Two Worlds of Academic Writing

Graduate school straddles both

Class paper
- **Length**: Shorter
- **Purpose**: An exercise for learning and applying the methods of your field
- **Audience**: Your professor and potentially classmates
- **Level**: Writing for someone who knows more about the topic (your professor)
- **Formality**: Limited by the assignment
  - **Citation of sources**: Required, but some professors may loosen standards
- **Duration**: A few days to a few weeks
- **Originality of research**: Optional and not likely

Published work . . . a line has been crossed
- **Length**: Longer
- **Purpose**: To make new knowledge available to academia
- **Audience**: Academics interested in your topic; unlimited, but probably narrow
- **Level**: Writing for an audience who knows less about the topic
- **Formality**: Must meet standards of academic publishing
  - **Theses, dissertations**: Formalities obvious in structure
  - **Journal articles, books**: Formalities embedded in language, vetted in peer-review process
  - **Citation of sources**: By the book; every source must be properly cited
- **Duration**: A few months to ... ??? Memories deteriorate over time.
- **Originality of research**: Required . . . thus, the literature review

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Example of a standalone lit review:


Abstract

Telescopic data combined with data gathered by spacecraft has brought worlds as distant as Pluto and the Kuiper belt objects under increasingly close scrutiny. Of particular interest here is the progress that has been made in our understanding of the properties of the satellites of the giant planets. As such, the purpose of this chapter is to review the present understanding of the nature of icy surfaces in the outer solar system, the ongoing processes that affect the composition, distribution, and physical state of volatiles on icy surfaces, and new techniques for probing the mysteries of the origin and evolution of icy bodies in the Solar System.

What’s been done in this subfield?
Definition of the Lit Review

- Academic research starts with a research question.
  - *How does polar bear diet predict migration patterns? [8 words]*
- The research question defines its own subfield, which consists of all the published literature that addresses the foundational components underlying the question.
  - Seven books on the eating habits of bears
  - Three articles on the eating habits of polar bears
  - Numerous studies on the polar ecosystem
  - Four articles on polar bear migration
  - The standard reference on polar bear anatomy
  - One article on the biochemistry of polar bear habitats
  - One article on how polar bears catch fish, with statistics on variety
- Because published academic work must contain **new** knowledge, the literature review *evaluates* the subfield for the appropriateness of the research question.
  - LR thesis: While there has been ample study of polar bear diet and habitat, no previous research has used diet *preference* as a way to predict how migration patterns will be affected by the melting of the Arctic ice-cap.
- In short, the literature review, by demonstrating an addition to the subfield, justifies the research.
Thinking About Scope

The glass of water has two parts: **scope** and **content**.

So, too, does research literature. Its **scope** is described in the **literature review**. Its **content** is described in the **background chapter**, and elsewhere in the thesis, where relevant.
Thinking About Scope
Random Examples from Academia

Scope vs. Content

Titles of academic articles often indicate scope


General definition of a literature review:
“An evaluation of the published literature in a subfield defined by a research question.”

Difference in scale

disciplines:
Sociology ● Technology ● Information Science

field:
effects of technology on society

topics/questions:
Is the 911 call system useful?
usefulness of 911 system in responding to medical emergencies
usefulness of 911 system in responding to stroke victims
usefulness of 911 system in responding to stroke victims in rural communities
The research question and the literature review are tightly bound. The research question establishes its own subfield. The literature review assesses that subfield.

Scope and scale
- The research question must be carefully chosen because it will define the scope and scale of the research, and the scope of the literature review.

A shared boundary
- The research question establishes a boundary, for the research, the writing, and the literature review.

Calibration
- The research question and the literature review evolve together. The question guides the literature-review research, which allows fine-tuning of the question.
The Literature Review: What it is

“An evaluation of the published literature in a subfield defined by a research question.”

- Limited in scope by relevance to research question
- Literature usually in the foreground
  - “A study of studies”
  - Sources often named
  - Heavily cited; footnotes or in-text cites
- Summary and synthesis to fit topic into the broader context of the field
  - Main components
  - Fundamental definitions
  - Schools of thought
  - Etc.
- Focused, not exhaustive
- Up-to-date

Summary: High-level evaluation of what we know to date
The Literature Review: What it isn’t

A literature review is *not*:

- Background
- Mere summary; or
  - Exhaustive summary
- List of sources; or
  - Annotated bibliography
- Evaluation of reviewed, but irrelevant, sources
- A forum for new research
Types of Literature Review

Three main types:

- Standalone
  - Big picture of topic
  - Not connected to a research question
  - Aggregates disparate ideas
  - Thesis potential?

- Thesis/dissertation proposal
  - Preliminary
  - Exploratory
  - Incomplete

- Thesis/dissertation
  - Refined
  - Focused
  - Thorough
Master’s Thesis vs. PhD Dissertation

General Definitions

**Master’s thesis**: At NPS, application of the knowledge gained through your degree program to a real-world problem. More likely to test existing theories.

**PhD dissertation**: Contribution of new knowledge to the field. More likely to address foundational knowledge: questions in the theoretical domain or fundamental methodologies.

**Length of literature review**
- No specific length requirement; depends on the context. But . . .
  - Master’s thesis: Shorter; approximately 3-5 pages.
  - PhD dissertation: Longer; approximately 20-50 pages.
- Keep in mind:
  - Literature reviews are pithy.
  - Too much literature may indicate too broad a topic.
Role of the Advisor

This workshop presents the by-the-books academic definition of a literature review.

The ultimate requirement for the content of the literature review is your advisor’s expectation.

Advisors can also provide:

- Examples of well-crafted literature reviews
  - Calhoun is a database of NPS theses, including recent ones under your advisor’s guidance
    - calhoun.nps.edu

- Feedback on your draft literature review

*Writing Center coaches can review your lit review at any stage*
Critical Nature of the Literature Review

Potential Deficiencies of the Existing Literature

The value of identifying weakness
- Research requires scrutiny; the more, the better. The best research stands up.
- Agreement is not usually the path to originality.
  - Academia benefits from many voices, with the fittest surviving

Areas of potential weakness
- Admitted weaknesses
- Lack of theoretical framework
- Lack of consensus among experts
- Incongruity between theory and facts
- Overly optimistic assumptions
- Lack of counterarguments
- Gaps
- New field
- Knowledge that is simply wrong . . . Or:
  - Out of date
  - Contradictory
  - Insufficient; inconclusive
  - Statistically insufficient
  - Logically weak; unconvincing

- Biases
  - Methodological
  - Instrumentation
  - Paradigm
  - Discipline
  - Institutional/Reciprocity
  - Financial
  - Survival
  - Cultural/Social Validation
  - Belief-in-self/Moral License
  - Passthrough (partial info)
  - Reductionism/Silver Bullet
  - Stockholm Syndrome

*red* = questionable scholarship
Critical Nature of the Literature Review

Potential Strengths of the Existing Literature

Areas of potential strength:
- Valid theoretical framework
- Agreement among experts
- Congruity between theory and facts
- Knowledge that is current . . . Or:
  - Consistent
  - Sufficient
  - Logically coherent
  - Statistically valid
  - Unbiased
  - etc.

Substance of the Literature Review

- Evaluate the existing literature.
- Argue in support of your evaluation.
Organization and Writing of a Literature Review

Preparation for the Literature Review

- Document your reading as you go.
  - Enter complete bibliographic information.

- Note-taking
  - Don’t rely on your memory.
  - Make note of important quotes and other valuable material.
  - Tag quotes (“useful quote I found”) to prevent confusing material with your own.

- Keywords and key phrases
  - Note important terms to make notes text-searchable.
  - Be consistent in terminology/spelling, even if sources vary.

- Organize notes by theme
  - Basic definitions
  - Main ideas
  - Methodologies
  - Areas of research
Organization and Writing of a Literature Review

A Literature Review has Structure

- **Introduction**
  - Scope of the review
  - Describe the structure of the review
  - A thesis statement for the review itself
    - “The effectiveness of the 911 system has been studied on numerous occasions, as has the need for early treatment of stroke victims, but there has been no recent effort to connect these two problem domains.”

- **Organization by themes, not sources**
  - Section headings; import if lit review runs long
  - Keep evaluations brief, high-level, and accurate
  - If appropriate, quantify the literature in a table

- **Optionally, a conclusion**
  - How the research question will fit into existing knowledge
    - “This study will show that early intervention, facilitated by the 911 system, can play a significant role in minimizing the long-term damages from stroke.”
Questions?

Slides at:
https://my.nps.edu/web/gwc/resident-workshops

writingcenter@nps.edu