
UNIT 21 METHODS OF LITERATURE SEARCH/REVIEW

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21.1 INTRODUCTION

A crucial stage at the beginning of any research activity – whether undertaken to do one’s own doctoral work, masters dissertation, action research, institutional research, or even any sponsored survey – is examining what kinds of studies have already been conducted in both one’s own country and overseas, and what are their findings. This unit will facilitate you in focusing your research questions with clarity, developing hypotheses for your study, developing research designs, and subsequently drawing policy implications for the research results that you obtain towards the end of your research activity. You have seen in the preceding units how research questions are identified and research problems are focused. In this unit, we shall discuss in detail what role review of related literature plays in your own research, how this is done, and what are its implications for your present and further research in the same area of research investigation.

21.2 OBJECTIVES

After going through this unit, you will be able to:

- state the need for and purpose of survey of related literature in research;
- describe the types of literature search;
- compare various methods of literature search with appropriate illustrations;

- describe the role different agencies play in facilitating such a search and in providing direct services of literature search; and
- reflect on the contribution of literature review to the piece of research that you have selected to do.

21.3 NEED AND PURPOSE OF LITERATURE SEARCH

You will find in many of the books on research methods in education and social sciences a sequential chapterisation in which the chapter on 'review of related literature' appears after chapters on the meaning and scope of research, and identification of the research problem. While sequentially this may be true, you will realise that for even selecting and focusing a research problem for further investigation you need to undertake a study of some of the related published research in the area of your investigation. You are now going for an intensive review to sharpen the focus of your study, develop hypotheses, if any, and develop your research design accordingly. Therefore, literature search and survey is a continuous process in any research investigation. Let's focus on the specific purposes as to why we search and review literature in our specific areas of research study:

- i) First, literature survey facilitates in locating the important independent and dependent variables of your study. For instance, in a study on the relationship between family variables and academic achievement of school children, you need to specifically know what are the different family and allied variables that exist and which operate to influence academic achievement of children, and to what extent or in what way. Further, such a review will also reveal the specific theoretical base for the study, in this example involving the family and academic variables of children.
- ii) Second, such a review will enlighten and facilitate you to locate what research have already taken place; what variables and their relationships have been studied; and what remains to be done. The survey will reveal what is called the 'research gap' or the areas which have not been studied so far - or which had been studied in other cultures but not your own. You may even like to find out if the variables that had been studied from one point of view or angle need to be studied from a different angle or perspective. You will also notice from literature survey that most of the studies indicated further areas of research or possibility of further research in the same area which will help you select your research problem and develop the research questions.
- iii) Third, a survey of relevant literature tells the application or implications of the findings and variables involved in the research study for the practices in society. You will realise that selection of a researchable area originates from the gaps or difficulties encountered in real practice; and a full review of literature enlightens you to reflect in what way your research contributes to address practice or the problems encountered in practice. A survey of related literature fulfils both of these objectives or ascertaining research gaps and research implications.
- iv) Fourth, and most crucial, is the location of the major variables of your study and their existing relationships. The same phenomenon and its variables may have been studied by different researchers from many different angles. This will suggest to you how to refocus your angle or perspective for studying the same phenomenon, and select, if not the same but similar, variables to further investigate the phenomenon under investigation. The variables involved in your study as identified by you:

- must have some theoretical base,
- must be related to your research problem in certain ways, and
- must be related to each other within a framework.

A review of related literature facilitates in doing this, otherwise the piece of research that you will do will have no connection to what had been studied in the past, and therefore, shall remain isolated, and not form a cohesive whole.

- v) Fifth, such a survey will provide you the frame of reference for your study. Put simply, this needs to be stated at the beginning section of your research report as to what has been the specific focus of your study, and from where you derived such a focus.
- vi) Sixth, literature survey - both theoretical writings and research papers - will enlighten you to appreciate the significance of your study, as also tell others about its significance through your specific mention in your report. This is what we call 'significance of the study' in the final research report.

At this stage, it may be a good idea for you to take a pause, and reflect on the benefits that you may derive if you do a literature survey for *your* specific research topic on which you are already working or you are planning to identify to work further. You may write down those aspects in the space given below. This will help you to refer to such a list from time to time while conducting your research, and especially when doing literature survey.

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21.4 TYPES OF LITERATURE SEARCH

There are a variety and vast sources of related research literature available to you, and you have to focus on what types of literature you need and from which sources they can be found. The types of literature available can be in print, audio-visual or in web form. These are briefly enumerated as follows:

21.4.1 Print

The largest chunk of literature available is in print form. Since print has been present since the beginning of the process of recorded literature, it is not surprising that most of the literature today is available in this form. Printed documents containing research literature may be journals, indexes, series of review of studies (like the 'Survey of Research' series earlier brought out by Centre of Advanced Studies in Education (CASE), M.S. University, Vadodara and now brought out by the National Council of Educational Research and Training, New Delhi), theses and dissertations, reference books, encyclopaedia, handbooks, and the like. Sometimes, one may require old documents/writings of ancient times recorded in palm leaves as also handwritten documents.

21.4.2 Audio-Video

Literature can also be contained in the form of audio and video programmes relating to your area of study, and these need to be listened and viewed to further focus your study and provide a direction to it. There could be printed lists of audio and video programmes circulated by concerned agencies, archives of audio and video programmes, and publications by various publishers. For instance, one of the most important sources of audio and video programmes of Indian studies (relating to culture, architect, art, dance, music, etc.) for both Indian and overseas scholars is the audio-video archives maintained by the American Institute of Indian Studies in Delhi, with branches scattered all over India and in many universities in the United States. Audio and video programmes and clips provide primary source of information in the form of interviews, presentations, real case studies, processes of an event, contextual happening of a phenomenon, and the like. We may also include still photographs and documents available in microfiche form in this category too.

21.4.3 Web-based Documents

With the advent of information technology, especially the Internet, it is easy, to search for related literature through the web or on the web. You may either take the help of many search engines like 'www.google.com' or 'www.yahoo.com' or 'www.hotmail.com' for searching your area. You may like to search through the URLs of different sites directly where lots of literature are available. You may also feed keywords on the web search which will provide you enormous literature directly or indirectly, and further sources and sites of related literature. This is possible provided you have access to Internet and also provided that the Internet connection moves fast. In most of the metros and small cities (and in most of the educational institutions) today you will find Internet kiosks which could be used at a nominal fees. The difficulties involved in a web search include that:

- i) you are provided with so much solicited and unsolicited literature that it is very difficult for you to go through all, and select the best of the literature that you want;
- ii) most of the scholarly literature are copyright protected, and therefore, may not be available on the web, and if available, one has to pay for getting access to them. Further, we do not have standardised procedure for international payments, though within the country it does not pose any problem;
- iii) most of the literature available through web search may be 'somehow' related to your study, and may not be directly useful. This is because you search the web through typing a few most representative keywords, and the web provides you literature not only on the combination of all your keywords, but also for each key word separately which you do not at all want or intend to receive.

Check Your Progress

Notes: a) Space is given below for writing your answer.

b) Compare your answers with the one given at the end of the unit.

1. Point out the major purpose of literature search.

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2. Name two important sources of literature, available in print form, which are widely used nationally and internationally.

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3. What are the technological sources of literature search?

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21.5 STEPS INVOLVED IN LITERATURE SEARCH

As a researcher you are always at liberty to determine the way you would like to proceed. Sometimes, the literature available in a particular area of research is so vast that it is worth to follow set procedures to get best result out of your search for related literature.

Though there is no hard and fast rule for this, the diagram/flow chart provided by William Wiersma (1986), as given below, may be useful to you to think of what you need to do.

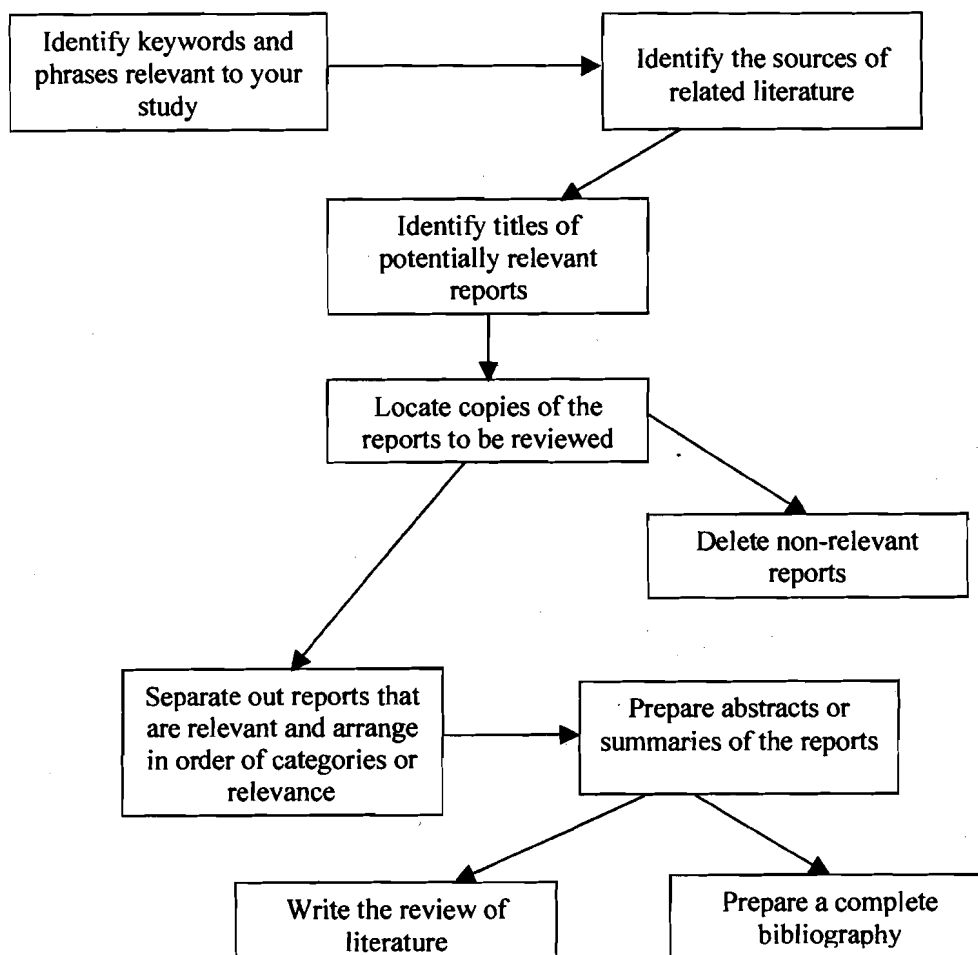


Fig. 21.1: Activities in the review of literature.

You may notice that while the process noted in Figure 21.1 is self-explanatory, it is delimited to printed documents. But, a little variation of this is also equally applicable to non-print and web documents. Given below is a brief description of the steps that may be followed to search and review literature. You may like to adjust the road map of your research of literature as per your requirement.

i) Choosing the area

You need to focus specifically which area you are to search, and which micro variables are involved in this area to be searched. The first thing to do is locate your area of interest and describe some of the variables associated with it. One way to locate graphically is to list areas of study like teaching-learning, instructional design, assessment and evaluation, etc. in the left column in a piece of paper, and list elementary, secondary, higher education, non-formal education, distance education, etc. on the top row - this will provide a matrix that will help you focus what area/sub-area interests you, and what other variables could be associated with the area that you focus (see Figure 21.2).

| Areas | Elementary education | Secondary education | Higher education education | Non-formal | Distance education | Any Other |
|-------------------------|----------------------|---------------------|----------------------------|------------|--------------------|-----------|
| Teaching-Learning | | | | | | |
| Assessment & Evaluation | | | | | | |
| Instructional Design | | | | | | |
| Any other | | | | | | |
| Any other | | | | | | |
| Any other | | | | | | |

Fig. 21.2: Matrix to locate area of study.

For instance, ‘assessment and evaluation’ in the left hand column and ‘distance education’ in the top row may provide you an area like ‘assessment and evaluation in distance education’ as the major focus of your study. Further elaboration may include which aspects of evaluation (whether student assessment through assignments or term-end examination or projects, or even programme evaluation, and so on) you would like to take up and for which programme of study. This will facilitate to locate the area of study and the variables associated with it.

ii) Searching relevant titles of literature

The next step will be to search for titles of studies which best represent your focused area of study and the related variables. Documents that you may like to look for include published articles, unpublished articles and reports, and masters/doctoral dissertations. For searching articles and reports (published, and sometimes unpublished), one must consult the ERIC services or search. Published articles are identified by EJ numbering which indicates that these are included in ‘*Current Index to Journals in Education*’. The unpublished reports are identified as ED. The other technique of search could be through other indexes and abstracts that ERIC records: *Psychological Abstracts*, *Educational Index*, *Educational Technology Abstracts*, and so on. The dissertations can be searched through contacting DATRIX with some related keywords; which, in turn, sends directly the

full literature to the researchers. A minimum number of keywords need to be provided to reduce possibility of getting unrelated or less-related literature and the cost of payment associated with it. This is also equally applicable to web search of relevant literature. Further, handbooks, yearbooks, series and encyclopaedia can be searched from the reference section in any library, and these reference books/materials are kept generally at separate (i.e. designated) spaces in libraries.

iii) Locating documents

The search for relevant titles leads to locating important and primary documents. The searches, especially the ERIC search, that you go through will provide you in most of the cases only the main or short titles of the documents related to your area of study. Rarely short annotations are provided. Therefore, what is important before you order for the full document for which you have to pay (or to spend time to search within related documents in the library to obtain copy of the full length paper) is to locate the most appropriate title and the keywords associated with it. In most of the journal articles that you locate, the abstract given at the beginning of the article will clearly tell you if the article is fully related to your study and if you need to xerox it for carrying with you for further study and reference.

21.6 METHODS OF LITERATURE SEARCH

There are various methods through which you can access/search relevant literature. We discuss below some important ones which you must try to go through to be sure that you have not left out any study which would have informed you of the areas that have already been explored and the design of those studies.

21.6.1 Search Engine

Traditionally, computers had been used to search for related literature provided through some networks. The libraries must have access to them, store in their computer database, and provide through computer networking within that library. Databases are available in the computers of libraries which also contain data on related literature concerning educational research. Most of the researchers frequently use the ERIC database which were earlier (and even today) available to PCs in the libraries, and now available directly through web search/Internet. Computer search provides for literature which are available at the shortest period (thereby reducing the time spent in searching the library documents), and which provides for very comprehensive data for you to choose from. The keywords can be combined with the help of descriptors like 'and' and 'or'. Earlier computer searches were facilitated by library staff, but now one can by oneself access computer databases which are user-friendly. If you have access to a library which has computer networks and access to international databases, you can even access relevant literature by sitting in front of the PC in your home through the university search engine. This will not only provide you access to all the databases for which the university had paid to the concerned agencies, but also provide some facilitative and common search engines and links to further access literature on your own through these gateways and for which you have to pay to the concerned agencies. The benefit that you derive is that you can from your home or workplace access without wastage of time.

21.6.2 Abstracting and Indexing Services

The various abstracting and indexing services provided by national and international agencies are extremely useful to locate relevant literature. While indexing services provide only the index or listing of the titles of articles, reports, etc., the abstracting

services provide annotated bibliography (i.e. further annotation to the listed title, which includes objectives, sample and tools, research design, and the main findings in brief). The major abstracting journals include: *Sociological Abstracts*, *Psychological Abstracts*, *Child Development Abstracts*, *Educational Technology Abstracts*, *Higher Education Abstracts*, *Educational Administration Abstracts*, and the like. In the very recent past, a host of abstracting services in micro areas of educational research have been developed and made available to researchers all over the world.

Besides abstracting of articles and reports, there are various dissertation abstracting services available. You must access and consult the most important dissertation abstracts like: *Dissertation Abstracts International* (Ann Arbor, USA), and the dissertation abstracts of Indian Council of Social Science Research (ICSSR, New Delhi), and the *Survey of Research* brought out by NCERT, New Delhi. The Association of Indian Universities (AIU) brings out a weekly chronicle/journal 'University News', the alternative issues of which include listing of doctoral dissertations in Humanities, Social Sciences, and Education that have been recently awarded in various Indian universities.

Indexing services provide only the index (i.e. key title or keyword) to the literature that you are searching for. They may not include any annotation or abstract of papers. The most important services include *Current Index to Journals in Education* (CIJE) (Phoenix, USA), *Contents Pages in Education* (Carfax, UK) which gives contents lists of most of the journals from all over the world, *Social Sciences Citation Index* (Philadelphia, USA) and *Education Index*. The *Dissertation Abstracts International* also provides for indexes to dissertation titles, and xerox's *Comprehensive Dissertation Indexes* provides access to DATRIX.

21.6.3 Bibliography

Bibliographies are also another important sources of information on both titles (bibliographies) and abstracts of papers and other works (annotated bibliographies). *Bibliographies of Doctoral Dissertations* series brought out by the Association of Indian Universities, and which had been from time to time borrowed by the INFLIBNET (besides adding to it from their own sources), is an extremely useful source, besides AIU's weekly *University News* which, as noted above, lists in a separate section the doctoral dissertations recently awarded by Indian universities and institutes of higher learning.

You may also do your own bibliographic entries of whatever literature you collect for your research study. Your piece-wise bibliographic card may look like the following (this is just one example of how this can be done, and you may think of doing differently as per your convenience)

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|---|
| Panda, S. 'Development and tryout of an online constructivist model of continuing professional development of special educators'. Fulbright post-doctoral research report, University of New Mexico, Albuquerque, 2003. |
|---|

Bibliographic entries are usually made on each small size card through one's own hand writing, though researchers these days make entries in their own computer. Besides the entry as shown in the box above, you need to follow some consistency in the heads/main points that you need to record for each entry; some important ones are listed below:

- *Title* of the paper, project, dissertation, and the like.
- The *problem* or research problem that the research study addresses, and hypotheses if any.

- *Sample* of the study, its size and procedure of sampling.
- *Procedures* or design of the study.
- *Results* and conclusions of the study reviewed.

Each entry may be contained in one single A4 size page with single space typing. The entry must be recorded in a manner and with such precision that one may not look back to the main full length of the article or research report (unless required) to review literature on the one hand and support one's own research findings while writing the section 'Discussion and Implications' at the end of the research report on the other hand.

Check Your Progress

Notes: a) Space is given below for writing your answer.

b) Compare your answers with the one given at the end of the unit.

4. How does a researcher choose the area of his research?

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5. What is an annotated bibliography?

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6. What does a bibliography card contain?

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21.7 METHODS OF REVIEW AND THEIR IMPLICATIONS

Some of the methods or processes of review have already been noted in the preceding sections of this unit. What is crucial for a researcher is to examine, while reviewing related literature, how critical and relevant the review is to the concerned research problem on which one wants to do further research. One aspect which has to be kept in mind is that there is considerable variation in the quality of research undertaken and reported by previous researchers, and that every one may not have followed a set pattern of reporting their research. Even referred journals, which

review and publish research articles also vary in their style (or even headings) of presenting the papers. This is more so when one accesses literature through web searches. Therefore, one needs to be critical in one's selection, review and reporting.

One of the frameworks presented by Wiersma (1986) for critical review of each related literature, given below, should be useful to researchers to consider (see Figure 21.3):

| | | | |
|----------|---|-----------|---------|
| Adequate | Incomplete | Confusing | Missing |
| 1. | Statement of the research problem | | |
| 2. | Identification of hypotheses | | |
| 3. | Description of the variables | | |
| 4. | The context of the research problem | | |
| 5. | Description of the individuals (subjects) involved | | |
| 6. | Procedures for conducting the research | | |
| 7. | (Rationale for) adequacy of the procedures | | |
| 8. | Appropriateness of the procedures | | |
| 9. | Analysis procedures | | |
| 10. | Appropriateness of the analysis procedures | | |
| 11. | Overall research design | | |
| 12. | Consistency of results with analysis procedures | | |
| 13. | Description of the results | | |
| 14. | Statement of conclusions | | |
| 15. | Consistency of conclusions with results | | |
| 16. | Relationship of the conclusions to the context of the problem | | |

Fig. 21.3: Check list for the elements of a research report.

Source: Wiersma, 1986.

When each article or related literature is reviewed on the basis of the above points, one will judge for oneself how best the above elements are covered in the article. Adequacy of that can be judged from the four options provided in the top row of Figure 21.3 above.

21.8 LET US SUM UP

As you would have noticed, an important step in conducting your research is to search and review literature related to your study. The literature may include research articles, unpublished research reports, masters and doctoral dissertations, and audio

and video materials. We have seen that review has two main purposes: i) selection of the research problem or research area, and ii) focusing the variables to be investigated and developing the research design. The review also facilitates writing the last part of the research report, i.e. 'discussion of results and implications'. Various types and methods of literature search and survey have been discussed, as also how the review can be utilised best in conducting your own research.

Check Your Progress

Notes: a) Space is given below for writing your answer.

b) Compare your answers with the one given at the end of the unit.

7. What are the implications of selecting any method of review?

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21.9 UNIT-END ACTIVITIES

1. The following activities are suggested to you to carry out either on your own, or in a group comprising your peers and the counsellor.
 - i) Based on the research area that you have determined or thought of, jot down the kinds and sources of literature that should be reviewed for further focusing and strengthening your own research area; and justify how, whatever you outlined, are the best areas and ways to do literature survey.
 - ii) Based on your research topic, the objectives of your study, and the lists of some of the related literature, prepare an annotated bibliography of those related literature, and outline in what ways will you be able to utilise them in conducting your research and writing your research report.

21.10 POINT FOR DISCUSSION

1. You may like to discuss with your peers and the counsellor how different or similar your list of literature and processes of review is from that of others. What implications do you draw from such a discussion for the different types of research like historical, philosophical, experimental, and the like?

21.11 SUGGESTED READINGS

Best, J.W. and James V. Kahn (1992); *Research in Education*. New Delhi: Prentice Hall of India.

Koul, L. (1997); *Methodology of Educational Research*. New Delhi: Vikas Publishing House Pvt. Ltd. (Third Revised Edition).

Tuckman, B.W. (1988); *Conducting Educational Research*. San Diego: Harcourt
Brace Jovanovich Publishers.

Wiersma, W. (1986); *Research Methods in Education: An Introduction*. Boston:
Allyn and Bacon Inc.

21.12 ANSWERS TO CHECK YOUR PROGRESS

1.
 - a) To locate important independent and dependent variables of the research.
 - b) To find out the research gap.
 - c) To study the implications of the findings variables involved in the research study.
 - d) To provide a frame of reference for the research study.
 - e) To appropriate the significance of the research study.
2.
 - a) Survey of Research published by National Council of Educational Research and Training.
 - b) Dissertation Abstracts International
3.
 - a) Audio-video programmes containing interviews, presentations, real case studies, process of an event, contextual happening of a phenomenon, etc.
 - b) Web-based documents available with the help of search engines like *www.hotmail.com* or *www.yahoo.com* or *www.google.com*
4. The first thing a researcher does, while choosing the area of his research, is to identify his area of interest and define the different variables that would form the part of his research study. With the help of a matrix which has two major dimensions, namely, area of study and variables to be studied, the researcher can locate his research study.
5. Annotated bibliography contains the title of the research paper, project dissertation, the research problem, sample of the study, procedures or design of the study and results and conclusion of the study.
6. A bibliography card contains the following:
 - a) Title of the paper, project, dissertation, and the like
 - b) The research problems
 - c) Sample of the study
 - d) Design of the study
 - e) Results and conclusions of the study.
7. It is very important to select a method of reviewing literature. It is because one finds different patterns of research reporting. One has, therefore, to be critical in one's selection of method of review and reporting as per the requirement of the research work undertaken by him.