

HONORS COLLEGE GUIDE TO WRITING AN ABSTRACT

PURPOSE

For conference papers, research papers, theses and dissertations, you will almost always be asked to write an abstract. The main point to remember is that it must be short, because it should give a summary of your research. In fact, not only are abstracts short, they must almost always be a certain, specified length. You must find out how long your abstract should be and strive to come close to - but not go over - this limit. Abstracts that exceed the maximum word limit are often rejected because they cannot be used for databases, summaries of conferences, etc.

An abstract should briefly provide the:

1. **Purpose:** the research problem and/or main objective of the research
2. **Methodology:** the technique(s) utilized
3. **Results:** the main findings of the research
4. **Conclusions:** the major implications of the results

Obviously if you only have 150 words, you can only cover each of these areas briefly. The emphasis is generally on the main findings and main conclusions since these areas are of most interest to readers.

COMMON PROBLEMS

Too long: If your abstract is too long, it may be rejected. Abstracts are entered into databases and there are usually a specified maximum number of words allowed. Abstracts are often too long because people forget to use word count.

Too much detail: Abstracts that are too long may also contain unnecessary details. The abstract is not the place for detailed explanations of methodology or for details about the context of your research problem because you simply do not have the space to present anything but the main points of your research.

Too short: Shorter is not necessarily better. If your word limit is 150 but you only write 80 words, you probably have not written in sufficient detail. You should review your abstract and see where you could provide more useful clarifications. Remember that in many cases, readers decide whether to read the rest of your research from looking at the abstract. Frequently, writers do not give sufficient information about their findings.

Failure to include important information: Be sure to cover the points listed above. Often writers do not cover all of them because they spend too long explaining a particular aspect, such as the methodology, and then do not have enough space to present their conclusions.

ABSTRACT EXAMPLES

Here is an abstract from a published paper. It is 220 words long. Read through it, specifically looking for the main purpose of each sentence (for example, presenting the research problem or objective, the methodology, results, and the conclusion).

ABSTRACT

Major problems of the arid region are transportation of agricultural products and losses due to spoilage of the products, especially in summer. This work presents the performance of a solar drying system consisting of an air heater and a dryer chamber connected to a greenhouse. The drying system is designed to dry a variety of agricultural products. The effect of air mass flow rate on the drying process is studied. Composite pebbles, which are constructed from cement and sand, are used to store energy for night operation. The pebbles are placed at the bottom of the drying chamber and are charged during the drying process itself. A separate test is done using a simulator, a packed bed storage unit, to find the thermal characteristics of the pebbles during charging and discharging modes with time. Accordingly, the packed bed is analyzed using a heat transfer model with finite difference technique described before and during the charging and discharging processes. Graphs are presented that depict the thermal characteristics and performance of the pebble beds and the drying patterns of different agricultural products. The results show that the amount of energy stored in the pebbles depends on the air mass flow rate, the inlet air temperature, and the properties of the storage materials. The composite pebbles can be used efficiently as storing media.

Helwa, N. H. and Abdel Rehim, Z. S. (1997). Experimental Study of the Performance of Solar Dryers with Pebble Beds. *Energy Sources*, 19, 579-591.

Here is a second abstract from a published paper. It is 162 words long. Again, read through it and specifically look for the main purpose of each sentence (for example, presenting the research problem or objective, the methodology, results, and the conclusion).

ABSTRACT

The long-term performance of various systems was determined and the economic aspects of solar hot water production were investigated in this work. The effect of the collector inclination angle, collector area and storage volume was examined for all systems, and various climatic conditions and their payback period was calculated. It was found that the collector inclination angle does not have a significant effect on system performance. Large collector areas have a diminishing effect on the system's overall efficiency. The increase in storage volume has a detrimental effect for small daily load volumes, but a beneficial one when there is a large daily consumption. Solar energy was found to be truly competitive when the conventional fuel being substituted is electricity, and it should not replace diesel oil on pure economic grounds. Large daily load volumes and large collector areas are in general associated with shorter payback periods. Overall, the systems are oversized and are economically suitable for large daily hot water load volumes.

Haralambopoulos, D., Paparsenost, G. F., and Kovras, H. (1997) Assessing the Economic Aspects of Solar Hot Water Production in Greece. *Renewable Energy*, 11, 153-167.
