Unit 1: Literature Review\*

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| **Genre** | **Purpose** | **Audience** | **Role** | **Sample Rhetorical Situation** |
| Literature Review | Evaluate existing research and/or argue for a specific approach | Other scientists with an interest in the topic (not necessarily experts) | Scientist (environmental studies major)  Expert insider to non-expert insider | You want to argue for a specific direction for future research or understanding, as well as practical applications. |

### The literature review is a common genre in scientific writing because it provides an avenue to analyze, synthesize, and evaluate research conducted by other scientists. The argument made in them is based not on original experiments or field research, but on publications. Reviews are typically organized around a concern or question, and they evaluate the state of the field in relation to that question. Such reviews are frequently written for scientists from related fields who are looking for an overview of current work, students who are beginning research, or politicians who need a quick but professional lesson on a certain subject in order to make policy decisions.

A key difference between a review article and the research paper you may have done in high school is the addition of a perspective; your review should offer a critical appraisal of the topic. It is not necessarily argumentative, but should convey a clear assessment of the research. Writers typically take one of several approaches to create their review:

1. **Historical—**focus on the development of knowledge on a certain topic. The organization is chronological and could focus on critical milestones
2. **Experimental—**concentrate on recent trends in experimental work. Through what ways or methods has your topic been developed? What are their advantages and limitations?
3. **Concepts and hypotheses—**What are the reigning hypotheses about the topic and who has framed them? Are any long-accepted concepts being challenged?
4. **Implications—**What types of applications might come from a new discovery or technology? What important gaps or limitations need to be addressed?

Possible topics include:

1. **A disease**: **infectious** (AIDS, Zika, SARS, STDs, malaria, cholera, yellow fever, etc.) or **chronic** (diabetes, autoimmune) or life-threatening (heart disease, kidney disease) or **debilitating** (Alzheimer’s, stroke)
2. **A mental/behavioral condition** **(**psychosis, mood disorders, anxiety disorders, eating disorders, PTSD, substance abuse, autism)
3. **A technology** (nanotechnology, biotechnology, genetically modified foods)
4. **A new or controversial drug** (such as hormone replacements, anti-depressants, steroids)
5. **An environmental issue** (wildfires, climate change, loss of biodiversity, oil drilling, fracking, water pollution, water scarcity, wind or solar energy, organic farming vs. industrial farming)
6. **A national security risk** (anthrax, biological weapons, computer hacking)
7. **A chemical** (phthalates, bisphenol-A, food additives)
8. **A food-related issue** (*e.coli* outbreaks, “traditional” food vs. organic vs. GMO, health benefits of certain diets—vegan, vegetarian, raw)
9. **A health issue** (breast feeding, exercise, fetal alcohol syndrome, side effects of various medications, e-cigarettes, asthma, etc.)

Try to find a topic which you will enjoy researching. It should be a topic that has contemporary relevance and thus will be interesting to you and your readers.

### Feeder 1.1: Topic Statement and Sources

### We will spend several class days brainstorming and researching topics for this assignment. Once we have completed these exercises, you should be able to write a 1-page, double-spaced (minimum length) prospectus for your review. In this essay, you will:

### Describe your topic and establish what makes it interesting—both from a scientific perspective and to you personally.

### State your research question and make clear why this question is important or worth answering. Be specific rather than general when writing this section.

### Establish what is known and not known about this topic as well as critical subtopics pertinent to your focus.

### Feeder 1.2: Summary/Comparison of Two Sources

For this feeder you will write a short (**1.5 double-spaced pages, minimum**) summary and comparison of two academic articles pertaining to your topic. In this essay you will:

### Introduce the author(s), journal, and publication information for both articles, and identify each article’s main purpose.

### Concisely summarize the research question, methodology, results, and key conclusions of each article.

### Compare/contrast each article in terms of their focus, approach, results, and/or conclusions.

### Unit Project: Literature Review

Using the research you have collected from **at least 6 scholarly sources**, write a **4-page, double-spaced (minimum length)** review of the literature on the topic. Below are some guidelines.

**Audience**: Literature reviews are written for a range of audiences. They may be useful for professionals who specialize in your area, but also for professionals who need to know about the state of research on a given issue. These audiences have a specialized background, but they are not necessarily experts on the issue or topic at hand, or they are not familiar with the most current research.

**Contents:** Unlike reports, which follow a fairly standard format in most journals, literature reviews can have different organization schemes, depending on the subject, your objectives, and the editorial guidelines of the journal. Most have an introduction, body (including headings and sub-headings), a conclusion or summary, and a bibliography. Your review should include the following:

**Introduction**: In this section, you should orient the readers so that they know what topic will be addressed and why it is important for them to know about. You should define the topic and inform the reader about the approach you are taking. What aspects will be covered, and what aspects will not be covered? And, most crucially, what is the question you are attempting to answer with this review.

**Body:** Include at least three sections here describing different trends, themes, or approaches relevant to your topic. In each section, do not simply summarize research—build a focused discussion of that topic. Rather than moving through each source one at a time, develop comparisons, contrasts, or similarities between articles or studies.

**Conclusion**: Summarize the major points of the literature review, and add a final perspective or conclusion. Here, you should refer back to the question or objective set out in the introduction and to the relationships or patterns you developed in the body section. What is the significance of the research you have reviewed? What problems still need to be solved? What research is still needed?

**Bibliography**: Prepare a list of the sources you have cited in your article using CSE name-year formatting.

Genre Models and Other Resources:

* Examples of a review article from the *Journal of Young Investigators*:

<https://www.jyi.org/2019-october/2019/10/1/the-role-of-synaptic-plasticity-in-the-pathophysiology-of-cocaine-addiction>

* Funny but relevant article about literature “reviews” vs. “reports”: <https://hydeandrugg.wordpress.com/2014/07/25/literature-reviews/?utm_content=buffer806b6&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer>
* UNC Writing Center page on literature reviews: <http://writingcenter.unc.edu/handouts/literature-reviews/>
* UNC Libraries literature reviews tutorial: <http://library.unc.edu/instruct/tutorials/litreview/>
* Other recommendations for writing a review article: <http://websites.uwlax.edu/biology/ReviewPapers.html>
* Different kinds of science writing from the Undergraduate Librarian:<http://undergraduatesciencelibrarian.org/a-very-brief-introduction-to-the-scientific-literature/types-of-scientific-literature/>

\*Assignment adapted from Professor Margaret O’Shaughnessey