of the active learning activities in online classes?

**Relational**
Relationship questions aim at examining the correlation between two or more variables.

Do students in online classes with active learning activities have a higher satisfaction level than those in traditional online classes?

**Causal**
Causality questions seek to determine whether or to what degree one or more variables (a program or stimulus) causes or affects one or more outcome variables.

Do students in online classes with active learning activities perform better than those in traditional online classes?
To Test Your Research Question, Ask...

- Can the research question hold my interest?
- Can the research question pass the “so what” test?
- Is the research question well-grounded in existing research?
- Are all the terms in the research question unambiguous and operationally definable? Is the research question empirically answerable?
  - Example: Do students in online classes with active learning activities perform better than those in traditional online classes?
- Is answering the research question feasible, given the constraints of time, budget, expertise, manpower, and ethics?
Types of Research Designs

**Observational**
- Nothing is manipulated, study a situation or event as is
- Assignment of subjects into groups is uncontrolled because:
  - It would violate ethical standards (ie. making someone poor)
  - The researcher can’t control the variable being studied (ie. age of students)

**Quasi-Experimental**
- Something changes, but participants not randomized to change
- Planned intervention or naturally occurring event
- Pre/Post-assessment
- Common in field research when randomization would be unethical or impossible

**Experimental**
- Researcher intentionally manipulates the situation to study the effect
- Participants are randomized into distinct groups (one is the control, one receives intervention)
Qualitative Methods

Defined by
- Nature of data collection
  - Open-ended with inductive probing
  - Iterative and open to emergent themes

When to use?
- When you’re examining text or visual data.
- When your objectives are to identify, explore, describe.

Most common in LIS
- In-Depth Interviews
- Focus Groups
- Document Analysis
Quantitative Methods

**Defined by**
- Nature of data collection
  - Closed and structured

**When to use?**
- When you’re analyzing numerical data.
- When quantifying is important.
- When range of responses is already known.
- When your objectives are to test, measure, or analyze.
- If you’re testing hypotheses.

**Most common in LIS**
- Surveys (66.5% employed surveys in journal study)
- Direct Observation
Data Collection

**Qualitative**
- Method: In-depth interviews
- Instrument: Interview guide
- Method: Focus groups
- Instrument: Focus group guide
- Method: Document analysis
- Instrument: Spreadsheet or document

**Quantitative**
- Method: Surveys
- Instrument: Interview/Questionnaire
- Method: Direct observation
- Instrument: Spreadsheet, document, program
Data Analysis

Qualitative

Thematic Analysis
Intercoder-agreement

Software Options
Dedoose or NVivo

Quantitative

Descriptive Statistics
- Univariate analysis (central tendency measures, standard deviation, frequency distribution)
- Bivariate analysis (Pearson’s r, linear regression)

Inferential statistics (Chi-square, t-Test, One-way ANOVA)

Software Options
SPSS, Stata, SAS, or Tableau
The Research Proposal

Blueprint for Success
The Research Proposal

- **Introduction**
  - Literature Review
  - Subheading 1
  - Subheading 2

- **Research Question(s)**

- **Methodology**

- **Results**
  - Short Synopsis of Findings

- **Discussion & Conclusions**

- **Future Research**

- **Bibliography & Appendices**

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The Research Proposal

- Introduction
- Literature Review
  - Subheading 1
  - Subheading 2
- Research Question(s)
- Methodology
- Project Schedule
- Significance of Work
- Summary
- Bibliography & Appendices

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Method readings and details of the process of your study

Timeline for completion of all components.

Why is your research important? How does it add to the scholarly literature?

Broad reiteration of the research purpose
List of Resources

Credits

Slide Content Credits
Thanks to Lili Luo and Greg Guest for their Institute for Research Design in Librarianship slides and exercises.

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