

Literature Review

1 - Overview

Beginning independent research for the first time can be a tricky task. Up until this point most of your work may have been guided by your lecturers, but now you have to select your own research topic and work out a plan for your work. *Literature review* covers the information part of independent research.

Literature review is one of the chapters you have to write within your project or dissertation. The questions which are answered here are:

- What is a literature review?
- What goes into a literature review?
- How do you find the literature to review in the first place?
- What do you do with the literature after you have found it?

2 – What is a literature review?

Once your dissertation is complete, your examiners will read it, and will have some questions such as:

- How do they know that what you (the author) is saying is true?
- How did you find out the things you discuss in your dissertation?
- Essentially - Where is the evidence supporting what you say in your dissertation?

There are many sources where you can find evidence for your work. The experiments you carry out, testing that you do and programs that you write are sources of evidence. If you interview, observe or interact with other people you can also obtain evidence. Finally, other people's work and research can be used as evidence – this type of evidence is what is focused on here.

3 – What goes into a literature review?

Your literature review chapter discusses how you will go about using other people's published research to contribute to your own research. We will consider two topics:

- What goes into a literature review?
- How do you find the information that goes into a literature review?

A literature review should include:

- a statement of the problem that you are trying to solve
- the results of your literature search – the books, articles, conference papers and other information you have found on your topic
- an evaluation of the literature that you have found – it is not enough to list what you find, you must evaluate it critically

- analysis and interpretation of the literature that you have found – state why it is important to your topic and how you are going to use the information in helping towards a solution to your problem.

The literature review chapter will tell your readers:

- What other researchers have already discovered.
- How the research that has already been done fits together.
- Where the consensus and disagreements within your topic exist.
- Where any areas of controversy exist and what further research is required.
- How your research fits into the wider field.
- What sources you have used to support each of the above points.

A literature review is not a list of every paper, report or article which you have read - that is your bibliography, and is presented separately at the end of your dissertation. In your literature review chapter you start to identify the important themes and concepts of your research while performing a critical assessment of the work that other people have done.

It is not a case of accepting blindly what experts have said and simply summarising it. It is a case of using the information you find to inform and develop your work while applying a critical assessment to the work that other people have done.

To successfully perform a literature review you will develop certain skills. You will:

- Develop information seeking skills – to identify useful articles, useful books, etc. on your particular topic.
- Develop critical appraisal skills – analysing material, using it, criticising it, and separating relevant from irrelevant material and using it appropriately within your dissertation.

When critically assessing information you are looking for information of sufficient academic quality to be useful in the dissertation. You should apply a critical eye to everything you read as part of this process. One way is to ask yourself:

- whether the information given is accurate
- whether the author has sufficient authority within the field
- whether the coverage of the book, article etc. is appropriate or helpful to your needs – consider for example, geography, industrial sector, timespan etc.
- whether the information is sufficiently up to date
- whether the information is objective or is presenting a biased viewpoint.

4 - How do you find the literature to review in the first place?

You need to identify what sources of information are available. The University Library provides web-based guides to relevant information sources for different subjects; these guides also provide helpful tips for undertaking a literature search.

Before you start to research your topic you must prepare. You should clarify in your mind exactly what the topic is that you are meant to be researching. One approach is to undertake a **conceptual analysis of your topic** and **identify the keywords and phrases relating to your topic**.

It is likely that your topic will contain two or three key concepts; **for each concept you may be able to identify a number of keywords, synonyms, alternative terms** etc. Once you have identified your concepts, you can consider:

- What combination of concepts will other authors have researched and published?
- Should you ignore any concepts for the literature review?

For example, your topic might be the “Evaluation of the usability of Heriot-Watt’s web site for students with special needs”. Many authors will have written about evaluation and/or usability of web sites. so **you will want to find many sources discussing these topics**. Of these, you will be particularly interested in those focussing on people with special needs. You might consider that students have the same needs as other people, so you needn’t be too concerned if you don’t find anything specifically written about students. **However, you *would* be concerned if you found sources which apply your general topic to Heriot-Watt – will your work add anything to what has already been done? Why are you doing this research if someone else has already done it?**

By doing this conceptual analysis, and concentrating your efforts on finding material which is very focussed on your topic, you leave more time for the practical work that you have to perform as part of your dissertation.

The planning stage is now done; next you want to find some material. At each stage ask yourself what sort of information you wish to find:

- **Facts and figures** – you find these in encyclopaedias, dictionaries, data books, handbooks, statistical sources etc.
- **Opinions, arguments, and counter-arguments** – you find these in textbooks, “research” books, articles in periodicals, journals, magazines, and newspapers. Conference papers contain the most up to date and detailed description of what is going on in your field.

You can find which books have been published on your topic by searching library catalogues, looking at the bibliographies at the back of other books, and lists of books provided by other sources e.g. Amazon or individual publishers’ websites.

The most efficient way to find articles from conferences, journals, newspapers etc. is to **use indexing or abstracting databases**, which allow you to search the contents of hundreds or even thousands of publications at the same time. The Library subscribes to over 200 databases which cover every subject that the University teaches. You will find details of the databases to which the Library subscribes on our web pages; information about the access methods for each database is given, including any information about obtaining necessary usernames and passwords.

The first step is to use your keywords to search one or more relevant databases to create a “reading list” for your research topic. You must then find out if the items are available to you in the library. It is important to remember that while these databases list articles from hundreds or thousands of different journals, the Library will not have a subscription to all of these. So you must check the list of subscriptions held by the Library to see whether you have immediate access to the articles you have identified. Increasingly, journals are provided in electronic format rather than in print, but you will still only have access to those titles to which the Library subscribes..

If the book, article etc. that you want is not available from the University Library, you can check to see if it is available in a local library. Links to the catalogues of other libraries are available from the Library’s web pages. You could also use the Library’s Inter Library Loan service where the Library will try to find another Library which has the item, and ask them to lend it to us for your use.

You may find some information on your topic by doing a general internet search, rather than using the specialised academic databases mentioned. You should be cautious when reviewing information you find on the internet. Remember that there is no review process – material can be posted by anyone without being evaluated. You should subject any material found by the same criteria as you would any published material; ask yourself:

- whether the information given is accurate
- whether the author (if you can identify him/her) has sufficient authority within the field
- whether the coverage of the information is appropriate or helpful to your needs – consider for example, geography, industrial sector, timespan etc.
- whether the information is sufficiently up to date
- whether the information is objective or is presenting a biased viewpoint.

5 - What do you do with the literature after you have found it?

When writing up your dissertation it is important that:

- You tell your readers and examiners where you got your ideas from throughout your work, not just in the literature review chapter.
- If you read something you list it in your references or your bibliography.

When completing your references and bibliography it is important that you do it properly. You should use your School’s approved format. The two most common formats are the Harvard system and the Numbered Reference system. The important thing is to be consistent; you should use whatever system you decide to adopt throughout your dissertation. It is important to be comprehensive - it is better to put something into your bibliography than to leave it out.

Some notes on references and bibliographies are now listed.

Definitions

- | | |
|----------------------|---|
| • Literature | The body of writings on a subject |
| • Bibliography | List of the works consulted by the author in the production of a text |
| • Reference List | List of sources directly quoted, paraphrased or referred to in a text |
| • Reference/citation | Full details of an individual publication |

Why should you acknowledge what you've read?

- to prove that your work has a substantial, factual basis
- to show the research you've done to reach your conclusions
- to allow your readers to identify and retrieve the references for their own use

Plagiarism is using the ideas or words of another and passing them off as your own. It is a **very serious academic offence**, and can result in your work being failed. The best way to avoid it is to **take careful notes of where you find your information**, and always **acknowledge the work of others**.

When should you put a reference in your dissertation or essay?

- When you are quoting directly from a book, article, conference paper etc. etc
- To let your examiners/readers know the source of your ideas or the source of facts you are using in your work

What should you include in a reference?

Remember you are trying to give your readers complete information, so that they can find the source of your idea, quote etc. **If you are referring your reader to the whole book, article etc. give the basic details below**; if you are quoting directly or referring to a smaller portion of the whole work e.g a chapter, give the exact page number(s) as well.

Remember!

This is just the basics. If in doubt - ask a librarian for help.

Harvard Style

Examples of common sources are given. For other types – conference papers, chapters in edited books etc., consult a book on the research process, or ask a Librarian for help. Always use the title page as your authority rather than the cover.

Books

Author(s), editor(s) or the institution responsible for writing the document. (**Note:** ed. is a suitable abbreviation for editor.)

Date of publication (in brackets)

Title Underlined, **in bold** or in *italics* (use the same format throughout.)

Edition if not the first

Place of publication

Publisher

Fowler, Martin and Scott, Kendall (2000) UML distilled: a brief guide to the standard object modeling language 2nd ed. London, Addison-Wesley

Periodical/journal/magazine/newspaper article

Author of the article.

Year of the publication (in brackets)

Title of the article

Title of the journal, underlined or **in bold** or in *italics* (use the same format throughout)

Volume and part number, month or season of the year

Page numbers of article

Chang, H. T. (2004) Arbitrary affine transformation and their composition effects for two-dimensional fractal sets. Image and Vision Computing 22 (13) 1 November, pp1117 – 1127

Web page There are, as yet, no definitive standards for citing web pages. You are still trying to give your reader enough information to access the page to check the source of your ideas/facts. As web pages can change in a way that printed sources do not, many sources recommend including the date on which you accessed the page, as well as the publication/update date. (Some even recommend keeping a print-out of the page as evidence that it really did exist!) Many of the "standard features" of a published work may be missing from a web page, but you should include as much identifying material as possible, e.g.

Author/Editor

Year (in brackets)

Title, underlined or **in bold** or in *italics* (use the same format throughout)

[Internet]

Edition (if available)

Place of publication (if available)

Publisher (if available)

Available from: <URL>

[Accessed date]

Ohio State University Library (2001) Citing Net Sources > Quick Guide. [Internet]. Available from: < <http://gateway.lib.ohio-state.edu/tutor/les7/guide.html> > [Accessed 11 October 2005]

To summarise, your literature review consists of:

- Who wrote what literature and when.
- Why the literature is important.
- How the literature all fits together.
- How your work will extend and add to the literature.