I. What is a Literature Review

A. Description

A literature review does not describe the author’s own work, but rather synthesizes ideas and results from other research papers. It discusses published information in a particular subject area, and sometimes information in a particular subject area within a certain time period.

A literature review usually has an organizational pattern and combines both summary and synthesis. A summary is a recap of the important information of the source, but a synthesis is a re-organization, or a reshuffling, of that information. It might give a new interpretation of old material or combine new with old interpretations. Or it might trace the intellectual progression of the field, including major debates. And depending on the situation, the literature review may evaluate the sources and advise the reader on the most pertinent or relevant of these sources. A literature review should be a thoughtful integration of the results and ideas coming from a number of studies in order to provide a new perspective or understanding or to provoke discussion within the field.

B. Functions

A literature review has many functions. It determines what has already been done in the field. It provides the necessary insight to develop a logical framework into which the topic being researched fits. It provides the rationale for the hypotheses being investigated and the justification of the significance of the study. A literature review can also identify potentially useful methodological strategies and facilitate the interpretation of the results.

C. How does it differ from an Academic Research Paper?

While the main focus of an academic research paper is to support your own argument, the focus of a literature review is to summarize and synthesize the arguments and ideas of others. The academic research paper also covers a range of sources, but it is usually a select number of sources, because the emphasis is on the argument. Likewise, a literature review can also have an "argument," but it is
not as important as covering a number of sources. In short, an academic research paper and a literature review contain some of the same elements. In fact, many academic research papers will contain a literature review section. But it is the aspect of the study (the argument or the sources) that is emphasized that determines what type of document it is.

II. Why Write a Literature Review

Literature reviews provide you with a handy guide to a particular topic. If you have limited time to conduct research, literature reviews can give you an overview or act as a stepping stone. For professionals, they are useful reports that keep them up to date with what is current in the field. For scholars, the depth and breadth of the literature review emphasizes the credibility of the writer in his or her field. Literature reviews also provide a solid background for a research paper’s investigation. Comprehensive knowledge of the literature of the field is essential to most research papers.

III. How to Write a Literature Review

A. Stage 1 – Starting the Search

1. Clarify
   If your assignment is not very specific, seek clarification from your instructor:
   - Roughly how many sources should you include?
   - What types of sources (books, journal articles)?)
   - Should you summarize, synthesize, or critique your sources by discussing a common theme or issue?
   - Should you evaluate your sources?
   - Should you provide subheadings and other background information, such as definitions and/or a history?

2. Library
   Get to know the library ASAP! Make sure you are familiar with all the resources available to help you locate references. Know what databases are appropriate to find articles in the sciences. Know that you always choose PDF format over HTML.

3. Narrow your topic
   Start out with a clear idea of the question you are trying to answer in the paper. There are hundreds or even thousands of articles and books on most areas of study. The narrower your topic, the easier it will be to limit the number of sources you need to read in order to get a good survey of the material. Your instructor will probably not expect
you to read everything that's out there on the topic, but you'll make your job easier if you first limit your scope.

Write out your idea and show it to your research mentor. It should be interesting and inclusive enough to ensure there’s enough material available to review. Also, don’t forget to tap into your research mentor’s (or other professors') knowledge in the field. Ask your professor questions such as: 'If you had to read only one book from the 90's on topic X, what would it be?' Questions such as this help you to find and determine quickly the most seminal pieces in the field.

A literature review, like a term paper, is usually organized around ideas, not the sources themselves as an annotated bibliography would be organized. This means that you will not just simply list your sources and go into detail about each one of them, one at a time. As you read widely but selectively in your topic area, consider instead what themes or issues connect your sources together. Do they present one or different solutions? Is there an aspect of the field that is missing? How well do they present the material and do they portray it according to an appropriate theory? Do they reveal a trend in the field? Or a raging debate? Picking one of these emerging themes to focus the organization of your review helps to narrow down your topic as well. A useful resource for a student writing a review paper is the “Annual Reviews” that are available for a number of fields “Annual Review of Cell and Developmental Biology”, “Annual Review of Ecology and Systematics”, etc.

B. Stage 2 – Identifying Sources

1. Current Sources
   Some disciplines require that you use information that is as current as possible including science. In the sciences, for instance, treatments for medical problems are constantly changing according to the latest studies. Information even two years old could be obsolete. However, a survey of the history of the literature may be what is needed, because what is important is how perspectives have changed through the years or within a certain time period. Try sorting through some other current bibliographies or literature reviews in the field to get a sense of what your discipline expects. You can also use this method to consider what is "hot" and what is not. When in doubt, ask your research mentor.

2. Scholarly Work
   Remember that your sources must be scholarly in nature. Scientific American is NOT a scholarly journal. Scholarly typically means that the article has undergone a peer review prior to publication.
C. Stage 3 – Abstracting the Information Found in References

- Begin by organizing your references by date. Start with the most recent references and move toward the most dated.
- First, read the article’s abstract and then skim the entire article before completely reading.
- Record complete bibliographic information – author, date of publication, title, journal name or book title, volume and issue, pages, library call number, etc.
- Classify and code the article.
- Take notes, identifying main ideas and summarizing the article. Record thoughts about the article that you feel are important. Use index cards or a word processor. Index cards are able to be shuffled around and can be color coded easily. Word processors are nice for the fact that you can later cut and paste your notes into a rough draft.
- Identify direct quotes properly and record necessary page numbers.

D. Stage 4 – Organizing and reporting

1. Organizing

   Use the focus of your search to construct a thesis statement. Yes, literature reviews have thesis statements as well. However, your thesis statement will not necessarily argue for a position or an opinion; rather it will argue for a particular perspective on the material.

   Outline your paper before setting pen to paper. This will help you to organize your thoughts and therefore improve the quality of the final paper. What is the most effective way of presenting the information? What are the most important topics, subtopics, etc., that your review needs to include? And in what order should you present them? Develop an organization for your review at both a global and local level.

   When outlining, keep in mind the sections of the literature review, which will be discussed next.
   - Title
   - Abstract
   - Introduction
   - Body
• Conclusion
• Literature Cited

2. Reporting
   a. Title
      Titles should be informative and specific but yet concise. They should have a sense of direction and use key words and scientific names when necessary. A good working title is essential to keep the paper focused but can be modified as the research progresses.

   b. Abstract
      A good abstract will allow other researchers to assess the relevance of your paper. It will cause other researchers to either read your paper or skip over it, since it is the first thing that someone will read. When readers finish the abstract, they should be intrigued by the subject matter which causes them to read the entire paper. It is the last part of the paper that you will write, yet is found after the title page. It should be in paragraph form and be 250 words or less. The abstract should outline the study’s objectives, methods, results, conclusions and relevance. Remember that the abstract should make sense when reading alone. Also, do not use abbreviations or make references to tables, graphs or figures.

   c. Introduction
      Your introduction should be short and concise (ca. 1 page) and is NOT given a separate heading from the body of the paper. The purpose of the introduction is to introduce your reader to the ideas that you will be addressing in the body of your paper. In your introduction, you should be trying to bring readers from different backgrounds up to speed with the “thesis” or objective of your paper and explain to them why it is that this issue is important. It is not a review of the field…that is what the body of the paper is for. It is generally written after the body of the paper is completed (so you know where you have “gone” intellectually in the paper and thus can effectively communicate to your reader what to expect).

   d. Body
      In this portion of the paper, you will outline the background for your idea and begin to synthesize ideas from the papers you have read in order to build a coherent “thesis”. Before you write this section, figure out what your perspective is going to be (what are you trying to show?). Try to present your ideas in such a way that they build your discussion logically towards your goal. Outlines
will be a big help to you at this stage. Frequently using headings (e.g. History of the Idea, Specific Conflicts, etc.) can help you to systematically address each important point that you wish to make, as well as helping your reader to follow. Once you have developed your headings, you can then go back and place topic sentences for each paragraph of information you wish to convey under the appropriate heading. Each paragraph should have clear, well thought out points, and should contain only the information needed to make or support that point. Fill in each paragraph with more details until you have a coherent argument building towards your final, concluding statement.

Below are a few ways in which literature reviews are organized. It will depend on your “thesis” statement as to which one is better suited for your paper. You will need to discuss each of these organizational styles with your research mentor prior to writing.

**Chronological:**
If your review follows the chronological method, you could write about the materials according to when they were published. This would be appropriate if you were discussing how a specific bacterium has gained resistance to an antibiotic through the years.

**Thematic:**
Thematic reviews of literature are organized around a topic or issue, rather than the progression of time. However, progression of time may still be an important factor in a thematic review.

**Methodological:**
A methodological approach differs in that the focusing factor usually does not have to do with the year of publication or the content of the material. Instead, it focuses on the "methods" of the researcher or writer. This would be appropriate when you are looking to try a new method and you would need to review all previous methods, stating their pluses and minuses.

e. **Conclusion**
   Like the introduction, the conclusion is not usually separated from the body of the paper, although it can be if it is really long. In this section, you should restate the objective(s) of your paper and point out how you have satisfied these goals. It should also reiterate what the major conclusions (ideas) of your study are.

f. **Literature Cited**
This section lists references cited in the body of your paper. It is not a bibliography, so it should only list references actually cited in the paper, not everything you read while writing. Formatting how you cite your references in the text and in this section varies in style between journals. Therefore, for conformity in this assignment, you will be using APA.

IV. Final Thoughts

A. Use evidence

You should refer to several other sources when making your point. A literature review in this sense is just like any other academic research paper. Your interpretation of the available sources must be backed up with evidence to show that what you are saying is valid.

B. Be selective

Select only the most important points in each source to highlight in the review. The type of information you choose to mention should relate directly to the review's focus, whether it is thematic, methodological, or chronological.

Do not use any direct quotes. That is because the survey nature of the literature review does not allow for in-depth discussion or detailed quotes from the text. Some short quotes here and there are okay, though, if you want to emphasize a point, or if what the author said just cannot be rewritten in your own words.

C. Summarize and synthesize

Remember to summarize and synthesize your sources within each paragraph as well as throughout the review. Authors recapitulate important features, but then synthesize it by rephrasing the study's significance and relating it to their own work.

D. Keep your own voice

While the literature review presents others' ideas, your voice (the writer's) should remain front and center. You will weave references to other sources into your own text, but you should still maintain your own voice by starting and ending the paragraph with your own ideas and your own words. The sources should support what you are saying.
E. Use caution when paraphrasing

When paraphrasing a source that is not your own, be sure to represent the author's information or opinions accurately and in your own words.

F. Revise, revise, and revise

Draft in hand? Now you're ready to revise. Spending a lot of time revising is a wise idea, because your main objective is to present the material, not the argument. So check over your review again to make sure it follows the assignment and/or your outline. Then, just as you would for most other academic forms of writing, rewrite or rework the language of your review so that you've presented your information in the most concise manner possible. Be sure to use terminology familiar to your audience; get rid of unnecessary jargon or slang. Finally, double check that you've documented your sources and formatted the review appropriately for your discipline.

Sources:


The Writing Center, University of North Carolina at Chapel Hill