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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

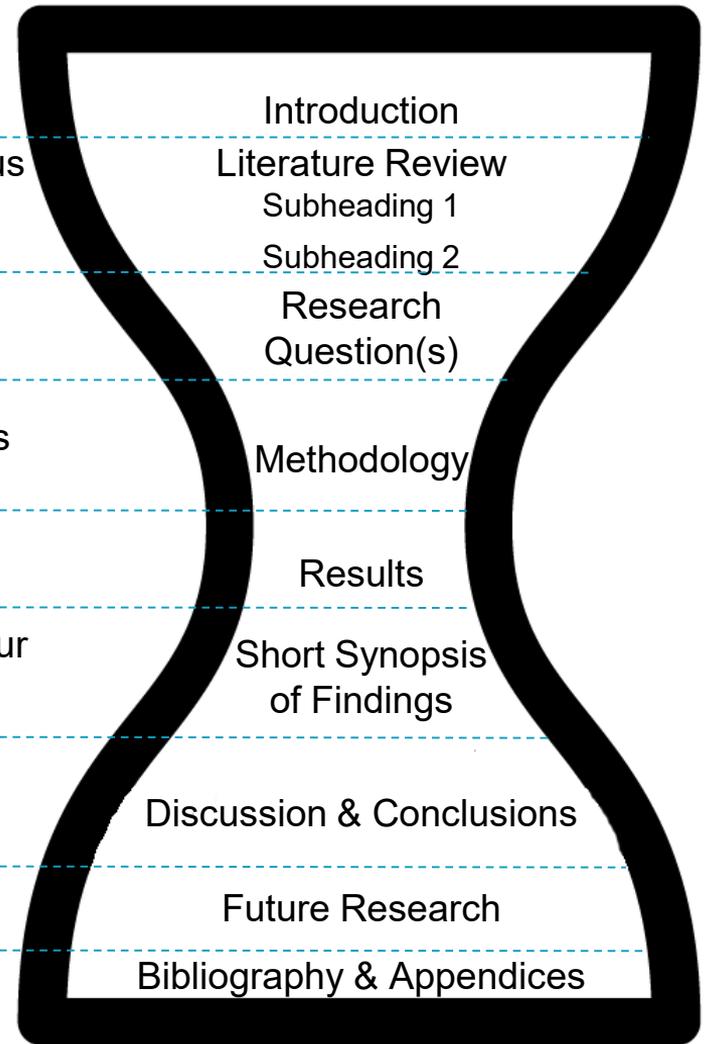
Method readings and details of the process of your study

The data you culled from your sources

One paragraph synopsis or overview of your data

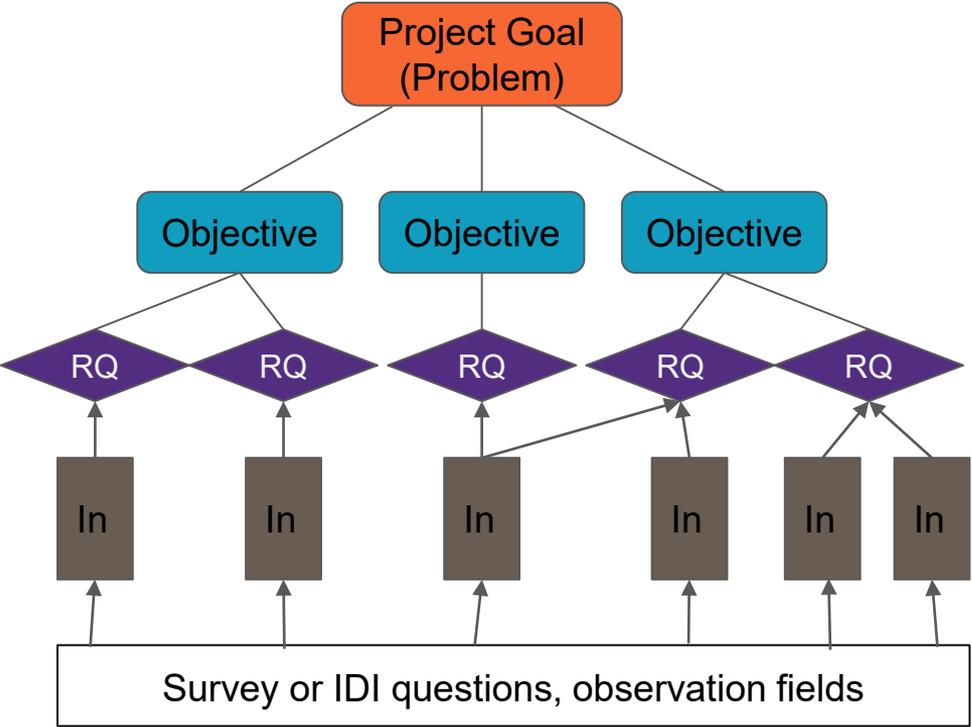
What did your data mean? How does it compare with literature?

Where could you go from here?





The Research Question





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.

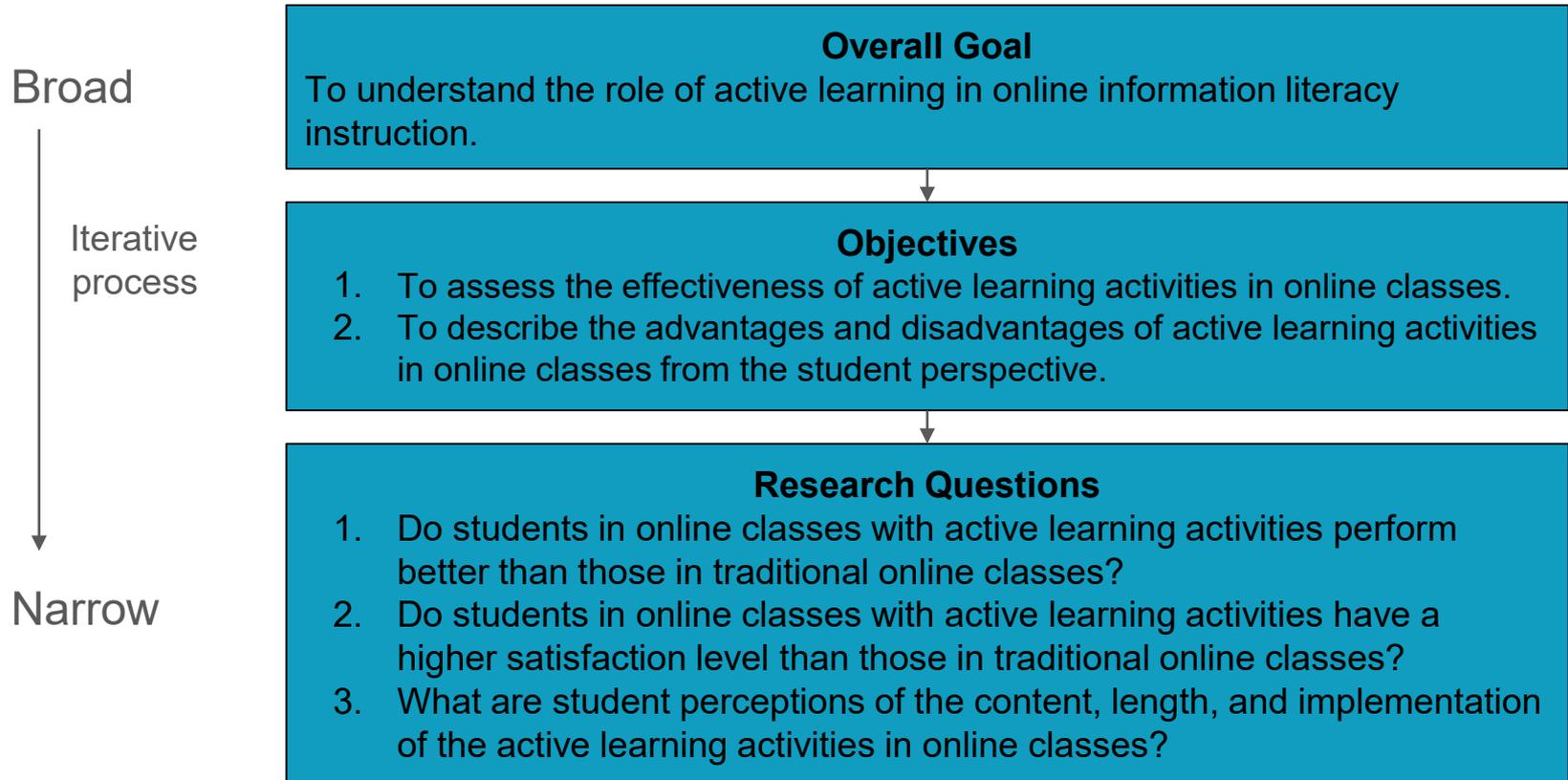
Hypothesis A: The intervention will improve participants' info lit knowledge and skill sets.



Identify, Explore, Describe, Explain, Compare, Assess, Evaluate, Measure, Test



Tiered Approach Exercise





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)

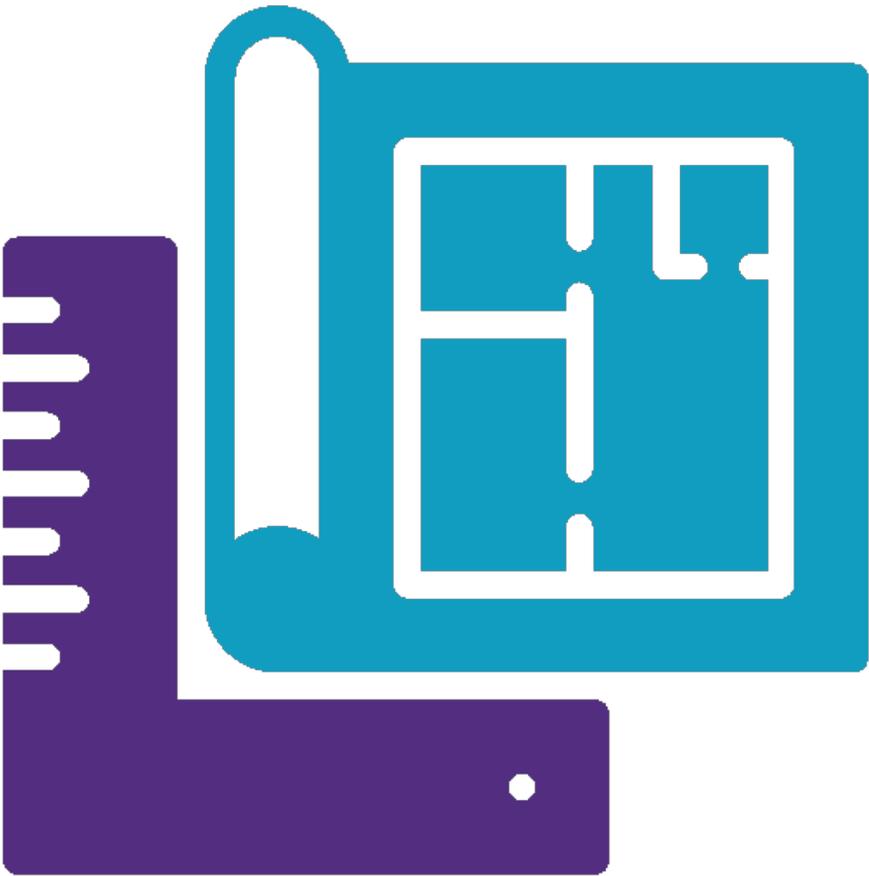
Software Options

SPSS, Stata, SAS, or Tableau





The
Research
Proposal



Blueprint
for
Success



The Research Proposal

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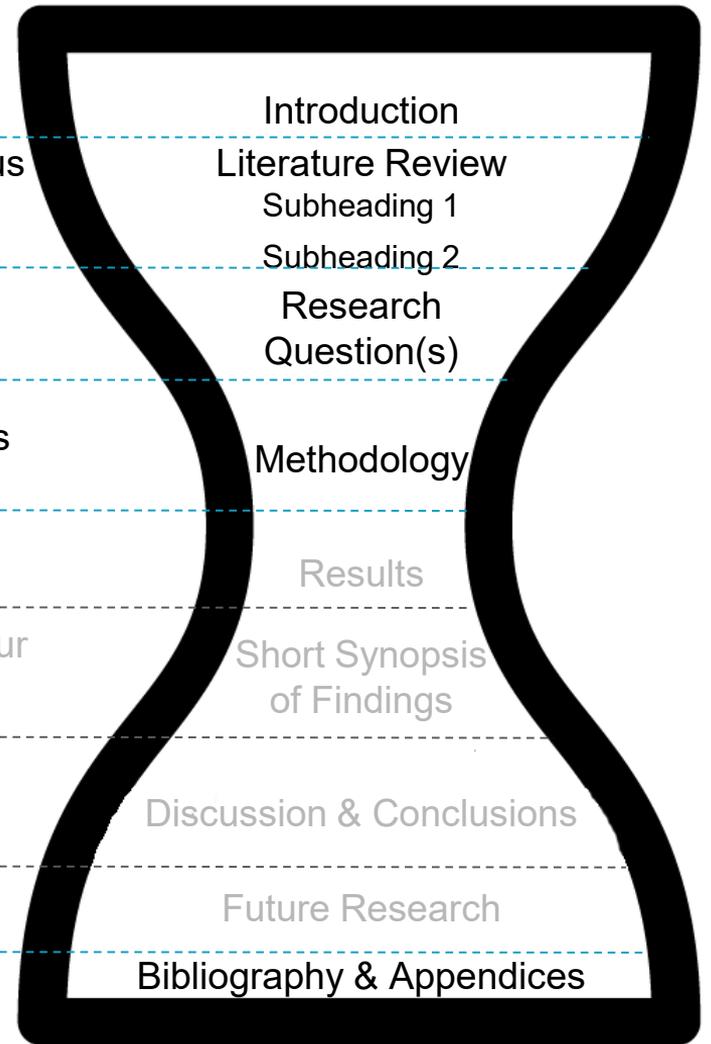
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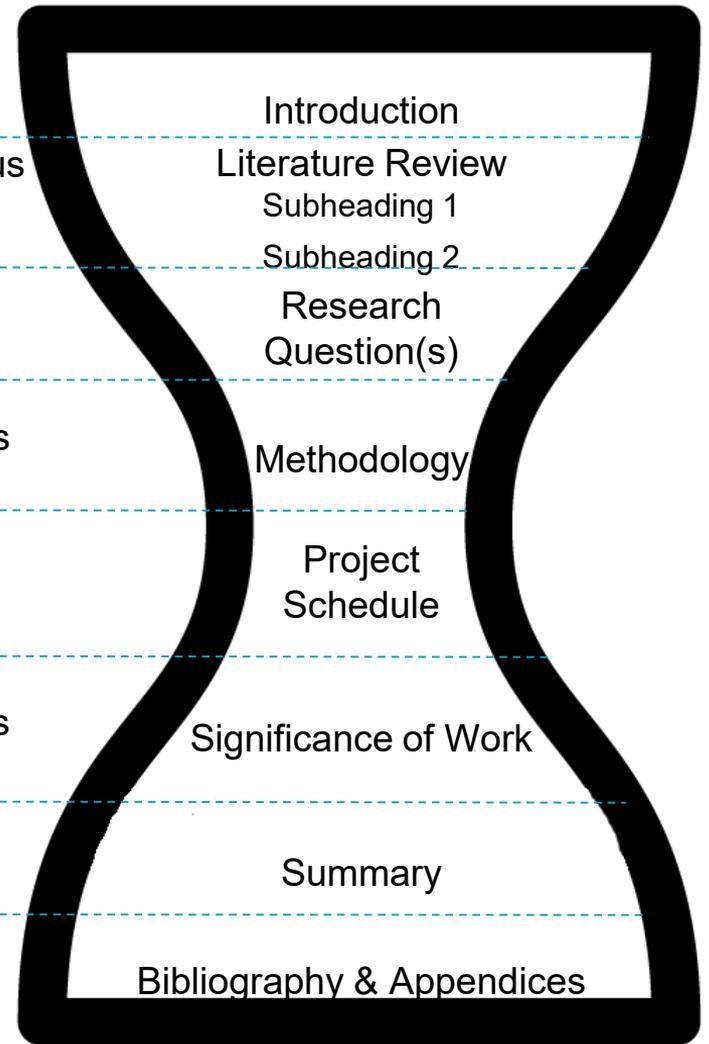
Very specific answerable question

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

<https://bit.ly/2FNyRMu>

Credits

Slide Content Credits

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

Thanks to Dr. Brian Sturm, UNC-Chapel Hill, for his keyhole analogy and resource list used in his course INLS 781 Proposal Development.

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