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The Definition and Comparison of Scientific Language

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Abstract

Science is the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence. Anything that is considered supernatural, or beyond physical reality, does not fit into the definition of science. A scientist is a person who conducts scientific research to advance knowledge in an area of interest by using different representative scientific words or phrases. Therefore, this paper aimed to clearly understand the words, or phrases that are important in the scientific world.

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1. Introduction

A book is a medium for recording information in the form of writing or images, typically composed of many pages bound together and protected by a cover. A book is published once under a single title (with the possibility of updated editions published infrequently) (Jonathan, 2017). A book chapter reviews the information gathered from published research and other articles. The book chapter should be in accordance with the other chapters of the book too. But we publish the results of the original research in a peer-reviewed research paper which should stand alone.

A book chapter is one of the main divisions of a piece of writing of relative lengths, such as a book of prose, poetry, or law. A chapter book may have multiple chapters and these can be referred to by the things that may be the main topic of that specific chapter. In each case, chapters can be numbered or titled, or both. A book chapter may be included if it has been published previously as long as it constitutes substantial new knowledge and constitutes original research. The types of book chapters that may meet the criteria include. A scholarly introduction of chapter-length to an edited volume, where the content of the introduction reports research and makes a substantial contribution to a defined area of knowledge (Jonathan, 2017).

2. Abstracts and Book Abstracts

Lenka Z *et al.* (2018) ^[9] an abstract is a brief summary of a research article, thesis, review, conference proceeding, or any in-depth analysis of a particular subject and is often used to help the reader quickly ascertain the paper's purpose. It is an original work, not an excerpted passage. An abstract must be fully self-contained and make sense by itself, without further reference to outside sources or the actual paper. It highlights key content areas, your research purpose, the relevance or importance of your work, and the main outcomes." It is a well-developed single paragraph of approximately 250 words in length, which is indented and single-spaced. The function of the abstract is to outline briefly all parts of the paper. Research abstracts are used throughout the research community to provide a concise description of a research project. It is typically a summary of your completed research. If done well, it makes the reader want to learn more about your research. Some students present their research findings at local and national conferences. Research abstracts are usually requested as part of the application process for conference presenters. These are the basic components of an abstract in any discipline:

1) **Motivation/problem statement:** Why do we care about the problem? What practical, scientific, theoretical, or artistic gap is your research filling?

- 2) **Methods/procedure/approach:** What did you do to get your results? (e.g. analyzed 3 novels, completed a series of 5 oil paintings, interviewed 17 students)
- 3) **Results/findings/product:** As a result of completing the above procedure, what did you learn/invent/create?
- 4) **Conclusion/implications:** What are the larger implications of your findings, especially for the problem/gap identified in step

A book abstract is the combination of different books abstract into one book. This book contains many abstracts presented at many conferences with many presenters. For proposals submitted as publication-ready texts, see the citable proceedings, etc. (DHN, 2018)

3. Publisher and journals

A **publisher** is a person or company whose business is the publishing of books, periodicals, engravings, computer software, etc. the business head of a newspaper organization or publishing house, commonly the owner or the representative of the owner.

A **journal** is a collection of articles (like a magazine) that is published regularly throughout the year. Journals present the most recent research, and journal articles are written by experts, for experts. They may be published in print or online formats, or both.

4. Journal and Article

In academic publishing, a scientific journal is a periodical publication intended to further the progress of science, usually by reporting new research.

A journal is a written record of your thoughts, experiences, and observations. You can write in your journal daily, or only when you feel the urge. You can write with a fountain pen in a leather-bound book if that inspires you, or you can write with your lucky pencil on the backs of dollar bills if you are both superstitious and rich. It's entirely up to you (Jonathan., 2017).

A systematic record, usually written is kept by a researcher to observe and reflect on phenomena relevant to a particular research study. This method is used most to document spontaneously occurring events or those connected with the day-to-day experience of the researcher

A journal may be a magazine, periodical, or newspaper, but the more commonly used definition, and the one I suspect you have in mind, is that of a journal being a daily personal record or diary. A personal journal will typically describe daily events a person has experienced, items of import to him/her, and "news" in general that's impacted the person or is currently of interest.

The article is a written composition in prose, usually nonfiction, on a specific topic, forming an independent part of a book or other publication, such as a newspaper or magazine. an individual object, member, or portion of a class; an item or particular: an article of food; articles of clothing. Articles are shorter than books and written about very specific topics.

5. Research Article and Review Articles

A research article is a primary source...that is, it reports the methods and results of an original study performed by the authors. The kind of study may vary (it could have been an experiment, survey, interview, etc.), but in all cases, raw data have been collected and analyzed by the authors, and

conclusions are drawn from the results of that analysis.

A review article is a secondary source...it is written about other articles and does not report original research of its own. Review articles are very important, as they draw upon the articles that they review to suggest new research directions, strengthen support for existing theories, and/or identify patterns among existing research studies. For student researchers, review articles provide a great overview of the existing literature on a topic. If you find a literature review that fits your topic, take a look at its references/works cited list for leads on other relevant articles and books!" (Randa., 2020).

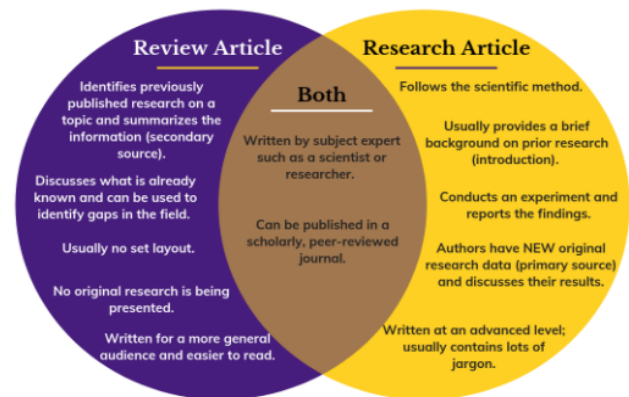


Fig 1

6. View Point and Short Communication

Short communications are concise articles that are no longer than 3000 words (7-8 double spaced pages). They aim to report new ideas, recent advances in modeling and software. Short communications do not cover in detail background information about the problems treated or the applications, rather they provide key pointers to the reader. The work reported needs to be technically sound, innovative, and significantly unique, advancing the state of the art. We intend to keep the review time for Short Coms short (ideally less than a month) to make sure that your new ideas get disseminated as fast as possible. Authors must include a statement about the word count in their submission.

There is no definition of short communications according to the International Committee of Medical Journal Editors (ICMJE) (Icmje, 2017) [7]. However, it is generally understood that a short (or brief) communication is a concise, independent report representing a significant contribution to science. Sometimes, the term 'Short Communication' is confused or used interchangeably with 'Special or Rapid Communication' although the two terms differ as explained below. Short communications are generally not intended to publish preliminary results of an ongoing or recently concluded study unless the results are of exceptional interest and particular relevance. In general, the length of a short communication is restricted to 2500 words (some journals may allow up to 3500 words). It may include two figures or tables and should have at least 8 references. Unlike a full-length paper, 'Methods', 'Results' and 'Discussion' may be combined into a single section in a Short Communication. Not all journals accept short communications so authors need to check before submission whether their intended journal will accept their submission.

A scientific viewpoint is logical and based on a strong body

of scientific evidence. Every part of your scientific view should have multiple, good-quality citations from the scientific literature to defend it. Viewpoint refers to the mind of the character through which the reader is told a story. ... The multiple-character viewpoint is used to tell a story from the perspectives of different characters, one at a time

7. Journal indexing and Journal Impact Factor

The impact factor (IF) is a measure of the frequency with which the average article in a journal has been cited in a particular year. It is used to measure the importance or rank of a journal by calculating the times its articles are cited (Seglen, 1997) ^[15].

How Impact Factor is Calculated?

The calculation is based on two years and involves dividing the number of times articles were cited by the number of citable articles.

Calculation of 2010 IF of a journal

A = the number of times articles published in 2008 and 2009 were cited by indexed journals during 2010.

B = the total number of "citable items" published in 2008 and 2009.

$A/B = 2010$ impact factor (Seglen, 1997) ^[15]. Indexation of a journal is considered a reflection of its quality. Indexed journals are considered to be of higher scientific quality as compared to non-indexed journals. Indexation of medical journals has become a debatable issue. For a long-time Index Medicus has been the most comprehensive index of medical scientific journal articles. It is being publication since 1879. Over the years, many other popular indexation services have developed. These include MedLine, PubMed, EMBASE, SCOPUS, EBSCO Publishing's Electronic Databases, SCIRUS among others. There are various regional and national versions of Index Medicus such as African Index Medicu Indexation of a journal is considered a reflection of its quality. Indexed journals are considered to be of higher scientific quality as compared to non-indexed journals.

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8. Peer-review journals and Predatory journals

A great many processes go by the name of **peer review**, with no real operational definition. It is, however, generally understood to be the review of a scientific manuscript by scientists not involved in the study. These are selected by the editing staff of the journal based on the scientists' knowledge of the domain, research methodology and statistics, and willingness to contribute to the scientific process. It has been shown that peer review delays the publication process, increases the costs, and maybe biased and open to abuse. It is very poor at detecting errors and is almost useless at detecting fraud. However, it still forms the mainstay of the scientific process (Smith, 2006) ^[16].

Several modifications of the peer review process have been and are being tried, including but not limited to reviewer education, acknowledgment, monetary compensation (possibly in the form of waiving of publication fees or access to full-text articles), anonymous reviewing, signed reviewing, and open pre-and post-publication reviewing. Predatory Journals take advantage of authors by asking them to publish for a fee without providing peer-review or editing services. Because predatory publishers do not follow the proper academic standards for publishing, they usually offer a quick turnaround on publishing a manuscript. In contrast, high-quality academic journals take longer to publish articles because they go through a proper peer review and copy-editing process.

9. Open access journals and Subscription-based Journals

The Open Access Journals was founded with a mission to develop a reliable platform and to provide unrestricted access to scientific literature for rapid dissemination of recent updates in various disciplines of science and technology. Readers can have access with no cost and avail of the facility to enrich their scientific understanding of the relevant topics. Research scholars, faculty members, and academicians of various disciplines are invited to submit their novel contributions in the form of original manuscripts which will undergo quality check before being approved for publication. Publishers will promote the published articles across world-wide-web through different social media following the open access regulations (Bo and David, 20112).

Subscription-based journals typically require readers to pay for the content that they read. This has been the model followed traditionally in the academic publishing

industry. Since individuals or institutions have to pay subscription charges, only those who have purchased a subscription to the journal/have purchased an article will have access to your paper.

In the open-access model, readers are not charged: they have free online access to the content. By allowing free access to the scientific community and the public, the open-access model ensures a wider readership. Another difference is that in the subscription model, copyrights for the published content are usually transferred to the journal, while with open access journals authors generally retain copyright. This means that for an article published in a subscription-based journal, anybody who wishes to use any part of the paper will have to seek permission from the journal. OA journals, on the other hand, often use Creative Commons licenses (CC licenses), which make it easier for users to share, use, and build upon the original work (Bo-Christer and David Solomon, 20112). However, in the open-access model, authors usually have to pay article-processing charges (APCs) once their paper has been accepted for publication

10. Plagiarism and Attribution

Plagiarism is an unauthorized appropriation of other people's ideas, processes, or text without giving correct credit and presenting it as own property. Appropriation of own published ideas or text and passing it as the original is denominated self-plagiarism and considered as bad as plagiarism. The frequency of plagiarism is increasing and the development of information and communication technologies facilitates it, but simultaneously, thanks to the same technology, plagiarism detection software are developing (Baždarić, 2009) ^[11]. Within academia, plagiarism by students, professors, or researchers is considered academic dishonesty or academic fraud, and offenders are punished by sanctions ranging from suspension to termination, along with the loss of credibility and perceived integrity (Kock N, and Davison R., 2003) ^[8]

Plagiarism is a crime against the academy. It deceives readers, hurts plagiarized authors, and gets the plagiarist undeserved benefits. However, even though these arguments do show that copying other people's intellectual contributions is wrong, they do not apply to the copying of words. Copying a few sentences that contain no original idea (e.g., in the introduction) is of marginal importance compared to stealing the ideas of others (Park, 2003) ^[13]. The two must be distinguished, and the 'plagiarism' label should not be used for deeds that are very different in nature and importance. plagiarism should be understood as "someone using someone else's intellectual product (such as texts, ideas, or results), thereby implying that it is their own" and argue that this is an adequate and fruitful definition (Gert and Sfetan, 2015).

With increasingly diverse student cohorts, the academy's implicit expectations and assumptions need to be understood and articulated. Attribution practices, central to academic writing, are an example of this. Attribution refers to the complex socio-linguistic practice (Chanock, 2008; McGowan, 2006) ^[3, 12] of using other written texts in the construction of one's own. This is distinct from referencing, used in this paper to refer to what has been called the mechanics of referencing and citation (Gourlay and Greig, 2007) ^[6]. It has been argued that efforts to familiarize students with attribution practices have been overshadowed by the increased emphasis on plagiarism detection (McGowan,

2006) ^[12].

11. Research Grant Proposal and Graduate Research Proposal

According to Jansen, (2020) Research grants are made available by various institutions to help fund research efforts made by individuals, universities, and other groups. Research can encompass many subjects, such as literature, medicine, and the environment. The grants can vary greatly in the amount they offer, from small grant awards, to full, multi-year fellowships. This article will discuss various research grants and what they allow you to do. The definition of a research grant can be easily guessed from the name: a grant that funds research. It becomes more complicated when you consider the type of research, the length of the research, and any conditions outlined in your research.

A graduate research proposal is a document proposing a research project, generally in the sciences or academia, and generally constitutes a request for sponsorship of that research. Proposals are evaluated on the cost and potential impact of the proposed research, and on the soundness of the proposed plan for carrying it out. A research proposal is simply a structured, formal document that explains what you plan to research (i.e., your research topic), why it's worth researching (i.e., your justification), and how you plan to investigate it (i.e., your practical approach). The purpose of the research proposal (it's a job, so to speak) is to convince your research supervisor, committee, or university that your research is suitable (for the requirements of the degree program) and manageable (given the time and resource constraints you will face) (Jansen, 2020).

12. Thesis and Dissertation

Thesis (plural: *theses*, pronounced THEES-eez): The point that an essay is trying to prove. Also known as the claim or argument. Everything in a persuasive essay relates to the thesis, either as evidence, explanation, elaboration, or rebuttal of alternative claims. Think of the thesis as the spine of your paper. Just as all the parts of your body are connected to the spine, and without the spine your body could not stand, so too in your essay all parts must be connected to the thesis, and without the thesis, the essay cannot stand. Parts that are not connected must be revised so that they do connect, or else eliminated. A thesis, in other words, is not the same as the thesis statement, which is a sentence or two in your introduction that *tells the reader what the thesis is*. The thesis is not limited to one spot in your essay; it runs through the whole thing, from start to finish (Loewen *et al.*, 1996) ^[10].

A dissertation sometimes known as a thesis (in some countries, this term is used only for the final assignments of Ph.D. degrees, while in other countries 'thesis' and 'dissertation' are interchangeable), a dissertation is a research project completed as part of an undergraduate or postgraduate degree. Typically, a dissertation allows students to present their findings in response to a question or proposition that they choose themselves. The project aims to test the independent research skills students have acquired during their time at university, with the assessment used to help determine their final grade. Although there is usually some guidance from your tutors, the dissertation project is largely independent.

Basic Thesis and Dissertation Differences

The main difference between a thesis and a dissertation is when they are completed. The thesis is a project that marks the end of a master's program, while the dissertation occurs during doctoral study. The two are quite different in their purpose, as well. A thesis is a compilation of research that proves you are knowledgeable about the information learned throughout your graduate program. A dissertation is your opportunity during a doctorate program to contribute new knowledge, theories, or practices to your field. The point is to come up with an entirely new concept, develop it and defend its worth (Martens and Herman, 1962) ^[11].

Structural Differences between a Thesis and a Dissertation

A master's thesis is kind of like the sorts of research papers you are familiar with from undergrad. You research a topic, then analyze and comment upon the information you gleaned and how it relates to the particular subject matter at hand. The point of the thesis is to show your ability to think critically about a topic and to knowledgeably discuss the information in-depth. Also, with a thesis, you usually take this opportunity to expand upon a subject that is most relevant to a specialty area you wish to pursue professionally. In a dissertation, you utilize others' research merely as guidance in coming up with and proving your unique hypothesis, theory, or concept. The bulk of the information in a dissertation is attributed to you.

Finally, there is a difference in length between these two major works. A master's thesis should be at least 100 pages in length, likely a bit beyond that. However, a doctoral dissertation should be much longer, because they involve a great deal of background and research information, along with every detail of your proposal and how you arrived at the information, according to Purdue University. A dissertation is an extremely complex work. It will likely be two, possibly even three, times the length of a thesis. You will receive guidance from a faculty member who will serve as your dissertation adviser. This adviser will be there to point you in the right direction if you are stuck, can assist in locating resources, and ensure that your proposal is on the right track (Elkies, 1987) ^[5].

13. Seminar and Symposium

A seminar is a format of instruction that may occur over several ongoing meeting times. Universities, professional organizations, or commercial associations will generally offer a seminar on a topic to provide academic instruction in a small group setting. These recurring meetings may focus on one component within a broader topic category to provide comprehensive education with a combination of lecturing and group activities. Seminar presenters will use a variety of strategies including demonstrations, visual aids, lecturing, and interactive activities to ensure mastery of the material and provide practice opportunities. Occasionally this hands-on practice may involve lab time or workshops to provide opportunities to interact with the content.

A seminar usually occurs over a longer period than a conference or a symposium, like several weeks or a semester. Additionally, a conference or symposium presents the latest research findings on a given topic, while a seminar is less focused on research findings, emphasizing the practical

applications of current research instead

The Symposium is a meeting at which experts have discussions about a particular subject; it can be considered a small conference. A symposium is usually used to describe a small conference on a single subject. For example, a series of lectures in a single day might be called a symposium.

14. Workshop and Conference

A **workshop** is similar to a seminar but places more emphasis on practical applications and putting theory into practice. A workshop may be included as part of a seminar, conference, or on its own for as little as an hour. Usually, a seminar will include take-home materials or require the purchase of a textbook. The purpose of the seminar is to train participants in relevant research on a topic and to provide an opportunity for practical learning in a small group setting

A conference is a formal meeting that allows participants to discuss a variety of topics and exchange views. Conferences usually take place over a series of a couple of consecutive days and may be held in a hotel so the participants can have convenient access to accommodations. Conferences are also held in universities, auditoriums, or any location that has enough space to fit a large group.

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