Succeeding in Academia - Conducting Literature Searches

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Today

- Goal of research

- Purpose of a literature review

- Conducting a literature search

- Literature search steps

- Resources and strategies

- Managing literature

Goal of Research/Scholarship

- Answer a meaningful question
  - Answer should advance our knowledge of something that matters
    - Examples….
      - How do nations effectively combat corruption?
      - Why are academics socially awkward?

- Steps to finding meaningful research questions
  - Identify a general research topic
  - Conduct a literature search to identify all relevant research on the topic
  - Conduct a literature review of XXX most recent journal articles or books on the topic
  - Identify one or more research questions
  - Write a literature review for your specific research question(s)

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Purpose of a Literature Review

- Literature review
    - A systematic examination and synthesis of research on a topic of interest
- Goal is to evaluate a body of literature with the goal of identifying what is known and what is still unknown regarding the topic of interest
- Literature reviews can be used to:
    - Understand what is already known/been done
    - Inform research that investigates an unknown or yet explored area of research, modeling technique, etc.
- First step is to do conduct a literature search

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Literature Search Steps

- Identify your research topic/question in general

- Determine search terms

- Create exclusion/inclusion criteria

- Select search tools

- Conduct search

- Track/organize/manage literature

Identify Your Research Topic

- A research topic can be general at this time
  - Specific research questions or hypothesis are formed after the literature review is completed

- Examples
  - Which consumers would purchase organic foods?
  - Why are residential care homes for older people closing?
  - What methods can be used to explore the impacts of trade agreements?
  - Which federal policies are most likely to reduce gasoline use among car drivers?

Determine Search Terms

- Break down the research topic into key topic areas and identify keywords, phrases, synonyms and alternative spellings
  - Example topics: Organic foods, consumer willingness to pay, health issues
  - Use truncation, namely the use of the symbol $ or * on the root of a word, as a means of capturing all relevant material.
  - For Example… "old$" will pick up…old, older, old age, etc.…
- After identifying the key concepts decide how best to combine these concepts using the Boolean operators of OR, AND or NOT
- Track search terms used to avoid finding the same literature again or using the same combinations of terms over and over
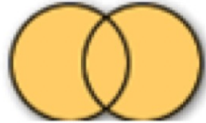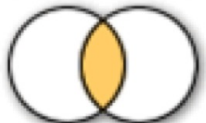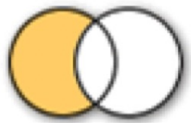
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Example

"Discuss the closure of residential care homes for older people".

Topic 1 Closure/resettlement	Topic 2: Care homes	Topic 3: Older people
Clos* (close, closing, closure etc)	Care home* (care home, care homes, care homes for older people)	Old* (old, older, old age etc)
Resettlement	Care management*	Age (age, aged, ageing etc)
Patient transfer	Community home*	Geriatric*
Health facility closure	Residential home*	Frail elderly people
Service closures	Residential care*	Elder* (elderly, elder,

Example

OR	Old$ **OR** age$ **OR** elderly	Retrieves records containing **either** terms
AND	Old$ **AND** care home*	Retrieves records containing **both** terms
NOT	Care homes **NOT** United States	**Excludes** records containing the second term

Create Exclusion or Inclusion Criteria

- Language of publication
  - English, or other
- Publication types
  - Journal articles, randomized controlled trials, patient information, websites etc.
- Year of publication
  - 2010 onwards if seeking more recent
- Age group
  - Adult/adolescent/elderly/all ages
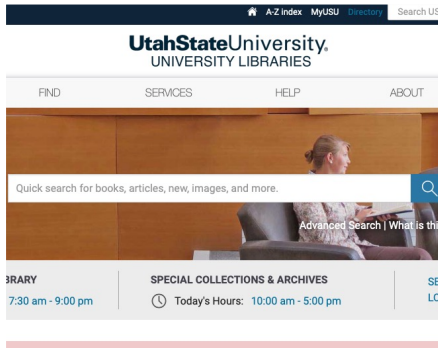- Country of origin
  - UK, USA, or other

Select Search Tools

- Search Engines
  - USU Library Databases
    - To find a database by subject or special category at: https://library.usu.edu
  - Scopus
    - "comprehensive" searching of scholarly journals
  - Google Scholar
    - "comprehensive" searching of scholarly and semi-scholarly content
  - ProQuest Dissertations and Theses
    - Exhaustive full-text access to US and international dissertations

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USU Library Searches

Databases By Subject

AGRICULTURE

Agriculture
Animal, Dairy & Veterinary
Applied Economics
Landscape Architecture
Nutrition, Dietetics & Food Science
Plant, Soils & Climate

Key Resources in Nutrition, Dietetics & Food Science

CAB Direct
Authoritative research information on agriculture, environment, forestry, recreation management, tourism, veterinary medicine and related applied life sciences. [More about CAB Direct]

FSTA (Food Science & Technology Abstracts)
Food science products, processing, and manufacturing. [More about FSTA (Food Science & Technology Abstracts)]

PubMed
The National Library of Medicine's open access portal to the Medline database, the premier bibliographic database for medicine, nursing, dentistry, veterinary medicine, the health care system, and the preclinical sciences. [More about PubMed]

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Databases by Title

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K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z	All

AgEcon Search
Full-text papers and journal articles in applied economics, including the subtopics of agricultural, consumer, energy, environmental, and resource economics. [More about AgEcon Search]

AGRICOLA
Article database for agriculture, food, and nutrition. [More about AGRICOLA]

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> **USU library**

> **Articles & Databases**

> **Databases by subject**

> **Databases by title**

> **Discipline-specific results**

> **Targeted results**

Article Databases for Ag Economics

- Library databases by subject
  - Agriculture
  - Business/economics

- The best are….
  - Agricola
  - Econ Lit
  - AgEcon Search
  - CAB Direct
  - Business Source Premier

  - USU Libraries: https://library.usu.edu

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What about Google search?

Pros

- Very easy to do
- Can capture articles for terms buried in the text
- May be useful when searching for papers related to specific methods

Cons

- Results may be influenced by Google algorithm
- May favor (put at top of list) articles that are getting lots of traffic, which may not be related to quality
- May miss key papers that are older (not online) or new (not yet cited or viewed a lot)

Don't rely __exclusively__ on Google searches

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Use Reference Lists

- Once you have downloaded several articles, you can use their **reference lists** to find additional articles on the subject
  - Save your searches and <u>set search alerts</u> to be notified of new scholarship
  - Pay attention to the <u>sources that your sources cite</u> most often and read and cite them too

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis.* Applied social research methods series (Vol. 49). Thousand Oaks, CA: Sage.

Moustakas, C. (1994). Phenomenological research methods. Thousand Oaks, CA: Sage.

Mullins, G., & Kiley, M. (2002). "It's a PhD, not a Nobel Prize": How experienced examiners assess research theses. *Studies in Higher Education, 27*(4), 369-386.

Neuendorf, K. A. (2002). *The content analysis handbook.* Thousand Oaks, CA: Sage.

Noblit, G. W., & Hare, R. D., (1988). *Meta-ethnography: Synthesizing qualitative studies.* Newbury Park, CA: Sage.

Ogawa, R. T. & Malen, B. (1991). Towards rigor in reviews of multivocal literature: Applying the exploratory case method. *Review of Educational Research, 61,* 265-286.

Randolph, J. J. (2007a). Computer science education research at the crossroads: A methodological review of computer science education research: 2000-2005. (Doctoral dissertation, Utah State University, 2007). Retrieved March 1, 2009, from http://www.archive.org/details/randolph_dissertation

Randolph, J. J. (2007b). Meta-analysis of the effects of response cards on student achievement, participation, and intervals of off-task behavior. *Journal of Positive Behavior Interventions, 9*(2), 113-128.

Randolph, J. J. (2007c). *Multidisciplinary methods in educational technology research and development.* Hämeenlinna, Finland: HAMK Press. Retrieved March 1, 2008, from http://justus.randolph.name/methods

Rosenthal, R. (1991). *Meta-analytic procedures for social research.* Rev. ed. Newbury Park, CA: Sage.

Slavin, R. E. (1986). Best-evidence synthesis: An alternative to meta-analysis and traditional reviews. *Educational Researcher; 15*(9), 5-11.

Organize/Manage Literature

- Use a citation manager to track, organize, and cite sources
  - The USU library guide helps you choose one and links to some tutorials on the major software options as well as contact information for librarians who can help. See: https://libguides.usu.edu/organizers/home
- You can always just use an Excel spreadsheet to organize the literature
- Place all article PDFs in a folder (such as Box, Dropbox, etc.)

Managing Literature

- Using a reference managing system can save you time

- Reference managing software programs

Thomson Reuters EndNote *Advance your Research and Publish Instantly* **Reference Manager** **MENDELEY** **zotero**

- Endnote: Advanced software to help maintain a library of journal articles
  - Will attach PDFs of your article with the citation
  - Dynamically work with your Word document to insert references in the text, format bibliographies
  - Collaborate with colleagues using travel libraries

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Excel Spreadsheet Tracker

- What to include?
    - Search terms used
    - Full reference (authors, title, year, publication)
    - Abstract provided
    - Summary of findings/results
    - Modeling approach (theory, econometric, etc.)
    - Relevance to your research topic (A = high…..D = low)

Example Tracking Spreadsheet

	A	B	C	D	E	F	G	H	I	J
	Search Terms	Search Tool	Reference	Abstract	Source Type	Content Type	Field of Study	Dashboards reviewed or investigated?	Data Visualization Display Types Reviewed or Investigated?	Relevance to Phenomenon of Interest (1 = Not very relevant, 4 = Very relevant)
2	"data visualization" dashboard	Google Scholar	Adam, F., & Pomerol, J. C. (2008). Developing practical decision support tools using dashboards of information. In *Handbook on Decision Support Systems 2* (pp. 151-173). Springer Berlin Heidelberg.	Over 50 years of research on how to support managers' decision making, numerous solutions have been proposed under a variety of banners, as discussed in the contributions presented in this book. One of the recent terms to have been proposed is Business Intelligence (BI), which aims at leveraging new technologies for the gathering, presentation, and analysis of up-to-date data about the firm's operations to top management. BI is largely distinguished from previous concepts by its reliance on new platforms and technologies (for instance web technologies) to provide nimbler solutions, more responsive to managerial needs than earlier types of systems. As part of BI, the concept of dashboards of information or digital dashboards has been revisited, notably by software vendors. This chapter explains in detail what dashboards of information are and how to develop them. It considers where business data come from and how to use them to support decision making with a dashboard. Using the concept of cognitive levels, it differentiates between different types of aplications of the dashboard concept. Finally, the chapter aspects of its activities and concludes presents an illustrative case study of a firm seeking to develop a nimble tool for measuring and understanding the key that it is the content of the dashboard and the context in which it is used that are the key elements in the process of developing a dashboard.	Book Chapter	Qualitative Review	Decision Science	Yes	No	2
3	"data visualization" management	Google Scholar	Al-Kassab, J., Ouertani, Z. M., Schiuma, G., & Neely, A. (2014). Information visualization to support management decisions. *International Journal of Information Technology & Decision Making, 13*(02), 407-428.	Information visualization can accelerate perception, provide insight and control, and harness this flood of valuable data to gain a competitive advantage in making business decisions. Although such a statement seems to be obvious, there is a lack in the literature of practical evidence of the benefit of information visualization. The main contribution of this paper is to illustrate how, for a major European apparel retailer, the visualization of performance information plays a critical role in improving business decisions and in extracting insights from Redio Frequency Idetification (RFID)-based performance measures. In this paper, we identify — based on a literature review — three fundamental managerial functions of information visualization, namely as: a communication medium, a knowledge management means, and a decision-support instrument. Then, we provide — based on real industrial case evidence — how information visualization supports business decision-making. Several examples are provided to evidence the benefit of information visualization through its three identified managerial functions. We find that — depending on the way performance information is shaped, communicated, and made interactive — it not only helps decision making, but also offers a means of knowledge creation, as well as an appropriate communication channel.	Academic Journal	Qualitative Review	Information Systems & Technology	Yes	No	4
	"data visualization"	Google Scholar	Becker, R. A., Eick, S. G., & Wilks, A. R. (1995). Visualizing network data. *IEEE Transactions on Visualization and Computer Graphics, 1*(1), 16-28.	Networks are critical to modern society, and a thorough understanding of how they behave is crucial to their efficient operation. Fortunately, data on networks is plentiful; by visualizing this data, it is possible to greatly improve our understanding. Our focus is on visualizing the data associated with a network and not on simply visualizing the	Academic Journal	Methodological	Computer Science	No	Yes	1

Google Scholar Example

- YouTube Video on conducting a literature search
    - https://www.youtube.com/watch?v=kSVcSKpXhC4
    - (Google Scholar example starts at 21:46)

Next

- Conducting literature reviews to identify research questions
- Writing the literature review