SSM1100Y Research Strategies Workshop

September 26, 2019

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Agenda

• Course LibGuide & Sources of Research
• Search strategies (Author + Citation Searching)
  • Hands on activity for Citation Searching & Grey lit searching
• Search strategies continued
• Research Process (with keyword searching)
• Search tips (Keyword and Controlled Vocabulary searching)
• Citations
• Managing Your Search Results (Zotero Demo)
• Hands on activity: search for papers for your own topics
Sources

- Reference Sources
- Books and book chapters
- Journal articles
- Grey literature
- Theses and dissertations
- Legal literature
- Standards

- Patents
- Blogs & websites
- Data

Course LibGuide is Available in Quercus and Library website:

https://guides.library.utoronto.ca/ssm1100
Search strategies

- Author searching
- Citation searching
- Keyword searching
- Controlled vocabulary searching
Search strategies: author searching

• Expect name variants – initials, hyphenation, name changes
• If active researcher, check website for working papers, reports and other research
Search strategies: citation searching

- Retrospective searching: going BACK in the literature
  - *What sources are referenced in this work?*
- Prospective searching: going FORWARD in the literature
  - *What sources reference this work?*
  - Also known as ‘cited reference searching’
- Assumption is that citation links related articles; reality may be different!
- Use citations counts as ONE measure of quality
Search strategies: citation searching

- Enter Article title in Scopus and Google Scholar
- Can be done in Web of Science using the Cited Reference tool using Author name, Journal title and publication year.
Search strategies: citation searching

- Retrospective searching
Search strategies: citation searching

- Prospective searching
  - Use more than one database!
Points of Caution when doing Cited Reference Searching:

• Different citation counts are typical and depends on how well the citing articles themselves have been indexed.

• If the “Times Cited” on the article you locate is zero, check the publication date; very recent articles maybe too new for it to be cited.

• Some citation resources do not provide complete citation information (e.g. Scopus only includes citation data for articles for journals published in 1996 and after).
Hands on activity: citation searching
+ find a grey lit report/paper
Citation Searching

Look up this citation in Web of Science (Cited Reference Search), Scopus, and Google Scholar:


Look at the “Times Cited/Cited By” numbers?
Blaming cities for climate change? An analysis of urban greenhouse gas emissions inventories

By: Dodman, D (Dodman, David)[1,2]

Abstract
Cities are often blamed for high levels of greenhouse gas emissions. However, an analysis of emissions inventories shows that, in most cases, per capita emissions from cities are lower than the average for the countries in which they are located. The paper assesses these patterns of emissions by city and by sector, discusses the implications of different methodological approaches to producing inventories, identifies the main drivers for high levels of greenhouse gas production, and examines the role and potential for cities to reduce global greenhouse gas emissions.

Keywords
Author Keywords: climate change; ecological footprints; emissions; methodology; mitigation; sustainability

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Times Cited: 323
Google Scholar

Includes many cites from non-peer reviewed publications, book chapters, paper repositories (academia.edu, etc)
Locate a relevant Policy paper from Government or NGO/Non-profit group/Think Tank

Check the “Canadian Public Document Collection” for studies/grey lit related to climate change in cities.
Research process: expectation

1. Background research
2. Focus your topic
3. Build your research question
4. Keyword search strategy
5. Use appropriate resources
6. Execute search strategy
7. SUCCESS
Research process: reality
Search strategies: keyword searching

- Most commonly used, but important to be aware of limitations
- Begin with research question, and convert into a search string
Search string development

- **Step 1:** Break your research question down into key concepts

How would UTM’s carbon footprint be affected by a measured percent reduction in animal meat consumption by students?
Search string development

• Step 1: Break your research question down into key concepts

How would UTM’s **carbon footprint** be affected by a measured percent **reduction** in animal **meat consumption** by **students**?
Only one result!

1. Reduction of the carbon footprint of college freshman diets after a food-based environmental science course

By: Jay, Jennifer A.; D’Auria, Raffella; Nordby, J. Cully; et al.

CLIMATIC CHANGE Volume: 154 Issue: 3-4 Pages: 547-564 Published: JUN 2019
Search string development

• **Step 2:** Map those concepts to search terms
  • Synonyms
  • Broader and narrower terms
  • Related terms

• Strategies for generating these terms:
  • Prior knowledge
  • Previous research – in body of work, author-supplied keywords, and subject headings assigned by database
  • Brainstorming
  • Wikipedia – look in-text and at bottom of entries
  • Thesauri

• **Your keyword list should evolve over time**
## Search string development

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Broader terms (BT)</th>
<th>Narrower terms (NT)</th>
<th>Related terms (RT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon footprint</td>
<td>Carbon dioxide equivalent, CDE</td>
<td>Emissions, greenhouse gases, GHGs, ecological footprint</td>
<td>carbon dioxide, methane</td>
</tr>
<tr>
<td>Reduction</td>
<td>Minimize?</td>
<td>Change, impact</td>
<td>Increase, Elimination</td>
</tr>
<tr>
<td>Meat consumption</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td></td>
<td>Campus, university, college, higher education, post-secondary</td>
<td></td>
</tr>
</tbody>
</table>
Step 2: Join those terms into search strings

- Use the operator ‘OR’ to join synonyms and other terms for a single concept
  - Start with synonyms and then branch out to other terms
- Use the operator ‘AND’ to join groups of terms associated with one concept together
- Use truncation to pick up word variants
  - May be automatic or may have to use symbol like * or ! (will vary from database to database)
  - Use quotes “” to enclose phrases if needed

(vegetarian or vegan*) AND (diet OR lifestyle) AND (campus OR university OR college OR post-secondary OR “higher ed”*)
138 results... a much better return!
Search strategies: keywords

- **Field searching is your friend!**
  - Choose the abstract (AB) field (or variants) as your default, NOT full-text
- **Use filters or additional keywords to further refine your results list**
  - Document types
  - Peer review
  - Date range
  - Subject headings and/or keywords
  - Language
- **Remember: scan relevant articles to expand keyword list**
Search strategies: controlled vocabulary searching

• Most databases use some kind of controlled vocabulary that assigns subject tags or headings to articles
  • Particularly useful if there is a lot of variation in language used to describe concepts associated with your research question
Search tips

• Explore different databases for the project
  • Disciplinary databases may yield better or different results than broad, multi-disciplinary databases like Google Scholar or Scopus

• **Document your searches**
  • Log search terms or strings used, databases, and capture new references or leads as they emerge

• One session of literature searching will **NOT** be enough
  • Results should suggest new authors, keywords, gaps that prompt new research – may even lead you to changing your research question
Search tips

• Use your librarian
  • If you are spending more than 30 minutes without results, considering booking a research consultation
• Stop only when you see same articles reappearing, same patterns and themes being addressed –
• Keep current through journal alerts services
  • Browzine
  • JournalToCs
  • Individual journal
Citations

• Be careful of paraphrasing....be sure to still cite these instances
• Pick a style and stick with it
• Review ALL citations generated from databases or stand-alone apps like EasyBib or BibMe/CitationMachine – high rate of error
Managing Your Search Results

• Many choices out there for Citation Management Tools

• Export your search results from the database to a biblio management tool

• Organize your citations into folders (different assignments/courses, etc)

https://library.utm.utoronto.ca/content/tools
Zotero Demo
Use these Keyword Strategies to find papers for your own topic?
Questions?

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Acknowledgement: These slides are a modification of Helen Kula’s original 2018 Research Strategies slide deck. Thank you Helen!