

## 6. Literature Review

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### 6.1 Introduction:

Nowadays, post graduate students of education, research scholars and teacher educators required to undertake a literature review at some point, either as part of a course of study, as a key step in the research process, or as part of professional practices. The students and novice researchers often see literature review as a difficult undertaking.

It demands a complex range of skills, such as learning how to define topics for exploration, acquiring skills of literature searching and retrieval, developing the ability to analyse and synthesize data as well as becoming adept at writing and reporting. Often within a limited timescale. Literature review is the foundation of any research project.

It is as important as research tools and valuable in light of the knowledge explosion and the consequent impossibility of reading everything. The purpose of this module is to present a step-by-step guide to facilitate understanding the critical elements of the literature review process. While reference is made to different types of literature reviews, the focus is on the traditional or narrative review that is undertaken, usually either as an academic assignment or part of the research process.

### 6.2 What is Literature Review?

A literature review is an objective, thorough summary and critical analysis of the relevant available research and non- research literature on the topic being studied (Hart, 1998). It is an evaluative report of studies found in the literature related to a selected topic. Literature review provides the reader with an up-to-date account of current literature on a topic and it forms the basis for justification for future research in the area. It should provide a theoretical basis for the research and help the researcher determine the nature of his/her own research.

It is important for a researcher to select the works that are central to the research topic rather than trying to collect a large number of works that are not closely connected to the topic. A good literature review gathers information about a particular topic from many sources. It is well written and contains few, if any, personal biases.

It should contain a clear search and selection strategy (Carnwell and Daly, 2001). Good structuring is essential to enhance the flow and readability of the review. Accurate use of terminology is important and jargon should be kept to a minimum. Referencing should be accurate throughout (Coiling, 2003).

### **6.2.1 Reasons for Doing Literature Reviews:**

A literature review goes beyond the search for information and includes the Identification and articulation of relationships between the literature and the field of research. While the form of the literature review may vary with different types of studies, the basic purposes remain constant. There are two major reasons for conducting a literature review: to conduct primary research or as an end in itself.

### **6.2.2 Literature Reviews for Planning Primary Research:**

Almost every primary research study begins with a review of the literature. The purpose is to provide the reader with an overall framework where this piece of work fits in the "big picture" of what is known about a topic from previous research. Thus, the literature review serves to explain the topic of the research and to build a rationale for the problem that is studied and the need for additional research. As the foundation of any research project, the literature review should accomplish several important objectives.

- It sets the broad context of the study, clearly demarcates what is and what is not within the scope of the investigation, and justifies those decisions.
- It also situates an existing literature in a broader scholarly and historical context.
- It should not only report the claims made in the existing literature but also examine critically the research methods used to better understand whether the claims are warranted.
- It enables the researcher to distinguish what has been learned and accomplished in the area of study and what still needs to be learned and accomplished.
- It allows the researcher not only to summarize the existing literature but also to synthesize it in a way that permits a new perspective.

A good literature review is the basis of both theoretical and methodological sophistication, thereby improving the quality and usefulness of subsequent research. Researchers use the literature review to identify a rationale for the need for their own study. The following are some of the specific rationales for the research that might emerge from the literature review.

- The researcher may find a lack of consistency in reported results across the studies that have been chosen to review and undertake research to explore the basis of the inconsistency.
- The researcher may have uncovered a flaw in previous research based on its design, data collection instruments, sampling, or interpretation.
- The study may have been conducted on a different population than the one in which the researcher is interested, thus justifying the work with a different population.
- The researcher may document an on-going educational and propose studying the effect of an innovative intervention to try to correct that problem.
- Uncertainty about the interpretation of previous studies' findings may justify further research.

Besides understanding what is known about the research topic and provide a rationale for the study. The literature review is useful in the design of the study, especially for deciding sample size or data collection practices or instruments. It is useful for both quantitative and qualitative studies no matter what the researcher's paradigm.

The researcher who prepares a literature review should answer two critical questions: What are the strengths and weaknesses of the prior research? What is missing from the format body of scholarly literature that might be necessary in order to formulate an appropriate research focus and method of investigation?

Students receive different kinds of advice as to how much literature to review and at what stage of the research process this should occur. The number of studies that one actually cite in a literature review may be fairly limited because of space limitations (for authors who publish in journals) or because the review is considered a learning activity (in a course work). Typically, primary research articles published in journals contain 20 to 30 references to primary research. The number of citations may be quite limited for a course activity or more extensive if you are preparing a proposal for a thesis or dissertation. The exact number varies, depending on the purpose of the literature review and the available literature. The primary criterion for inclusion should be centrality to the topic, within the constraints imposed by instructors, advisers, or publishers. Use of the literature review to plan and conduct a study requires critical evaluation of the research that one reads.

This critical analysis forms the basis for the rationale or the choice of data collection procedures. An example of literature review for planning a research is available on <http://www.physics.usytedu.au/superitheses/PhO> (Muller) pdf

**Table 6.1. Purpose of Literature Review**

- Provide a context for the research.
- Justify the research.
- Ensure through research hasn't been done before (or that it is not just a "replication study")
- Show where the research fits into the existing body of knowledge.
- Enable the researcher to learn from previous theory on the subject.
- Illustrate how the subject has been studied previously.
- Highlight flaws in previous research.
- Outline gaps in previous research.
- Show that the work is adding to the understanding and knowledge of the field.
- Help refine, refocus or even change the topic.

### 6.2.3 Review of Literature as an End in Itself:

The review of literature can be seen as an end in itself, either to inform practice or to provide a comprehensive understanding about what is known about a topic. The process for conducting this type of literature review varies, depending on the purpose. If the purpose is to improve professional practice, literature review should be based on the problem encountered in the profession. Therefore, when one looks to the literature for a solution, one may rely on other people's literature reviews, or may seek out primary research reports to find one that seems to fit his/her situation. When a literature review is conducted to provide a comprehensive understanding of what is known about a topic, the process is much longer. An example of this type of review (Literature Review on Teacher Education in the 21st Century), is available on <http://www.scotland.gov.uk/Resource/Doc/325663/0105011.pdf>

### **6.3 Types of Literature Reviews:**

Literature review can be broadly divided into two: narrative literature review and systematic literature review.

#### **6.3.1 Narrative Literature Review:**

This type of review critiques and summarizes a body of literature and draws conclusions about the topic in question. The body of literature is made up of the relevant studies and knowledge that address the subject area. It is typically selective in the material it uses, although the criteria for selecting specific sources for review are not always apparent to the reader.

This type of review is useful in gathering together a volume of literature in a specific subject area and summarizing and synthesizing it. The primary purpose is to provide the reader with a comprehensive background for understanding current knowledge and highlighting the significance of new research.

It can inspire research ideas by identifying gaps or inconsistencies in a body of knowledge, thus helping the researcher to determine or define research questions or hypotheses. Equally, it can help refine or focus a broad research question and is useful for both topic selection and topic refinement. It can also be helpful in developing conceptual or theoretical frameworks.

#### **6.3.2 Systematic Literature Review:**

In contrast to the narrative review, systematic reviews use a more rigorous and well-defined approach to reviewing the literature in a specific subject area. Systematic reviews are used to answer well-focused questions about a problem.

Parahoo (2006) suggests that a systematic review should detail the time frame within which the literature was selected, as well as the methods used to evaluate and synthesize findings of the studies in question.

In order for the reader to assess the reliability and validity of the review, the reviewer needs to present the criteria used to formulate the research question, set inclusion or exclusion criteria, select and access the literature, assess the quality of the literature included in the review, and analyze, synthesize and disseminate the findings.

The purpose of a systematic review is to provide as complete a list as possible of all the published and unpublished studies relating to a particular subject area. While narrative review attempts to summarize results of a number of studies, systematic review uses explicit and rigorous criteria to identify, critically evaluate and synthesize all the literature on a particular topic.

### **6.4 The Process of Literature Review:**

No matter what the reason for the literature review or the paradigm within which the researcher is working, many aspects of the literature review process are the same. A general outline for conducting a literature review is provided in Table 6.2.

**Table 6.2. The Literature Review Process**

- Identify a research topic.
- Review secondary sources to get an overview of the topic.
- Develop a search strategy and use appropriate preliminary sources and primary research. Journals, check the references at the end of relevant research publications. Access personal networks.
- Conduct the search and select specific articles to review.
- Obtain full text references (e.g. Journal articles or books).
- Read articles and prepare bibliographic information and notes on each article.
- Evaluate the research reports.
- Synthesize the findings.
- Writing the review.
- Use the literature review to gain a conceptual framework and to formulate research questions, hypotheses, or both.

### **6.5 Identify Research Topic:**

The first step in literature review is to identify the topic of the review/research. The student undertaking a research study may have decided this already. However, for the individual undertaking a non-research based literature review this will be the first step.

Researchers should be flexible in their conceptualization of the research problem being investigated, and they should begin with a broad idea and be prepared to narrow it down as they progress through the search.

The students who are beginning a literature review may find that their topics shift as they become more familiar with the area of research. As they analyse more and more research they may change their topics, and this is a normal part of an evolutionary process of developing the topic.

A research topic can emerge from a wide variety of sources, including the researcher's interests, knowledge of social conditions, observations of educational and psychological problems, challenges that arise in one's professional practice, readings in other courses, talking to other researchers, and the availability of funds to conduct research on a specific topic (sponsored research). Any of these is appropriate as a source to help Identify the primary research topic. The researchers who are interested in conducting a comprehensive review of literature must study topics that appear in the literature.

#### **a. Review Secondary Sources to get an Overview:**

A good literature review written by someone else can provide the researcher with an overview of what is known about the chosen research topic. Specific sources that one can look for literature reviews include journals that typically publish literature reviews/abstracts, such as the Indian Educational Review, Review of Educational Research, Harvard Educational Review, and the Psychological Bulletin, and books and doctoral dissertations that contain literature reviews.

Other sources of review are survey of Educational Research by NCERT, Encyclopedia of Educational Research, and Handbook of Research on Teaching. Education Year Book and the World Yearbook of Education etc.

## **6.6 Develop a Search Strategy:**

It is important for the researchers to develop a search strategy for locating research studies of sources or the Purpose of review. The search process normally includes identifying preliminary, ascertaining primary research journals, and personal networking. However, the researcher has to decide the best strategies to be followed in his/her search process.

### **6.6.1 Identify Preliminary Sources:**

Preliminary sources include databases and indexes that contain a compilation of bibliographic information. Abstracts, and sometimes full text articles for a wide range of topics and are accessible in print form, on compact disks (CD-ROM), or through online services.

Examples of the most frequently used preliminary sources are Educational Resources Information -Centre (ERIC), ProQuest Education Journals, PsycINFO, PsycARTICLES, Questia, and JSTOR. World Wide Web sites are easily and pervasively available to assist the researcher in the literature search. For example, <http://www.gobookee.org> provides a good number of research literature in various subjects. Yahoo! and Google are the top two choices for search engines.

These two search engines are recognized because of the size of their databases, ability to search HTML and PDF files, accuracy in results, and advanced searching power using Boolean logic. However, the WWW sites do not have a peer review system to screen what is accepted (as most professional journals do).

Therefore, scholars raise questions about the quality of information available from those sources. In addition, the Web sites are not designed to contain information specifically about research in education. The computerized databases are a tremendous resource for the researcher in the literature review phase of a project.

A researcher can identify thousands of references by only a few keystrokes on the computer. Because of the tremendous coverage provided by the databases, the researcher should plan to include a search of appropriate databases in the literature review process.

One important limitation of the available databases is that you can get from them only what was put into them. In other words, the databases are selective about the journals they include.

### **6.6.2 Identify Primary Research Journals:**

Additional primary research articles can be identified by examining the reference lists found at the end of relevant journal articles or books. You can also go directly to journals that publish articles related to your topic. This is especially important in light of the selectivity of the databases mentioned above. University libraries often subscribe to a number of databases and access can be gained using student or staff passwords.

## 6.7 Personal Networking:

Additional resources can be found by talking to people who are doing work in areas related to your interest. This can include people at your own institution or those you meet through professional associations, such as All India Association for Educational Research, Council for Teacher Education (India), American Educational Research Association, American Evaluation Association etc.

Talking to people who have completed related works can reveal sources that you were unaware of, such as unpublished research reports, and provide you with leads from the work that is in progress.

### a. Conduct the Search and Select Specific Articles to Review:

In the process of searching literature the researcher should make a plan to explore preliminary sources, check the table of contents, abstracts, and lists of references in primary research journals. Access the personal network, and involve community members as appropriate the search strategy for accessing preliminary sources is described below. First select the preliminary sources that you think contain the best Information on your topic. Then identify key terms that will help you locate the literature Included in the database of your choice. Key terms are used to find a primary research article that is "exactly" on target and identify the terms used to describe that article. Most databases give you many choices for searching, such as title, author, abstract, subject or full text. The title, author, and abstract choices are fairly self - explanatory. Author and title are not usually used in the beginning of a literature review because you usually are not seeking a specific article during the early stages of searching.

If you have difficulty in finding references using your own key word vocabulary, it is a good idea to consider alternative keywords with similar meanings that might elicit further information. Some of - these alternative keywords can be gleaned from the database thesaurus. Further, you can refine your search in the following ways:

- Truncate the terms you use. This has the effect of broadening the search to include any terms that begin with the letters that you enter, no matter how they end. In ERIC the truncating symbol is a '?'. Therefore, entering sex? For example, would include sex, sexual, sexes, and so on, and deaf? Would include deaf, deafness, deafened, and so on
- Use Boolean operators to combine terms. For combining key words many databases use commands called 'Boolean operators'. The most common Boolean Operators are 'AND', 'OR' and 'NOT'. The purpose of these operators is given below.
  - 'AND' -Look for articles that include all the identified keywords.
  - 'OR' -Look for articles that include any of the identified keywords.
  - 'NOT' -Exclude articles that contain this specific keyword.
- There are other ways to limit the search, such as by year of publication or limiting the field that is searched (e.g., title only).

Certain stop words are not allowed to be used as key words (e g., about, all, its), but all of these things can be learned by reading the online instructions. As you get into using a database, it is always a good idea to read the online instructions to see what can be accomplished and how.

- The search process can be broadened by inclusion of additional databases or indexes. For example, when you search PsycARTICLES using the same descriptors (i.e., sex? and abuse and deaf?), you would find additional references that do not figure in ERIC.

Most databases provide an abstract of the articles listed. By scanning these abstracts, you can make a decision as to the worth of obtaining the complete article. Advances in technology now also make it possible to view many full text articles while you are engaged in the search process. Hence, researchers are faced with a bit of a paradox concerning the amount of time it takes to do a literature review.

If you have the abstract only, you read it quickly and decide if it is what you want. If you think it is and full text is not available, then you need to go to the library or order the article through interlibrary loan or some other mechanism.

**b. Obtain Full Text Resources:**

Many journal articles and books are now available online in full text versions. If you cannot obtain the article in this manner, then it would be good to check the list of holdings at your library. If the Journal you seek is held by your library. You are in luck: Go to the shelves and read the article. However, if your library does not have the item, you may avail yourself of an interlibrary loan service.

If you have chosen to review an edited document from an ERIC search, that document may be available in full text online. However, if it is not, then the document should be available for your review on microfiche in the library. A microfiche is a sheet of film that contains micro-images of printed material. A copy of film 4" x 6" card contains the material of one hundred printed pages of 9 x 11" size (Sharma, 2011). The microfiche are organized in ascending order according to their ED numbers, so they are usually easy to find.

**c. Read and Prepare Bibliographic Information and Notes:**

Once you have the article in hand, read the document to determine if it is really what you want. The summary or abstract at the beginning of the paper will help your decision as to whether it is worthy of further reading or inclusion. At this point, it will be beneficial to classify and group the articles by type of sources (Table 2). You decide that it is relevant to your topic, you have to record bibliographic information and notes on each article. This can be done electronically or manually by using old-fashioned note cards.

<b>Table 6.3. Defining the Types of Sources for A Review</b>
<ul style="list-style-type: none"><li>• Primary source: Usually a report by the original researchers of a study.</li><li>• Secondary source: Description or summary by somebody other than the original researcher, e.g. a review article.</li><li>• Conceptual/theoretical: Papers concerned with description or analysis of theories or concepts associated with the topic.</li><li>• Anecdotal/opinion/clinical: Views or opinions about the subject that are not research, review or theoretical in nature. Clinical may be case studies or reports from clinical settings.</li></ul>



## 6.8 Bibliographic Information:

If you are searching such databases such as ERIC or PsycARTICLES, you can use a new digital resource called Reworks (<http://www.refworks.com/>) to electronically save the bibliographic information about all the references that you select. When you are ready, Reworks will print out a reference list in APA format (or the format that you select). That is not all: If the article is available in full text, you can save it in Ref Works with the bibliographic information.

If you do not have access to this electronic resource, then you can save the bibliographic information on note cards or in a word processing document. The important thing is to make sure you get ALL the information you need when you are working with the document so you do not have to try to find it later when you are writing up your literature review. The bibliographic information should be complete and accurate. Some of the problems associated with recording bibliographic information have been reduced because of the ability to print such information directly from the computer screen. Although several options are available for the format of recording bibliographic information, the most common style for education and psychology is based on the American Psychological Association's Publication Manual.

The basic format for citations is given in Table 4. There are differences in citation style associated with different types of documents (books, government reports, etc.), so it is better to obtain a copy of the APA Publication Manual to guide the compilation of bibliographic information. In addition, APA has added a great deal of information about how to handle Web-based information. You can go to [www.apa.org](http://www.apa.org) for an update on changes that they recommend and click on their publications link.

**Table 6.4. Format for Citations**

Journal	<p>Author's Last Name. Initials. (Date). Title of journal article. Title of Journal, volume number (issue number), page numbers.</p> <p>Example: Sullivan, P. M. (1992). The effects of psychotherapy on behavior problems of sexually abused deaf children. <i>Child Abuse and Neglect: The international Journal</i>, 16(2), 297-307.</p>
Book	<p>Author's Last Name, Initials. (Date). Title of book. Place of Publication: Publisher.</p> <p>Example: Mertens, D. M. (2009). <i>Transformative research and evaluation</i>. New York: Guilford.</p>
Book Chapter	<p>Author's Last Name. Initials. (Date of publication). Title of chapter. In Name of Editor (Ed.), Name of book (page numbers of chapter). Place of publication: Publisher.</p> <p>Example: LaFrance, I. &amp; Crazy Bull, C. (2009). Researching ourselves back to life: Taking control of the research agenda in Indian Country. In D. M. Mertens &amp; P. Ginsberg (Eds.), <i>Handbook of social research ethics</i> (pp. 135-149). Thousand Oaks, CA: Sage</p>

### **A. Notes on Each Study:**

Exactly what notes to write for each study varies greatly and depends on the nature of the study, the purpose of the review, and the intended use of the data. One can use an indexing or summary system (or a combination of both) to prepare notes on the studies. Although there are slight variations in the criteria proposed in the indexing and summary systems, generally they are concerned with the title of the article, the author, the purpose and methodology used in a research study, and findings and outcomes. It is also useful to incorporate comments or key thoughts on your response to the article after it has been reviewed. The following outline can be helpful in preparing notes on the studies gathered by the reviewer.

- a. Full bibliographic information including title, author and year etc
- b. Purpose of the study, research questions/hypothesis
- c. Theoretical framework/paradigm of researchers)
- d. Design, including specific research approach, sampling strategy, data collection instruments and procedures
- e. Data analysis strategy
- f. Results/major findings
- g. Conclusions/recommendations
- h. Researchers own evaluation (Including strengths and weaknesses and ideas for your own research, such as promising methodological or conceptual suggestions).

### **B. Evaluate the Research Reports:**

Evaluation of research studies starts with a critical analysis of the research reports. The criteria for critically analyzing literature reviews depend on the nature of the review being analysed. A literature review that serves as an introduction to a primary research study reported in a journal would be subject to a different type of scrutiny than would a comprehensive literature review on a topic. A framework initiated by Hart (1998) and extended by Boole and Bede (2005) provides a way to assess the quality of a literature review. This framework includes five categories: coverage, synthesis, methodology, significance, and rhetoric.

Coverage refers to the adequacy of the coverage of the topic, as well as making explicit criteria for exclusion and inclusion of studies for the review. Does the reviewer include relevant works and exclude irrelevant ones? Writing a dissertation does not mean citing every study ever written on your topic. Coverage should be judged in terms of comprehensiveness, breadth, exclusion, relevance, currency, availability, and authority. Researchers can bias the results of a literature review by excluding data that is methodologically questionable, based on their own personal, subjective judgment. Or they may present conclusions that are more firm and clear-cut than is justified because of the exclusion of studies with "murky" results. Without a clear specification of the method used to search for research and of the criteria used for inclusion or exclusion, it is difficult to judge the quality of a review.

Synthesis refers to how well the author summarized, analysed, and synthesized the selected literature on a topic. The criteria include how well the author (a) distinguished what has been done in the field from what needs to be done, (b) placed the topic or problem in the broader scholarly literature, (c) placed the research in the historical context of the field, (d) acquired and enhanced the subject vocabulary, (e) articulated important variables and phenomena relevant to the topic, and (f) synthesized and gained a new perspective on the literature.

To satisfy these criteria, the writer needs to identify inconsistencies in the literature, provide clarity discussing the strengths and weaknesses of the individual studies as factors that influence the interpretation of their results, and use the extant knowledge base to suggest directions and topics for additional empirical investigations.

Methodology as a criterion for judging a literature review refers to the author's accurate inclusion of details about method that have relevance for identification of methodologies and research techniques, and their strengths and weaknesses, and discussion of the relationship between theories and ideas in the field to the research methodologies. Literature reviews should not be simple summaries of findings of previous research; they should be critical analyses of previous research. In order to critically analyse the strengths and weaknesses of prior research, several skills are necessary. One is the ability to accurately identify the methodologies; a second is the ability to identify strengths and weaknesses in the methodologies and how they impact the interpretation of results.

Significance as a criterion for judging a literature review includes establishing both the practical and the scholarly significance of the research problem. While some research studies will focus more or less on one of these aspects, it is useful to provide implications for both the practical and scholarly significance of research. Rhetoric refers to the writers' ability to organize and write cogently about the literature in such a way that they can articulate and support their claims about the knowledge in the field. The ability to critically analyse research is also a skill that becomes more holistic with experience. When you are in the beginning stages of learning critical analysis, it is helpful to look at each section of the research study. Later, you will be able to look at other aspects of the article, such as how the author handled certain aspects of data collection, analysis, credibility building, or ethics.

You can then do comparisons across studies on these dimensions, analyzing how and why texts differ, how they relate to theoretical readings, whether the authors are justified in their methods or presentations, and how they can help you in your own decisions about research. With each research article that you review, you will increase your ability to determine the quality of the author's work and the validity of the findings. Once you have evaluated the research report, you should return to your note cards or files and enter your own assessment of the strengths and weaknesses of the research.

#### **A. Synthesize the Studies:**

Before actually doing the synthesis of the studies, the researcher needs to develop a framework for organizing the studies surveyed. This framework should be flexible because it might add, delete, or redefine categories as the researcher moves through the review process. The organization of material in an objective manner and the structure of the review are crucial to its comprehensiveness. To some extent, the structure will depend on the purpose of the review. It is important to be logical and there are some key elements that need to be included in all literature reviews.

One can adopt a thematic approach to organize the studies. For example, studies on teacher attrition and retention in special education may be analysed under four major themes: teacher characteristics and personal factors, teacher qualifications, work environments, and teachers' affective reactions to work. It can also include a critical analysis of definitions, concepts, and methods used to study special education attrition.

Two main options exist for the synthesis of research studies: narrative and quantitative methods. The choice of the type of synthesis depends on the type of extant research literature on a topic and on the purpose of the researcher.

### **6.9 Narrative Synthesis:**

The narrative approach to literature synthesis is most commonly used in primary research studies. It is appropriate for both qualitative and quantitative studies. In a narrative synthesis, the writer must organize the studies in a conceptually logical order and provide sufficient detail about the studies to support relevant critical analysis of them. The amount of detail provided (as well as the number of studies cited) will be influenced by the purpose of the literature review.

Typically, the literature review section of a journal article includes a limited number of references that are selected on the basis of relevance to the problem at hand, presenting a balanced picture, and establishing a rationale for the reported research.

A literature review for a research proposal is usually more extensive. If the research proposal is for a thesis or dissertation, it is expected to be quite comprehensive in most universities.

If you organize your literature into meaningful categories as you collect it, then this makes your writing easier. Provide an overview of your topic and describe the methods you used to search the literature.

Then provide an advance organizer for the reader of the subtopics that you will address. For each study make a determination if it is important to report details of its strengths and weaknesses in order to establish the overall picture of knowledge in the field or to provide support for your choice of methods.

It is possible to explain several studies in detail and then cite other studies that agree or disagree with the findings of those studies, rather than a detailed critique of every study in your literature review.

Sometimes literature reviews include a separate section on the proposed study's theoretical framework based on prior research. The literature review should lead to a statement of the need and purpose for the study, research questions, and hypotheses.

#### **a. The Quantitative Method:**

The results of literature review can be synthesised in a quantitative form known as meta-analysis. Meta-analysis is the process of taking a large body of quantitative findings and conducting statistical analysis in order to integrate those findings and enhance understanding. Meta-analysis is seen as a form of systematic review which is largely a statistical technique.

It combines the results of many studies by using summary numbers called Effect Sizes (Dooley, 2001). According to Glass (cited in Maksimovic, 2011) meta-analysis is a "statistical analysis of a set of analytical results from individual studies, with the purpose of synthesis of the scientific research findings".

A meta-analysis does not use primary empirical material, but the results obtained from the basic data. In this sense, meta-analysis is just one type of secondary analysis, in other words, it is a secondary analysis used for integration (synthesis) of the results derived from multiple primary analyses. This helps to draw conclusions and detect patterns and relationships between findings.

One early and influencing example of meta-analysis by Smith and Glass (cited in Dooley, 2001) integrated 375 evaluations of psychotherapy outcomes. Each study contained at least one contrast between the average treated and control patients.

The authors "standardized" each of the between-group differences by dividing it by the standard deviation of the control group.

The resulting index  $d$  is an example of an Effect Size. For example a  $d$  of 1.3 means that the treated group improved 1.3 standard deviations more than the control group.

The authors averaged all of these  $d$ s across studies to produce an overall effect size using this method they found that psychotherapy clients looked better off at outcome than 75 percent of the control clients in the literature as a whole.

A meta-analytic review of studies on "educational outcomes of tutoring" by Cohen ET. Al (1982) is available at <http://aer.sagepub.com/content/19/2/238>

## **b. Writing the Review:**

Once the appraisal of the literature is completed consideration must be given to how the review will be structured and written. The key to a good review is the ability to present it in a clear and consistent way.

Avoid long and confusing words and keep Jargon to a minimum. Sentences should be kept as short as possible with one clear message and spelling and grammar should be accurate and consistent with the form of English being used.

It is crucial to organize the material in a structured and objective way. To some extent, the structure will depend on the purpose of the review. For example, systematic reviews have a clear structure that must be followed and that will dictate for the most part how the writing should be undertaken.

However, for most students or practitioners a review is either part of a course work assignment, research proposal or research dissertation, and as such, there is some freedom in how the writing is structured. Nonetheless, it is important to be logical and there are some key elements that need to be Included in all literature reviews

According to Burns and Grove (2007) the review should include an introduction, body and conclusion. The length of literature reviews vary and word limits and assignment criteria must be considered in the overall construction. If it is a standalone review, an abstract may also be necessary. An abstract is a short summary of the findings of the review and is normally undertaken last (Hendry and Farley, 1998).

**Introduction:** The introduction should include the purpose of the review and a brief overview of the 'problem'. It is important that the literature sources and the key search terms are outlined. Any limits, boundaries or inclusion/exclusion criteria should be clearly described.

Some comment on what was found in the literature should be offered, that is, whether there was a dearth or wealth of literature on the topic.

This gives the reader some insight into the breadth and depth of the literature sourced and also facilitates some judgment as to the validity of the claims being made.

**Main body:**

The main body of the report presents and discusses the findings from the literature. There are several ways this can be done (see Table 6.6).

Regardless of the manner in which the main body of the review is framed, there are key points that must be considered. Literature that is central to the topic should be analysed in-depth here.

When discussing empirical or research literature a critical review of the methodologies used should be included. Care must be taken, however, that the review does not end up just as a description of a series of studies.

- It is best to avoid broad sweeping statements about the conclusiveness of research studies. Polit and Beck (2006) suggest that when describing a study's findings it is best to use language that indicates the tentativeness of the results rather than making definite statements about the research.
- It is necessary for the reviewer to remain objective about the literature and personal opinions about the quality of research studies should not be included. Review should not be a series of quotes or descriptions; rather it needs to be written succinctly in the writer's own words.
- The reader should know that the reviewer has understood and synthesized the relevant information, rather than merely describing what other authors have found. The review should read like a critical evaluation of the information available on the topic, highlighting and comparing results from key sources.
- If using a thematic approach, the account should flow logically from one section or theme to the next, to maintain continuity and consistency (Beyea and Nicholl, 1998). This can be achieved by summarizing each theme or section and outlining how it is related to the ensuing one.
- In respect of theoretical literature, consensus or difference regarding the topic should be outlined. Sometimes, where the theoretical literature dominates and there are few studies undertaken in the area of interest, the review may include an analysis of methodologies used across the studies.
- Inconsistencies and contradictions in the literature should also be addressed (Coiling, 2003) as should the strengths and weaknesses inherent in the body of literature.
- The role of the reviewer is to summarize and evaluate evidence about a topic pointing out similarities and differences and offering possible explanations for any Inconsistencies uncovered (Polit and Beck, 2006).

**Table 6.5: Framing the Review**

Approach	Definition	Advantages/Disadvantages
Dividing the literature into themes or categories	Distinct themes from literature are discussed	<ul style="list-style-type: none"> <li>• Most popular approach.</li> <li>• Allows integration of theoretical and empirical (research) literature.</li> <li>• Care must be taken in ensuring that the themes are clearly related to the literature</li> </ul>
Presenting the literature chronologically	Literature divided into time periods	<ul style="list-style-type: none"> <li>• Useful when examining the emergence of a topic over a period of time</li> </ul>
Exploring the theoretical and methodological literature	Discussion of theoretical literature followed by exploration of methodological literature that would give some indication of why a particular research design might be appropriate for investigating the topic	<ul style="list-style-type: none"> <li>• Useful when the body of literature is largely theoretical with little or no empirical (research) literature.</li> <li>• Can be used to identify the need for qualitative studies</li> </ul>
Examining theoretical literature and empirical in two sections	Where the topic has both theoretical and empirical literature and each is discussed separately	<ul style="list-style-type: none"> <li>• May tend to be a description rather than a critical review literature</li> </ul>

### 6.10 Conclusion:

The review should conclude with concise summary of the findings that describes current knowledge and offer a rationale for conducting future research.

In a review, which forms part of a study, any gaps in knowledge that have been identified should lead logically to the purpose of the proposed study. In some cases, it may also be possible to use the developed themes to construct a conceptual framework that will inform the study. In all reviews, some recommendations or implications for practice, education and research should be included.

### 6.11 References:

The literature review should conclude with a full bibliographical list of all the books, journal articles, reports and other media, which were referred to in the work. Regardless of whether the review is part of a course of study or for publication, it is an essential part of the process that all sourced material is acknowledged. This means that every citation in the text must appear in the reference/bibliography and vice versa.

Omissions or errors in referencing are very common and students often lose vital marks in assignment because of it. A useful strategy is to create a separate file for references and each time a publication is cited, it can be added to this list immediately. Remember, the reference list may be a useful source of literature for others who are interested in studying this topic (Coughlan et al, 2007), and, therefore, every effort should be made to ensure it is accurate.

### **6.12 Using the Literature Review:**

Literature review serves many purposes. It establishes a historical perspective on the intended research, provides a vision of the need for additional research, and enables the researcher to develop a conceptual framework for the research. The conceptual framework allows the researcher to generate research questions and hypotheses to guide the design and conduct of the research. In qualitative research, the researcher will refine, modify, add, and even discard questions throughout the progress of the study. Therefore, qualitative researchers are advised to begin with broader questions that can be modified in response to discoveries made during the study. No matter which research paradigm or approach is used, the literature review is an essential Ingredient In the research process.

The narrative or statistical synthesis serves as a basis for the literature section of a research proposal or report. It is important for the proposal writer to realize that each institution and sponsoring agency has its own requirements for proposal writing, so it is best to check with those sources before proceeding with writing. Proposal writers must also realize that in synthesis of research they are "selling" their ideas to a research committee, institutional review board, or funding agency. So above all, make it clear why the research is important (based on what is known from the existing literature).

### **6.13 Conceptual Framework:**

Conceptual framework is a written or visual presentation that "explains either graphically, or in narrative form, the main things to be studied - the key factors, concepts or variables - and the presumed relationship among them" (Miles and Huberman, 1994). It provides the structure/content for the whole study based on literature and personal experience.

A researcher's original conceptual framework influences the planning and conducting of the literature review. However, if a researcher keeps an open mind throughout the literature review process, a more sophisticated and modified conceptual framework would emerge.

Table 6 provides an overview of the three theoretical frameworks that are used in educational research. The job of the researcher is not to become an expert in any of these three theories. Instead, it is to realize which one best fits the research topic and goals.

In so doing, this will help the researcher focus ever more on how to structure, where to look in the literature for solutions, and better understand the potential and limitations of the research topic (Butin, 2010). The question for you is which theoretical perspective to choose and how to even begin to know by which criteria to make this choice. For a better understanding of how educational practice can be examined through the above three theoretical perspectives frameworks read *The Education Dissertation: A Guide for Practitioner Scholars* by Butin (2010, pages 58-63).



**Table 6.6: Key Theoretical Perspectives in Educational Research**

	(Post) Position	Interpretivism	Critical Theory
Assumptions about "reality"	An objective reality exists and can be correctly measured (with good enough tools) and adequately described (with clear enough language)	Reality is inter-subjective in that it is socially constructed such that it can be described and represented through diverse perspectives.	Reality is a function of dominant and ideologies that determine how reality functions and potentially undermine the Ideologies' own functioning.
Assumptions about "truth"	Truth is objective. The key question is, What is the right answer?	Truth is constructed. The key question is, What is the meaning?	Truth is linked to power. The key question is, Who benefits?
Key goals	Uncover the "right" variables that determine "best" outcomes.	Search for patterns of meaning.	Examine, expose, and/or overturn hidden relations of power.
Key outcome	A number; a "best" practice	A story	An attack; an insight
Unit of analysis	The variable	The act of meaning making	Categories of oppression (e.g. race, class, gender, sexuality); relations of truth making (e.g. knowledge, power, identity)
Key criteria	Reliability, internal and external validity	Trustworthiness; authenticity	Theoretical consistency and insight; impetus for change

Source: Butin (2010).

The question for you is which theoretical perspective to choose and how to even begin to know by which criteria to make this choice.

For a better understanding of how educational practice can be examined through the above three theoretical perspectives frameworks read *The Education Dissertation: A Guide for Practitioner Scholars* by Butin (2010, pages 58-63).

#### **6.14 Research Questions and Hypotheses:**

The research questions operationalize the objectives of the proposed research, focus the research hypotheses, and clarify what information needs to be collected from what sources under what conditions.

The literature review serves as a foundation for formulating research questions and or hypotheses. The investigator makes use of the results of the literature review to ensure that the research questions are well grounded in current theoretical and empirical knowledge.

The research questions should be stated in terms of theory and application, and amenable to the formulation of clear hypotheses and operational definitions. The hypotheses provide clear direction for the research procedure and methodology. In fact hypotheses originate essentially from the same background that serves to reveal the research problem.

According to Goode and Hat (cited In Sharma, 2014 there are three major difficulties in formulating good research hypotheses: the absence of knowledge of a theoretical framework, inability of the investigator to utilize the knowledge of the theoretical framework, and lack of awareness of important research techniques. It is the review of literature that provides the researcher with a sound understanding of the theoretical framework and important research.

### **6.15 Summary:**

A review of scholarly literature provides information that can be used to investigate a topic of importance to learn what is known about that topic for its own sake (i.e , to improve teaching or therapeutic practices, or as a basis for designing a research study The formulation of a research topic is enabled by reading about research that has already been conducted because the reader can figure out what is already known as well as become acquainted with the strengths and weaknesses of methods used in prior research, Multiple sources exist for the conduct of literature reviews, including secondary sources that provide an overview of past research and primary sources that report original research. Primary sources can be identified through several different electronic means. Persons conducting literature reviews can summarize their results in narrative form or a quantitative form known as meta-analysis.

A literature review is used to develop and support research questions and hypotheses of a study Researchers can also benefit by looking outside of published scholarly research to provide a different perspective on what needs to be studied and how it should be studied.

### **6.16 Suggested Readings:**

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21. Sharma, Y.K. (2011). *Elements of Educational Research*. New Delhi: Kanishka Publishers.