Writing your Literature Review

This guide explores the purpose and process of writing a literature review and demonstrates how to organise your notes, thoughts and ideas in a structured way so that you can group, compare and analyse your research sources.

# What are literature reviews?

Literature reviews can either be a stand-alone piece of writing, or part of a wider work, a research project for example. In either case their focus will be reviewing previous literature pertinent to the question or research being pursued.

The focus of a literature review should be on analysing and critiquing methodologies, theories, and ideas presented in previous literature within your research field. There should also be consideration of how the research in the literature selected can be taken forward, either by someone else, if the literature review is a stand-alone piece, or by your research.

Through the analysis and critique of previous literature, gaps should be identified within the field. Identifying these gaps serves as both the motivation and justification for the research project.

The gaps may be small; this is often the case in academic research. For example, the research may be developing a previous study to include a bigger cohort. In this example, the literature review would discuss the previous study, its limitations and what it achieved, where other papers have subsequently used the study, and research papers which deal with larger cohorts and why this can be beneficial.

The papers chosen for a literature review should cover key debates, authors and papers. Literature reviews may also contain papers with alternative approaches or methodologies. These papers can be included to demonstrate why these approaches should not be taken and to show reasoned consideration of approach.

## What are the differences between literature reviews and essays?

Literature reviews share similarities with other types of academic writing. However, what might be new to you is the number of sources that need to be engaged with. This is likely to be more than a standard academic essay.

Like any other piece of academic work, literature reviews should demonstrate critical engagement and appraisal of the sources included. Crucially, literature reviews should not sit at the level of description only. Despite their breadth and depth, they are not an encyclopaedia of everything on the subject.

If the literature review is part of a wider research project, this task will be carried out first to establish any unanswered questions or under-researched areas in the field. In turn this should refine your research questions and topic.

The literature selected should support and make a case for your research, or where the research gaps are that need to be filled. The critical engagement and argument should come from the evaluation and appraisal of the sources.

## Literature review vs systematic review

The terms literature review and systematic review are sometimes used interchangeably, although there are different types of writing being undertaken so it can be helpful to clarify what we are actually doing.

A literature review when it is undertaken for part of an assessment (so part of a dissertation or as a stand-alone piece of coursework), is most likely not a full systematic review. It is a literature review which will involve some level of systematic searching in databases, and some reporting of your search findings, depending on the course and the assignment brief.

A systematic review is a high-level review of all of the literature on a particular topic within set boundaries, which may involve a team, can take a significant amount of time, and is usually published.

Although literature reviews which are written as part of assessed coursework may be referred to as 'systematic reviews' it is important to recognise that they include only elements of a full systematic review, and the many of the requirements of a full review you may read about online will not apply to your assignment. If in doubt always check your assignment brief and ask your tutor.

For more guidance on systematic reviews, check out our guide to [Conducting a systematic review](https://www.education.library.manchester.ac.uk/sls/conducting-a-systematic-review/#/).

# Searching and selecting sources and organising your ideas

## Finding sources for your literature review

The key themes identified from your topic will guide your search for relevant literature. To perform a thorough search, you need to consider:

* Where to search e.g., databases, journals, websites etc.
* What search terms to use including synonyms and variations in common terms such as UK and US English.
* Any limits you need to apply for example are you reviewing literature from a specific geographical area such as Europe or a key time frame.

To learn more about these areas including databases and journals related to your topic look at our guide ['Library support for searching'](https://education.library.manchester.ac.uk/mle/packages/searching/). For some topics, using advanced search functions can be very useful. These functions can help you increase the number of search results and narrow them down to the most relevant ones. You can find more information and support for using advanced search functions in our guide, ['Library support for advanced searching'](https://www.education.library.manchester.ac.uk/mle/packages/searching/advanced-searching.html).

## Organising your ideas

### Making notes on your sources

It is a good idea to make notes on the sources as you read them, rather than waiting for the writing phase to start the critique and appraisal.

When making notes, it can be beneficial to do this at two levels: descriptive and analytical. These are described in more detail below.

* Descriptive

Being able to summarise the source in your own words is a good exercise to gauge your understanding of it. A concise summary or paraphrase will also help you when it comes to incorporating the source into your writing. Be sure to reference correctly in your writing.

It may be that you are only interested in part of the source, just the methodology for example. If this is the case, you may want to focus on only making a summary for this section.

Start with summarising each source individually. Then, when you have read a couple of sources look back over these and the notes made, are there are any connections between them? For example, are the sources all arguing the same point? Do the sources all use the same methodology? If so, these sources can be synthesised - summary sentences which group these sources together leaving more words for your analysis.

* Analytical

To move beyond simply listing all the sources and providing summaries, even when synthesising, it is important to make evaluative and analytical notes while reading. These notes can then be used in the writing phase.

These evaluative and analytical notes should be your critique of the sources and their findings, argument and methodology. Literature Reviews are all slightly different and depending on your subject you may find that the main points of critique vary.

In general terms, humanities-based literature reviews may be more focussed on:

* How any primary sources have been interpreted by the author;
* The theories and methodologies used and if they are applicable, correctly understood, or could be developed;
* The ideas and conclusions drawn by the author.

STEM-based literature reviews may be more focussed on:

* Methodology or methodologies used, including any statistical tests;
* Correlation between aims and outcomes;
* Interpretation of the data or results: do you agree with the interpretation? Is there another way to look at the results?

What you take notes on will also depend on your research topic, research questions, and the field. For example, if there are contentious issues or areas of debate, this will need to be discussed. Likewise, key studies aligning with your research topic should also be engaged with.

## Using a literature review matrix

To make it easier to pull everything together, you can use a table or spreadsheet to organise your information and ideas. There are a few different ways you could set it up. Here are some examples:

### Arts matrix example

The matrix is arranged article by article, with themes drawn out for comparison. This is very helpful for making thematic connections and showing areas of agreement or disagreement. The columns where there is an 'X' means that the theme was missing from the work of that particular author.

|  |  |  |  |
| --- | --- | --- | --- |
| Theme | Anderson 1998 | Jones 2022 | Smith 2020 |
| **Relationship of economic decline in western nations and the war** | Argues that economic growth as likely to be a cause as decline | x | Sees economic competition as ‘war by other means’ and should question the rigid division between war and peace – ongoing international conflict is ongoing! |
| **Role of diplomacy before the war** | x | The forces of state bureaucracy were not flexible enough to respond to changing situation. | Political leaders were responding to economic powers – who were leading the march to war. |
| **International trade as a cause of the war.** | Trade was in decline at the point that war rhetoric began to increase | The more protectionist countries entered the war later when there was less opportunity of staying out | x |

### Source matrix (medical example)

This matrix organises primary studies based on key aspects such as methodology and outcomes, facilitating easy comparison.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **Exercise** | **Sample size** | **Type of study** | **Outcome** | **Notes** |
| Culson, 2020 | Strength Training | 50 | RCT | 30% increase residual lung capacity | Defines adolescent as 12-16 |
| Hudon, 2021 | General Cardio | 80 | RCT | Results within the margin of error | Incomplete study |
| Kettering, 2024 | Horse Riding | 15 | Case control study | 15% increase | Teenagers with allergic asthma |
| Marsdon, 2018 | Walking | 20 | RCT | 10% increase | Based on number of steps per day |
| Tufton, 2019 | cycling | 10 | Case control study | 50% increase | Study needs to be repeated data was based on mild cases. |

# Writing your literature review

## Writing analytically

By the time you have finished reading and making notes on your selected papers it is time to write; with sufficient notes this should be effective note making.

All the standard criteria for academic writing are applicable for literature reviews, all sources should be correctly referenced, words should be spelled out in full (no contractions such as 'don't', or 'can't'), although technical terminology should be used, the language should not otherwise be complicated. However, because literature reviews are dealing with more sources than perhaps an academic essay might, how sources are grouped together can be more complex.

Literature reviews should be able to move between evaluating and analysing sources individually, comparing one source with another, and then comparing groups of sources with other groups of sources. Being able to do this effectively will show a high level of sophistication in writing and understanding of the sources and field.

To ensure you are clear where your selected sources interconnect, have a look back through the notes for a final check for overarching connections before you start writing. For example, sources could be grouped together if they are:

* Discussing similar ideas
* Using the same or a similar methodology
* Applying the same theoretical framework
* Are written by the same author
* Reach similar conclusions

Grouping sources according to similarities can be helpful when synthesising information. For example, you might group sources together according to similar methodologies used, or group sources which all deal with the same theme.

### Synthesis example

The research topic, in this example, is the influence of Artificial Intelligence on education and particularly 'Edtech' (educational technology) platforms.

“The tenets of Artificial Intelligence established at the Dartmouth, New Hampshire summer school, particularly certain concepts of human psychology and language as discrete and subsequently programmable have survived to this day (De Vos, 2020, Golumbia, 2009, Crevier, 1993).“

In this example above three sources have been condensed into one sentence. Only one aspect of these sources has been included here. However, synthesising sources is still at the level of description. To move this example into analysis there needs to be a sentence or sentences following this summary explaining what this evidence means in connection to the research topic or question. So, the example below is now developed to include analysis.

“The tenets of Artificial Intelligence established at the Dartmouth, New Hampshire summer school, particularly certain concepts of human psychology and language as discrete and subsequently programmable have survived to this day (De Vos, 2020, Golumbia, 2009, Crevier, 1993). The danger here is that to proceed from the basis that human psychology is reflective of a computer programme runs the risk of wholly collapsing one into the other, but equally that a historically produced conception of human psychology (from the 1950s) has been carried over into the field today. Programming the ‘psychology’ of a ‘student’ therefore into an Edtech platform which uses machine learning therefore assumes not only what a ‘student’ is, but equally what learning is and its outcomes.”

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Here, what has been critiqued are the claims around what 'human psychology' is, and whether it is historically produced. What is also drawn out of the synthesised sentences are the implications for education of having the learning process determined by something which has been decided in advance, both how students learn and what that learning should look like.

[The Academic Phrasebank](https://www.phrasebank.manchester.ac.uk/) can help with forming analytical sentences if you are unsure where to start.

# Summary

In this guide, we have explored what literature reviews are and provided suggestions on how to organise your thoughts and ideas in a structured way. We discussed the benefits of making your note-taking both descriptive and analytical, as well as the importance of grouping sources and ideas effectively.

A well-written literature review involves evaluating and analysing sources individually, comparing one source with another, and comparing groups of sources with each other. Hopefully the approaches that we demonstrated will provide you with a deeper understanding of the research in your field and assist you with your studies and writing your literature review.