

## How to Do a Literature Review

by Jon Hufford

### 1. Importance of clearly defining the topic

It is important to clearly define the topic of your research. You can do this with a phrase, a short sentence, or even better a thesis statement.

### 2. Thesis statement

The thesis statement is the central argument of the essay, paper, or dissertation that you are working on. It should be concise and well-written. The thesis statement is usually found in the first paragraph of your paper. It's important to emphasize the relationship of the thesis to the paper and the literature review. The thesis statement focuses the paper and the literature review.

### 3. Example of a thesis statement

An example of a thesis statement that I will use during my presentation is "Organic foods are safer and more nutritious than genetically modified foods."

### 4. The Search Strategy—A plan for finding information for your paper

The search strategy is a plan for finding information for your paper. You can include a concept map or any kind of visual planning guide in this search strategy. More often a search or research journal is kept. This records anything that has to do with your research. Most importantly it will record the keywords and subject headings that you will use in search statements. We'll talk a little bit more about search statements in a minute. It also records the databases that you will need to search to find resources for your topic. And it will also record other things relating to your research—in fact anything that bears on the paper's requirements: the scope of the paper, deadlines that you have to meet. It identifies the resources that you'll need to use, and you can even record the articles and books that you will be using in your research.

### 5. The Search Statement

The search statement tells the database what information to search for. It is composed in such a way that the database software understands what it is supposed to look for. Remember this—this is important: computers are literal. They process commands based on the keystrokes you make. In the same way, databases retrieve search results based on the words that you enter. Learning how to identify correct terms and phrases for your topic is essential for conducting successful searches.

Let's use our example thesis statement to identify the keywords for that thesis.

### 6. Keywords in the thesis statement

"Organic foods are safer and more nutritious than genetically modified foods."

You will start off by identifying keywords in the thesis statement, and they will be at the top of the list of keywords that you will be using in your searches. Just as the thesis may be modified after more information is accessed and evaluated, so the thesis statement may be modified also. It evolves along with the thesis. Once you have your basic list of keywords from the thesis statement, the next thing you need to do is identify more keywords that you would use to search in databases.

## 7. Identifying more keywords

You will of course start by identifying the most important words in your thesis. They would normally be nouns. If the word that you identify as important in your thesis is not a noun, you can always change it to a noun. It's important to have a long list of keywords that you will be using when you do your searches.

The keywords that you will include in the search statement that you composed for the database you are going to be using, can be combined by Boolean operators.

## 8. Boolean Operators—Combine search terms

AND, OR, and NOT are the three Boolean operators. There are no other Boolean operators, and you will combine words with these Boolean operators.

- AND - combines terms so that each search result contains all of the terms.
- OR - combines terms so that each search result contains at least one of the terms.
- NOT - excludes terms. Each search result does not contain any of the terms that follow NOT.

## 9. Other things to use in a search statement

You can use a wildcard in a search a statement. A wildcard usually comes inside of a word. "Women" is a good example. Let's say you're looking for records that have either the singular or plural of woman: woman or women. You could type wom?n, and what the software will do is look for women or woman. Most of the databases understand what that question mark means, and that's called a wildcard.

You can also use truncation in your search statement. If you type a base word like compute, say "comput" and put an asterisk after the T, the database is going to look for compute, computer, computerization. It's going to look for that base word comput\* and any other letters added after it.

You can use parentheses in your search statement. For example, (dogs OR cats) in parentheses AND (show OR parade) in parentheses. What's going to happen in that example is that the software is going to look for *dogs* or *cats* first, because those two words are in parentheses, and they're combined with the Boolean operator OR and create a subset of records that have either *dogs* or *cats*. Then it's going to take that subset and look for either the word *show* or *parade* because AND is there and the word *show* or *parade* is combined by OR and in parentheses, and it's going to create a second subset in which the records have either *dogs* or *cats* and *show* or *parade*. That's what parentheses do.

Another technique that you can you use in your search statement is quotation marks. If you have two or more words and you want those words to be searched as a phase—in other words, if you want those words to be to be found adjacent to each other in the records—you can use quotation marks. All of the databases understand what the quotation marks mean. So if you are looking for the phase "literature review" and it's important that the software look for "literature review" and not each word separately, then use quotation marks.

Limiting: you can usually tell the software to look for certain dates of publication if you want to. You don't necessary have to type those dates in the search statement, but there is a window or a place in the search screen where you can type those years that are important for you. So if you want something an article or articles published after 2000, you can tell the software for look just for articles that were published after 2000.

And there are several other ways that you can limit your search. It's a good idea to look for the "Help" button in the search window or in the search screen. It will always be there. Just click on "Help" and you can get a lot more information about how to create search statements and to limit your search.

#### **10. Example of a search statement**

Using our thesis statement, here is an example of a search statement that I could use in one of the databases to find information for my thesis:

"Organic food\*" with a truncation symbol after it and also with parentheses around organic food OR organic farming with organic farming surrounded by parentheses OR genetically modified food with a truncation mark after food surrounded by parentheses OR biotechnology AND nutrition OR diet OR "food habits" with quotation marks around "food habits" OR "nutritious food" with quotation marks around "nutritious food."

This is an example—a good example—of a search statement that you would use in the database.

## **How to Do a Literature Review. Emerging Standards.**

**by Brian Quinn**

Hi, I am Brian Quinn. Thanks for joining me for “Emerging Standards for Literature Reviews.”

### **Current State of Literature Reviews**

Interviewer: Brian, how would you characterize the current state of literature reviews?

Brian: Well, a lot of literature reviews these days tend to be dry, plodding, descriptive exercises, but in actuality, a good literature review is much more than that. It’s a critical, analytical, thematic exploration of the research that you found. It’s taking the material that you find in your research and actively working with it, doing something with it, making it more than it was.

### **Why are standards currently so low?**

Interviewer: Why would you say the standards for literature reviews are currently so low?

Brian: Well, it’s interesting. A lot of literature reviews tend to suffer from sort of what I like call the “back of the hand” model. What that means is that the researchers seem to be anxious to get the literature review out of the way so they can get on to the real meat of the argument—the essence of their study—which is usually some form of primary research.

A literature review serves a kind of legitimating function in the sense that a well done literature review gives a certain credibility to the rest of the study, the study that follows. A weak literature review, on the other hand, can cast a shadow over the rest of the research in the sense that the reader looks at it and says, “Well, if the literature review isn’t well done, then what does that say about the rest of the research that follows from it?” So there is a certain halo effect that the literature review has. If it is well done, then the rest of the research appears to be more legitimate, more credible. If it’s a weak literature review, then that tends to cast the rest of the research in a somewhat negative light.

### **Should literature reviews be more comprehensive and exhaustive?**

Interviewer: Is it that issue then that literature reviews need to be more comprehensive and exhaustive?

Brian: I think there’s something called—what I like to refer to as the “kitchen sink syndrome.” That’s the tendency for researchers to include every possible study that they can within the lit. review, and there’s really no need to do that. A literature review has to be exhaustive in the sense that the research that you’re doing has to be thorough and comprehensive, but the actual lit. review itself should be selective. So once you’re gathered every study that you can possibly can, you want to take that research and select only the best studies—only the most important key primary works.

### **Biggest obstacle to improving literature review quality**

Interviewer: What is currently the biggest obstacle to improving the quality of literature reviews?

Brian: Probably the biggest obstacle would be the lack of transparency in studies. It’s interesting, back in 1999, there was a study done that found that three quarters of literature reviews don’t include any

description at all of how the review was conducted. So it's a mystery to the researchers, to the reader, how that literature review was carried out. There's no information provided by the author about how the study was conducted, what material was included, what material was excluded, and all this is kind of a mystery. So, reporting the search strategy that was used and what studies were included or excluded, those things are very important.

### **Literature review standards versus research papers**

Interviewer: So literature reviews are not subject to the same standards that research is held to?

Brian: That's right. It's interesting that the core of the study is usually carefully criticized by researchers, but in most cases the researchers tend to overlook the literature review itself. Standards are now being proposed in fields like medicine and psychology to make the methodology—the way that the literature review was conducted—more explicit.

### **Why are they important?**

Interviewer: Why are standards for literature reviews not becoming increasingly important?

Brian: Well, the quality of the literature review depends on how explicit you are about how the review was carried out. In order to be able to gauge the quality of the review, you need to know how that review was conducted. So you need to know something about the strategy that the author used in researching the literature, the search techniques that were used, the criteria that were used to either include or exclude studies, how the sampling was done—all these are very important issues that tend to be completely excluded from literature reviews. That methodology—those strategies—need to be made explicit.

### **Examples of emerging standards**

Interviewer: Can you give me some examples of emerging standards?

Brian: One of the most important emerging standards is a standard called STARLITE, which stands for **ST**Andards for **R**eporting **LIT**erature searches. This is a standard that's been proposed by Andrew Booth, who is a researcher at the University of Sheffield in the United Kingdom. Each of the letters in STARLITE stands for a different standard. S stands for sampling strategy, T for types of studies, A for approaches, R for range of years, L for limits, I for inclusions and exclusions, T for terms used, and E for electronic sources consulted.

Another emerging standard is the Cochrane Information Retrieval Methods Group, and this is a group of librarians and scholars from around the world who are interested in promoting unbiased, systematic reviews.

Thanks for joining me for "Emerging Standards for Literature Reviews." I'm Brian Quinn, and this is a Texas Tech University Library tutorial.