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Writing A Scientific Paper. Basic Rules And Principles

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Abstract
Writing a scientific paper is not an easy task. From the first idea to the structure of the work, then to writing it is actually a real challenge for the author.
The present work deals with the goal of how to write a scientific paper without any problems and what are the basic rules or principles that should be respected in every phase.

Keywords: scientific paper, methodology, academic language, writing Process.

1. Introduction

Writing a scientific paper is one of the serious tasks of a researcher or an author.
From the title page, list of abbreviations, table of contents, introduction to the structure of the theoretical and practical parts, the summary, bibliography to the appendix. Each category of these outline points of a scientific paper offers more reflexes, efforts and wealth of literature sources and materials for theory and practice.
The outline points of an introduction are the basic principles of the research or the calling card of the scientific work.
Starting with topic selection and goal, main question, hypothesis, current status of research, methods and structure of the work.

2. Scientific Writing Meaning

Scientific writing includes a focus on a specific topic in this regard, the author should use different sources, be it books, book chapters, scientific papers, online works etc. The most important quotations and citations and the methodology should be respected as best as possible. In this context I refer to the following:
The term scientific writing commonly denotes the reporting of original research in journals through scientific papers that follow a standard format. In its broader sense, scientific writing also includes communication about science through other types of journal articles, such as review papers summarizing and integrating previously published research.
And in a still broader sense, it includes other types of professional communication by scientists- for example; grant proposals, oral presentations, and poster presentations-

Related endeavors include writing about science for the public, sometimes called science writing. GASTEL/ DAY (2022, P. 3)

2.1 writing the introduction

In Writing your introduction, as well as the body of your papers, it is essential to place your work in context, not only by explaining what you did and why but also by citing the relevant literature. This is important, not only to provide your readers with a way of understanding your area of research, but also because your scientific colleagues are very eager to get credit for their achievements. (This is not just vanity. Scientists' careers are built on the perceived importance or usefulness of their research results.) You have much to gain the little to lose by scrupulously citing your competitor's work. I said above that many busy scientists read the introduction and conclusion sections of papers. Even more move directly from the title and abstract to the references, to see if their work is cited. If someone's papers are not mentioned there but should be, you risk losing a potential friend or at least some respect. FEIBELMAN (2011, P. 62)

Writing an introduction should respect certain outline points. Topic selection and goal, the main question, the hypothesis, current status of the research, methods and structure of the work.

References to some scientific master's or doctoral theses as well as publications that have already explained the selected topic are desirable.

The author should provide an overview of the theory and practice as well as the selected method of the entire work, be it descriptive, analytical, contrastive etc.

The reference to practice is also of great importance; in this context you can do surveys, interviews, audio recordings, analysis of textbooks or internships. The selection of research methods and techniques depends on each topic.

2.2 Testing hypotheses

When readers turn to the methods section, they look for more than what was done. The methods section should answer the question 'who, what, why, when and where'.

Even more important, it should state the hypothesis that was tested- for example, that a treatment has a particular effect, such as increased survival of improved outcome. Traditionally, statistical testing supposes that the treatment has no effect (the null hypothesis) and then express how probability would be small (much less than 1, which is complete certainly). We state how small this probability (P. value) has to be to disprove the null hypothesis. This is the 'mission statement' of the study. HALL (2013, P. 16)

The hypothesis is very important in a scientific work because it is a partial answer to the main question posed.

It is important to note that the answer to the main question should be presented in the form of arguments, for example evidence from scientific publications that consolidate our answers.

2.3 General academic language

General academic Language Signals membership of the general academic Community: ´ in principle, via, much the same, infer, there is evidence of such, paucity' , Note how specific claims about inferring handedness via specific methods are supported by references, while a broad statement about lack of suitable fossil material is not supported by a reference. Within this research community, the lack of suitable fossil materials is a generally agreed truth which does not require a supporting reference, the authors have already demonstrated their membership of this research community via their familiarity with its literature and technical terms, so can make the broad statement without a supporting reference. Writing for a different research community, a supporting statement might well be needed (for instance, if the different research community had not reached a consensus about the lack of suitable fossil remains, or was completely unaware of issue). RUGG/ PETRE (2004, P. 114, 115)

2.4 Choosing a Methodology

Issues of methodology should be issues of strategy and not of moral value. The choice of a research strategy to be employed should result from a careful examination of the most meaningful and useful method(s) to the desired outcomes of the study.

All strategies should be explored as alternatives early in your dissertation process, especially those involving your comitee member's preferences and your college or school's preference and track record. Quantitative research can not always answer the question of why. Qualitative research can not always answer the question what. Using both strategies may answer the questions of who, where, and when, but it may drive the doctoral student to bouts of anxiety, depression, and increased levels of frustration, drinking, and weight gain as she or he sits at the Computer for hours and more hours analyzing data and trying to figure out how she or he is going to put and end to this self-induced madness. FITZPATRICK/ SECRIST/ WRIGHT (1998, P. 27)

The choice of methodology is great importance, which is why the researcher focuses on the exact method of writing from the beginning.

2.5. Accurate citations

Having accurate citations will help you as a researcher and writer keep track of the sources and Information you find so that you can easily find the source again. Accurate citations may take some effort to produce, but they will save you time in the long run. So think of proper citation as a gift to your future researching self! GRUWELL/ ERWIN (2023, P. 230)

2.5.1 First and second literature

Primary sources include any information written or created by the individual whose life is the subject of your research. They include

- Letters and notes
- Memoranda, directives, and reports
- Diaries, journals, memoirs, books, and autobiographical materials
- Photographs or morning pictures

- Creative works written, composed, or performed by the person
- Interviews and oral histories
- Inscriptions, notes, and marginalia inscribed in books and on other documents
- Legal and administrative records
- Newspaper reports LENBURG(2010, P. 79)

The second Literature means a source was cited first hand by another person, then I as the author should obligatory cite this last one as a second hand.
LENBURG (2010, P. 80) explained the following in this context:
Secondary sources are information written or created by other individuals about that subject's life or career, providing further insight and viewpoints about that person's life and times.
Such sources include

- Obituraries
- Essays
- Articles(newspapers, magazines, and journals)
- Documentary films and video recordings
- Book-length biographies and histories
- Reviews and criticism
- Bibliographies of sources

3. Writing process

Writing assignments is a process. The actual writing part usually comes after you have planned, gathered and organized information. Good writing takes time and effort so always allow yourself plenty of time to prepare, produce and finalise your written work. MĀTAURANGA (2022, P. 2)
The writing process usually begins when the author has a clear idea, a precise plan about the topic, a clear vision about the structure of the whole work (theory and empirical), the presence of literature from various scientific works. Finding time and space, the presence of all these conditions facilitate the writer's task and make the writing process comfortable.

3.1 Quality in research

In order that we can say that our research is rigorous and robust, we need to consider the issue of quality. What is quality piece of research?
Research can vary considerably depending on the topic, the theoretical approach taken, the choice of Data collection methods and soon, but there are some key concepts that help researchers to ensure that their research meets the quality standards expected by other researchers(and, in the case of students, those marking research projects) MATTHEWS(2010, P. 10)

4. Experimental techniques about Materials and methods

Write your Materials and Methods into a word processing file as you go along. Do not worry about organization of this information at this point. Writing your materials and methods now will help ensure they are accurate and that you have included all of them. This is tedious section to write if you leave it all until the end, when you could well be panicking or bored of the whole thing, you could easily make mistakes and omissions. HOLTOM &FISHER (1999, P. 11)

5. Avoiding Plagiarism

Plagiarism is use of published material without due recognition of the source. Plagiarism can take two main forms: the reproduction of physical content and the use of intelligent content.

The first of these – copying word stings- is usually readily identifiable and checked by many journals and academic departments using increasingly sophisticated software.

Deplicating a string of more than several words that appears in another published paper- irrespective of its intellectual significance- could trigger a red flag. If considered suspicious`, then it maybe investigated further. The second type of plagiarism- not giving credit for the use of intellectual content- extends to ideas, findings or using published data. Intellectual plagiarism can be difficult to objectively identify because the suspected reproduction many physically differ from the source. HOCHBERG (2019, P. 23)

6. Results

The past tense is used in the results section, as the experiment has been completed. Data relations are used while avoiding terminology that implies mechanisms or implications. For example, terms such as ' associations' or 'correlations ' are suitable in the results section. Why these variables are 'associated ' or ' correlated ' should be reserved of the discussion section, where the results are interpreted.

Avoid qualitative terms such as 'markedly '.

' Significant' should not be used as substitute for 'substantial '. These terms are open to individual interpretation as to what constitutes 'marked ' or 'substantial '. HOGUE (2013, P. 24)

7. Reviewing the Literature

Now is when Literature Review Anxiety Syndrome Kicks in, causing occasional twitching and jerking muscles. The best remedy is simply to work smart. You don't have to read every book that was ever published on your subject nor do you have to review every article in every journal or periodical. You may even want to start work on this chapter prior to your chapter one as you will need to know what the field has been and is saying about your topic.

You will also need to know the << movers and shakers in this particular area. FITZPATRICK/ SECRIST/ WRIGHT (1998, P. 11)

Appropriation, copying, or even scientific piracy means appropriating scientific ideas, efforts, or results obtained from another person and attributing them as personal effort. With the presence of programs to detect citation rates and combat scientific theft, these

unethical transgressions have become completely impermissible, and their perpetrator may be subject to judicial prosecution.

8. Conclusion

There are many types of scientific research and their classification, so each type must be taken into account with its rules, standards and controls so that the research is authentic and has a prestigious status among the reader and publishing houses as well.
Writing a scientific paper is based on certain rules and principles that must be respected by the author.

Scientific research requires a lot of patience, accuracy in conveying and communicating information, transparency and credibility, as well as objectivity in presenting the research problem and methods of analyzing and discussing it. Scientific research in itself is a scientific trust that the researcher must strive to embody and convey in all transparency and objectivity.

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