

Writing...

a literature review

By Gill Marshall

The third in a series of practical guides about writing for publication, presentation, or dissertation. This month, the importance of the literature review and how to get it right.

Introduction

A literature review is defined as: 'a systematic... method for identifying, evaluating and interpreting work produced by researchers, scholars and practitioners'¹. It is undertaken because, without it, 'the writer will not acquire an understanding of their topic, of what has already been done on it, how it has been researched, and what the key issues are'². Furthermore, it provides the reader with the relevant background of what has already been undertaken in the field, so providing a context for the work.

They are, therefore, an essential tool to make sense of all the information that is published on a specific topic. It should firstly indicate to the reader the context in which the research being presented is to be understood, ie, where you are 'coming from'. In other words, the review presents what is known about a topic in order to proceed to what is, as yet, unknown. Secondly, the implications of the research always have to relate back to the literature review. When later writing the discussion section, you will be able to comment, provided you can justify yourself, on whether previous authors were right, wrong, partly right, and what you contributed to the discussion.

The fundamentals of review

In my experience, many literature reviews, particularly from novice writers, do not accurately reflect the relevant literature, resulting in its failure to accurately synthesise key information from various academic papers, which often reflect different academic viewpoints on a topic. If this is not undertaken correctly, using appropriate research terms, then when it comes to the discussion section, the research findings may not be accurately embedded in the body of knowledge.

Writing a literature review is a research methodology in its own right so, before starting the search for relevant literature, you must ensure that you have an effective way of recording the references from your search³.

Bibliographic software packages, eg EndNote, Reference Manager, and Procite, aid in database searching and the compilation of

Figure 1: The differences between good and poor literature reviews^{11,12,13}.

A good literature review:	A poor literature review:
Is a synthesis of available research which arises from the analysis of the sources accessed to produce a summary of the knowledge on your topic	Is an annotated bibliography
Is a critical evaluation	Is confined to description
Has appropriate breadth and depth	Is narrow and shallow
Has clarity and conciseness	Is confusing and long winded
Uses rigorous and consistent methods	Is constructed in an arbitrary way
Is even-handed in the inclusion of various viewpoints, although a stance of which viewpoint you back is acceptable as long as you can justify why this is	Presents only literature that supports your premise
Is critical in positive and negative ways, presents an argument based only on the literature reviewed, is focussed on the research question, produces an outcome	Is opinionated, uncritical, over-generalised, lacking in focus or outcome

reference lists. They also allow you to make notes on the literature, which is important, especially when short-time library loans and inter-library loans mean that material referred to may have to be returned before you have been able to include it in your writing. Otherwise, less sophisticated methods, such as index cards or entering each reference to a reference list whilst writing up, are alternative methods. It is also important to get into the habit at an early stage of always ensuring that you have an up-to-date back-up of your work.

The literature review should start with the research question, to which all the literature reviewed must be relevant, and it should explain the relevance of the topic to practice⁴. The process of searching must be undertaken systematically^{5,6} and should provide a comprehensive overview and summary about what is known about the research area. This need for the review to be comprehensive is in order to expose any different viewpoints about the research topic⁵.

The review should include primary data arising from quantitative and qualitative studies and the reviews of these papers, as well as information arising from non-research papers, eg, editorials, letters to the editor, discussion documents, commissioned research reports, government documents, as appropriate⁵. It is worth remembering, therefore, that literature reviews need not exclusively report only on

research-based publications⁴. The review may also contain tables or figures and will yield its own reference list, which can be incorporated at the end of a thesis or alternatively, if the literature review is a work in its own right, following the review⁷.

Whilst novice writers find it daunting to critically review the work of expert scholars^{8,9}, it is essential that this is undertaken for the production of a balanced literature review. It must be thorough and substantive and it must be produced as a precondition to doing substantive, thorough, sophisticated research^{8,10}. Maybe they feel daunted because they mistake critical review for criticism. Figure 1 tabulates the difference between good and poor literature reviews.

What is the question?

Prior to the collection of data, it is essential that the writer is absolutely clear regarding their research question. This should be a well-defined, unambiguous question, which the researcher finds stimulating. In health and social care, most such questions are usually relevant to practice, and indeed may arise from practice.

It is essential to define a research question that can be answered in the time period allowed before the work must be submitted. Keep the research question in a prominent place all the time so that you do not stray off the precise topic – otherwise you will search

lots of irrelevant papers. Sometimes, as literature is uncovered, it may be necessary to redefine the research question. There are three stages involved in the process:

- ◆ Searching for literature – the data collection stage
- ◆ Critiquing the literature¹⁴ to provide an analysis or deconstruction of it¹⁵
- ◆ Synthesising the literature⁵.

When searching the literature, remember that the aim of this task is to demonstrate to your examiners, readers, or funders, that you searched systematically. Be sure that you have clear inclusion and exclusion criteria before starting to ensure that it is all relevant to your research question. You should record both your approach that developed an effective search strategy, and all the search terms you used to provide evidence that your review was systematically carried out.

If your search revealed little relevant literature, you should have an idea why that was. Was it your use of limited search terms or was it because there is genuinely little literature on that topic? If there is little background information, you may find that your work is research hypothesis generation rather than hypothesis testing, in which case you will need to refine your research question to address this different focus of your work. Beware of asserting that there is no literature on a topic, rather say 'it was not possible to find any reference to xxx/ examples of work on xxx/studies of xxx'⁵.

Do not only utilise work that is easily accessible, eg, electronically – you must consider utilising other facilities, such as inter-library loans, to ensure that your search picks up all relevant data. Use primary sources predominantly: those that have not been filtered through interpretation or evaluation, but are original materials on which other research is based. They are usually the first formal appearance of results in physical, print or electronic format, and present original thinking, report a discovery, or share new information¹⁶. Secondary sources should be used sparingly, if at all; these are sources that you do not directly access but that are cited in primary sources.

When searching, use multiple search terms and key words that you identify in the articles to ensure your review is comprehensive. A good search should reveal a minimum of 20 key references that accurately fit with your research question. If not, then consider refocusing the research question accordingly, either by narrowing it down if there are too many, or by thinking of the broader implications of your research question to allow you to search more literature.

The search can yield three different results or a combination of the three. There could be:

- ◆ A common consensus or near consensus about a topic. If this is so, this will represent the 'conventional wisdom on a topic'.
- ◆ Areas of disagreement or debate which give rise to various schools of thought.
- ◆ Gaps in the literature, eg, questions that have not been researched or perspectives that none has considered.

By considering these, you can use your review to describe what your contribution to the

knowledge will be¹⁷. If you have far too many sources to reasonably handle in the time frame, narrow down the literature by concentrating on that produced by leading authorities, work that is the most recent, and work that most closely aligns with your own. Generally, unless your research question has a historical perspective, the most current literature is the best, and work in articles tends to be more current than that in books.

If your search produces too few articles, you can broaden your search with wider subject headings and by searching other databases. If you still have too little literature, consider both the first tier of information, ie, that directly related to your topic, which would be adequate for your work if it yielded many sources, and then a second tier of literature where you have broadened your review to cover publications that only partially overlap your area even if they don't directly address the same point. This second tier only needs accessing if the literature in the first tier is limited¹⁷ and this will then provide most of your literature review material.

Rich sources of literature in health and social care are the electronic databases Medline, the Cumulative Index of Nursing and Allied Health (CINAHL), Google Scholar, Science Direct, Synergy (which provides electronic access to all Blackwell publications), Applied Social Science Index and Abstracts (ASSIA), reference lists of articles you acquire, and the Cochrane Collaboration, which is based around systematic reviews and meta-analysis of topics. A meta-analysis is a way of analysing multiple independent studies, predominantly where statistical analysis of quantitative studies is undertaken^{11,18}.

A comprehensive account of how to critique the literature has already been published by the author of this article¹⁴. A brief précis of this information is that, when critiquing research:

- ◆ You need to give positive and negative points on the paper which you can only achieve after one or two readings.
- ◆ Remember that no research paper is perfect.
- ◆ Explain how you appraised the literature, including non research papers.
- ◆ Remember that empirical findings gleaned from peer-reviewed journals constitute stronger evidence than that produced in discussion papers/expert review papers.
- ◆ Give a summary of your critical appraisal the first time you refer to a paper.
- ◆ Only include about one paragraph as a critique of each article, and if there is an abundance of literature, you may group and discuss articles together, with a consensus.

- ◆ Summarise the main aims of the papers, what the authors did, what the results showed, and finally, if you are writing your review within a dissertation, your review of the quality of the paper^{5,14}. If writing a journal article, this is not usually included unless there is a specific paper that deserves such close attention.

- ◆ Organise your review so that all papers relevant to a specific viewpoint are critiqued together and if there is an opposing viewpoint present your critiques of those articles together.

- ◆ The final stage of your literature review is to combine the evidence and present your findings. This may be done as a summary section at the end of the review^{5,14}.

Figure 2 outlines the various stage of the search process.

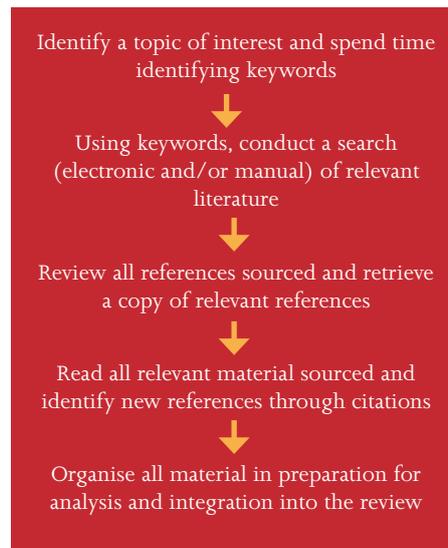


Figure 2: Stages in the search process^{18,19}.

Putting it all together

Critiquing the literature and then synthesising it, the second and third stages, are the hardest part of writing a literature review because they require intense thought and the making of connections regarding, for example, whether it was due to the methodology of two studies that they revealed different findings. Bertrand Russell, the philosopher, asserted that *'most people would die rather than think and many do'*²⁰.

During the process of summing up the literature, identify common themes to help you organise your review (as above). These will give you the sub-headings under which to organise your work²¹. Take into account the strengths and limitations of the literature you have reviewed and, once ordered under sub-headings, organise the sections so that the literature review flows in a logical sequence. A

good literature review will be ordered so that one theme expands on, and adds insights to, another. With each theme recorded, remember to explain how the themes relate to the research question.

If there are gaps in the relevant literature, point this out to the reader. Be even-handed in the recording of relevant literature so as not just to critique literature which fits with your hypothesis^{5,14}. However, in recording this information you may want to take a stance, maybe supporting one school of thought. This is something you should be able to justify by, for example, pointing out methodological flaws in papers supporting the viewpoint that you don't back.

Before you start writing, consider whether to write in the first or third person. It can be confusing if you refer to yourself as 'the author' and it can sound pretentious especially if you are, for example, an undergraduate student. It is not necessarily optimal to write in the third person and it has been advocated over a considerable time that the first person is acceptable^{12,22,23} – in my experience, this is increasingly acceptable. Other sources, however, would contradict this and advocate writing in the third person²⁴⁻²⁷. Check relevant guidelines from the journal to which you intend to submit to establish their policy, or look at any dissertation guidelines and discuss them with your supervisor²⁸.

So to summarise, go through the checklist (right) before you submit a literature review, and here's a brief recap of how to write one:

- ◆ Set your research question in a prominent place, eg, as a header, and always keep your work related to it.
 - ◆ Be stringent about not getting bogged down in unrelated issues and literature.
 - ◆ Keep an up-to-date back-up of your work.
 - ◆ Ensure you answer your research question.
- When you write up your discussion section later in your work, you will need to restate your research question and show how your findings relate to the body of knowledge that you have presented in your literature review^{5,29}.

Conclusion

Dissertations and commissioned research reports provide an outlet for dissemination of knowledge to peers. Writing a literature review can be difficult, especially to those without experience. However, by reading this article and considering the points regarding the characteristics of a good literature review (figure 1), as well as using the checklist as guidance, the writing of a literature review should be more successful.

Checklist

- ✓ Have you indicated the purpose of the review?
- ✓ Have you stated the research question explicitly?
- ✓ Are the parameters of the review reasonable, ie, did you adequately search all aspects of the research question?
- ✓ Why did you include some literature and exclude others?
- ✓ Which years did you include and exclude? Why? This is relevant to a dissertation but not a journal article, as is...
- ✓ Which databases did you search?
- ✓ What other methods of searching did you use in addition to electronic searching, eg, searches through reference lists for relevant citations?
- ✓ Have you emphasised current developments, provided your work does not have a historical perspective?
- ✓ Have you focussed on primary sources with only selective use of secondary sources?
- ✓ Is the literature you have selected relevant to the research question?
- ✓ Is your literature base complete?
- ✓ Have you indicated when results are conflicting and discussed possible reasons?
- ✓ Is your literature review even-handed in allowing both sides of an argument to be presented, even if you take a justified stance regarding which viewpoint you support?
- ✓ Does your review offer positive as well as negative constructive criticism, particularly of methodological issues?
- ✓ Have you organised your findings under appropriate sub-headings?
- ✓ Is there a logical flow to the way you have presented the information?
- ✓ Does the amount of information presented on an issue relate to its importance?
- ✓ Have you indicated the relevance of each paper to your research question?
- ✓ Has your summary of current literature contributed to the reader's understanding of the research question and provided you with a rationale for your research?¹⁵

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Test Yourself

Below are some questions for you to answer which you can then count towards your CPD. Note down your answers and any other observations and put them in your CPD folder. If you record this activity in CPD Now, remember that you can scan your paperwork and attach it electronically to your CPD record. The answers will be available online from March 1, under 'Synergy resources', at: <http://www.sor.org/members/pubarchive/synergy.htm>

1. What is the purpose of a literature review?
2. If you have a hypothesis that you are working on, should you only cite the literature that supports it?
3. What factors should you consider when choosing which literature is most relevant to your literature review?
4. In your own words explain what a literature review is?
5. Should a literature review describe briefly each of the points raised in each article or synthesise that knowledge under appropriate sub-headings?
6. Should a literature review initially state the research questions and, if so, where in the review?
7. How useful are secondary sources to literature review?

About the Author

Professor Gill Marshall is senior fellow and national teaching fellow of the HE Academy, and research development lead at the University of Cumbria.

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References for this article can be found under 'Synergy resources' at <http://www.sor.org/members/pubarchive/synergy.htm>

The first two articles in the series were: *Writing an abstract* (January 2010) and *Writing an introduction* (February 2010). Further articles will include writing the materials and methods, results and discussion sections.

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