Writing scientific abstracts

Why is the abstract important?

The abstract is important as it may be the only part of your paper someone reads. As this also includes journal editors and reviewers, a poor abstract may stop your paper from being published. The abstract is where you make your first impression. You want to make sure it's a good one!

Readers often use the abstract to decide if a paper is of interest to them and whether reading the whole paper is worth their time. The abstract also gives clues about the paper's quality. People assume that if the abstract is badly written, the paper will also be badly written. These two factors mean many people don't read beyond the abstract. A study conducted by a journal database found that full paper downloads were around only 10% of abstract views.

If other researchers aren't reading your paper, it's unlikely they are citing it. This means you are reaching fewer people and the spread and impact of your work is minimized. In general, a better abstract means more downloads, which means more citations.

What are the characteristics of a good abstract?

Most simply, a good abstract will answer these four questions:

- Why did you carry out the study?
- What did you do, and how?
- What did you find?
- What are the significance and potential impacts of your findings?

There are several rules and characteristics of a well-written abstract:

- Makes sense on its own, without needing to read the paper.
- Follows the journal's format exactly, including the word count.
- Follows the order of the main text.
- Doesn't contain new or extra information that is not in the paper.
- Doesn't refer to tables or figures.
- Doesn't include references.
- Only includes conclusions that are related to the results in the abstract.
- Only has abbreviations when really necessary and includes definitions of all abbreviations.
- Includes estimation statistics such as confidence intervals and p-values for results.
- Avoids general statements such as "more research is needed".

Structure

The structure of your abstract must conform to the journal guidelines. However, a general outline is shown below.

Opening 2-3 sentences

The first few sentences should describe the issue covered in your paper. They should get the readers' attention and show why the topic is important. For example, if your study concerns malaria, you can begin with its impacts: prevalence, mortality, morbidity, and its socio-economic impact.

Next 1-2 sentences

In these sentences, briefly and simply describe your method. The reader wants to be sure your methodology is appropriate. If your method is innovative (either completely new or an established method used a new way), give a more detailed description.

Next 3-5 sentences

These are about your results. State them clearly and concisely with estimation statistics. Emphasize those that were statistically significant or unexpected.

Final 2-3 sentences

These are often the most important. This where you put the conclusion of your study and the conclusion is where you answer the "so what?" question. You need to succinctly explain what your study means to the wider world and what impact it is likely to have.

Dealing with the word count

Abstracts often have much stricter word limits that other parts of the paper. Sticking to the word count can sometimes be difficult, but you must do it. The methods below can help you reach the limit.

- Remove preliminaries – e.g. ~~'This paper discusses three issues…'~~ 'In ~~the present study…~~'
- Replace phrasal verbs with single verbs – e.g. don't use 'carry out', use 'perform' or 'conduct'
- Find one-word synonyms – e.g. use 'unsatisfied' instead of 'not satisfied'
- Delete repeated information – e.g. first time 'Tak Province, Thailand', all other times 'Tak Province~~, Thailand'~~
- Remove words that don't add to the meaning of the sentence – e.g. '~~Basically~~ the cohort was divided…

Quick Tips

- Always check the journal guidelines – know the structure and word count they require.
- Write the abstract last, after everything else is finished – it should be based on the whole paper.
- Pay extra attention to editing and proofreading the abstract – you want to make a good first impression.
- Ask someone who is not involved in the paper to read the abstract – it should make sense to them.

More info

"How to write a good abstract for a scientific paper or conference presentation"
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3136027/

"Writing Scientific Abstracts"
http://www.vanderbilt.edu/vicb/CBI/Presentations/Writing_Scientific_Abstracts.pdf

"How to... write an abstract"
http://www.emeraldgrouppublishing.com/authors/guides/write/abstracts.htm?part=1&#2

"The Abstract"
http://www.writing.utoronto.ca/advice/specific-types-of-writing/abstract

"Avoiding six common mistakes"
http://www.kmk-how-to-write.com/how-to-write-an-abstract.html

If you have any questions about this guide or would like to suggest other topics for our Learning Center please email mahidol.tropmed@gmail.com

Published July 2017