

How to Write a Scientific Abstract

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Scientific publications are an important source of information and knowledge in Academics, Research and development. When articles are submitted for publication, the 1st part that comes across and causes an impact on the minds of the readers is the abstract. It is a concise summary of the paper and must convey the right message. It is a quick overview of the entire paper and giving a gist of the paper and also gives us and insight into whether the paper fulfills the expectations of the reader.

Abstracts are significant parts of academic assignments and research papers. The abstract is written at the end and by this time, the author has a clear picture regarding the findings and conclusions and hence the right message can be put forward.

Types of Scientific Abstracts [1]

1. Descriptive
2. Informative
3. Structured
4. Semi-structured
5. Non structured

Descriptive Abstracts

This type of abstract is usually very short (50–100 words). Most descriptive abstracts have certain key parts in common. They are:

- Background

- Purpose
- Particular interest/focus of paper
- Overview of contents (not always included)

These abstracts are inconvenient in that, *by not including a detailed presentation of the results, it is necessary to have access to the complete article*; they may present the results via a phrase synthesizing them, without contributing numerical or statistical data. Ultimately, these guide readers on the nature of the contents of the article, but it is necessary to read the whole manuscript to know further details [1].

Informative Abstracts

From these abstracts, you must get the essence of what your report is about, usually in about 200 words. Most informative abstracts also have key parts in common. Each of these parts might consist of 1–2 sentences. The parts include:

- Background
- Aim or purpose of research
- Method used
- Findings/results
- Conclusion

The abstracts provide accurate data on the contents of the work, especially on the results section. Informative abstracts are short scientific productions, *since they follow the IMRaD structure [2] and can in fact replace the whole text, because readers extract from these the most valuable information and in many instances it is not necessary to read the complete text.*

Recommendations by the CONSORT [3] declaration, in its adaptation for abstracts, offer a guide for the elaboration of an abstract of a clinical trial in structured and informative manner, using up to 400 words and briefly including

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the Title, Methods (participants, interventions, objective, outcomes, randomization, blind tests), Results (number of randomizations, recruitment, number of analyses, outcome, important adverse effects), and Conclusions, registry of the clinical trial and conflict of interests.

Structured Abstracts

A structured abstract has a *paragraph for each section: Introduction, Materials and Methods, Results, and Conclusion* (it may even include paragraphs for the objectives or other sections). This type of presentation is often required for informative abstracts. The CONSORT [3] declaration suggests the presentation of *clinical trials with structured abstracts*. Structuring an abstract permits its informative development

Semi-structured Abstract

A semi-structured abstract *is written in only one paragraph, where each sentence corresponds to a section*. All the sections of the article are present as in the structured abstract [1].

Non-structured Abstract

When the abstract *does not present divisions between each section*, and it may not even present any of them, it is a non-structured abstract. The sentences are included in a sole paragraph. This type of presentation is *ideal for descriptive abstracts* [1].

Key Steps to Plan Writing an Abstract [4]

1. Introduction—what is the topic?
2. Statement of purpose?
3. Summarize why have other studies not tackled similar research questions?
4. How has the research question been tackled?
5. How was the research done?
6. What is the key impact of the research?

Errors in the Creation of an Abstract [1]

1. The abstract of an article should contribute to readers the most relevant aspects of each part of the whole manuscript, maintaining a balance between excessive detail and a vague contribution of information.

2. The abstract should be written by adequately selecting the words and sentences to accomplish coherent, clear, and concise contents.
3. A common defect is including adequate information like abbreviations, excessive acronyms, bibliographic references, or figures.
4. The length of an abstract will be determined by the instructions to authors by each journal; an excessively lengthy abstract is the most frequent error.
5. Sections should maintain coherence and order and that the conclusions must be substantiated by the results revealed and respond to the objectives proposed.
6. Frequently, abstracts have poorly defined objectives, excessive numerical data and statistical results, and conclusions not based on results presented.

Conclusion

In short, a good abstract is one that:

- Is coherent and concise
- Covers all the essential academic elements of the full-length paper
- Contains no information not included in the paper;
- Is written in plain English and is understandable to a wider audience and discipline-specific audience;
- Uses passive structures in order to report on findings
- Uses the language of the original paper, in a more simplified form
- Usually does not include any referencing; and
- In publications such as journals, it is found at the beginning of the text, but in academic assignments, it is placed on a separate preliminary page.

A good abstract usually ensures a good article, but a bad abstract often points towards an undesirable article. Scientific abstracts are a challenge to write and for the success of our publications, careful and planned writing of the abstract is absolutely essential.

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