POWER UP THE LITERATURE REVIEW

LIBRARY SEMINAR FOR MIAE PHD

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AGENDA

1. A quick refresher on the literature review
2. Where to search?
3. How to search?
4. What to read?
5. How to organize?
HOW DOES DOING A LITERATURE REVIEW FEEL LIKE?

SHARE YOUR ANSWER IN THE CHAT BOX
HOW DOES DOING A LITERATURE REVIEW FEEL LIKE?

“lost”

“overwhelmed”

“intimidating”

“drowning”

“a chaotic whirlpool”

“an ocean full of sharks”

“a stormy ocean”

“powerless”

“trying to persuade an octopus into a glass”

“trying to swim with concrete blocks on my feet”

“tossed between currents in the sea, all pulling in different directions”

Sources:
Writing a Literature Review: Overcoming Challenges
WHY SUCH A CHALLENGE?

• The ever-increasing output of scientific publications

• Not a one-time standalone thing, but ongoing and iterative

• Requires multiple skills (e.g. finding, evaluating, synthesizing, citing)

Sources:
Writing a Literature Review: Introduction
Ten Simple Rules for Writing a Literature Review
WHAT ARE SOME CHARACTERISTICS OF A GOOD LITERATURE REVIEW?

SHARE YOUR ANSWER IN THE CHAT BOX
WHAT IS IN A LITERATURE REVIEW?

6 Key Tasks of a Literature Review:
1. Lay out the nature of the field(s) – perhaps including relevant historical developments
2. Identify the present study’s contribution
3. Flag key debates and define terms
4. Justify the relevance/necessity of the present study
5. Establish which studies, ideas and methods are most relevant to the present study
6. Demonstrate gaps in the field

Sources:
Writing a Literature Review: Introduction
Persuading an octopus into a glass: Working with literatures
“…In my experience, many literature reviews nowadays consist of pseudo-random lists of papers related to the problem domain of interest, followed by a statement of what was done in the current paper. No direction. No critical analysis of the literature. No identification of knowledge gaps. No linking of the purpose of the current paper to these gaps…”
THE DINNER PARTY METAPHOR

DINNER PARTY
• You are the host
• Invited guests
• Not enough room to invite everyone
• The facilitation of a conversation among guests

LITERATURE REVIEW
• You are the author
• Literature to be reviewed
• Not a mere summary of past research
• A critical analysis of the literature

Sources:
Reconceptualizing the Task of Writing a Literature Review
WHAT MAKES A LITERATURE REVIEW CRITICAL?

Sources:
Student Resources – Critical Reading and Writing for Postgraduates
PUT “CRITICAL” IN THE LITERATURE REVIEW

Being critical is not just about praising or critiquing the work of others; rather, it involves several judgements along the way while writing the review, including:

• Which scholarship/scholars to be included or excluded
• What aspects of their work to stress and which to downplay
• Pay attention to the underlying assumptions of a text, its methodology and findings
• Be respectful and take an appreciative stance
• Key question: What does this text contribute?

Sources:
Reconceptualizing the Task of Writing a Literature Review
Thesis and Literature Review Writing - General sources


MORE RESOURCES ON WRITING

A list of resources on thesis and literature review writing:

KNOWING WHERE TO SEARCH

OVERVIEW OF SEARCH TOOLS
WHAT SEARCH TOOL DO YOU USE TO FIND ACADEMIC INFORMATION?

SHARE YOUR ANSWER IN THE CHAT BOX
WHERE SHOULD YOU SEARCH?

- Library Discovery Tool
- IEEE Xplore (Library Database)
- Grey literature (e.g. gov publications, NGO reports)
- Google Scholar
- Engineering Village (Library Database)
LIBRARY DISCOVERY TOOL

THE MAIN LIBRARY SEARCH TOOL
LIBRARY DISCOVERY TOOL

- Front and centre on the library homepage
- A good starting point for a general search across library resources
- Answer questions such as:
  - Does the library have this book?
  - Does the library have this journal article?
  - Does the library have some background/overview information on a topic?
LIBRARY DISCOVERY TOOL

- A search for a broad keyword such as electronic waste
- Top results are usually scholarly books that provide introductory overview of a topic
- This is useful if you are not too familiar with a topic
LIBRARY DATABASES

OVER 400 OF THEM ORGANIZED BY DISCIPLINE
Content is usually more in-depth and specialized

More options to search, expand, or refine

Answer questions such as:
- Where can I find journal articles on a specific aspect of a topic
- How can I combine different elements/keywords in a search?
ENGINEERING VILLAGE
A CLOSER LOOK AT AN ENGINEERING DATABASE
With a coverage of 1884 to the present, the three indexes *Compendex*, *Inspec*, and *GEOBASE* provide content in general engineering as well as more specialized engineering disciplines.
WHAT CONTENT IS INCLUDED?

“Publications must consist of peer-reviewed engineering content and have a publicly available description of the peer review process. Exceptions would be trade journals and some conference proceedings.”

-Engineering Village Compendex Content Policy and Selection (A checklist of 13 criteria)
**How to Access Full Text?**

Full text may be readily available. If not, the “Find it @ Concordia” button can help check for full text availability in the library.

“Full text” button, if one exists

“Find it @ Concordia” button to check the library’s other subscriptions. If not available, request it via Interlibrary Loan.
INTERLIBRARY LOAN

- If Concordia Library doesn’t have it, use Interlibrary Loan
- Takes a few days or longer to process depending on the item
There is a way to combine library search and Google Scholar search.
**LIBRARY LINKS IN GOOGLE SCHOLAR**

- Set up Concordia University Library links in Google Scholar to make finding full text easier
- The link/button *Find it @ Concordia*
- The same link/button can be found in library databases too
KNOWING HOW TO SEARCH

KEYWORDS AND SYNONYMS
Topic
How does electronic waste recycling affect citizens living in Guiyu, China?

Key Concepts
- Electronic waste
- Recycling
- Guiyu

Synonyms
- E-waste
- Reuse, management
- Guiyu, Guangdong, China

FROM A TOPIC TO KEY CONCEPTS
Think through your topic before searching.

Breaking down a topic helps develop effective keywords.
Environmental impact and human exposure to PCBs in Guiyu, an electronic waste recycling site in China

Xing, Guan Hua 1, 2; Chan, Janet Kit Yan 1, 2; Leung, Anna Oi Wah 1, 2; Wu, Sheng Chun 1, 2; Wong, M.H. 1, 2


Main heading: Printed circuit boards

Controlled terms: Electronic equipment - Electronic Waste - Fish - Organic pollutants - Polychlorinated biphenyls - Recycling - Risk assessment - Wastes

Uncontrolled terms: Chlorinated biphenyls - Correlation analysis - Dietary exposure - Electronic waste recycling - Environmental media - Inhalation exposure - Polychlorinated biphenyl (PCBs) - Residential areas

SUBJECT HEADINGS

In many databases, articles are displayed with rich metadata, including careful indexing of subject matters.
“Controlled terms” help identify synonyms and related terms.

- Makes searching more precise
- Helps understand hierarchy of topics
- Discover other broader, narrower, or related terms
WHAT IS YOUR TOPIC AND KEYWORDS?

SHARE IN THE COLLABORATIVE DOCUMENT
KNOWING WHAT TO READ

DIFFERENT INFORMATION SOURCES FOR DIFFERENT NEEDS
Types of Information Sources

Each source type has its specific purpose, intended audience, scope, and perspective.

Understanding the differences helps determine what to refine and focus.
MAJOR TYPES OF INFORMATION SOURCES

COMPLETE THE DRAG AND DROP ACTIVITY
In Compendex (Engineering Village), there is the “Treatment” filter to limit to “General Review” or “Literature Review”.

Or just simply add “review” as a keyword.
ANNUAL REVIEW

- A publication/database that provides literature reviews in a specific area annually
- A great resource to grasp quickly major research and applications in a field
- Help keep abreast of knowledge in a familiar field or get familiarized with a new field
TRACKING REFERENCES

Backward citation searching
Older publications

Starting article
Published in 2017

Forward citation searching
Newer publications
This goes beyond just searching for literature, but determining the research performance of an article, a journal, a researcher, an institution…

Answer questions such as:

- What is the citation count of an article?
- What is the impact factor of a journal?
- What is the h-index of a researcher?
- What are other options to assess research impact other than citations?
KNOWING HOW TO ORGANIZE
MANAGE DOCUMENTS, CITATIONS, AND REFERENCES
SOME ADVICE

• Keep track from the beginning
• Make use of a tool such as Zotero to help organize and save time
• Doing it right conveys professionalism and quality
• Always double check citations and references that were automatically generated
• Consult a librarian if unsure
# CHOOSING THE RIGHT CITATION TOOL

## Online citation generator

<table>
<thead>
<tr>
<th>✔️ Quick and on the fly</th>
<th>✔️ For a small number of references</th>
<th>✔️ No account is required</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ No storage</td>
<td>✗ No saving while browsing</td>
<td>✗ No integration with word processors</td>
</tr>
</tbody>
</table>

Built-in features in search platforms (e.g. Sofia, Google Scholar)

- EasyBib
- Cite This For Me
- Zotero
CHOOSING THE RIGHT CITATION TOOL

<table>
<thead>
<tr>
<th>Reference manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Web-based and also a downloaded software</td>
</tr>
<tr>
<td>✓ For small and big research projects</td>
</tr>
<tr>
<td>✓ A storage to save and organize all references</td>
</tr>
<tr>
<td>✓ A browser extension for saving while browsing</td>
</tr>
<tr>
<td>✓ PDF annotating and notetaking</td>
</tr>
<tr>
<td>✓ Integration with word processors (e.g. MS Word, Google Doc)</td>
</tr>
<tr>
<td>✓ Collaboration in group projects</td>
</tr>
</tbody>
</table>

! Basic set-up is required

! An account (freemium model) is required
DO YOU USE A CITATION TOOL?
Zotero

- Manage and organize sources in one place
- Save references/sources from the web browser
- Generate in-text citations and prepare the reference list automatically via a Word plugin
ZOTERO

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Using Zotero with a Word Processor

A video demonstrating how to cite references and generate a bibliography
Subject guides are available for all schools, including one for Engineering and Computer Science.

General guides cover various topics from open access journals to annotated bibliography.
ASK A LIBRARIAN

Contact the library in-person, by email, chat, or phone.

Contact your subject librarian (that’s me!)
USEFUL LINKS

- Reconceptualizing the Task of Writing a Literature Review
- What constitutes a good literature review and why does its quality matter?
- Literature Reviews: An Overview for Graduate Students
- Ten Simple Rules for Writing a Literature Review
- Sage Research Methods Online
- Engineering and Computer Science Subject Guide
- User guide for Sofia
- How to surf today’s information tsunami: on the craft of effective reading

- How to set up Google Scholar to find resources available at Concordia
- Compendex (via Engineering Village)
- Annual Reviews
- Interlibrary Loan
- Bibliometrics and Research Impact Guide
- Concordia Library Standards Collection
- IEEE Citation Style
- Library’s Zotero Guide
QUESTIONS?