How to Write a Successful Scientific Manuscript

Author
Enago Academy

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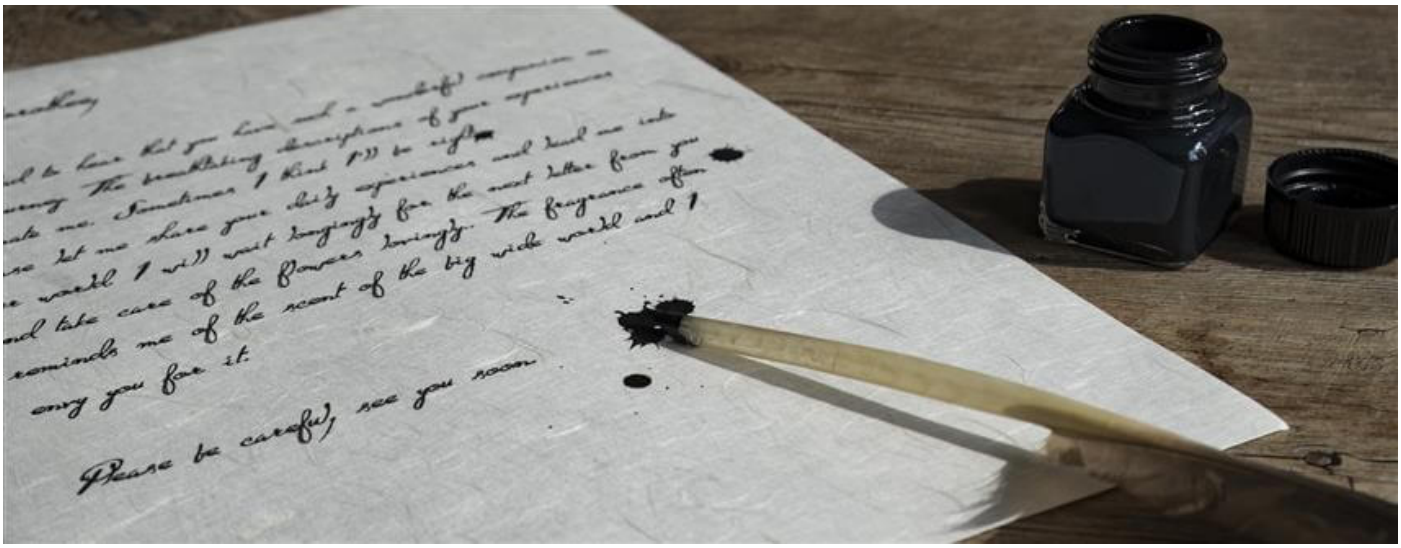

Writing a scientific manuscript is an endeavor that challenges the best minds, yet it is very rewarding once the body of work comes to fruition. Researchers carefully draft manuscripts allowing them to share their original ideas and new discoveries with the scientific community as well as to the general population. A significant amount of time and effort is spent during the investigative stages conducting the required research before it is released into the public domain. Therefore, the manuscript drafted to present this research must be thorough, logically presented, and factual. Scientific manuscripts must adhere to a specific language and format to communicate the results to the scientific community whilst adhering to ethical guidelines. When completed the final written product will allow colleagues to debate and reflect on the newly minted work embedded in the manuscript.

Organization

Scientific manuscripts are organized in a logical format, which fits specific criteria as determined by the scientific community. This methodology has been standardized in journals which communicate information to those in the field being discussed. Since the researcher has a storyline he or she is trying to transmit, it must be clear and upfront on

the exact question and or problem that his research answers. Readers of the manuscript will be energized to review this work when its content is spelled out early in the paper. A well-written manuscript has the following components included: a clear title, abstract, introductory paragraph, methods and materials section, discussion of results, conclusion and a list of references. Each component of a journal article should follow a logical sequence, which members of the science community have become accustomed.

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Structural Contents

Title or Heading

Titles are extremely important. A crisp detailed title is the first element an audience notices when encountering your manuscript. The significance of a title cannot be overstated in that it introduces your reader to the subject matter you intend to discuss in the next thousand or more words. A poorly formatted title could dissuade a potential reader from delving into your manuscript further. In addition, your paper is indexed in a certain manner, which search engine algorithms will track. To rise to the top of the search index, keywords should be emphasized. Thinking of the right title could determine the size of your audience and the eventual success of your work.

Abstract

Abstracts are abbreviated versions of your manuscript. Contained within the abstract's structure should be the major premise of your research and the questions you seek to answer. Also included in the context of the abstract is a brief summary of the methods taken to achieve your goals along with a short version of the results. The abstract may be the only part of the paper read, therefore, it should be considered a concise version of your complete manuscript.

Introduction

The Introduction amplifies certain aspects of the abstract. Within the body of the introduction, the rationale for the research is revealed. Background material is supplied indicating why the research performed is important along with the direction the research took. A brief summary (in a few sentences) discussing the technical aspects of the experimental approach utilized to reach the article's stated conclusions is included here. Written well the introduction will influence readers to delve further into the body of the paper.

Methodology and Materials

In this section, the technical aspects of the research are described extensively. Clarity in this part of the manuscript is mandatory. Fellow researchers will glean from this section the methods and materials you utilized either to validate your work, reproduce it, and/or develop the concepts further. Detailed protocols are presented here, similar to a road map, explaining the experiments performed, agents or technologies used, and any biology involved. Statistical analysis and tests should be presented here. Do not approximate anything in this part of the manuscript. Suspicion may be cast in your direction questioning the validity of the research if too many approximations are detected.

Discussion of Results

This part of the manuscript may be considered its core. Elaboration on data generated, utilizing tables and graphs, communicating the essence of the research and the outcomes they generate. Once the results are given a lengthy discussion, it should follow by including the interpretation of data, implications of these findings, and potential future research to follow. Ambiguous findings and current controversies in this type of research should be analyzed and examined in this section.

Conclusions

This is the endpoint in the manuscript. Conclusions are written in a concise manner utilizing words not numbers. Information conveyed in this section should only be taken from the research performed. Do not place your references here. Full and complete interpretation of your findings in this part of the manuscript is imperative. Clarity of thought is also essential because misinterpretation of the results is always a possibility. Comparisons to similar work in your field may be discussed here. Absolutely avoid interpretation of your results that cannot be justified by the work performed.

References

Every journal has submission requirements. Journal guidelines should be followed for proper authentication of references. There exist several formats for reference creation. Familiarize yourself with them. In addition, the sequence of references listed should be in the order in which they appear in the research paper. A number, usually in parenthesis, follows the sentence where they are noted.

Production of a scientific manuscript is a necessity to introduce your research to a wide audience. The complexity of the research and the results generated must be written in a manner that is clear and concise, follows the current journal formats, and is verifiable. The guidelines embedded in this paper will help the researcher place his work in the best light possible. Never write anything that cannot be justified by the research performed. With these simple rules in mind, your scientific manuscript will be a success.

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