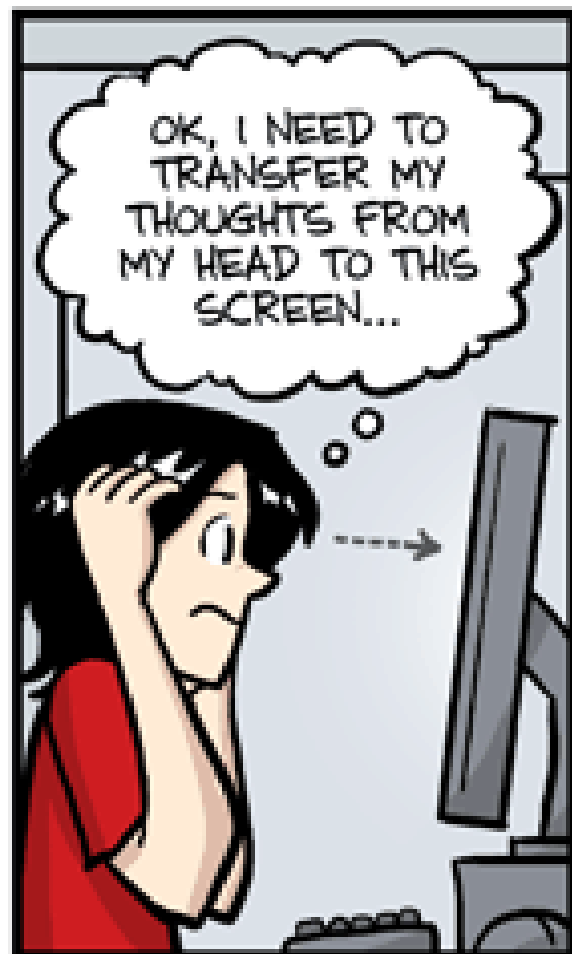


# How to write a review article



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# Types of Journal Articles

- ORIGINAL RESEARCH ARTICLE
  - a typical scholarly, scientific journal article (aka PRIMARY RESEARCH ARTICLE)
  - discusses the **authors' original research**
  - offers thoughtful analysis of the results, and cites relevant papers from other authors that relate to the research
  - is peer reviewed
- News articles
  - not peer reviewed
  - written by science journalists, not researchers
  - may be easier to read, but since they are normally one or two steps removed from the original research, a news article may not be the best source for your paper or project. However, news articles can lead you to a piece of original research, and can help you easily stay informed about recent research developments.
- REVIEW ARTICLE
  - does not report on original research
  - **outlines the current state of research in a particular field**, citing the appropriate literature and connecting the various pieces of research together
  - generally peer reviewed

# Structure of the original research article

- Title – subject and what aspect of the subject was studied.
- Abstract – summary of paper: The main reason for the study, the primary results, the main conclusions
- Introduction – *why* the study was undertaken
- Methods and Materials – *how* the study was undertaken
- Results – *what* was found
- Discussion – *why* these results could be significant (what the reasons might be for the patterns found or not found)

There are many ways to approach the writing of a scientific paper, and no one way is right. Many people, however, find that drafting chunks in this order works best: Results, Discussion, Introduction, Materials & Methods, Abstract, and, finally, Title.

# Guidelines for writing a Review Article

- What is a review article?
  - A critical, constructive analysis of the literature in a specific field through summary, classification, analysis, comparison.
  - A scientific text relying on previously published literature or data. New data from the author's experiments are not presented (with exceptions: some reviews contain new data).
- What is the function of a review article?
  - to organize literature
  - to evaluate literature
  - to identify patterns and trends in the literature
  - to synthesize literature
  - to identify research gaps and recommend new research areas

# Guidelines for writing a Review Article

## ABSTRACT

- Function
  - Informs about the main objectives and result of the review article (informative abstract) or indicates the text structure (descriptive abstract).
- Descriptive abstract – for narrative reviews
  - Elements: Description of subjects covered without specific details. A descriptive abstract is like a table of contents in paragraph form.
- Informative abstract – for systematic and best evidence reviews
  - Elements: 1) Objectives 2) Material and methods 3) Results 4) Conclusions
- Citations: usually none

# Guidelines for writing a Review Article

## INTRODUCTION

- Function
  - Provides information about the context, indicates the motivation for the review, defines the focus, the research question and explains the text structure.
- Elements
  - Elements of a three paragraph introduction (afterAnonymous2003).
    - 1) Subject background. The general topic, issue, or area of concern is given to illustrate the context.
    - 2) “Problem”. Trends, new perspectives, gaps, conflicts, or a single problem is indicated.
    - 3) Motivation/justification. The author’s reason for reviewing the literature, the approach and the organization of the text are described.
- Citations: many
- Make sure to have a narrow focus and an explicit research question. Indicate these two points clearly in the introduction. Give theoretical or practical justifications for the need for a review.

# Guidelines for writing a Review Article

- Body: Main Part of the Review Article
  - Section structure
    - A coherent structuring of the topic is necessary to develop the section structure (Bem 1995). Subheadings reflect the organization of the topic and indicate the content of the various sections.
  - Paragraph structure
    - Cover one idea, aspect or topic per paragraph.
    - Avoid referring to only one study per paragraph; consider several studies per paragraph instead
  - Links
    - Frequently link the discussed research findings to the research question stated in the introduction. These links create a thread of coherence in your review article.
    - Link the studies to one another. Compare and discuss these relationships.
    - Make sure to organise the different pieces of information into a line of argument. An appropriate organization of information is all-important for the quality of a review (Day & Gastel 2006).



# Guidelines for writing a Review Article

## Conclusions

- Function
  - Answer the research question set in the introduction
- Elements
  - implications of the findings
  - interpretations by the authors (kept separate from factual information)
  - identification of unresolved questions
- Citations: few or none
- Make sure to have a **clear take home message** that integrates the points discussed in the review. Make sure your conclusions are not simply a repeat of the abstract!

- Accurate and clear expression of your thoughts and research information should be the primary goal of scientific writing.<sup>1</sup> Remember that **accuracy and clarity** are even more important when trying to get complicated ideas across. Contain your literature review, ideas, and discussions to your topic, theme, model, review, commentary, or case. Avoid vague terminology and too much prose. Use **short** rather than long **sentences**. If jargon has to be utilized keep it to a minimum and explain the terms you do use clearly.<sup>2</sup>
- ***Avoid Plagiarism and inadvertent lack of citations.*** Finally, use citations to your benefit. Cite frequently in order to avoid any plagiarism. The bottom line: *If it is not your original idea, give credit where credit is due.* When using direct quotations, provide not only the number of the citation, but the page where the quote was found. All citations should appear in text as a superscripted number followed by punctuation. It is the authors' responsibility to fully ensure all references are cited in completed form, in an accurate location. Please carefully follow the instructions for citations and check that all references in your reference list are cited in the paper and that all citations in the paper appear correctly in the reference list.

1 Eriksson P, Altermann W, Catuneanu O. Editorial: Some general advice for writing a scientific paper. J African Earth Sci. 2005;41:285-288

2 Scientific writing 101. Editorial. Nature Structural Molecular Bio. 2010;17(2):139

3 HOOGENBOOM, Barbara J.; MANSKE, Robert C. How to write a scientific article. *International journal of sports physical therapy*, 2012, 7.5: 512.

| stage             | step   |                          |
|-------------------|--|--------------------------|
| prepare           | 1. <u>narrow the topic</u> , define a few research questions or hypotheses                                   | <input type="checkbox"/> |
|                   | 2. search for literature sources, refine topic and research questions during the search <sup>*</sup>         | <input type="checkbox"/> |
|                   | 3. read, evaluate, classify and <u>make notes</u>  | <input type="checkbox"/> |
|                   | <u>4.</u> redefine the focus and the research questions, define the take-home message                        | <input type="checkbox"/> |
|                   | 5. compose a preliminary title   | <input type="checkbox"/> |
| develop structure | 6. find a structuring principle for the article (e.g. chronological, subject matter, experimental procedure) | <input type="checkbox"/> |
|                   | 7. prepare an outline, find headings for the sections in the text body                                       | <input type="checkbox"/> |
|                   | 8. plan the content of each paragraph in the different sections  | <input type="checkbox"/> |
| write draft       | 9. prepare tables, concept maps, figures   | <input type="checkbox"/> |
|                   | 10. draft the methods section (if needed)  | <input type="checkbox"/> |
|                   | 11. draft the body sections  | <input type="checkbox"/> |
|                   | 12. draft the conclusions  | <input type="checkbox"/> |
|                   | 13. draft the introduction   | <input type="checkbox"/> |
|                   | 14. draft the abstract   | <input type="checkbox"/> |
| revise            | 15. revise drafts of different sections, abstract & title, tables, figures & legends                         | <input type="checkbox"/> |
|                   | 16. revise citations and references  | <input type="checkbox"/> |
|                   | 17. correct grammar, spelling, punctuation   | <input type="checkbox"/> |
|                   | 18. adjust the layout  | <input type="checkbox"/> |

