

**REVIEW OF THE ARTICLE.  
VOCABULARY TO BE USED IN THE  
SCIENTIFIC ARTICLE**



# Content

1. Definition of the article
2. Structure of the article
3. Title
4. Abstract
5. Literature review
6. Methods
7. Results
8. Conclusions



A scientific article is one of the main types of publications. It contains a description of the intermediate or final results of scientific research, highlights a specific separate issue on the topic of the dissertation, fixes the scientific priority of the author, makes the material a property of specialists.



An article typically constitutes the following **sections and elements**:

- Title
- Abstract
- Introduction
- Theory/Literature review
- Research method/ process
- Results (sometimes divided into results & analysis)
- Conclusions

There is no commonly accepted right structure and terminology. The differences between journals are, however, marginal, once you have understood the essence of the key elements. The best solution for a researcher is to follow the structure and terminology of their target journal.

The following will provide tips for each individual section.



# Title

When considering a title for your article, do familiarise yourself with the types of titles in the target journal, analyse whether they are more general or very specific. The editors-in-chief may want the article titles to sell and gain clicks. This is why in some cases a more general title is better than an overly specific one. Avoid abbreviations in the title as well as unnecessary “and” words. Fundamentally, a very long title is not good as the reader may have difficulties in perceiving the content. Again, there are some journal and field specific differences in the types of titles, and following the practices of your target journal is the best approach. The suitable title length depends on whether your target journal favours indicative or informative titles. Journals favouring short indicative titles may, for example prefer titles with less than eight words. On the other hand, other journals may prefer long informative titles. However, researchers ought to attempt simplifying their titles even when longer ones are allowed.



## **Abstract**

The Abstract is one of the most central elements of your article, luring other people to read it and may also influence the acceptance of your article. An abstract must describe the purpose of your article. Moreover, it must describe how you have realised your research and provide few key findings and any practical implications. You can build your abstract by answering the following questions with one or two sentences for each one:



What is the bigger, more general field your article relates to? □ What is the purpose of your article? □ What methodology did you use? □ What are the key results? □ What are the practical implications of your research (how can the results be utilised by e.g. practitioners, society or companies)?

Your target journal may have some specific requirements related to formulating the abstract, such as word count. Should your target journal require a structured abstract, please follow their instructions. In addition to a conventional written abstract, some journals also use graphical abstracts, i.e. the authors include an illustration to accompany the text.


The Abstract is typically followed by key words. Follow the practices of your target journal when defining the key words.



# Introduction

The Introduction justifies the significance of the subject matter and connects your work to previous research. This chapter can also include a definition of the key terms, if necessary. In reality it is better to use a limited number of terms and be consistent in their use. One rarely needs to invent completely new terms even when discussing something totally new. It is essential for the author to understand the true meaning of the terms used and be able to communicate them clearly.

It is sensible to write the introduction in a form of a logical funnel, where more general aspects are told first and sentence-by-sentence, paragraph-by-paragraph the text should proceed onto narrower detail (see also Bem, 2003). The purpose of the article is expressed last in the introduction by describing the research problem. Please note that in most journals the introduction chapter does not include any results. As the abstract already includes the key results in a condensed form, the Introduction can be started in a more general manner. In our experience, a logical funnel is a practical way to build up a functioning introduction.





Start the Introduction with sentences that are adequately general, and simple enough to understand even for those who are not experts in exactly the same topic as you. This way different type of readers can position your article into previous research more easily. Aim to motivate the reader and help them understand why your research topic is important. Utilise published journal articles, preferably recent ones, to point out the importance of your research by highlighting how it relates to them. This will please editors who want the scientific discussion to occur in their own medium.

The research problem the article aims to address must be described at the end of the introduction. One recommended way to deepen the description is to use research questions or hypotheses. Research questions help the reader to perceive the content of your article and the author to structure his thoughts and writing. The reader may also use the research questions to reflect the reasoning while reading through the article. When using research questions, the author must remember that the questions can be changed or adjusted during the writing process. It is also imperative that the research questions and later results match in the final version of the article.

### **Theory / Literature review**

One can start writing the literature review by finding a few good articles, of which some are from the target journal, and maybe a few good books discussing your topic. Later on use these articles as a base and expand your literature review. Typically, finding one good article relevant to your research starts a chain reaction as some of the references in that article may also be relevant to your work. Write a summary of a few pages based on these articles and books. This will help in obtaining a relevant understanding of your research topic and will act later as a frame for the theoretical part of your article.

Write the theory to support the storyline of your article. Note that it is not customary to describe the development of your own understanding in an article, but describe what others have studied that is relevant to your topic. The purpose of a literature review is not to present all possible references, but to concentrate on those that are relevant for the focus of your article. The literature review will position your research in relation to previous literature; therefore cite articles on which your research is based. Aim to depict the state of research relevant to your article before your study. You can reflect your results against the previous literature in the discussion section of your article. Minimise self citations; only cite your own previous work if absolutely necessary.



When looking for references, do not chase terms but aim to understand what the true meaning of these articles are. It is important that you refer to some gurus in your field to show that you know the relevant scientific research. Additionally, it is important to refer to new journal articles to ensure the timeliness of your article. Minimise references that are not in English as reviewers cannot verify them.


It is wise to finalise the theory only after writing up the results of your article. This way you can once more search for related studies and can thus better focus the literature review to match your results.



## **Research method / process**

The article must describe your research, the set-up and research methods precisely. This way the reviewers can assess the scientific basis of your research and the justification of your results. In principle, the research method/process should be described so that another researcher can repeat the study. You must prove that the methodology you have chosen is robust and applicable for your study. Should you use research methods that are established in your field, it is enough to cite the methods and there is no need to describe these aspects in detail.

It is important to describe clearly how the research is done. If needed, you can visualise the research process. In addition, you can include more justification as appendices, if necessary (for example, in qualitative research the interview questions). In some fields, it is customary to discuss the reliability and validity of the research in the research method section.



## **Results and discussion**


Having completed the experimental research and having analysed the results, it is time to write up and summarise the results as well as the analysis. The experimental section of a journal article must concentrate on the actual analysis of the material, not on documenting the data. Note that this differs from writing for other purposes, such as writing a research report.

While analysing your results, think what the focus of your article will be. However, do not fix the focus of the article too early, but be flexible and open minded. If you realise that your results do not match your original idea, be prepared to re-focus. Let your key results define the article focus. In some cases you may even have a happy problem; you may end up having material for two separate articles.



Consider what the key results of your research are and present them clearly. Build the Results section of your article around these key results. Present your results in such an order that their logic is as easy for an outsider to understand as possible. Should you not have any better way to decide the order of presentation, use the funnel principle; from more general to more specific points. Remember to highlight the key results by using visual elements, such as lists, illustrations and tables. This way, anyone who quickly riffles through the article will focus on the key results and will automatically get a level of conception of your results.

You may include a Discussion section at the end of your results section to explain and contemplate the results. The discussion can either be a part of the Results section or a separate section of its own, whichever is in line with the practices of your target journal. Please note that the reader must be able to separate easily the research facts from the researcher's own thinking.



## Conclusions

The Conclusions section, alongside the Abstract and Introduction, is one of the core elements of a journal article. The Conclusions section can be written up by using the following structure (one paragraph each): □ Introduction □ Results (one paragraph for each research question) □ Significance of the research/practical implications, for example for the society, or business companies □ Limitations □ Recommended topics for further study

By using this type of structure, you can make it easier for readers to follow your thinking and enable understanding the core content without reading the entire article. It is important to include the practical implications of your research in the Conclusions chapter; discussing what the implications are for practitioners, companies, etc. Novice researchers tend to concentrate purely on the results and forget about the implications.

The Conclusions must be in line with the previous sections and should not present totally new results. The implications should, however, be discussed.



## Visual elements

By leafing through your article, a reader should be able to spot the main findings easily, as well as figure out how the research was conducted and locate any crucial definitions needed to understand your results.

Therefore it is vital that you highlight central aspects of your work by using visual elements. Visual aspects mean anything that differ from the basic text, i.e. figures, tables, listings. The purpose of using visual elements is to direct the readers' attention to key aspects. One should, however, be conservative in using visual elements excessively as their use may cause unwanted confusion. Also, the use of overly complex illustrations that are difficult for an outsider to perceive should be well justified.

Aim to highlight your own work, not others' work. The illustrations you use must be your own and should not have been published before. Try to distribute the visual elements evenly along your article. In an optimal situation these elements form a unified whole, just like a comic strip.

When using figures, tables and equations, you must introduce and discuss them in the main text. Aim also to name the figures, tables and equations in a descriptive manner so that the reader can understand them by reading the caption.





## **SUBMISSION AND REVIEW**

### **Polishing the article**

Too often authors ignore the importance of adequate internal reviewing and polishing of an article among colleagues before submitting it to a journal. Authors may believe that a reviewer, appointed by the journal, will see the excellence of their research, and they fail to understand that the article may contain ambiguities and explanatory gaps. These gaps are caused by the author knowing more than what is said in the text, which enables them to understand the omitted bits. Unfortunately, an outsider does not have exactly the same knowledge; it is only the aspects that are visible for a reader that exist. Consequently, careful review before submission is of great importance. A good co-author will help you in finalising the article.

Remember to follow precisely the format instructions of your target journal. There is no point in irritating the editors or reviewers with lousy finishing. Publishing is not a lucrative business, therefore, publishers are not keen to spend a lot of time and money for editing your article; it is your job!

Make sure your article has a solid storyline and is written in good English. Including fresh brains to read through the article just before submission can help in removing any unnecessary flaws. Remember to return the favour.

Do pay attention to transitions between sentences in order for the reader to easily understand the positioning of different sentences. It must be clear whether sentences are parallel, opposed, or have a logical continuum. Consequently, words such as in addition, also, however, nevertheless, or consequently can be used for this purpose. Having to pay attention to transitions may, however, not be an issue for native English speakers.

## What do reviewers look for?

Before submitting your article, it is wise to a) make sure you have selected a fitting target journal, b) you have carefully met your target journal's requirements for submission. It is also crucial c) to understand what the reviewer might be looking for when going through your article. Also, by screening out silly mistakes, you can increase your article's chances for publication.

In order to better understand the reviewers' perspective, you can think about the way you read an article that you have never seen before. At first, you may not proceed in a linear way. Instead, you probably scan the article for results and look around for an explanation. In addition, you may also start thinking about the meaning of terms that you do not recognise or cannot guess. All in all, one does not like hunting for the information.

A reviewer may be looking for an intellectual logical continuum or a plot-line by quickly browsing through your article. Typically, a reviewer will soon have an opinion whether the article is good enough. Therefore, your article should be constructed to be so clear that one can get a level of understanding without reading it word-for-word, even by browsing through the visual elements.



A reviewer may look whether it is easy to see what the researcher/s wished to find out, and whether these questions are well justified. Also, a reviewer may have a look to see whether the stated problem/s and research questions are actually answered.

Only if the beginning and the end match adequately, it is worthwhile for the reviewer to see if the research literature used presents convincing support arguments, and whether the literature cited is suitable.

Reviewers also pay attention to the section where you describe the utilised methods, and whether the methods are fitting and justified for your research. Also, the reviewer may be interested whether you understand the limitations of your research and have stated them clearly.

The quality of your text is also important: not only the grammar and punctuation, but how the story is told, which is ideally suitably straightforward and unambiguous without unnecessary jargon. The storyline should be built so that a reader can get something out of the text, even if they are not exactly specialists of the same field.

A good review is supportive, constructive and fair. A good reviewer identifies both the strengths and weaknesses of the article, and offers concrete suggestions for improvement. A good reviewer justifies the review conclusions. Reacting to reviewers' comments Scientific journal articles undergo a peer-review, which means that they are independently reviewed by two or more experts. These experts make a recommendation to the journal editor on acceptance or rejection. Quite often, even if later accepted for publication, some changes may be required, which can be minor or even major. In order to promote unbiased critique, typically peer-reviews are independent and blind, which means that the reviewers know neither the authors' identity, nor each other.



Typically, articles are not accepted for publication exactly in the same state as they are initially submitted, but reviewers require some changes. Obtaining critical comments is a good thing, which means that you have a chance for publication — this is the time for work and analysis! The feedback may initially seem harsh, however, do not get depressed. Be analytical and start working. It may be sensible to ask colleagues to join analysing the critique. You may be closer to acceptance than you first think. If you have chosen the right journal, you have good chances for publication, once you take the effort and react to the given feedback.



**Thank you  
for attention!**

