MSE 101W
Break the Google addiction!

Holly Hendrigan <hah1@sfu.ca>
Applied Sciences Librarian,
SFU Surrey
Checking in

Have you had an SFU Library research session before?

(A) Yes
(B) No
The plan

• New market metaphor
• Information Literacy!
• Real time search mishaps!

• Possible strategy
  • Encyclopedias
  • Books
  • Articles

• Research Don’ts
Fill up your eco-friendly shopping bag with resources from many different vendors

Source: Vancouver Sun
Or, the Richmond Night Market
“Google has had the largest influence on undergraduate research habits, so much so that it is the major impediment for them understanding library information structures and engaging with the scholarly literature in a meaningful way.” (Bloom & Derup, “The SHU Research Logs: Student Online Search Behaviors Trans-scripted”)
Map: MSE 101W guide

This web page is intended to help you with your MSE 101W assignments. Also refer to the research guides for Mechatronics, Computing Science and Engineering Science for general information. Start early so you can get the information and assistance you need.

If you need help, please contact Holly Hendigan, Liaison Librarian, Faculty of Applied Sciences at 778.782.8023 or holly.hendigan@sfu.ca or Ask a librarian.

Slides from the Library Research Workshop and the session on Academic Integrity + Citing Sources.
Technology
+
Social / Environmental / Ethical dimension
"Don't be afraid. Don't be scared. It won't hurt you. It's coal"
Australia is caught in a climate spiral. For the past few decades, the arid and affluent country of 25 million has padded out its economy—otherwise dominated by sandy beaches and a bustling service sector—by selling coal to the world. As the East Asian economies have grown, Australia has been all too happy to keep their lights on. ...

But now Australia is buckling under the conditions that its fossil fuels have helped bring about. Perhaps the two biggest kinds of climate calamity happening today have begun to afflict the continent.
The challenge: How to research this topic for an academic paper

There is not shortage of information on this topic on the open web (ie, doing a Google search).

What is wrong with using Wikipedia, or reputable news sources such as BBC or CBC or The Guardian?
Answer: Because you’re in university, and you have (mainly) use **academic sources**

Full explanation lies in the *ACRL Framework for Information Literacy*, which organizes information literacy into 6 knowledge domains, or “Frames.”
Frame: Authority is constructed and contextual

Information resources reflect their creators’ expertise and credibility, and are evaluated based on the information need and the context in which the information will be used. Authority is constructed in that various communities may recognize different types of authority. It is contextual in that the information need may help to determine the level of authority required.
Frame: Scholarship as Conversation

Communities of scholars, researchers, or professionals engage in **sustained discourse** with new insights and discoveries occurring over time as a result of varied perspectives and interpretations.
YOU are engaging in the conversation--with your community, who are academics

Which means you have to listen to them (and by listen, I mean read and cite)
After academics bring you up to speed on the topic, it’s your turn you speak up. Join the conversation.

What’s your take?
Academic encyclopedias

• Alternative to “foraging”: **chaining** strategy
• follow references from one article as a starting point
• often obtained through literature searches or colleagues
“Coal” articles

- *Encyclopedia of Industries*
- *Encyclopedia of Energy*
- *Encyclopedia of Climate Change*
- *Environmental Science*

- Currency: be aware of but not main criteria for evaluation
- Pay attention to sources
- Your citations=your community
A Tale of Two Bibliographies: who is cited?

“Mining, Coal: NAICS 2121” in *Encyclopedia of Industries*

“Coal” in *Climate Change: In Context*
Chaining activity

Reference in bibliography:


• How do you access?

• Who has cited?
Climate sensitivity uncertainty and the need for energy without CO2 emission

K Caldeira, AK Jain, MI Hoffert - Science, 2003 - science.sciencemag.org

The UN Framework Convention on Climate Change calls for “stabilization of greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system.” Even if we could determine a “safe” level of interference in the climate system, the sensitivity of global mean temperature to increasing atmospheric CO2 is known perhaps only to a factor of three or less. Here we show how a factor of three uncertainty in climate sensitivity introduces even greater uncertainty in allowable increases in atmospheric CO2.

☆ 90  Cited by 334  Related articles  All 16 versions  Web of Science: 170

Showing the best result for this search. See all results
Books / Library catalogue

• Allow you to continue defining and refining your topic
• Provide historical context
• Provides useful bibliographies

• Library catalogue records: provide subject headings
search **coal australia** in Library Search.

5 bizarre results and this book:

*The long goodbye: coal, coral and Australia's climate deadlock*

What misgivings do you have with citing this book?

But how can we use this book to find something better?
Click on subject heading to get similar titles

- Limit to **books** as resource type
Pro-tip: “I just want to find a book!”

Do we own the book “Sustainable Fossil Fuels: The Unusual Suspect in the Quest for Clean and Enduring Energy?”

I don’t want to read a review of the book or an article that contains the same words.
1. Library Homepage

2. Books/Media only
Journal articles

• Often, results of experiments
• Authors of journal articles are faculty members at universities
  • Magazine / newspaper articles: authors are professional writers
• Peer review process: multiple revisions
• Subject databases are an efficient way of searching journals on the same topic (eg, engineering, environmental science, psychology, business)
Composing a search string

• Problem 1: overuse of natural language
• Problem 2: overuse of search strings without Boolean operators
Database: Academic Search

Research Question:

what is the association between coal mining and the wildfires in Australia?
Natural language vs controlled vocabulary

Search A: “What is the association between coal and the wildfires in Australia? ”

Note: Your initial search query did not yield any results. However, using SmartText Searching, results were found based on your keywords.

Results: garbage
Instead

• Try: coal AND australia AND wildfires

  • Boolean operator AND narrows search to include documents with that include both concepts

FAIL

Try: coal AND australia AND climate change
Activity 2: Search

How would you approach this topic?
  • Which places you looked
    • Circle the best one
  • Terms you used
    • Circle the best terms
Research activity: How to approach this topic?

Canada’s 5G network: Should Canada award the contract to Huawei?
What else is on the MSE 101 guide?

• Resources for search strategies
• Evaluating sources
• Formatting your literature review
• Citing: links to IEEE and APA guides
References


http://www.ala.org/acrl/standards/ilframework


https://doi.org/10.1016/j.acalib.2015.07.002


Getting help

- Book a consultation with me (hah1@sfu.ca)
- In-person at the reference desk
- Telephone
- Email
- IM
- Text message
What are your questions?