

The art of writing a “Title” for an original research paper

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Abstract:

This article is a short description on the ‘art of writing a title’ for an original research paper. Readers will get the ‘first impression’ with the title and decide to go further in. In searching journal article and thesis or dissertation, all users use the title as the main source of information. The “title” should not be misleading but be interesting, concise and unique. It is important to include the target terms (the “keywords”) in the title for appropriate indexing and retrieval from the search engines and scientific databases. One must adhere to the style and number of words in the title; suggested for the authors by the target journal or institutional authority. A strong title pulls the reader’s attention and encourage them to read the manuscript. Therefore, drafting a correct title needs careful and meticulous effort.

Key words: article; author; database; indexing; research.

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Introduction

The ‘Title’ of a research paper is a brief ‘descriptive name’ of a creative work. (The name of a book, original scientific publications, chapter, poem, essay, picture, statue, piece of music, play, film, etc.). It comes from the Latin ‘titulus-means label’.¹

The title is one of the important part of any scientific writing. A thesis/dissertation or an article title give an idea on ‘area of interest’ with the focal point of ‘research topic’. Editors will decide to send the article for external peer review after scanning the title and abstract. Similarly, reviewers will get a first impression of the paper with the same. The title, abstract, and keywords are often the only parts of the paper that are freely accessible to everyone online.^{1, 2, 3} All users use the ‘title’ as the main source of information at the time of literature

search. The title is the opening impressions of any scientific communication that tells the reader what the paper is going to say. An important work goes unnoticed due to poorly written title. During online searches ‘, key words’ in the title are used to retrieve a scientific paper in journal websites, databases and search engines.^{2, 4-10}

Methodology

Scholarly articles written on this topic searched. University guidelines accessed, and some books consulted to have information. Most popular concepts taken to describe the criteria and features of a good title.

Purposes of a ‘Title’

Titles should help to differentiate a particular writing from other papers on the topic and accurately convey about the content of the paper. Approximately 800,000 titles published each year. Eighty

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percent (80%) of readers never past the headline. Only one reader per 500 ‘title reader’ will read the whole paper. Therefore, the purpose of titles is, to attract readers and to inform them about the content; the latter is more important. A good title draws the readers’ attention and inviting them to read the entire paper and thus helps increasing citation. Drafting scientific titles as informative and eye-catching is a challenging task and need time and energy. Research paper title function as the sole factor influencing readers decision of whether to ‘read or skip’ a particular paper.^{6, 9, 10 - 17}

Types of Titles (according to organization of elements)

Various types of title are there but three broad categories can cover all. These are descriptive/neutral, declarative/informative, and interrogative.^{5, 6, 9, 11-13}

Descriptive or neutral title

This contains essential elements of the research theme (subjects, design, interventions and outcome), but does not reveal the main result or conclusion.^{5, 7, 15-19} This is the common formats seen in the scientific literature. The popularity of this format probably is due to relative ease to formulate it.

Example of descriptive or neutral title-

“Drug ‘x’ for treatment of hypercholesterolemia: a placebo controlled randomized trial”¹

A real neutral title is

“A worldwide phylogeography for the human X chromosome”³

However, the importance or the reasoning behind the works is ill understood. Editors,

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reviewers and readers often underestimate this type of title because they imply that the work was not hypothesis driven and the findings are unexciting.⁵⁻⁹

Descriptive titles take several keywords, which increases the visibility of the article in search engines and ultimately increasing chances to being read and cited.^{9, 11} This type help reader to be open minded and to interpret the findings of the research paper in an impartial manner.⁶

Declarative or informative

Declarative titles announces the main findings and conclusion (principal outcome) in the paper. This is to emphasize on technical side of the work. This type of title may indicates intrinsic bias on the part of the author and reduces the curiosity of the reader. Usually it is not standard for a research paper. This type of title is only acceptable if the study design and findings supports the use of a declarative statement with adequate sample size and statistical power to declare the conclusion valid.^{1, 5, 6}

Example

“Drug x is effective in reducing cholesterol”

However, it is not possible to form a real declarative title and in some fields (such as medicine), editors are cautious in accepting declarative titles because they could have impact on the public health.⁹⁻¹³

Interrogative title

Usually question mark is not recommend in the title. Introducing the subject of focus in the form of a question can overemphasize the topic. This type of title usually used in review articles.

Example:

"Are there rearrangement hotspots in the human genome?"

Research suggests that articles with query titles, is increasing day by day and downloaded more frequently, even though they tend to be cited less frequently. Also they are distracting to the reader so should be avoided in a research paper.^{3, 4, 7, 8, 10, 15, 16}

Types of Titles (Based on sentence construct; titles may be)^{3, 7}:-

- Nominal – stating the main theme of the study
- Compound- The title may start with a declarative sentence, short question or a noun phrase followed by a colon then a hanging title/subtitle. The subtitles presents additional relevant information. (Context, design, location/country, temporal aspect, sample size, importance)^{10, 15, 16}

For example-

- 'Art of Writing; Formulating the Right Title for a Research Article'.

Compound titles also correlate with higher number of citations.^{13, 15}

- A full-sentence title- not commonly used (longer and indicate an added degree of certainty of the results).

Depending on the type of article, key message, and author's preference or judgement any of these constructs may be used.^{7, 13}

Other Types of Title¹³

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Other styles, less commonly used to organize the title, for an article and never for the academic research are "indicating the direction of the author's opinion", "emphasizing the methodology", "suggesting guidelines", or "making a comparison". Use of "effective opening", "alliteration", "irony", "puns", "humor" or "mystifying". Referring to a parable:¹³

Example-

"Challenges for measuring oxytocin: the blind men and the elephant?"¹³

What should be and should not be in a title

The three key elements of a strong title is keywords, emphasis, and impact. Use simple language but include the "key words", to make the paper easily retrievable during a search. Arrange them in an appropriate order of importance and be placed at the beginning of the title. Google may just display only the first six to seven words of the title.^{7, 14-18} A good idea is to draft the title after finalizing the research proposal or after the main body of the text and the abstract drafted.^{3-6, 13, 14, 18}

For example

A study to ascertain the differences in the prevalence of obesity between men and women.

"Prevalence of Obesity in Adults by Gender" or

"Gender Differences in Prevalence of Obesity in Adults".⁴

Both titles are concise, specific, and bereft of unnecessary phrases, yet these are

inherently different in their approach. In this example, second one focuses on the male female comparison of prevalence of obesity not prevalence of obesity per se. Therefore, it is more appropriate.⁴

In the table of contents of a journal, “title” is the first object to read. Therefore, it should be concise, interesting, informative and easily understood. A long or complicated title may put off the readers. On the other hand, very short titles may not be representative of the contents of the article.^{2-5, 9} It should be good enough to explain the main theme and content of the manuscript. The reader will be confused and tempted to skip the article with titles having too much of technical jargon or chemical formulas. The title also should neither tell why you wrote it, what you found, nor the conclusions you reached.¹⁰⁻¹⁹

Example –

“A novel study on the usefulness of NS1 antigen detection test in the diagnosis of dengue fever in children: analysis of clinical features and comparison with ELISA test and viral culture with clinical follow-up in 100 patients of dengue fever at XYZ Hospital”.⁴

In most cases, titles will be better if words removed. Avoid using wasted words such as “a study of,” “investigation of,” “development of,” or “observations on.” Similarly, avoid including adjectives such as “new,” “improved,” “novel,” “validated,” and “sensitive.” Abbreviations, acronyms, exclamations, questions, and metaphors or filler phrases often inaccurately describe a paper’s content and a reader unaware of their

meaning may initially skip the manuscript.⁴

⁵ Title needs to be concise, brief, precise and focused. It should not be more than approximately 15 to 20 words. As for example from the previous title-

“NS1 antigen test for the diagnosis of Dengue fever”

The place of the study may be included in the title if a researcher in a different setting does study. That means the patient characteristics (study population, socioeconomic conditions, or cultural practices) expected to vary as per the place of the study; and have a bearing on the possible outcomes.^{2,3-13}

Avoid numerical values of various parameters (stating study period or sample size) unless deemed extremely essential. ‘However, abbreviations are sometimes useful for long, technical terms in scientific writing. The use of abbreviations that appear as word entries in Webster’s Collegiate Dictionary (HIV, AIDS, NADPH, and ATP) is acceptable.’^{4,5}

Whimsical, Amusing or hilarious titles may be appealing but may be taken less seriously by the readers and is cited less often.^{2-6, 10, 12} There are examples where journals have withdrawn a published paper because of it having a wrong title, a misleading, inaccurate title or for misuse of words within the title¹⁴.

It is important to note that a colon in the title usually precedes the ‘study design’.

For example- “Seven Days versus Ten Days Antibiotic Therapy for Culture-Proven Neonatal Sepsis: A Randomized Controlled Trial”⁴

A balanced title needs to contain six elements i.e., setting; population, intervention, condition, end-point, and design (“SPICED”).^{3, 4} It is important to mention the setting if results are not generalizable to other settings. Intervention (therapeutic or preventive) is a key element of any clinical trial. Clinical condition (like pregnancy) of the subjects mentioned, where result will be generalizable only to the population having the same condition. Outcome cautiously used in the declarative title. The title should be able to clarify the type of study (Design) to make it complete and it is usually placed after a colon or an em dash.

Working title and working with the title

A working title, sometimes called a production title or a tentative title, is the temporary title of a product or project used during its development.²⁰ The working title is the first thing written when a researcher set out to write an article or a proposal for a research and or research grant. It is the rough title written when planning a study, keeping in mind at least five of the SPICED elements. A strong ‘working title’ can help the researcher stay focused during the writing process whether it is a proposal or an article. Most of the titles those appear to be either attractive but not informative, or informative but not attractive. However, many authors fail to choose a suitable title for their papers. Even then time spent on writing a title is time well spent.^{3,9}

Drafting a title systematically is a good practice. Take time to read and re-read the proposal of the thesis/dissertation or the paper written for publication. Write down Box 1 Titles: instructions for authors:^{2, 8}

the keywords of the different sections.¹ Describe the title if necessary in about a few sentences, avoiding the results. Ensure that these sentences contain important scientific words (keywords) that describe the main query of the paper. Finally join the sentences to form a single sentence. Remove the redundant words to shorten the length to make ‘working title’. Try to rearrange the words in the title to make two or more tentative titles. Review and refine by asking another researcher to go through your paper and let comment on title, ask the supervisor to have a final idea. Sometimes expert librarian can give a good input. By looking at different variants, a better idea will come out that conglomerates the best aspects of the work. The final finished title can be set after completion of the study proposal or the study itself. Try to write the most important keywords at the beginning of the title. Determine what factor makes your paper unique and try to stress that in the title. Finally check its elements and construct. A good practice is to construct the title in PICO (Patients, Interventions, Comparisons and Outcome) format.^{1, 3, 5, 12, 14, 17} Some authors suggest that the writer can use the thesis or hypothesis as the foundation for the title and a definitive problem statement from the conclusions that represents the main idea of research paper. Scan the table of contents for several prominent journals and decide on the wording and style of ‘titles’, that captured your attention. Edit the title to make it final according to the institutional or journal guideline (Box-1).^{1, 2-5, 12}

Name of Journal/Authority	Instruction for writing ‘Title’
New England Journal of Medicine	Concise and descriptive (not declarative)
Lancet	Concise but informative
Annals of Internal Medicine	As brief as possible while conveying essential features of the article’s content
BMJ	Keep them concise
Vancouver Requirements	concise and informative

Box 2. Example of developing a title in four steps (after Lilleyman, 1998)^{1,5} -

Step 1 An epidemiological geographically based study of the quantity and effects of ionizing radiation received by male employees of a nuclear reprocessing plant and male residents working elsewhere in the same vicinity shows an increased risk of childhood leukemia in the children of nuclear workers only
Step 2 An epidemiological study of the links between the radiation received by male employees of a nuclear reprocessing plant and other local residents and childhood leukemia
Step 3 Relation between working at and living near a nuclear reprocessing plant and childhood leukemia
Step 4 “Nuclear reprocessing, radiation exposure, and childhood leukemia: an epidemiological study

The running title

The first known use of running title was circa 1625. An abbreviated or concise form of main title of a volume printed at the top of left-hand text pages or sometimes of all text pages. Many journals require a running title or running head. It usually appears at the top of the page.³ Many journals ask the authors to draft a “short title” or “running head” or “running title” for printing in the header or footer of the printed paper.^{3,13} This is an condensed version of the main title of up to 40–50 characters, may have standard abbreviations, and helps the reader to navigate through the paper.^{4, 5, 9, 11, 13, 15, 17}

Example:¹⁷ Original title: Social Comparisons on

Social Media: The Impact of Facebook on Young Women’s

Body Image Concerns and Mood

Running head: SOCIAL COMPARISONS ON SOCIAL MEDIA

Requirements for running titles vary between journals, but generally, they must not be more than 50–60 characters long, (including spaces). Unlike the main title, being catchy is not a priority whereas clarity and accuracy are required. Some suggest that as much content as possible should be preserved from the main title,

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although in practice this approach is difficult; authors instead tend to include only what they deem most important.^{3, 11, 22}

The abbreviated title

The title of an item as abbreviated for purposes of indexing or identification. ISSN supplies an abbreviated key title. Other abbreviated titles supplied by cataloging agencies, including abstracting and indexing services.

Useful summarized message for drafting a good title.^{1, 2}

- The title needs to be simple and interesting.
- It should be informative and or descriptive
- It should contain essential scientific “keywords” for indexing.
- Important terms/keywords should be placed in the beginning of the title
- It should be concise and should include the main theme of the paper
- It should not be misleading or misrepresentative
- It should not be too long or too short
- It should avoid whimsical or amusing words
- It should avoid nonstandard abbreviations and unnecessary acronyms (or technical jargon)
- Title may be SPICED, that is, it include Setting, Population, Intervention, Condition, End-point, and Design
- Place of the study and sample size should be mentioned only if it adds to the scientific value of the title

- Descriptive titles are preferred to declarative or interrogative titles.

Checklist for finalizing title for a research article^{1, 5, 9}

- ✓ Instruction to authors provided by the Journal/Institute maintained
- ✓ Indicating the main theme of the manuscript
- ✓ It is clear, no jargons or misleading words.
- ✓ It is concise; no redundant words
- ✓ It is not too clumsy; too long with long phrases
- ✓ Contains relevant key words
- ✓ No abbreviations, No number
- ✓ It is interesting
- ✓ It is accurate

Conclusions

The title summarizes the content in a few words but introduce the research work fully. Most of the recent titles lack crucial information and are thus misleading. An old saying, “You don’t get a second chance to make a first impression.” The title of an article has the power to influence the first impression of your work to a reader, reviewer, or editor. Thus, multiple factors; which are, sometimes, a bit conflicting or contrasting; need to be considered while formulating a title, and hence this should not be done in a hurry.

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