

Lesson 1: Literature Review

OBJECTIVES Studying this lesson should enable you to:

- Describe briefly why a literature review is of value.
- Name the steps a researcher goes through in conducting a review of the literature.
- Describe briefly the kinds of information contained in a general reference and give an example of such a source.
- Explain the difference between a primary and a secondary source and give an example of each type.
- Explain the main purposes of literature review
- Write a summary of your literature review.

The Definition and Value of a Literature Review:

A **literature review** is an assessment of a body (or bodies) of literature that pertains to a specific question. A literature review is helpful in several ways. It not only helps researchers glean the ideas of others interested in a particular research question (through important research findings and theories), but it also lets them read about the results of similar or related studies. Literature reviews also give researchers ideas about areas where more research needs to be done. They refer to these as “gaps” in the literature. In fact, a detailed literature review is usually required of master’s and doctoral students when they design a thesis. In some graduate programs, students must propose theses or dissertations that address gaps in the existing literature. Thus researchers often weigh information from a literature review in light of their own interests and situation. There are two important points here: Researchers need to be able not only to locate other work dealing with their intended area of study but also to be able to evaluate this work in terms of its relevance to the research question of interest.

The purpose of literature review:

The purpose of a literature review is to:

- Place each work in the context of its contribution to understanding the research problem being studied.
- Describe the relationship of each work to the others under consideration.
- Identify new ways to interpret prior research.
- Reveal any gaps that exist in the literature.
- Resolve conflicts amongst seemingly contradictory previous studies.
- Identify areas of prior scholarship to prevent duplication of effort.
- Point the way in fulfilling a need for additional research.
- Locate your own research within the context of existing literature [very important].

Types of Sources:

A researcher needs to be familiar with three basic types of sources as he or she begins to search for information related to the research question. These terms apply both to computerized searching (online or electronic) as well as manual searching (using print/paper tools to locate print/paper sources). Regardless of the tools involved, the search process is similar.

General reference tools: are the sources researchers often refer to first. In effect, they tell where to look to locate other sources—such as articles, books, reports, and other documents—that deal directly with the research question. General reference tools are usually either *indexes*, which list the author, title, and place of publication of articles and other materials, or **abstracts**, which give a brief summary or annotation of various publications, as well as their author, title, and place of publication. Historically, indexes and abstracts were only available in paper format, but since the advent of computers and the

Internet, most libraries have access to indexes and abstracts through online databases containing electronic indexes, abstracts, dictionaries, and encyclopedias. For example, the *Current Index to Journals in Education* (CIJE) and *Resources in Education* (RIE), the indexes most frequently used by researchers in education, are no longer available as distinct publications in paper format. Instead, since 2002 the information they contain is now only available electronically in ERIC (Education Resources Information Center), an online database of education research and information sponsored by the U.S. Department of Education and the Institute of Education Sciences. Similarly, *Psychological Abstracts*, the general reference most commonly used by researchers in psychology, is now only available through *PsycINFO*, a computer database compiled by the American Psychological Association (APA) that includes abstracts and bibliographic citations for journal articles, evaluation reports, conference papers and proceedings, speeches, and the like.

Primary sources: are publications in which researchers report the results of their studies directly to the reader. Most primary sources in education are journals, such as the *Journal of Educational Research* or the *Journal of Research in Science Teaching*. These journals are usually published monthly or quarterly, and the articles in them typically report on a particular research study. Most college libraries pay for subscriptions to online collections that provide registered students free access to a wide array of online databases, including electronic journals that allow users to download full text articles on demand.

Secondary sources: refer to publications in which authors describe the work of others. The most common secondary sources in education are textbooks. A textbook in educational psychology, for example, may describe several studies as a way to illustrate various ideas and concepts in psychology. Other commonly used secondary sources include educational encyclopedias, research reviews (usually peer-reviewed journals that publish literature reviews on specific topics), and yearbooks.

Researchers who seek information systematically on a given topic would refer first to one or more general reference tools to locate primary and secondary sources of value. For a quick overview of the problem at hand, secondary sources are probably the best bet. For detailed information about the research that others have done, primary sources should be consulted. Today, most researchers search the literature electronically by means of a personal computer. In the past, before the rise of the Internet and the World Wide Web, most searches were done manually. Manual searching (using print/paper tools to locate print/ paper sources) is now used primarily by library users interested in locating rare or historical sources. However, some professors also require students to conduct manual searches because not all sources are available electronically. Although the interface may be different, both processes are the same in terms of the steps involved.

Writing the Literature Review Report:

Once you have located and evaluated the sources relevant to your topic, you are ready for the final steps in preparing your review of the literature. In addition to locating and evaluating your sources, the next steps involve organizing, integrating, and synthesizing these sources. This process is inductive and often leads students to believe they are regressing, rather than progressing. As researchers and professors who have written and supervised many student literature reviews, our advice to you is to be patient and flexible! The process may appear as if you are going backward (not forward), but this is part of the larger process of discovery involved in doing research.

Part of this process involves reformulating the main question that guides your literature review oftentimes in the process of reviewing the research. For example, let's say you begin your literature search interested in the topic of mixed-ability grouping in elementary school classrooms. Your initial query is "What do we know about heterogeneous grouping in elementary schools?" After reviewing the research and familiarizing yourself with the vocabulary and background related to the topic, your revised question becomes "What are the effects of inclusion practices on elementary school student

achievement?” This restated question is much improved because it (a) includes key terms or vocabulary currently used by researchers in the field; (b) helps to clarify the purpose and scope of the literature review; and (c) examines the topic more deeply by exploring a possible relationship between inclusion practices (the presumed cause) and student achievement (the presumed outcome). The process of evaluating, integrating, and synthesizing relevant sources in a literature review involves analyzing and categorizing the literature into major topics and subtopics. There are many strategies for organizing the structure of a review. A common one is to include summary tables to provide readers with an overview of the research related to, for example: (a) definitions of key constructs and measures; (b) differing research methods used in studies examining the same research question or phenomenon; and (c) key study characteristics and findings. Literature reviews may differ in format, but they typically consist of the following five parts.

1. The *introduction* briefly describes the nature of the research problem and states the research question. The researcher also explains in this section what led him or her to investigate the question and why it is an important question to investigate.
2. The *body* of the review briefly reports what others have found or thought about the research problem. Related studies are usually discussed together, grouped under subheadings (to make the review easier to read). Major studies are described in more detail, while less important work can be referred to in just a line or two. Often this is done by referring to several studies that reported similar results in a single sentence, somewhat like this: “Several other small-scale studies reported similar results (Avila, 2009; Brown, 2006; Cartwright, 2009; Davis & Lim, 2008; Martinez, 2007).”
3. The *summary* of the review ties together the main threads revealed in the literature reviewed and presents a composite picture of what is—and is not—known or thought to date. Findings may be tabulated to give readers some idea of how many other researchers have reported identical or similar findings or have similar recommendations.
4. Any *conclusions* the researcher feels are justified based on the state of knowledge revealed in the literature should be included. What does the literature suggest are appropriate courses of action to take to try to solve the problem? And what are other important research questions that should be examined?
5. A *reference list* (or bibliography) with full bibliographic data for all sources mentioned in the review is essential. There are many ways to format reference lists, but the one outlined in the *Publication Manual of the American Psychological Association* (2009) is particularly easy to use.

The role of related Literature in Quantitative research:

Quantitative researchers are urged not to rush headlong into conducting their study. The search for related literature should be completed before the study commences in order to provide a context and background that supports the conduct of the study. This literature review stage serves several important functions:

1. *Knowledge of related research enables investigators to define the frontiers of their field.* To use an analogy, an explorer might say, “We know that beyond this river there are plains for 2,000 miles west, and beyond those plains a range of mountains, but we do not know what lies beyond the mountains. I propose to cross the plains, go over the mountains, and proceed from there in a westerly direction.” Likewise, the researcher in a sense says, “The work of A, B, and C has discovered this much about my question; the investigations of D have added this much to our knowledge. I propose to go beyond D’s work in the following manner.”
2. *A thorough review of related theory and research enables researchers to place their questions in perspective.* You should determine whether your endeavors are likely to add to knowledge in a meaningful way. Knowledge in any given area consists of the accumulated outcomes of numerous studies that generations of researchers have conducted and of the theories designed to integrate this

knowledge and explain the observed phenomena. You should review the literature to find links between your study and the accumulated knowledge in your field of interest. Studies with no link to the existing knowledge seldom make significant contributions to the field. Such studies tend to produce isolated bits of information that are of limited usefulness.

3. *Reviewing related literature helps researchers to limit their research question and to clarify and define the concepts of the study.* A research question may be too broad to be carried out or too vague to be put into concrete operation; for example, “What do parenting practices have to do with mental health?” A careful review of the literature can help researchers revise their initial questions so that the final questions can be investigated. The literature review also helps to clarify the constructs involved in the study and translate these constructs into operational definitions. Many educational and behavioral constructs—such as stress, creativity, frustration, aggression, achievement, motivation, and adjustment—need to be clarified and operationally defined. These, as well as many other educational and behavioral constructs, do not lend themselves to research until they can be quantified. In reviewing literature, you become familiar with previous efforts to clarify and operationally define these constructs. Successful reviews often result in the formation of hypotheses regarding the relationships among variables in a study. The hypotheses can provide direction and focus for the study.
4. *Through studying related research, investigators learn which methodologies have proven useful and which seem less promising.* The investigator develops increasing sophistication after digging through the layers of research that the related literature represents. As you delve into your topic, you soon see that the quality of research varies greatly. Eventually, you should begin to notice that not all studies in any one field are necessarily equal. You will soon be critiquing studies and noticing ways of improving them. For example, early studies in any one particular field may seem crude and ineffective because research methodology and design are constantly refined with each new study. Even so, many research projects fail because they use inappropriate procedures, instruments, research designs, or statistical analyses. Becoming proficient at evaluating research to determine its worth helps the investigator discover the most useful research path.
5. *A thorough search through related research avoids unintentional replication of previous studies.* Frequently, a researcher develops a worthwhile idea only to discover that a very similar study has already been made. In such a case, the researcher must decide whether to deliberately replicate the previous work or to investigate a different aspect of the problem. Duplication of previous research is usually conducted to test previous findings with new subject populations and thus confirm or invalidate it.
6. *The study of related literature places researchers in a better position to interpret the significance of their own results.* Becoming familiar with theory in the field and with previous research prepares researchers for fitting their research findings into the body of knowledge in the field.

As this discussion shows, quantitative research is built on a study of earlier work in the field, which helps the researcher refine his or her problem and place it in context. For qualitative researchers, the approach is very different. They are advised not to read in their area of interest because it is important that they approach their study without any preconceived ideas that might influence their work.

The role of related Literature in Qualitative and Mixed Methods research:

Barney G. Glaser, a pioneer in the grounded theory school within qualitative research, wrote, “In our approach we collect the data first. Then start analyzing it and generating theory. When the theory seems sufficiently grounded and developed, then we review the literature in the field and relate the theory to it through integration of ideas” 1978, (p. 31). Glaser added, “It is vital to read but in a substantive field different from the research. This maximizes the avoidance of pre-empting, preconceived concepts” (p. 31). This approach is frequently applied to qualitative studies in the social sciences, such as education, and is distinctly different from the traditional scientific method. Grounded

theory is developed inductively after examining a body of data, and the resulting theory seeks to fit the data; whereas traditional grand theory is deductive and may not fit the data collected.

A grounded theory-oriented researcher may find a search for research with his descriptors in fields such as medicine or animal behavior useful. The grounded theory researcher would not seek related literature in any of the human behavioral sciences. When the grounded theory study is complete, the researcher formulates theories to explain what has been observed. Then the researcher searches the literature to determine how his or her conclusions fit into the existing theories in the field.

Other fields of qualitative research may include a brief review of related literature at the beginning of a study to identify the theory that inspired the research or to justify the need for it. In the case of mixed methods research, the literature review may take a more dynamic and flexible form. It may be exploratory in the beginning stages of the study and explanatory at the end of the study. Or, it may take on both characteristics in iterative fashion as new research questions arise.

Organizing the Related Literature:

Once you are satisfied that you have carried out a reasonably comprehensive search of the literature in the field, you can proceed to the task of organizing it. A useful approach is to arrange the studies by topic and determine how each topic relates to your own study. Avoid the temptation to present the literature as a series of abstracts.

Rather, use it to lay a systematic foundation for the study. Present the literature in such a way as to justify carrying out your study by showing what is known and what remains to be investigated in the topic of concern. The hypotheses provide a framework for such organization. Like an explorer proposing an expedition, the researcher maps out the known territory and points the way to the unknown territory to be explored. If your study includes several facets or investigates more than a single hypothesis, the organization process is done separately for each hypothesis.

It is almost inevitable that a number of the reports you have carefully studied and included in your notes will, upon reflection, prove only peripherally related to the topic. It is neither necessary nor desirable to include in a proposal every study encountered in the search through the literature. Your readers will not be impressed by mere quantity. Relevance and organization of the material are of prime importance. The researcher who fails to approach the task of assembling the related literature in a systematic manner from the beginning can become very disorganized. The following suggestions may be of assistance. Your university, department, or research adviser may offer help sessions or minicourses, and the librarians at most institutions can also provide helpful suggestions.

1. *Begin reading the most recent studies in the field and then work backward through earlier volumes.* An obvious advantage of this approach is that you start with studies that have already incorporated the thoughts and findings of previous research. Earlier misunderstandings have been corrected, and unprofitable approaches have been identified. Another advantage is that these studies include references to earlier works and therefore direct you to sources you might not otherwise encounter. Obviously, limits must be set to the process of gathering related research. On the one hand, laying meaningful groundwork for a study entails including all the important works in the field. On the other hand, devoting excessive time to this endeavor could result in boring the readers of your own report with superfluous detail. Make sure the related literature serves, but does not dominate, your own work.
2. *Read the abstract or summary sections of a report first to determine whether it is relevant to the question.* Doing so can save much time that might be wasted reading unhelpful articles.
3. *Before taking notes, skim the report quickly to find those sections that are related to the question—another way to save reading time.*
4. *Make notes on file cards, in a word processing program, or in some format that can be accessed easily or clustered with other notes on related research.* This begins to organize the review. With

the prevalence of spreadsheet and database programs such as EndNote and ProCite on virtually every computer, and stand-alone software packages such as RefWorks also available, note taking and data manipulation are significantly easier than it was when previous editions of this text were published. EndNote, ProCite, and RefWorks all offer a free download trial, which will help you get started.

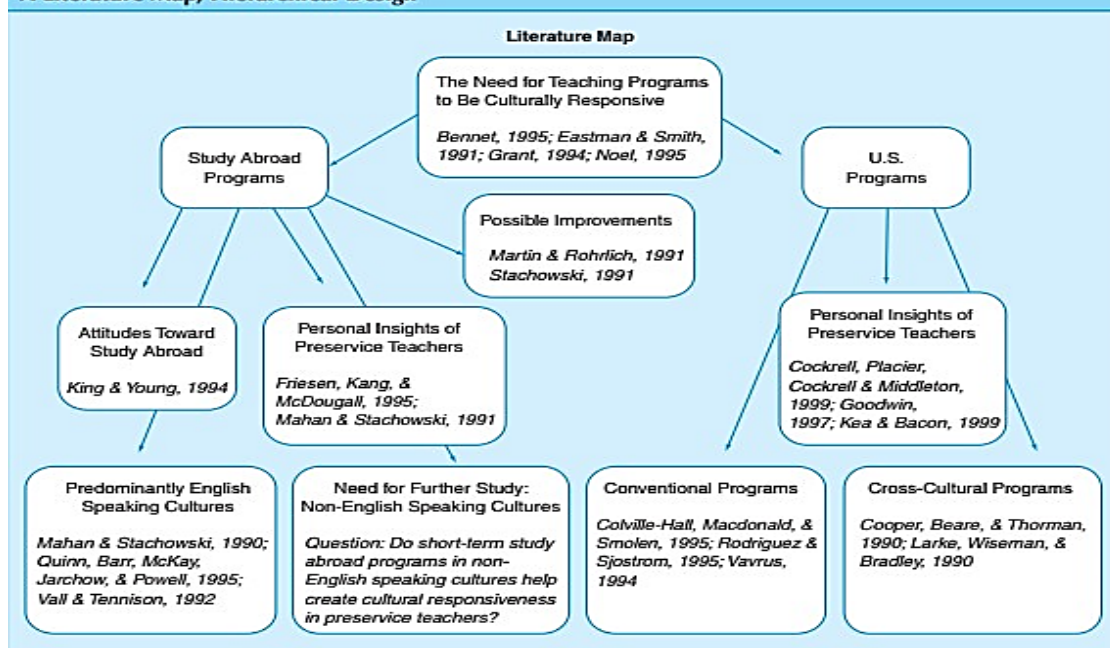
5. *Write out a separate complete bibliographic reference for each work. For the sake of record keeping, include the reference in the bibliography list and with the individual note card with the notes on the source.* A bibliography typically includes author, title, publisher, year, issue and volume numbers, and/or the universal resource locator (URL) or web address, the date you accessed an electronic source, and other information depending on the type of sources. Follow the most recent edition of the chosen style manual for citing references. There are web sites that provide help in using the American Psychological Association and Turabian style manuals. which may be good places to begin. Add the library call number, or URL of the source to facilitate finding the work again, should it be necessary.
6. *To facilitate sorting and organizing, do not put more than one reference on each page, entry, or card.* It is not possible to arrange references alphabetically or in any other way unless they are recorded singly.
7. *Be sure to indicate which parts of the notes are direct quotations from the author and which are your own paraphrases.* Failure to make this distinction can lead to inadvertent plagiarism. It is very easy to imagine that a passage from another source is your own creation after living with it for weeks or months, so be sure to document your material carefully. The consequences for plagiarism, intentional or unintentional, can be severe. It is also wise to clearly separate the author's evaluation of his or her research from your own conclusions.
8. *If you searched online databases, keep the search strategies (often called "search histories") on file.* Typically, a database will give the option of printing out a search history, the list of searches typed in, along with the results. This information will help in the retrieval of information and reduce cost and time in case an update is needed.

Constructing a Literature Map:

As you organize and take notes on abstract articles, you will begin to understand the content of your literature review. In other words, a conceptual picture will begin to emerge. Having a diagram or visual picture of this conceptualization allows you to organize the literature in your mind, identify where your study fits into this literature, and convince others of the importance of your study. This visual picture results in a literature map, literally a map of the literature you have found. A **literature map** is a figure or drawing that displays the research literature (e.g., studies, essays, books, chapters, and summaries) on a topic. This visual rendering helps you see overlaps in information or major topics in the literature and can help you determine how a proposed study adds to or extends the existing literature rather than duplicates past studies. As a communication device, a map helps you convey to others, such as faculty committee members or an audience at a conference, the current picture of the literature on a topic. The actual design of this map can take several forms. Figure 3.7 shows a chart in which the researcher organized the literature hierarchically. Organized in top-down fashion, this chart portrays the literature that Hovater (2000) found on the topic of preservice training for teachers on multicultural topics. At the top of the figure he lists the topic: the need for teacher education programs to train culturally responsive teachers. Next, below the top level, he identifies the two programs available, study abroad programs and U.S. programs, and below that, specific studies that address these two types of programs.

These studies relate to attitudes of students, personal insights of teachers, and possible improvements in training. At the lower left-center of the map, Hovater advances his proposed study: to extend the literature addressing the question, "Do short-term study abroad programs in non-English-speaking cultures help create cultural responsiveness in preservice teachers?"

FIGURE 3.7
A Literature Map, Hierarchical Design



Source: Used by permission of Scott Hovater, 2000.

Hovater’s (2000) literature map includes several useful design features that you can include in a literature map. Here are some guidelines to follow when constructing your own literature map:

- Identify the key terms for your topic and place them at the top of the map. As discussed earlier, these key terms are found in draft titles, questions, or ERIC resources.
- Take the information for your map and sort it into groups of related topical areas or “families of studies.” Think in terms of three or four groupings because these groups will likely result in major sections in a written literature review.
- Provide a label for each box (later this label is useful as a heading in your literature review). Also, in each box, include key sources you found in your literature search that fit the label of the box.
- Develop the literature map on as many levels as possible. Some branches in the drawing will be more developed than others because of the extent of the literature. In some cases, you may develop one branch in detail because it is the primary area of focus of your research topic.
- Indicate your proposed study that will extend or add to the literature. Draw a box at the bottom of the figure that says “my proposed study,” “a proposed study,” or “my study.” In this box, you could state a proposed title, a research question, or the problem you wish to study. An extremely important step is to draw lines connecting your proposed study to other branches (boxes) of the literature. In this way, you establish how your study adds to or extends the existing literature.