How to Conduct a Literature Review

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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.
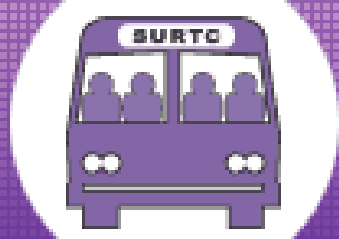
- Revise. Revise. Revise.

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

- Bem, Daryl J. 1995. "Writing a Review Article for Psychological Bulletin." *Psychological Bulletin* 118(2), 172-177.

- Hart, Chris. 1998. *Doing a literature review: Releasing the social science research imagination.* London, UK: Sage Publications.

- Levy, Yair and Timothy J. Ellis. 2006. "A Systems Approach to Conduct an Effective Literature Review in Support of Information Systems Research." *Informing Science Journal* 9, 181-212.
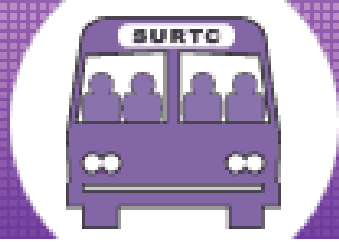
A Literature Review Case Study

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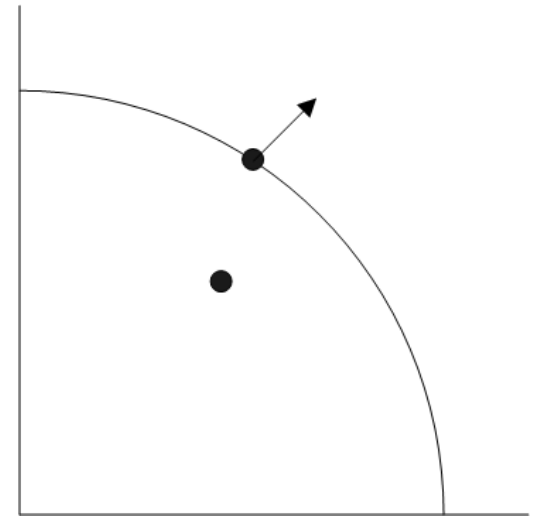
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Overview

- 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
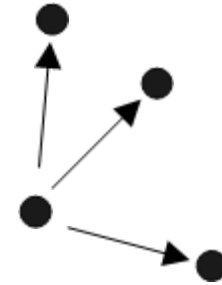
Process

- 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.
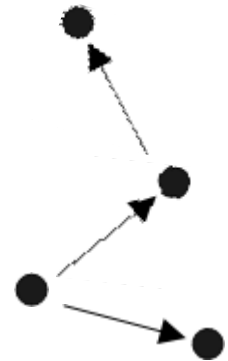
Case: Identifying the Seminal Study

- 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)

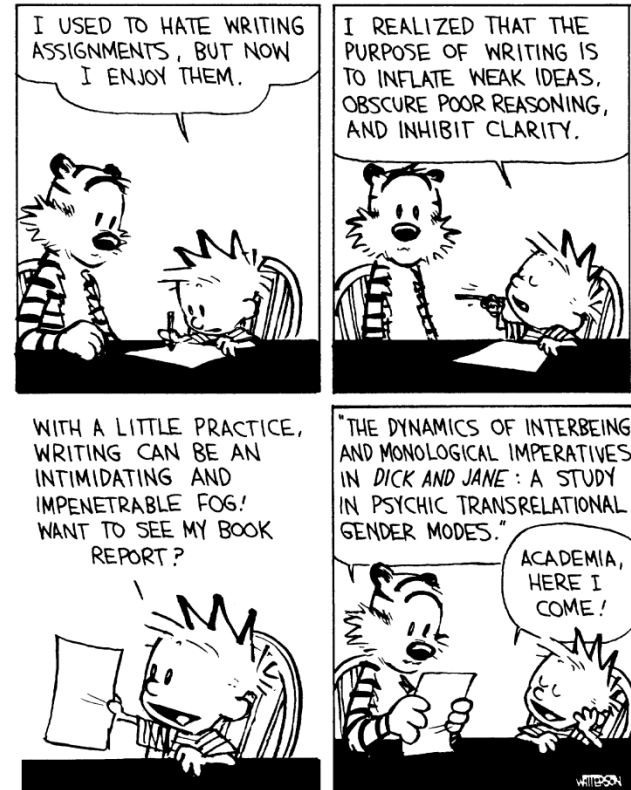# Case Study: Identifying other Literature

- Following studies
  - Hartgen and Segedy (1997)
  - Karlaftis and McCarthy (2002)
  - Li, Wang, and Wang (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…