

# Literature Review: a Helpful and Useful Step for Research Process

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## Abstract

*In the whole process of doing research, it is always issued that we should refer to some literature for the problem. Thus, it should also be discussed what could the literature review bring to us. In this paper, we would focus on this important step. We would firstly discuss the role of literature review, and then focus on how to collect related literature. Finally, it is the most important thing to organize the information and propose a good project. We would discuss this in the later part of the paper. Based on this paper, the researcher could get to know the importance to do the literature review, which would be helpful in the early stage of the research.*

## 1. The Role of the Literature Review

Research proposals and other steps in the research process would stand on nothing if there is no relationship with previous literature in the related field. Thus, the review of the literature can be quite important. As a researcher, one should ultimately know the literature related to his topic in a very good scale. For example, if we would like to do a research on the performance of a certain framework of cloud computing, we should at least read some papers and handbooks about cloud computing and the framework being researched.

A good review of literature should have a number of benefits. For example, it could help you to make sure what others had been done in this field and what are their findings. Besides, these findings might give you the new idea for doing your own research. Some tools used by other researchers might be also useful to you. In a word, the more you have known about investigations and perspectives related to the topic in literature review, the more efficiently you can address your own problem.

## 2. Strategies for Searching Related Literature

We must set a destination to go to when we are travelling. Similarly, when we are doing literature review, it is a must to search related literature with a good key. Obviously we will lost in the ocean of papers in libraries, magazines and on the Internet if we have no keys for what we should really focus on.

A good way for setting the key is using keywords. A good keyword could be an accurate word or phrase that summarizes the research topic. For example, if you would like to search for the performance of cloud computing, you might search by keywords ‘cloud computing’ and ‘system performance’ and some others to address your research topic.

With these keywords, we can move forward to the direction we think is related to our research topic. For different sources of literature, we have some common strategies, but we also have different hints for each type of related reading materials. In this chapter, we would discuss about some helpful hints for searching related documents.

### 2.1 Using the Library Catalog, Indexes, and Abstracts

According to a research, the library catalog came into being a good tool for research since mid-20<sup>th</sup> century. At that time, the libraries in the universities used paper cards for different topics of the books and literature. However, things are different and quite easier in today’s libraries.

A university library now should have the online library that contains a large number of books and literature in different fields. Typically, the Internet homepage for related institution will have the link to the library and its catalog.

Although the catalog will have a good guidance to tell you which periodicals the library owns and in what form, it would not tell you the specific articles that each volume of a journal contains. As a result, we need to use indexes and abstracts to help search more detailed information. An index lists articles, research reports, and other documents in certain specified areas. An abstract is a summary of an article or research study and it also gives the source of the original study, if you would like to make a reference to it.

## **2.2 Using Online Resources Wisely**

Most libraries now provide online database access for researchers and students. These databases allow researchers to search in thousands of journals and other online sources as books, chapters in edited books, dissertations, government documents, technical reports, and newspapers. A typical database can limit the search into the minimum and easiest way. When you use keywords to search in the database, usually you would find your ideal resource.

In recent years, the Internet has been increasingly developing into a valuable source of information to the researchers. To conduct a literature review using the sources on the Internet, you must have a search engine like Google Scholar. This site has a space for you to type several keywords and start your search.

As we have put on the title of this part, we must use these resources wisely. Firstly, when we search online, we may find a lot more documents than we expected. As a result, we might spend more time in this step and lose control of the plan. We must be aware of when we should stop in this step. Secondly, we should take a note of the address of the documents and materials we find useful to our research. This is because of the dynamic, ever-changing nature of the Web. It is also important that when we refer to a document on the Internet, we should give the link to it on the reference list.

## **3. Organize the Information Collected**

We have now a lot of strategies to find related documents to help with the research. However, simply putting them together in your folders would not help. To avoid losing ourselves in the documents, we should manage these resources efficiently.

Firstly, setting up a database for putting these resources in could be of help. By putting these information in an electronic database, we could find wanted documents in a second. Some software can help us with this work, and we can also set up the database by ourselves. This could be a very efficient way to manage the documents.

Secondly, we should know when to stop. The word 'stop' does not mean that we do not need these documents anymore, but we should focus more on the research after the literature review. A good way to handle this point is that when we find some documents had been reviewed before, we might need to focus on the research. When this happens, we can write a short document to review what had been learned.

In this document, we should evaluate, organize and synthesize the literature. The document should compare and contrast varying theoretical perspectives on the topic, and show how approaches to the topic have changed over time. We can put our findings of the difference overtime and analyze the reasons. Finally, we should put our ideas after reading the documents. When we finish the literature review, we could say that we have some readings and understanding on the topic we would like to research, and we would be clear about what we would do in the next steps.

## **4. Conclusion**

In this paper, we discussed the importance of literature review, strategies for searching related documents, and how to organize the documents in a good way. It is especially important for the researchers in the field of computer science because this field has been developing in a quite

high speed. However, we must have a balance between reading literature and doing our research. We should know what others had been done, what others are doing, but we should not only focus on these stuff. Wisely using literature and have a good review can lift up the efficiency for the beginning of research.

## 5. References

- [1] Leedy P D, Ormrod J E. Practical research[J]. Planning and design, 2005, 8.
- [2] Qualitative research practice: A guide for social science students and researchers[M]. Sage, 2013.
- [3] Presentation Tips for Computer Science Grad Students[M]. M. J. Miller, 2006.  
<http://www.matthewjmiller.net/ramblings/presentation-tips/>
- [4] Leedy P D, Ormrod J E. Practical research[J]. Planning and design, 2005, 8.