

Abstracts

Abstracts are called ‘**summaries**’ by some journals, though strictly speaking the terms are not exactly the same.

- A summary restates the main findings and conclusions of a paper and is written for people who have already read the whole thing.
- An abstract is a shortened version of the paper written for people who may never read the full version. Since abstracts are often reprinted in abstracting journals separated from the original paper, they need to be self-explanatory.

An abstract normally appears in the beginning of a thesis or dissertation and at the top of the page in front of the actual paper it outlines. The purpose is to inform readers as concisely as possible what is in the article so that they can decide whether to read it in detail.

According to Professor Lilleyman (Hall, 1998) an abstract should reveal:

- “**why what was done was done**
- **what was done**
- **what was found**
- **what was concluded”**

And . . . the abstract must be “**the most highly polished part of the paper.**”

His rules:

- **Include no lines that will appear again in the Introduction.**
- **Avoid minor aspects of Methods.**
- **Never end an abstract with the vague, useless line: “the findings are discussed.”**
- **Do include confidence intervals (CI) and P-values.**

Abstracts must stand alone and be clearly understandable without the text.

Always obey length-restrictions; 250 words. Write 600 words and **shrink it by use of**

Process Writing. If the journal instead provides a box to fill, prefer short words!

Abbreviations in abstracts

These must be **few**, and **each full term plus abbreviation goes into the abstract. Write it out again when it first appears in the Introduction or later.**

Never abbreviate.

What types of abstracts are there?

There are two kinds of abstract –

- ✚ **Descriptive abstract:** this provides a kind of ‘contents list’ of what will be in the paper; what the writer will deal with or attempt to prove in the article, rather than a synopsis of the actual results. Since it contains general statements, it is more appropriate for longer papers, such as review articles, and can be written before the paper itself is drafted.
- ✚ **Informative abstract:** this does not simply describe what will be in the paper, but also gives a summary of the main factual information, such as your methods and materials, results and conclusions. This type of abstract is more suited to papers or reports about original research. It is usually better to write an informative abstract when the writing of the complete paper is finished.

Should I write a descriptive abstract or an informative abstract?

Your supervisor or your journal editor will guide you on this point. Normally, when writing up research, the informative abstract is better since you give the reader factual information as well

as your main opinions. In some circumstances, the descriptive abstract is preferred, e.g. if you are working in a controversial area and have results that you do not want to reveal until the reader has read the whole paper. Abstracts can also be a mixture of both descriptive and informative elements.

How long should an abstract be?

There is no fixed length. It is important to write enough for what the reader needs to know rather than summarising everything in the paper. A typical length is between 100 and 250 words, or between 5% and 10% of the original.

What should an informative abstract contain?

The informative abstract will contain a selection of these elements, depending on how you perceive the reader's needs

- ✚ an expansion or explanation of the title
- ✚ the purpose of the research
- ✚ how the research was conducted
- ✚ what the main findings were
- ✚ what the findings mean
- ✚ what recommendations can be made, e.g. for further research
- ✚ what the limitations of the research were

Normally you would NOT include in your abstract

- ✚ any information that is not in the paper itself
- ✚ tables and diagrams
- ✚ citations from other people's work

How is an abstract structured?

Rather than following the sequence of sections in the paper itself, it is often a good idea in an abstract to put the most significant ideas first, whether it be the method, the results, your recommendations, or whatever. In this way, readers who are short of time will at least know your main point even if they only read the first sentence.

Is there any difference in style between a descriptive and an informative abstract?

Both types of abstract must communicate ideas effectively, preferably with direct, active statements in short, simple sentences. There can be a difference in the use of verb tenses:

- ✚ use the present tense when you make general statements of fact, or say what your paper does (as in a descriptive abstract)

- ✚ use the past tense when you explain what you actually did or found out in your piece of research (as in an informative abstract)

The descriptive abstract will make more use of generalised vocabulary and phrases, while the informative abstract will have more precise, specific language, including numbers.

What are 'keywords'?

These are the most important words in your work that are specifically related to your topic.

Your editor may want you to identify these so that they can be printed at the end of the abstract (or sometimes after the title in the journal's contents list).

Example abstracts

Abstract A

An Overview of Rotating Stall and Surge Control for Axial Flow Compressors.

Modeling and control for axial flow compression systems have received great attention in recent years. The objectives are to suppress rotating stall and surge, to extend the stable operating range of the compressor system, and to enlarge domains of attraction of stable equilibria using feedback control methods. The success of this research field will significantly improve compressor performance and thus future aeroengine performance. This paper surveys the research literature and summarizes the major developments in this active research field, focusing on the modeling and control perspectives to rotating stall and surge for axial flow compressors.

Keywords: axial flow compressor, rotating stall, surge

Gu G., Sparks A. & Banda S. IEEE Transactions on Control Systems Technology Vol 7 No 6
November 1999 p. 639-647.

Points to note

✚ **Purpose:** Abstract A is a descriptive abstract: it tells you what the writers do in the article, but not their actual ideas.

✚ **Structure:** ‘A’ begins with an explanation of the research field, its aims and the potential outcome of the research; it goes on to state the authors’ intention of surveying the research literature and summarising major developments.

✚ **Language use:**

* It uses only present tenses (including present perfect and will future).

* It contains generalised academic phrases, e.g. have received great attention, the objectives are to..., this paper surveys ...and summarises, focusing on

* Both abstracts use extended sentences in order to condense information. In 'A' we have The objectives are to ..., to ..., and to

Abstract B

CD46 is a Cellular Receptor for Human Herpesvirus 6

Human herpesvirus 6 (HHV-6) is the etiologic agent of exanthum subitum, causes opportunistic infections in immunocompromised patients, and has been implicated in multiple sclerosis and in the progression of AIDS. Here, we show that the two major HHV-6 subgroups (A and B) use human CD46 as a cellular receptor. Downregulation of surface CD46 was documented during the course of HHV-6 infection. Both acute infection and cell fusion mediated by HHV-6 were specifically inhibited by a monoclonal antibody to CD46; fusion was also blocked by soluble CD46. Nonhuman cells that were resistant to HHV-6 fusion and entry became susceptible upon expression of recombinant human CD46. The use of a ubiquitous immunoregulatory receptor opens novel perspectives for understanding the tropism and pathogenicity of HHV-6.

Santoro F., Kennedy P., Locatelli G., Maluati M., Berger E., Lusso P. Cell Vol 99 No 7 December 23, 1999

Points to note

- ✚ **Purpose:** Abstract B is an informative abstract: it contains details of what was investigated, what the findings were and what might happen in the future.
- ✚ **Structure:** 'B' first defines HHV-6 and explains its importance; it gives the purpose of the research (we show that ...), the method (Downregulation ...) and the results; it concludes with a statement of future prospects as a result of the research.
- ✚ **Language use:**

* It uses present tenses for general statements and explanation of what the paper does.

- * It uses past tenses to describe the procedure and results of the research.
- * It contains a greater density of technical, topic-related terms than the descriptive abstract, together with specific verbs to describe precisely what happened in the research (inhibited, blocked, etc.).
- * Note the use of the passive when describing the research.
- * It also uses extended sentences in order to condense information. For example, the first sentence is Human Herpesvirus 6 is ..., causes ..., and has been

Points to check in your own writing

- + Do you need to write an informative or a descriptive abstract?
- + Does your abstract give the reader a clear, straightforward idea of what your research is about?
- + Does it contain the right amount and the right kind of information (depending on what type it is)?
- + Is it the right length?

Structured Abstracts

Many target journals require **structured abstracts with subheadings** for each section. These **help the author to structure** the abstract so that it **maintains the most logical order** and **omits nothing**. I thus suggest that you write every abstract with subheadings. Which does your target journal require? If it wants unstructured abstracts, remove subheads and make into complete sentences the incomplete sentences that most structured abstracts allow in order to save space. Popular **subheadings** include

- + **Background** “Incidence of X has been rapidly rising in Nordic countries—”
- + **or Hypothesis tested** “This study tested whether X correlateS with latitude.”

or Objective / Aim “Our aim was to compare X incidence above and below 60 degrees north latitude.”

- + Study design and setting
- + Samples / Subjects
- + Methods / Interventions
- + Measurements, Statistics, P values, CIs, SDs
- + Results
- + Conclusions
- + Implications (answering “So what?”)

Points to check in your own writing

- + Do you need to write an informative or a descriptive abstract?
- + Does your abstract give the reader a clear, straightforward idea of what your research is about?
- + Does it contain the right amount and the right kind of information (depending on what type it is)?
- + Is it the right length?