The Research Savvy Librarians: Boot Camp for Teaching Literature Reviews to Graduate Students

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Transforming Libraries for Graduate Students Conference
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Help librarians teach graduate students how to conduct literature reviews (LR) with:

• Strategies for research and organization
• LR toolkit
Learning Outcomes

Upon the completion of this workshop, you will be able to:

• Understand the role, nature, types and structure of LRs
• Recognize common challenges of LRs in highly interdisciplinary research topics
• Develop a plan to help with an LR project
• Assess information needs of the writers through research consultations
• Help writers manage and organize searches and sources
How We Teach the LR

• The Savvy Researcher Boot Camp for:
  – Humanities
  – Behavioral & Social Sciences
  – STEM
  – Prospectus Writers
• Customized In-Class Instruction
• Research Consultations
• Research Guides for humanities, social sciences and STEM
Why target LR workshops to graduate students?

- Developing professionals and professional scholars
- More demanding research expectations
- Research methods classes not focused on LR

Creates an opportunity for librarians
Grad Students: A Diverse Group

- **Disciplines**
  - Humanities, Social Sciences, STEM, Interdisciplinary
- **Degree Seeking**
  - Masters, doctoral
- **Age**
  - Continuing vs. returning
  - Stage of life
- **Previous Education**
  - Domestic vs. International
Scenarios for LR

- Class assignment
- Graduate thesis
- Dissertation research
- Conference paper proposal
- Journal article
- Stand-alone review article
- Research funding proposal
- Evidence-based policy development
- Book
Tips and Tricks
Tip 1: Know What the LR is and What to Expect

How many types of LRs can you name?
Types of LR

- Rapid review
- Scoping review
- State-of-the-art review
- Systematic review
- Systematic search and review
- Systematized review
- Umbrella review
- Critical review
- Literature review*
- Mapping review/systematic map
- Meta-analysis
- Mixed studies review/mixed methods review
- Overview*
- Qualitative systematic review/qualitative evidence synthesis

* Generic term

Source: Grant & Booth (2009)
Purpose of the LR

• Situates work into context/ongoing conversation to develop study
• Synthesizes issues, trends, and concepts
• Identifies gaps in current knowledge
• Shows evidence that writer has done their research
1. **Introduction** (including the problem statement)

2. **Body**
   a. Theme 1. ….compare, contrast, and/or connect
   b. Theme 2 .....compare, contrast, and/or connect
   c. Theme 3 .....compare, contrast, and/or connect

3. **Summary & Conclusion**
   a. Whether or not you found evidence to support your problem statement
   b. Implications for the field, suggestion on future research, a justification on your research question, etc.
LR: An Iterative Process

1. Get Started
2. Select / Refine a Topic
3. Search for Literature
4. Evaluate Literature
5. Take Notes & Manage References
6. Keep Current
7. Prepare First Draft & Revise
Interdisciplinary LRs: Challenges

- Difficult to discover authoritative information sources (key authors, key publications, top research institutions)
- Different vocabularies and culture
- Variations in controlled vocabulary and acronyms across disciplines
- Need to search multiple sources, multidisciplinary databases and federated search products
- Hard to keep up with current research

Source: Newby (2011)
Tip 2: Plan Ahead for the Research Consultation
Before the Consultation

• Research Consultation: specialized reference interview

**Form for Requesting a Literature Review Consultation**

– What is the research topic?
  • Disciplinary
  • Interdisciplinary: arrange a co-consultation or referral

– What is the review for?
  • For a class assignment: read the instructions
  • For a thesis/dissertation: review diss. on topic and/or a recent example from writer’s department

• What is the anticipated completion date?
• What is writer’s current search process/strategy?
• Ask writer to list one or two of the most relevant articles they have found on the topic
Tip 3: Plan Ahead for Classroom Instruction
Before the Classroom

• Types of instruction: public workshop, class session
• Ask attendees for their field of study
  – Topic of course
  – Ask course instructor for assignment instructions and sample topics
  – Pre-registration for workshops
• For interdisciplinary audiences, prepare multiple examples on different topics
  – Demonstrate searches in databases from several disciplines
Get Ready

• Scan literature for assessing initial feasibility
• Set and **write down** a search protocol:
  – Where will I search? (Select databases, search engine, etc.)
  – What limitations will I set? (Select appropriate inclusion/exclusion criteria)
    • Period (or publication date)
    • **Publication Type**
    • Planning and support for grey literature and preprints (if applicable)
    • Language, etc.
• Build a toolkit for LRs...
### LR Toolkit Checklist

#### For the Researchers
- Mind Mapping/Outlining software
- Search log template
- Reference management plan
- Literature synthesis template
- File management plan
- Notetaking plan
- Writing plan
- Communication plan
  - Interdisciplinary research team
  - Surrogate information seekers
- Editing/anti-plagiarism plan

#### For the Librarians
- Customized research consultation request form
- Regularly updated research guides to your liaison areas
- Research guide to how to conduct a literature review project
- Database cheat sheet
- Term generating and harvesting sheet
- Search manuals & tutorials for core database
Tip 4:
Help See the Big Picture --> Topic Map
Tip 5:
Plan & Organize the Search →
Search Logs
## Search Log: An Example

### Topic: Adolescent Depression & Attachment

<table>
<thead>
<tr>
<th>Date</th>
<th>Database/ Search Engine/Journal Name</th>
<th>Search Terms / Statement</th>
<th>Search Strategies</th>
<th>Limits</th>
<th>Hits</th>
<th>Export/Save/Alert</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/5/2015</td>
<td>PsycINFO</td>
<td>Adolescent AND Attachment AND Depression</td>
<td>None</td>
<td></td>
<td>788</td>
<td>No</td>
<td>Too broad. Pick the first three records of the search results and scan the abstracts and find the subject headings of each term</td>
</tr>
<tr>
<td>3/5/2015</td>
<td>PsycINFO</td>
<td>Adolescent Development (subject heading) AND Attachment Behavior (subject heading) AND Major Depression (subject heading)</td>
<td>Locate the Subject Headings of each search term: Adolescent Development, Attachment Behavior, Major Depression</td>
<td>by english only + by peer reviewed only</td>
<td>38</td>
<td>Export to RefWorks &gt; Folder 1, Create Alert</td>
<td>Restricting the results by peer reviewed only excludes the dissertations/theses on the topic</td>
</tr>
<tr>
<td>3/5/2015</td>
<td>PsycINFO</td>
<td>Adolescent Development (subject heading) AND Attachment Behavior (subject heading) AND Major Depression (subject heading)</td>
<td>Narrow results by source type: Dissertations &amp; Theses</td>
<td></td>
<td>6</td>
<td>Export to RefWorks &gt; Folder 1</td>
<td></td>
</tr>
</tbody>
</table>
## Search Log B

<table>
<thead>
<tr>
<th>WEB OF SCIENCE</th>
<th>ABI/INFORM GLOBAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concept 1: Big Data in the Public Sector</strong></td>
<td></td>
</tr>
<tr>
<td><em>(big NEAR/1 data) AND (“public sector”)</em></td>
<td><em>(big NEAR/1 data) AND (“public sector”)</em></td>
</tr>
<tr>
<td>Limit to 2010-2018 (inclusive)</td>
<td>Limit to 2010-2018 (inclusive)</td>
</tr>
<tr>
<td>Search in TOPIC (title, abstract, keywords, Keyword Plus)</td>
<td>Search in Title OR Abstract</td>
</tr>
<tr>
<td>Language = English</td>
<td>Language = English</td>
</tr>
<tr>
<td>Document Type=Article, Review, Editorial</td>
<td>Limit to peer reviewed and scholarly journals</td>
</tr>
<tr>
<td><strong>Concept 2: Organizational Learning</strong></td>
<td></td>
</tr>
<tr>
<td>….</td>
<td></td>
</tr>
</tbody>
</table>

Source: Chegus (2017)
How to Track Citations

Backward chaining… find materials cited by a person’s work

Forward chaining… find materials that cite a person’s work

[BOOK] Making sense of the Molly Maguires
K Kenny - 1998 - books.google.com
Tip 6: Look for a Goldmine Paper → Dissertations & Review Articles
Dissertations, theses and stand-alone review articles include extensive bibliographies.

**How to find “Review Articles”**

1. Add “review” as a title to your search query (e.g.,@ Google Scholar, *intitle:review*)
2. Check for advanced search option to limit your search to Methodology > Literature review
3. “Annual Reviews” or systematic review databases in the field (e.g., “Campbell Collaboration” database for public policy)
Comparison of Times Cited

Google Scholar vs. ERIC (ProQuest) vs. Web of Science


Times cited in Google Scholar (145) > ERIC (ProQuest) (103) > Web of Science (45)

Why these different numbers?
Tip 7: Gather, Manage & Format References as You Go → Citation Management Programs & Style Guides
Handy Tools

• Store references and materials
  – Zotero (free), RefWorks, EndNote, etc.
  – Citation Guide [http://guides.lib.fsu.edu/citations](http://guides.lib.fsu.edu/citations)

• File storage system
  – Dropbox, Google Drive, etc.

• Scanning Apps
  – JotNot Scanner, CamScanner, etc.
Tip 8: Read, Take Notes & Evaluate as You Go
Note-taking Tips

• Evaluate information for validity and for rhetorical purposes
• Be a critical reader
• Journal articles: read the abstract and conclusion first.
• Take notes while you are reading
• Summarize, paraphrase, comment upon articles in relation to your research question
• Direct quotes for only very important quotes or terms (don’t forget to write down the page #!)
Note-taking Tools

- Memory cards (lg index cards)
- MS Word (1 source per sheet)
- Citation management tool (e.g. notes in Zotero)
- Apps (e.g. EverNote, LiquidText)
- MS OneNote

What are your favorite note taking tools & techniques?
Tip 9: Organize Notes → Synthesis Matrix
### Synthesis Matrix

**Example 1.** What role does capital punishment play in American society?

<table>
<thead>
<tr>
<th></th>
<th>Deterrence</th>
<th>Revenge</th>
<th>Oppression</th>
<th>Political leverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author A, PubYear</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Author B, PubYear</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example 2.** Does video game playing impact on short-term memory task performance?

<table>
<thead>
<tr>
<th></th>
<th>Experiment Design (Sample size, Respondents, etc.)</th>
<th>Methods</th>
<th>Findings</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tip 10: Stay current with ease
Search Alerts

Automatically keep current on the topic

How to create search alerts

• Develop relevant search query
• Look for search alert option:
  – Create alert (Google Scholar)
  – Save search/alert (ProQuest)
  – Share > Create an alert (EBSCO)
• Alert formats: RSS, email, links, personal account
Tip 11: Stop Searching, Sit Down & Write A Draft!
WR ... I ... T ... E...
W ... R ... I ... T ...
Tip 12: Teach Writers What To Expect from Librarians
Meet with your librarian for help in person, online or over the phone to:

- Find appropriate **databases** or **journals** for the given topic
- Verify incomplete or incorrect **citations**
- Develop subject-specific **search strategies**
- Create a plan to acquire or have access to **research materials** (purchase, ILL, etc.)
Help from Your Librarian

• Replicate someone else’s search strategy
• Organize citations using citation management programs
• Keep up with new publications
• Format citations in a given publishing style

Can you add anything to this list?
Discussion Activity
Common Mistakes with LRs

READ. WRITE. RINSE. REPEAT.

THE RESEARCH CYCLE.


Systematic Review Team at University of Michigan Taubman Health Sciences Library

Dr. Jesse Klein (Research & Data Service Librarian) at FSU Libraries
Thank you!

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