

# Title: **Article writing tips and structure**

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**Abstract:** Scientific writing is an extensive task (*problem presentation*). However, it is usually left unattended and overseen by scientists wishing to publish their research findings (*unsolved issues*). In this work, I am providing a minimum set of writing rules and text structure for the researcher wishing to produce an article that is clear and easy to read (*main conclusion/results from work*). Given that scientific writing is needed in many disciplines within Science, my set of writing rules and text structure are expected to aid the researchers seeking to improve the presentation of their results (*discussion/perspectives and broad view-point*).

*(The following bold-section-titles must be included, unless the article is a letter and the distinction between them is clear from the text itself. In any case, these sections are present in any scientific article, with or without the explicit appearance of each title. Subsection titles can also be included, and when dealing with various results/topics, it also helps to improve the overall readability and structure of the article. From here on I focus on the structural contents of each section, and pay less attention to the way they are presented, namely, the form. However, these sections should be written similarly and with the same form as the contents shown in italic in the Abstract)*

## **INTRODUCTION**

The introduction structure should contain the same content as in the Abstract's first and second sentence, only that now they are turned into a whole paragraph. Specifically, the Introduction section should be written keeping in mind the following contents: a paragraph contextualizing the problem (i.e., the big picture, namely, the general topic under which your research falls into), a paragraph with the things that have been solved within the topic and the ones that are yet to be solved (i.e., establishing the link to your research question/problem), a paragraph stating the things that are presently tackled in the article with the main solution/conclusion (i.e., what the authors have done that was yet to be done or known), a final paragraph with secondary results, or perspectives, or simply stating how the article is going to be organized (e.g., when the article is long and contains several subsections, this paragraph can help the reader to locate each part within the article, similarly to what an index does for a book). Also, I note that the Introduction is usually the section carrying most of the reference citations [1-3,5], since it needs to contextualize the problem and the work.

As a general rule of form, one can think that each paragraph needs to be self-explanatory and self-contained when possible. Keeping this in mind, it is advised that the writer think of a title sentence for each paragraph. Hence, the reading is also aided because one can skip through paragraphs by only looking for these highlighted sentences within each paragraph. Following this logic, this paragraph has the main sentence located in the first line. However, the next paragraph's most important sentence is the second one. (*This last sentence links this paragraph to the next, which is also desirable when writing articles*)

"In this work, ..." or "Here, ...", are typically the starters for the third paragraph (or forth paragraph if the previous one has been divided into two paragraphs because they were too long). This is the most important paragraph of the article, because it contains the novel results/conclusions of the work being presented. Contrary to previous paragraphs, this paragraph is devoted to the article at hand and not to previous works.

The article is organized as follows. The first section deals with... (*Final paragraph, which can often be discarded.* )

## METHODS+MODEL+DATA

This section is devoted to present the techniques that were used in the most concise and simple way possible. The aim of the section is to create reliability from the results, namely, to present a work that is reproducible. In other words, with the methods and model/data used, other researcher will be able to reproduce the results that are presented in the following section without surprises. This section should avoid being a recapitulation of known techniques. Such techniques can always be cited and only stated. More importantly is to focus on the particularities used in the work and the relevant concepts.

### a) Model/Data

In the case where a model or data was used, here is the place to specify its details and explain the reason for choosing it.

### b) Methods

Here, you can enumerate the techniques used, always keeping in mind that this section should be shorter than the Introduction, or at least, shorter than the Results section. For example, and in the present case, Fig. 1 presents a set of rules from English language that we must abide regardless of our work. This means that figures, tables, formulas and other things that can be presented under this section are not a direct result from your work, but they still form part of it and are useful to be able to derive what is coming in the Results section.



**Figure 1** – The graph above shows one of the most difficult grammatical features of English language, the correct use of the prepositions of place: in, on, and at. From YouTube: “[Prepositions Made Easy: In, On, and At \(Inverted Pyramid\)](#)”.

## RESULTS AND DISCUSSION

In this section, you can present your results and discuss why they matter and how do they fit into the broader context. Sometimes, it is easier to separate this section into 2. One for the results, where you highlight what are the relevant parts, and another section for the discussion, where you discuss the limitations in your methodology and results, explain how they compare to other reported cases, and what can be done in the future.

In particular, keep in mind that figures create impact to the reader, increase visibility, and are able to transmit more results than the text since they compact several lines under a simple drawing, table, or graph. In this sense, the text will help the reader to focus on the important points that are shown in the results presented in a figure. For example, this work's results are presented in Fig. 2, which are a set of tips or guidelines that the reader can follow. In particular, the seventh row in Fig. 2 states that the commonly used passive voice should be avoided. Instead, write in a way to always address the reader directly, such as the one I have been using in this article. The reason is that using a direct language increases the impact of your work by engaging the reader – an engaged reader is

less likely to stop reading.

I highlight that, following the set-of-rules shown in Fig. 2 creates a writing-style that maximizes impact and assertiveness. In addition to the tips from Fig. 2, we must try to avoid the use of fancy words. Scientific writing is not about getting your reader to know how much English you know, but showing him what matters about your results and conclusions. Hence, always try using plain and simple words.



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## **Ten writing tips and the psychology behind them**

Tip	Why it matters	Why you fail	How to fix
Write shorter.	Readers are impatient.	You just keep typing; it's easier than editing.	Edit out extraneous text.
Shorten your sentences.	Long sentences puzzle readers.	You tack on ideas as you're writing.	Break into shorter sentences.
Rewrite passive voice.	Passive hides true meaning.	You're insecure about what you're saying.	Make the actor the sentence's subject.
Eliminate weasel words.	Weasel words make statements wimpy.	You're afraid to be bold.	Cut weasel words; if you can't, cut the sentence.
Replace jargon with clarity.	Jargon makes readers feel stupid.	You think jargon sounds sophisticated.	Replace with plain English.
Cite numbers effectively.	Stats back up your point.	You think any number adds credibility.	Include both context and source for stats.
Use "I," "we," and "you."	Pronouns invite the reader to relate.	You're afraid of sounding informal.	Imagine the reader; write directly to her.
Move key insights up.	Bold statements retain attention.	You feel the need to "warm up" first.	Write bold openers; rewrite with each draft.
Cite examples.	Text without examples is boring.	You're too busy to do the research.	Plan to spend half your time on research.
Give us some signposts.	Readers want to know what's coming.	You're afraid of sounding pedantic.	After stating thesis, explain what's coming.

**Figure 2** – The table above presents a brief list with the top writing tips, the reason behind them, the common problem when putting them in action, and how to solve these problems in order to apply the tip. From Josh Bernoff at <https://withoutbullshit.com/blog/10-top-writing-tips-psychology/>.

## **CONCLUSIONS AND PERSPECTIVES**

This section should be treated as a separate section from the results or discussion sections. Moreover, it should not be a brief enumeration of previous statements. Instead, try putting your results in the bigger picture, namely, going back to where you started in the Introduction. In other words, conclusions are meant to answer: what does your work do for others? And, how does it fit into the context of previous works or unexplained scenarios?

## **ACKNOWLEDGMENTS**

In case of grants or colleagues assistance, here goes a brief set of lines to acknowledge their help. More importantly, here goes the enumeration of institutions/grants that funded your research.

## REFERENCES

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