



Writing effective literature review

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Outline

- What is literature review.
- Reasons for conducting literature review.
- Benefits for literature review.



What is a literature review?

“...a literature review surveys scientific articles, books, medical journals, dissertations and other sources relevant to a particular issue, area of research, or theory, providing a description, summary, and critical evaluation of each work.”



What is a literature review?(Cont.)

- The literature may be related to the research in several ways – through the problem, the objectives, the conceptual framework, and methods and procedures.
- Studies can be related through both similarities and differences – the differences are especially important in methods and procedures.



Reasons for conducting literature review

- When a literature review is required (Master & PhD thesis).
- A short section in a research protocol—showing the outcome of a preliminary search and review.
- An introductory section in an academic paper.
- A systematic review to inform evidence based policy or practice.



Benefits of literature review

- The central purpose of the literature review is to provide the researcher (and the reader) with an understanding of literature about the proposed research.
- Determine if proposed research is actually needed. Even if similar research published, researchers might suggest a need for similar studies or replication.



Benefits of literature review(Cont.)

- A literature review can help you narrow down a problem.
- A literature review can help you understand where you need to focus your efforts.
- Provides ideas and direction for:
 - How to handle problems encountered
 - Techniques
 - Sources of data



Benefits of literature review(Cont.)

- Helps develop insights on design of your own study by showing what has (and has not) been previously successful.
- The approaches and procedures used by others can suggest what is likely to work for you.



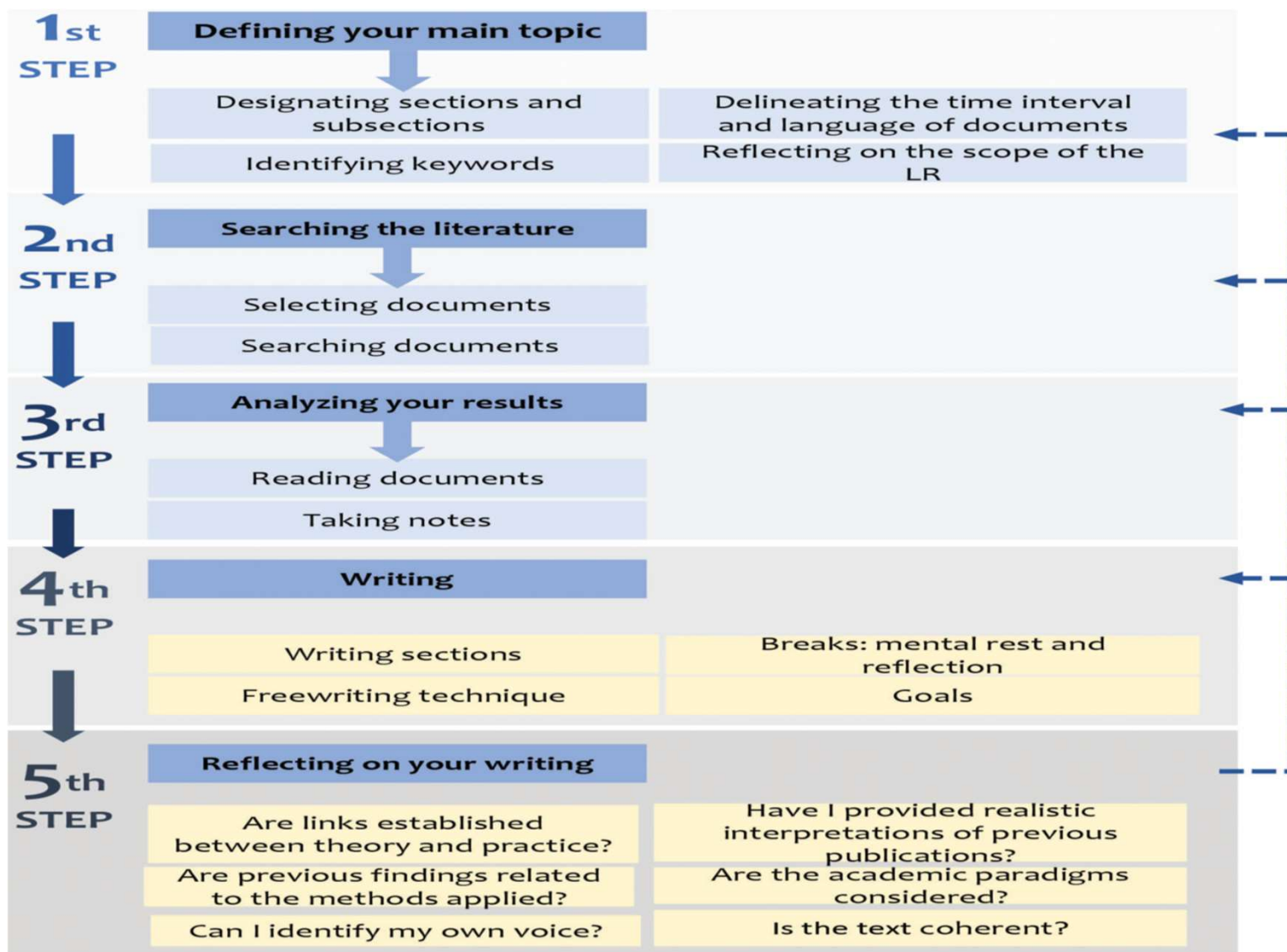
Literature search and review

- Search to see what other work in the area of interest has already been published.
- Recent journal issues in areas central to the topic may provide leads to content that should be in the review.
- Develop a list of subject headings that relate to your topic.



Steps in performing a solid literature review:

- Defining the main topic.
- Searching the literature.
- Analyzing the results.
- Writing.
- Reflection.





First step: Defining the main topic

Planning an LR is directly linked to the research main question of the thesis and includes the following steps:

- Reflecting on the scope of the LR.
- Designating sections and subsections.
- Identifying keywords.
- Delineating the time interval and language of documents to be retrieved in the second step.



Second step: Searching the literature

The ability to gather adequate information from the literature

- Searching the literature itself.
- Selecting documents for inclusion



Online medical research databases

- Pubmed /pubmed central
- Embase.
- Scopus.
- Google scholar.
- Web of science.
- Conference proceedings.
- Thesis.



Third step: Analyzing the results (Critical appraisal)

- The process of carefully and systematically examining research to judge its trustworthiness, and its value and relevance in a particular context.
- It is necessary to evaluate the published literature for its scientific validity .



Third step: Analyzing the results(Cont.)

- Evaluate if the aim and the objectives of the study are properly explained with scientific rationale.
- If the research objective and hypothesis were not clearly defined or the findings of the study are different from the objectives, the study outcomes become questionable.



Third step: Analyzing the results(Cont.)

- A good working scientific hypothesis backed by a strong methodology is the steppingstone for carrying out a meaningful research.
- The study population should be determined prior to starting the study.
- The sampling method, sample size calculation, statistical test and the level of significance should be clearly defined in the method section.



Third step: Analyzing the results(Cont.)

- The results section should only report the findings of the study, without attempting to reason them out.
- The total number of participants with the number of those excluded, dropped out or withdrawn from the study should be analyzed.



Third step: Analyzing the results(Cont.)

- Actual values including the mean with standard deviation/error or median with inter quartile range should be reported.
- The findings stated in the results should be the same in other areas of the article – abstract, tables and figures.
- Appropriate tables and graphs should be used to provide the results of the study.



Third step: Analyzing the results(Cont.)

- ❑ In discussion, the authors should report their findings in comparison with that previously published in literature, if the study results added new information to the current literature, if it could alter patient management and if the findings need larger studies for further evaluation or confirmation.



Third step: Analyzing the results(Cont.)

- When concluding, the interpretation should be consistent with the actual findings.
- Evaluate if the questions in the study hypothesis were adequately addressed and if the conclusions were justified by the actual data.
- Authors should also provide limitations of their study and constructive suggestions for future research



Fourth step: Writing

- To write LRs according to a specific sequence of sections
- Writing methods
- Editing, citing and correct referencing



Fifth step: Reflecting on the writing

- The same questions should be asked as in the analyzing the results step, which can take more time than anticipated.
- Ambiguities, repeated ideas, and a lack of coherence may be noted, and should be corrected.



The Literature Review Process: Types of literature

- Not all literature should be included in the review – only “scientific literature”.
- This is literature which has been through a peer review process.
- This includes professional journals, formal research reports, university-affiliated bulletins and reports.
- “Popular” publications should not be included eg. newspapers, news magazines, or industry or popular publications.



Types of literature

Primary Literature (also called primary sources) :

- Scientific journal articles
(mainly full articles but also letters to editor, short communication articles etc.,)
- Proceedings
Collection of printed articles (in book form) that have been presented in a scientific conference or symposium
- Theses & dissertations



Sources of primary literature:

Journal articles:

- These are good sources, especially for up-to-date information. They are frequently used in literature reviews because they offer a relatively concise, up-to-date format for research.



Sources of primary literature(Cont.)

Theses and dissertations: these can be useful sources of information. However there are disadvantages:

- They can be difficult to obtain since they are not published, but are generally only available from the library or interlibrary systems
- The student who carried out the research may not be an experienced researcher and therefore you might have to treat their findings with more caution than published research.



Types of literature

Secondary Literature (secondary sources) :

- Literature review articles
(articles summarizing the recent research articles in a narrow field)
- Indexing and abstracting databases
(for locating and accessing the primary literature. E.g., Science Citation Index)



References

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- Critical appraisal of published literature. Goneppanavar Umesh, John George Karippacheril, and Rahul Magazine