How to Conduct a Literature Review

Jeremy Mattson
David Ripplinger

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What is a literature review?

• Discussion of published information in a particular subject area.

• Levy and Ellis (2006) define it as a process to “collect, know, comprehend, apply, analyze, synthesize, and evaluate quality literature in order to provide a firm foundation to a topic and research method.”
Why is it needed?

• To uncover what is already known.
• To demonstrate that your research is something new and that it addresses an area where research is needed.
• To build a solid background and theoretical foundation for your study.
Why is it needed?

• To justify particular methodologies or approaches to research (by informing the researcher which methods were previously validated or invalidated).

• To compare and contrast with your results and conclusions.

• To provide credibility to the researcher – comprehensive knowledge of the field is essential.
Where to find literature

• Databases – available on NDSU library website
  – ScienceDirect, JSTOR, Agricola, EBSCO, FirstSearch, ProQuest, SciFinder, and many more.
• Google
• Google Scholar
• References cited in articles (backward search)
• Studies that cite an article (forward search)
Not all literature is equal

• Not all published material is equal in quality
  – Peer-reviewed journal articles are the best sources.
  – Other sources can be acceptable, but do not carry the same weight.

• Look for highly referenced sources.
• Look for current sources.
When are you done?

• The lit review is an on-going process.
• It, essentially, continues until a study is completed.
• But, move on when it seems new articles are presenting concepts/findings very similar to what you have already uncovered.
Reading the literature

• Don’t spend too much time reading marginally relevant material.
• Evaluate how applicable each source is, and the amount that you reference the study should be directly related to how applicable it is.
• Make note of everything in the article that is applicable to your research, even if you don’t know if you will use the material.
Writing the literature review

• Bem (1995) noted that “authors of literature reviews are at risk for producing mind-numbing lists of citations and findings that resemble a phone book – impressive case, lots of numbers, but not much plot” (p. 172).

• A lit review should not just summarize the sources, but also synthesize, analyze, and evaluate them.
Writing the literature review

• Synthesis – Re-organization of the ideas.
• It should be organized around ideas, not the sources themselves. Connect the sources together.
• Identify why the information being presented is of importance.
• Make an outline before you begin writing.
Writing the literature review

• Keep your own voice.
• Use quotes sparingly.
• Revise. Revise. Revise.
Avoid

• Falsification – misrepresenting the work of others.
• Fabrication – presenting speculations or general claims of others as if they were facts.
• Sloppiness – not providing correct citations.
• Plagiarism – the act of knowingly using another person’s work and passing it off as your own.

Source: Hart (1998, p.181)’s list of some academic writing standard violations (from Levy and Ellis 2006)
References


A Literature Review Case Study

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David Ripplinger
Associate Research Fellow
Small Urban & Rural Transit Center
Upper Great Plains
Overview

- The frontier of knowledge
- Conducting a literature review is an art
- For both the scholar and the audience
- Modern Tools
  - Internet
  - Google
  - Google Scholar
- Process
  - Find the seminal article
  - Citation hop
Case: Classifying Rural Transit Agencies

Similar work for urban systems
Transit and the method are pretty well-studied

What’s the seminal/best study
- Not always the same, might be more than one

What’s the standard method (textbook)
- Good reason to pay attention in class!
- Benefit of working in an applied field is that you don’t (necessarily) have to innovate new methods/techniques
Process

• Where to start?
• Try to find the seminal article
  – Google key word search
    • Transit (public transportation....)
    • Classification (typology, classifying...)
    • Cluster Analysis
  – Google Scholar

Begin at the beginning and go on till you come to the end; then stop.
Case: Identifying the Seminal Study

• Fielding et al 1985
  – Fielding is a pretty ‘famous’ transportation researcher
  – It’s cited by most following studies
  – It’s done correctly (maybe not best)

• Citation hop
  – Find studies that have cited Fielding
  – Studies Fielding cited (already a pretty old study)
Case Study: Identifying other Literature

• Following studies
  – Hartgen and Segedy (1997)
  – Karlaftis and McCarthy (2002)
Reviewing and Writing I

- Don’t need to read every article in its entirety
- Identify if the article has something to contribute
- Take Notes
  - Abstract
  - Problem Statement
  - Literature Review
  - Method
  - Results
  - Citations
Reviewing and Writing II

• Literature Review usually isn’t a list of study summaries
• Need to synthesize
  – Use a database/spreadsheet
  – Rows are papers
  – Columns are ideas/techniques/results/findings
  – Works quite well with quantitative research
• Evaluate
  – Are the studies done correctly, could they be improved
  – Do they help frame your study
• Analyze
It was the best of times...

- Articles are organized and accessible
- The frontier is expanding quickly...