

## **The Four-Part Literature Review Process: Breaking it Down for Students**

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Both undergraduate and graduate students face similar challenges when tasked with writing literature reviews. Breaking down the literature review into a four-part process helps students decrease frustration and increase quality. This article provides usable advice for anyone teaching or writing literature reviews. Tips and illustrations illuminate each part of the process, including 1) Developing a Topic; 2) Searching the Literature; 3) Narrowing the Scope; and 4) Synthesizing Prior Research. First, practical tips for topic development include welcoming change and exercises for allowing students to “talk out” topic evolution in physical or virtual settings. Next, tips for searching include defining quality research in the discipline, linking to online tools, refining language, and working with that first good article. Then, practical tips for narrowing include advice for deconstructing articles and questions to ask when “talking out” refinement of the project. Finally, practical tips for synthesizing include virtual tagging and physical clustering exercises.

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Recently, I taught masters students and mentored undergraduates, while both groups wrestled with writing literature reviews. I found that students at both levels face similar challenges. It helps to deconstruct the literature review into a four-part process, including: 1) Developing a Topic; 2) Searching the Literature; 3) Narrowing the Scope; and 4) Synthesizing Prior Research. Here are some tips to help students navigate each part of the process.

### **Developing a Topic**

Students start projects with topics, whether by choice or assignment. That first topic evolves as students find, narrow, and synthesize prior research. Sometimes students do not understand this concept until they start writing their literature reviews. Instructors and peers help students shape their literature review topics by “talking them out,” in digital or physical learning environments that welcome change.

### **Practical Tips**

Break down topic development into welcoming change, “talking it out,” and using online tools.

**Welcome change.** Many students want perfection from the start. It helps to reiterate that topics evolve, and evolution is good. Start by framing topics as “under construction,” built as students move from general to researchable ideas. A supportive environment, with positive and constructive feedback from instructor and peers, goes a long way.

**Help students “talk it out.”** At the beginning of the project timeline, I selected a few students in each class session. In a graduate course of around 20 students, I arranged the desks in a circle and selected three students to speak for a couple of minutes about their topics, challenges, and breakthroughs in their current literature searches. Then other students and I asked questions for five minutes. Even the most basic questions started the students thinking and talking, for example: “What have you found so far?” “Have you found anything that really seems to fit your topic?” “What’s special about this study?” Students often took notes and gave each other tips from their own experience.

Another “talking it out” option involves small groups. Depending on the size of the class, divide students into groups of two or three. In respective groups, each student uses a set number of minutes to talk about the topic and current progress, while the

listeners take notes and ask clarifying questions. Students give each other the sympathy and advice that stems from currently going through the same experience.

**Use online tools.** Online tools also aid topic refinement. A little past halfway through the project timeline, I assign my students to 1) post their abstracts in a thread in the class discussion board, and 2) comment or question at least one classmate's abstract.

Both by visiting group sessions or participating in discussion board threads, instructors provide guidance to several students at once. Students progress at different rates. Using these exercises at different waypoints during the project timeline allows students to work on topic refinement with support from their instructor and their peers.

### **Searching the Literature**

Without basic library research skills, writing a literature review becomes a frustrating experience. It seems dishearteningly common for students to arrive in the classroom without these skills. Students express annoyance when they do not know where to search, how to search, and what quality research looks like when they find it.

#### **Practical Tips**

Deconstruct searching the literature into defining quality research, linking it up, refining language, and working with that first good article.

**Define quality research.** As students start their projects, it is never redundant to define quality research in your field. Address these basic questions with students: What makes good research in your discipline? In what journals might students find this quality research? What library databases house those prior studies? Is peer review important in your field? What is peer review, anyway?

*Reach out to your institution's library.* Many academic libraries employ discipline-trained liaison librarians, who happily visit classrooms, presenting about relevant databases and journals, as well as organization and citation software. For online

students or quick reference, libraries often offer virtual guides, instruction manuals that provide an introduction to discipline-specific resources.

**Link it up.** Consider consulting with your librarian about linking your Google Scholar search engine to your institution's databases. Many institutions offer this option, manageable through a few clicks in Google Scholar's settings. This allows for a *federated* search: one search in Google Scholar will search both your library's databases and scholarly resources available elsewhere online. While your librarian may caution you that this search is not perfect, it does provide a familiar, unintimidating place for students to start. And, it offers some useful features, like allowing direct access into the document through the library's databases and the ability to quickly discover articles that have cited others.

**Refine language.** Often students approach a topic without having learned the language of the discipline. One graduate student reached a level of desperation, convinced that no one has ever studied overnight field trips. After using trial-and-error to refine her search terms, she found several on-topic studies under the terms "field-trips" and "school excursions." A simple exercise in synonyms opened up a world of prior literature.

Synonym brainstorming works as a classroom or discussion board exercise. As students talk about their topics, have their peers offer alternative wording or related topics. It is particularly effective to demonstrate the differences in search results as students play with keyword selection.

**Work with that first good article.** One masters student stalled when she found her first significant resource, which was over 20 years old. "There's nothing else!" she panicked. But, once a student finds one article that fits the topic, several techniques help to uncover additional resources.

***Who cited whom?*** First, have your student study the article's literature review and the reference list. Usually there is at minimum a citation or two in the literature review that particularly fits the student's project. Have the student find the bibliographic entry in the reference list. Then, have the student find the source using library databases, Google Scholar, or your librarian. Then repeat the exercise with the newly found article, and watch as the student's literature review grows.

For a complementary approach, find articles that cited the selected article. A quick way to do this is to find the selected article in Google Scholar, then click on the "Cited by" link to show citing articles. Library databases like ScienceDirect also use this feature, and searching both finds articles missed by either. Also, many databases recommend related articles based upon the keywords and subject of the current selection, putting more resources at your student's fingertips.

***Seek similarities.*** Consider the journal in which the article was published. Does this topic regularly appear in the journal? The most complete look at a journal's contents usually appears on its website. While library databases offer a search feature for journals, they may not offer complete coverage for every journal, meaning important articles may not appear in the database. Finally, teach your students to find other papers by the authors of their chosen articles. This paper is very likely part of a line of research that includes multiple publications.

### **Narrowing the Scope**

Once students start to get a handle on searching literature, the amount of research that they find soon becomes overwhelming. As one undergraduate history major put it, "There's just so much!" When a student complains that too much has been written on his topic, then it is time to narrow. Other students might say that not enough has been written about their topics. If they have mastered the basics of searching, then

this is a sign that they have narrowed too much. I found that several students had difficulty understanding the concept of narrowing, so I used metaphors to explain, e.g. “Give us the entire taste of one slice of the pie. We don’t want the whole pie, but we don’t want just a bite.” Narrowing can feel like an intuitive journey, an “I know it when I see it” kind of thing. But how can we help students to see it?

### **Practical Tips**

Help students narrow the scope by breaking down the articles and “talking it out.”

**Break down articles.** Once students start finding enough literature to overwhelm them, then it is time for deeper analysis. While many students start gathering articles by looking at abstracts and findings, at this stage they must consider methodologies and other contextual factors. The key here is to ask questions, for example: “Who are the subjects of this study?” “Where were they studied?” “How?” “Is this how you would like your topic to evolve?” For example, if a student writes about techniques for historic preservation, are all types of structures relevant, or would it better fit the topic to concentrate on styles of buildings predominant in the region?

**“Talk it out” (again).** “Talking it out” exercises work well for narrowing, and they translate to classroom or virtual sessions. In the classroom, divide students into groups. Set time limits for talking and requirements for students to ask questions. Visit each group and ask what they have uncovered, or what struggles they are still having. In virtual classrooms, use the discussion board to allow students to post current struggles and to provide advice and support.

### **Synthesizing Prior Research**

When students have refined their topics, found quality research, and narrowed their focus, it is time for them to draft their papers. Too often, literature review drafts

read like annotated bibliographies, with each source summarized in its own paragraph. Synthesizing asks students to identify themes emerging from the literature.

### **Practical Tips**

Break synthesizing prior research into virtual tagging and physical clustering.

**Tag it!** When writing a literature review, a key task is to organize the discovered research. I talk about this with my students throughout the semester. Some students prefer to create Excel tables, while others prefer bibliographic management tools like Mendeley and EndNote. Whatever their choice, documents should be searchable by author, article title, publication date, and journal title.

Students should add their own notes and tags for each article. Notes allow the students to move beyond provided abstracts and to summarize why each article matters for their own projects. Students then should break down notes into themes or tags, which will help them to structure their synthesis.

My students quickly understood tags. Like social media, it helps students to think about how they would hash tag (#) one study in order to group it with those that are similar. Questions to think about: How would the student categorize each article? What articles would have the same tags? What tags would differ? Main points and themes start to emerge. Students can play with different ways to organize their papers, based on the themes found in their tags and in the literature.

**Cluster.** Sometimes it helps to physically visualize themes in a classroom exercise, or as homework. In the classroom, break students into small groups, and provide each student with a pad of sticky notes. As students consult their own reference lists or other organizational tools, they write main points from each article on separate sticky notes, with enough citation information to identify the source. Then, using wall space, have members of the group work on one student's paper at a time. Group

members stick notes to the wall and offer suggestions for clustering themes. This is a great tool for synthesis, as themes emerge and similarities appear. Students help their peers think of themes and various possibilities for paper organization. I encourage students to document the final organization of their sticky notes for later reference, usually by taking pictures with their phones.

When students start noticing patterns, balance their enthusiasm with a reminder to set interesting but irrelevant themes aside for now. Also, remind students to tie every assertion to prior research. This helps them to see the gaps in the literature, which may deserve mention as directions for further research.

### **Summary**

This brief article provides tips for breaking down the literature review into a manageable, four-step process, including: developing a topic, searching the literature, narrowing the scope, and synthesizing prior research. The practical tips included for each step provide exercises applicable to both physical and virtual classrooms, in individual and group settings. While helping your students through the literature review process, take advantage of the resources available at your institution, including library tutorials and database links. Helping students deconstruct the literature review into a four-part process, you will find that students' literature reviews increase in quality while their frustration decreases.