



KG REDDY

College of Engineering
& Technology

Engineering India's Changemakers

101 FAQs & ANSWERS

ON
WRITING & PUBLICATION
IN SCOPUS-INDEXED
JOURNALS

C O M P I L E D A N D E D I T E D B Y

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WHAT MAKES RESEARCHERS PUBLISH?

WHY PUBLISH?

Publishing is one of the necessary steps embedded in the scientific research process. It is also necessary for graduation and career progression.

WHAT TO PUBLISH?

- New and original results or methods
- Reviews or summaries of **particular subject**
- Manuscripts that advance the knowledge **and understanding a certain scientific field**

WHAT NOT TO PUBLISH?

- **Reports of no scientific interest**
- **Out of date work**
- Duplications of **previously published work**
- **Incorrect/unacceptable conclusions**

You need a GOOD manuscript to present your contributions to the scientific community

WHAT SHOULD YOU DO BEFORE WRITING?

A. FIND OUT WHAT TOPICS ARE EXCITING

B. FIND THE TRENDS OF YOUR SUBJECT AREA

- Keep informed of advances in the field through journal alerts
- PubMed, for example, shows number of papers per keyword per year of publication.

C. EVALUATE WHICH JOURNAL IS RIGHT FOR YOUR MANUSCRIPT

- Impact Factor
- SNIP & SJR (www.journalmetrics.com)
- *H-Index* • Compare journals (Scopus)

WHAT SHOULD YOU KEEP IN MIND BEFORE WRITING?

THINK ABOUT WHY YOU WANT TO PUBLISH YOUR WORK.

- Is it new and interesting?
- Is it a current hot topic?
- Have you provided solutions to some difficult problems?
- Are you ready to publish at this point?

If all answers are "yes", then start preparations for your manuscript

WHY RESEARCH PAPERS FAIL PUBLICATION?

THE FOLLOWING PROBLEMS APPEAR MUCH TOO FREQUENTLY

- Submission of papers which are clearly out of scope
- Failure to format the paper according to the 'Guide for Authors'
- Inappropriate (or no) suggested reviewers
- Inadequate response to reviewers
- Inadequate standard of English
- Resubmission of rejected manuscripts without revision

WHY RESEARCH PAPERS GET REJECTED?

THE MOST COMMON ERRORS THAT COULD POTENTIALLY LEAD TO THE REJECTION OF YOUR MANUSCRIPT:

- I. A **misleading title** can lead to immediate rejection of your manuscript. You need to ensure that your title conveys what your study is about. A misleading title that does not set the limits of a study is a serious problem.
- II. **Misleading abstracts** is another issue that can lead to the rejection of a manuscript. Make sure that the results and conclusions in the abstract are the same as the paper.
- III. **Incomplete introductions** are considered as a major writing deficiency. A complete introduction must ideally contain the study question, hypothesis, and study objectives. A complete introduction is essential to convey the importance of your work.
- IV. Authors often tend to replicate their methodology in all their papers. Reproducing material and methods from your previously written paper is considered as **self-plagiarism** if it is not cited properly. The methodology should also be tailored to reflect on the current study. Some methods can become outdated as a result of newer techniques or technologies.
- V. **Errors in the results** section are a common occurrence. Authors tend to leave out information to meet the word limit specified by the journal. Leaving out important information in the results can lead to the rejection of the manuscript.
- VI. **Illogical discussions** are another error that could lead to an outright rejection of the manuscript. Errors in the discussion include but are not limited to – the disconnected flow of ideas, expansive content that does not focus on the results, biased view, omitting key findings from other investigators, overlooking the limitation of the study.
- VII. **Submitting your manuscript to a journal where there is a mismatch with its aims and scope** can lead to desk-rejection of the manuscript by the editor. Thoroughly go through the author instruction and ensure that your manuscript meets the aims and scope of the journal.
- VIII. **Indulging in plagiarism** or self-plagiarism is a serious ethical breach resulting in rejection of your manuscript. Sources should be acknowledged even if you are paraphrasing sentences.
- IX. Research papers should be **novel and original**, and any paper that does not meet this criterion will not be considered for publication.
- X. **Inflated results** are another cause of rejection, and inflation of results is often detected during the peer review process. Falsification and inflation of results should be avoided.
- XI. **Non-adherence to scientific and writing ethics** can lead to rejection of your manuscript. Authors are expected to be responsible and adhere to the ethical guidelines laid down in their field of study.
- XII. **Non-adherence to author instructions** specified by the journal can lead to a delay in the publication of your work or outright rejection by the journal editor.
- XIII. **Technical flaws in the content of your manuscript** can also lead to its rejection. Common technical flaws include discrepancy between the abstract and the manuscript, no relation between the discussion and the results, etc.
- XIV. **Flaws in the study design** are another major reason for rejection by journals. Flaws in the study design would include poorly formulated study questions, and improper methodology, selection of the wrong representative samples, improper statistics, etc.
- XV. **Poorly written manuscripts** (poor language, grammar, word choice, tense, style of writing) can also lead to the rejection of a manuscript.



WHY IS SCOPUS FAMOUS?

Owned by Elsevier, Scopus is a multidisciplinary database that covers peer-reviewed journals, books, conference proceedings, and patents across the fields of science, technology, medicine, social sciences, and arts and humanities. According to Elsevier, Scopus is 'The largest abstract and citation database of peer-reviewed literature.' Updated daily, the database contains 64+ million records and 22,000+ peer-reviewed journals from 5,000 international publishers.

From researchers pursuing scientific breakthroughs to academic institutions and government agencies evaluating research, Scopus is the abstract and indexing database of choice. Worldwide, Scopus is used by more than 3,000 academic, government and corporate institutions and is the main data source that supports the research intelligence portfolio.

WHAT IS MEANT BY SCOPUS INDEXED JOURNAL?

Scopus is Elsevier's abstract and citation database launched in 2004. Searches in Scopus also incorporate searches of patent databases. Scopus gives four types of quality measure for each title; those are h-Index, CiteScore, SJR (SCImago Journal Rank) and SNIP (Source Normalised Impact per Paper). Check SJR at <https://www.scimagojr.com/journalrank.php>.

WHAT IS OPEN ACCESS PUBLICATION?

Open access (OA) refers to freely available, digital, online information. Open access scholarly literature is free of charge and often carries less restrictive copyright and licensing barriers than traditionally published works, for both the users and the authors. While OA is a newer form of scholarly publishing, many OA journals comply with well-established peer-review processes and maintain high publishing standards.

WHAT IS ACTION RESEARCH?

Action research is a type of research focused on a specific local problem and resulting in an action plan to address the problem.

RESEARCH BIAS – WHAT DO YOU MEAN BY THIS?

Research bias is a loss of balance and accuracy in the use of research methods. It can appear in research via the sampling frame, random sampling, or non-response. It can also occur at other stages in research, such as while interviewing, in the design of questions, or in the way data is analysed and presented. Bias means that the research findings will not be representative of, or generalisable to, a wider population.

WHAT ARE THE BENEFITS OF OPEN ACCESS PUBLICATIONS?

THE OPEN ACCESS MOVEMENT OFFERS SEVERAL ADVANTAGES TO PEOPLE CUTTING ACROSS ALL SECTIONS OF SOCIETY.

- **ACCESS:** Most journals and repositories do not impose access costs on the reader. Thus, price barriers are substantially lowered or removed entirely. Authors are granted the ability to address a wider audience without the corresponding expenditure.
- **IMMEDIACY:** The research results can be made immediately available to not just others within that community but also those beyond, including other scientists and interested people.
- **STIMULATING EFFECTS:** Easy access to research material from all fields spurs interdisciplinary and multidisciplinary research endeavours.
- **IMPACT AND CITATIONS:** Articles tend to have a much bigger impact in the short-term compared to "subscription-only" work. The long-term impact has been found to be similar, with some studies showing a slightly larger impact for open-access articles.
- **PUBLISHING COSTS:** Since open-access publications are usually less expensive to produce and disseminate, both journals and publishers can benefit. In some cases, authors may be required to pay enhanced publication charges.

DOES SCOPUS PUBLISH OPEN ACCESS JOURNALS?

Over 90 percent of Scopus journals are open access. In 2019 Scopus published over 49,000 gold open access articles, a growth of over 40% compared with the previous year. Today Elsevier is one of the world's fastest-growing open access publishers.

WHAT IS 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.

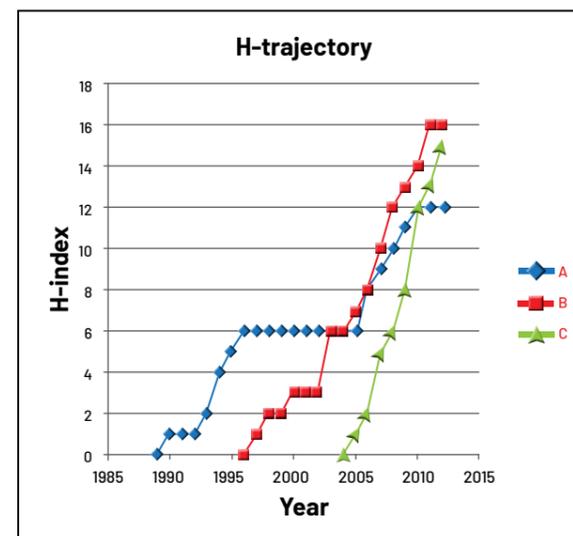
Journal Impact Factor (JIF) is calculated by Clarivate Analytics as the average of the sum of the citations received in a given year to a journal's previous two years of publications (linked to the journal, but not necessarily to specific publications) divided by the sum of "citable" publications in the previous two years. Owing to the way in which citations are counted in the numerator and the subjectivity of what constitutes a "citable item" in the denominator, JIF has received sustained criticism for many years for its lack of transparency and reproducibility and the potential for manipulation of the metric.

WHAT IS H-INDEX?

Although originally conceived as an author-level metric, the h-index (and some of its numerous variants) have come to be applied to higher-order aggregations of research publications, including journals. A composite of productivity and citation impact, h-index is defined as the greatest number of publications h for which the count of lifetime citations is greater than or equal to h. Being bound at the upper limit only by total productivity, h-index favours older and more productive authors and journals. As h-index can only ever rise, it is also insensitive to recent changes in performance. Finally, the ease of increasing h-index does not scale linearly: an author with an h-index of 2 needs to only publish a 3rd paper and have all three of them cited at least 3 times to rise to an h-index of 3; an author with an h-index of 44 must publish a 45th paper and have it and all the other attain 45 citations each before progressing to an h-index of 45. h-index is therefore of limited usefulness to distinguish between authors, since most have single-digit h-indices.

WHAT IS A CITATION?

The act of acknowledging or documenting a reference source used in preparing an assignment, report or project. It is also described as documentation. A full citation lists accurate information about author, title, publication date, and related facts. There are a number of different citation styles.



DOES SCOPUS PROVIDE IMPACT FACTOR?

No, Scopus does not provide Impact Factor, it provides cite score and SJR. Impact Factor is provided by Clarivate Analytics; previously known as Thomson Reuters. CiteScore value is an analogy of Impact Factor JCR. Check it directly at Scopus website.

WHAT IS JOURNAL IMPACT FACTOR?

Journal Impact Factor (JIF) is a measure reflecting the average number of citations to articles published in journals, books, patent document, thesis, project reports, newspapers, conference/seminar proceedings, documents published in internet, notes and any other approved documents. It is measuring the relative importance of a journal within its field, with journals of higher journal impact factors deemed to be more important than those with lower ones. Journal impact factors are calculated in yearly/half-yearly/quarterly/monthly for those journals that are indexed in Journal Reference Reports (JRR).

METHOD OF CALCULATION

In a given period (yearly/half-yearly/quarterly/monthly), the journal impact factor of a journal is the average number of citations received per paper published in that journal during the one or two (one or more) preceding periods.

For example (Calculation of Journal Impact Factor (JIF) yearly), if a journal has an impact factor of 5 in 2009, then its papers published in 2007 and 2008 received 5 citations each on average. The 2009 impact factor of a journal would be calculated as follows:

A = the number of times articles published in 2007 and 2008 were cited by journals, books, patent document, thesis, project reports, newspapers, conference/seminar proceedings, documents published in internet, notes and any other approved documents during 2009.

B = the total number of "citable items" published by that journal in 2007 and 2008. (citable items are usually articles, reviews, proceedings, notes or any other documents pre-reviewed before publishing it).

2009 impact factor = A/B.

New journals, which are indexed from their first published issue, will receive an impact factor after indexing it immediately.

For example, a journal published fist issue in June 2011, can get Journal Impact Factor for July 2011 onwards.

The Journal Impact Factor relates to a specific time period; it is possible to calculate it for any desired period. The Journal Reference Reports (JRR) shows rankings of journals by Journal Impact Factor, if desired by discipline, such as mechanical engineering or human resource management.

WHAT IS CITESCORE METRICS?

CiteScore metrics: A family of eight indicators that offer complementary views to analyse the publication influence of serial titles of interest. Derived from the Scopus database – almost twice the size of the next-leading abstract and citation data provider – CiteScore metrics offer a more robust and accurate indication of a serial's impact.

CiteScore metrics are calculated using Scopus data for over 25,300 serial titles – peer-reviewed journals, book series, conference proceedings and trade journals in 330 disciplines. CiteScore, the annual calculation for previous, complete years, is one component of the larger CiteScore metrics family which include the following eight indicators:

- CiteScore
- CiteScore Tracker
- CiteScore Percentile
- CiteScore Quartiles
- CiteScore Rank
- Citation Count
- Document Count
- Percentage Cited

WHAT IS SCIMAGO JOURNAL RANK (SJR)?

SCImago Journal Rank (SJR) is based on the concept of a transfer of prestige between journals via their citation links. Drawing on a similar approach to the Google PageRank algorithm – which assumes that important websites are linked to from other important websites – SJR weights each incoming citation to a journal by the SJR of the citing journal, with a citation from a high-SJR source counting for more than a citation from a low-SJR source. Like CiteScore, SJR accounts for journal size by averaging across recent publications and is calculated annually. SJR is also powered by Scopus data and is freely available alongside CiteScore at www.scopus.com/sources.

WHAT IS SNIP?

Source Normalised Impact per Paper (SNIP) is a sophisticated metric that intrinsically accounts for field-specific differences in citation practices. It does so by comparing each journal's citations per publication with the citation potential of its field, defined as the set of publications citing that journal. SNIP therefore measures contextual citation impact and enables direct comparison of journals in different subject fields, since the value of a single citation is greater for journals in fields where citations are less likely, and vice versa. SNIP is calculated annually from Scopus data and is freely available alongside CiteScore and SJR at www.scopus.com/sources.



WHAT IS BIBLIOMETRICS?

Bibliometrics analyses the impact of research outputs using quantitative measures. Bibliometrics complements qualitative indicators of research impact such as peer review, funding received, and the number of patents and awards granted. Together they assess the quality and impact of research.

You can use bibliometrics to:

- provide evidence of the impact of your research outputs when applying for jobs, promotion or research funding
- find new and emerging areas of research
- identify potential research collaborators
- identify journals in which to publish.

Here are some common bibliometric measures:

Citation counts: the number of times a research output appears in the reference lists of other documents (articles, books, reviews, conference proceedings etc.)

Found in: Google Scholar, Scopus, and Web of Science.

H-index: designed to measure an author's productivity and impact. It is the number of an author's publications (h) that have h or more citations to them.

Found in: Google Scholar, Scopus and Web of Science.

Field-weighted citation impact: the ratio of citations received relative to the expected world average for the subject field, publication type and publication year. It can apply to a research output or group of research outputs.

Found in SciVal.

Outputs in top percentiles: the number or percentage of research outputs in the most cited publications in the world, UK, or a specific country.

Found in Scopus and SciVal.

Journal Impact Factor: based on the average number of citations received per paper published in that journal in the preceding two years.

Found in Journal Citation Reports.

CiteScore: the average number of citations received in a calendar year by all items published in that journal in the preceding three years.

Found in Scopus.

SCImago Journal Rank: places a higher value on citations from more prestigious journals.

Found in Scopus.

Scopus SNIP: a ratio of a journal's citation count per paper and the citation potential in its subject field. The Scopus SNIP normalises citation rate subject differences. Found in Scopus.

WHICH SCOPUS JOURNAL IS BEST FOR MY ARTICLE?

Journal Finder has been developed by Elsevier and updated in response to feedback from authors.

To use Elsevier Scopus' Journal Finder, please visit the page: <https://journalfinder.elsevier.com/>. There are boxes you need to insert your data.

- Paper title
- Paper Abstract
- Keywords
- Field of research

WHICH TYPE OF ARTICLES ARE CITED THE MOST?

Review articles generally are cited more frequently than typical research articles because they often serve as surrogates for earlier literature, especially in journals that discourage extensive bibliographies.

WHAT IS A COVER LETTER TO A SCOPUS JOURNAL EDITOR?

All submissions should be accompanied by a cover letter that includes a brief overview of the manuscript and the corresponding and contacting author contact information including full name, e-mail address, phone number, and mailing address (corresponding author and contacting author). It should also specify the number of display items (figures and tables), the number of attachments (manuscript, figures, supplementary information if any), and their formats.

It must include a statement indicating that the article has not been published in another publication and is not being submitted simultaneously to another journal.

WHAT IS THE STRUCTURE OF A SCOPUS RESEARCH ARTICLE?

GENERAL STRUCTURE OF A SCOPUS RESEARCH ARTICLE

- Title
 - Abstract
 - Keywords
- } Make it easy for indexing and searching (informative, attractive, effective)

- Main text
 - Introduction
 - Methods
 - Results
 - Discussion
- Conclusion
- Acknowledgements
- References
- Supplementary Data

HOW DO I KNOW WHETHER A JOURNAL IS INDEXED IN THE SCOPUS?

To check if your target journal is indexed in Scimago please log on to <https://www.scimagojr.com/journalsearch.php> and search for your journal. This search engine is powered by Scopus and hence you should be verifying if your target journal is indexed in Scopus as well.

PARTICIPATORY RESEARCH – WHAT IS IT?

This is a type of research where researchers and people who use their services or careers are partners in a research study. The research addresses an issue of importance to service users or careers, who are involved in the design and conduct of the research, and the way the findings are made available. The aim of the research is to improve people's lives. This isn't a research method – it's an approach to research, a philosophy.

WHAT IS LITERATURE REVIEW?

An examination of the existing research publications on the topic area of a new study, to discuss their theorising, research designs, data collection methods, findings, strengths, limitations and contexts as relevant to the new one. This also includes the researcher's own views and observations, and alternative explanations of the findings as to what other factors may have given rise to those findings.

WHAT IS BASIC RESEARCH?

Basic research aims to improve knowledge and understanding, rather than finding a solution to a practical problem. It usually involves work in a laboratory – for example to find a gene linked to a disease or to understand how cancer cells grow. This kind of research can sometimes provide clues as to which avenues to explore to develop new treatments.

WHAT IS QUANTITATIVE RESEARCH?

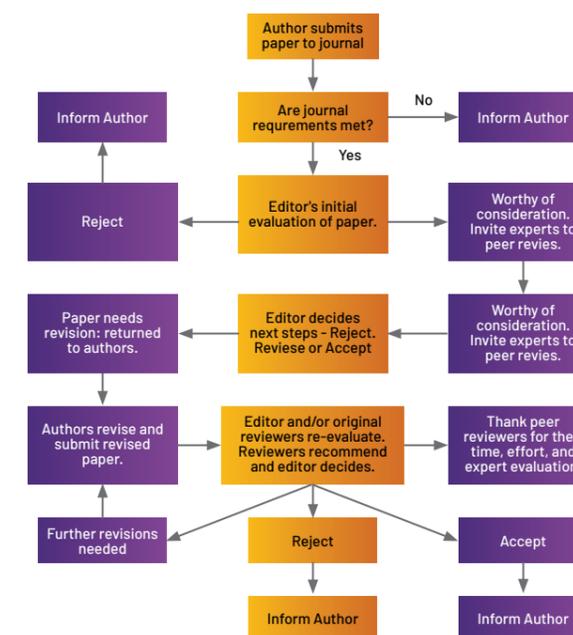
In quantitative research, researchers collect data in the form of numbers, they measure things or count things. Quantitative research might ask a question like how many people visit their GP each year, what proportion of children have had an MMR vaccine, or whether a new drug lowers blood pressure more than the drugs that are usually used. Quantitative researchers use methods like surveys and clinical trials.

WHAT DO YOU MEAN BY A PROBLEM STATEMENT?

A statement that indicates the specific purpose of the research, the variables of interest to the researcher, and any specific relationship between those variables that is to be, or was, investigated; includes description of background and rationale (justification) for the study.

WHAT IS PEER REVIEW?

Reviewers play a pivotal role in scholarly publishing. The peer review system exists to validate academic work, helps to improve the quality of published research, and increases networking possibilities within research communities. Despite criticisms, peer review is still the only widely accepted method for research validation and has continued successfully with relatively minor changes for some 350 years.



WHAT ARE DIFFERENT TYPES OF PEER REVIEW?

TYPES OF PEER REVIEW

Peer review comes in different flavours: you must therefore check which variant is employed by the journal on which you are working so you're aware of the respective rules. Each system has its own advantages and disadvantages. Often one type of review will be preferred by a subject community but there is an increasing call towards more transparency around the peer review process. In case of questions regarding the peer review model employed by the journal for which you have been invited to review, consult the journal's homepage or contact the editorial office directly.

A. Single blind review:

In this type of review, the names of the reviewers are hidden from the author. This is the traditional method of reviewing and is the most common type by far. Points to consider regarding single blind review:

- Reviewer anonymity allows for impartial decisions – the reviewers should not be influenced by the authors.
- Authors may be concerned that reviewers in their field could delay publication, giving the reviewers a chance to publish first.
- Reviewers may use their anonymity as justification for being unnecessarily critical or harsh when commenting on the authors' work.

B. Double-blind review:

Both the reviewer and the author are anonymous in this model. Some advantages of this model are listed below.

- Author anonymity limits reviewer bias, for example based on an author's gender, country of origin, academic status or previous publication history.
- Articles written by prestigious or renowned authors are considered on the basis of the content of their papers, rather than their reputation.

But bear in mind that despite the above, reviewers can often identify the author through their writing style, subject matter or self-citation – it is exceedingly difficult to guarantee total author anonymity. More information for authors can be found in our double-blind peer review guidelines.

C. Triple-blind review:

With triple-blind review, reviewers are anonymous, and the author's identity is unknown to both the reviewers and the editor. Articles are anonymised at the submission stage and are handled in such a way to minimize any potential bias towards the author(s). However, it should be noted that:

- The complexities involved with anonymising articles/authors to this level are considerable
- As with double-blind review, there is still a possibility for the editor and/or reviewers to correctly divine the author's identity from their style, subject matter, citation patterns or several other methodologies

D. Open review:

Open peer review is an umbrella term for many different models aiming at greater transparency during and after the peer review process. The most common definition of open review is when both the reviewer and author are known to each other during the peer review process.

Other types of open peer review consist of:

- publication of reviewers' names on the article page.
- publication of peer review reports alongside the article, whether signed or anonymous.
- publication of peer review reports (signed or anonymous) together with authors' and editors' responses alongside the article.
- publication of the paper after a quick check and opening a discussion forum to the community who can comment (named or anonymous).



WHAT IS THE PROCESS OF PEER REVIEW?

Peer Review Process



WHAT ARE THE CRITERIA FOR PEER REVIEW?



WHAT IS THE IMPORTANCE OF KEYWORDS IN A RESEARCH PAPER?

Literature search is an important part of research writing. The purpose of keywords in a research paper is to help other researchers find your paper when they are conducting a search on the topic. Keywords define the field, subfield, topic, research issue, etc..

WHAT IS THE DIFFERENCE BETWEEN PRIMARY AND SECONDARY SOURCE?

Primary sources provide a first-hand account of an event or time period and are considered to be authoritative. They represent original thinking, reports on discoveries or events, or they share new information. Often these sources are created at the time the events occurred, but they can also include sources that are created later. They are usually the first formal appearance of original research.

Secondary sources involve analysis, synthesis, interpretation, or evaluation of primary sources. They often attempt to describe or explain primary sources.

Scholarly journals, although generally considered to be secondary sources, often contain articles on very specific subjects and may be the primary source of information on new developments.



WHAT ARE DIFFERENT TONES AN AUTHOR CAN HAVE?

The definition of "tone" in literature is the way the author expresses his attitude through his writing. The tone can change very quickly or may remain the same throughout the story. Tone is expressed by your use of syntax, your point of view, your diction, and the level of formality in your writing.

EXAMPLES OF TONE

- Cautious
- Humorous
- Affectionate
- Hostile
- Critical
- Objective
- Personal
- Violent
- Solemn/Serious
- Sarcastic
- Disapproving
- Enthusiastic
- Desperate
- Pleading
- Pleading
- Indifferent

WHAT IS THE FORMAT OF A RESEARCH ARTICLE?

A research article should divide into the following headings:

- | | |
|--------------------------|--------------------|
| I. Title page | Methods |
| II. Author's information | VIII. Results |
| III. Present address | IX. Discussion |
| IV. Abstract | X. Acknowledgments |
| V. Keywords | XI. References |
| VI. Introduction | XII. Tables |
| VII. Materials and | XIII. Figures |

LITERATURE REVIEW

A literature review discusses published information in a particular subject area, and sometimes information in a particular subject area within a certain time period.

A literature review can be just a simple summary of the sources, but it usually has an organisational pattern and combines both summary and synthesis. A summary is a recap of the important information of the source, but a synthesis is a re-organisation, or a reshuffling, of that information. It might give a new interpretation of old material or combine new with old interpretations. Or it might trace the intellectual progression of the field, including major debates. And depending on the situation, the literature review may evaluate the sources and advise the reader on the most pertinent or relevant.



WHAT IS CONFLICT OF INTEREST?

A competing interest, also known as a 'conflict of interest', can occur when you (or your employer or sponsor) have a financial, commercial, legal, or professional relationship with other organisations, or with the people working with them, that could influence your research.

WHAT IS ORCID AND WHY IS IT IMPORTANT?

Launched in 2012, ORCID provides unique persistent identifiers for the benefit of both individual researchers and their institutions. Last October, ORCID (Open Researcher and Contributor ID) launched its global, free-to-use registry to provide researchers with unique persistent identifiers (ORCID iDs)

WHAT ARE THE DIFFERENT TYPES OF ARTICLES PUBLISHED IN SCOPUS JOURNALS?

ORIGINAL RESEARCH:

This is the most common type of journal manuscript. It may be called an Original Article, Research Article, or just Article, depending on the journal. The original research format is suitable for many different fields and different types of studies. It includes full introduction, methods, results, and discussion sections.

Original research (empirical) article is based on an experiment or study. This type of article will have a methodology section that tells how the experiment was set up and conducted, a results or discussion section, and usually a conclusion section. In psychology courses, you are often asked to find empirical articles. Empirical articles are original research articles.

REVIEW ARTICLE:

Review Articles provide a comprehensive summary of research on a certain topic, and a perspective on the state of the field and where it is heading. They are often written by leaders in a particular discipline after an invitation from the editors of a journal. Reviews are often widely read (for example, by researchers looking for a full introduction to a field) and highly cited. Reviews commonly cite approximately 100 primary research articles.

Review article (literature review or systematic review) is written to bring together and summarise the results/conclusions from multiple original research articles/studies. This type of article will not usually have a methodology section, and they generally have very extensive bibliographies.

THEORETICAL ARTICLE:

It is written to contribute to the theoretical foundations of a field of study. In this type of article, an author will draw upon existing research to form a new theory or explore theories in new ways.

RAPID COMMUNICATIONS:

These papers communicate findings that editors believe will be interesting to many researchers, and that will likely stimulate further research in the field. Rapid communications are usually published soon after submission to the journal, so this format is useful for scientists with results that are time sensitive (for example, those in highly competitive or quickly-changing disciplines). This format often has strict length limits, so some experimental details may not be published until the authors write a full original research manuscript.

Many journals also refer to this type of manuscript as a letter.

BOOK REVIEW:

While written by scholars, book reviews in scholarly journals are meant to provide a summary of a newly published book. Book reviews can lead to the discovery of new sources to investigate.

EDITORIAL:

While written by editors of scholarly journals, these articles are summaries of content included in a specific issue of a journal. Editorials can lead to the discovery of new sources to investigate.

WHAT IS AN ABSTRACT?

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.

HOW SHOULD ONE WRITE A GOOD ABSTRACT?

The abstract is perhaps the most important section of your manuscript for several reasons. First, the abstract is the first section that is read by journal editors when deciding whether to send your manuscript for review. Similarly, once your work is published, it is the first section that is examined by readers; in many cases, it is the only section of the manuscript that they will ever read. This is in part because most literature databases index only abstracts, and access to full-text articles is often restricted. In this way, the abstract emerges as a tool to communicate your research succinctly while highlighting its most important facets. The following article describes how to write a great abstract that will attract maximal attention to your research.

I. WRITE THE PAPER FIRST

Some authors will tell you that you should write the abstract as soon as your research is complete. However, it is likely that your project has been spread out over months or even years; thus, the full picture of what you have accomplished may not be fresh in your mind. Writing the paper first solves this problem, effectively refreshing your memory as you condense all of the aspects of your work into a single document. The manuscript can then be used as a guide to write the abstract, which serves as a concise summary of your research.

If you are having a hard time figuring out where to start, consider going through your paper and highlighting the most important sentences in each section (introduction, methods, results, and discussion/conclusions). Then, use these sentences as an outline to write your abstract. At this point, it is also important to check your target journal's style guide to examine their abstract guidelines. For example, some journals require a structured abstract with discrete sections, and most journals impose a strict word count limit.

II. Provide introductory background information that leads into a statement of your aim

The first section of your abstract is very valuable real estate. These 1-3 sentences must inform the reader about why you have undertaken this research.

Such statements can lead very naturally into a statement of how your research uniquely addresses the issue. Use of introductory phrases such as "Here, we aimed to..." or "Here, we demonstrate that..." indicates to the reader that you are stating the aim or purpose of your work.

III. Briefly describe your methodology

The methods section of your abstract is your chance to

summarize the basic design of your study. Excessive detail is unnecessary; however, you should briefly state the key techniques used. Abstracts in biological or clinical fields should mention the organism, cell line, or population studied. For ecology papers, the location of the study is often an important piece of information. Papers describing clinical trials should mention the sample size, patient groups, dosages, and study duration. The following example provides all of this information clearly and concisely in a single sentence: "One hundred consecutive consenting male inpatients in a state of moderately severe, uncomplicated alcohol withdrawal at screening were randomized to receive either lorazepam (8 mg/day) or chlordiazepoxide (80 mg/day) with dosing down-titrated to zero in a fixed-dose schedule across 8 treatment days."

IV. 4. Clearly describe the most important findings of your study

Just as the abstract may be the most important part of your paper, the results subsection is likely the most important part of your abstract. This is because the main reason that people are reading your abstract is to learn about your findings. Therefore, the results subsection should be the longest part of your abstract, and you should try to maximize the amount of detail you include here.

For example, statements such as "significant differences in body weight were observed between the animals in groups A and B" are not very informative. Instead, consider making more specific statements, such as "the average body weight loss of the animals in group A was greater than that of the animals in group B (20.4±0.3 g vs. 8.4±0.6 g; p<0.01)". Note that the p-value effectively conveys that the difference was significant; thus, the word "significant" is no longer needed.

V. State the conclusion concisely and avoid overstatements

The last 1-2 sentences of your abstract should be devoted to the overall take-home message of your study: your conclusions. A good way to begin this section is with phrases such as "Our study revealed that..." or "Overall, we conclude that...". Then, state your main finding as concisely as possible. If you have other interesting secondary findings, these can be mentioned as well. Finally, consider including a sentence that states the theoretical or practical implications of your work and/or describes how your work has advanced the field. This will help readers to more clearly understand the importance of your findings.

As mentioned earlier, many readers who are unable to access the full text of your manuscript will read only your abstract, and without access to your data, they will have to take your conclusions at face value. For this reason, it is very important not to overstate your conclusions in your abstract so as not to mislead your readers.

THINGS TO AVOID IN AN ABSTRACT

The abstract is meant to be a summary of your research; as such, it usually carries a strict word count limit. Combining all of the most important aspects of your work into a paragraph of 250 words or less can be a challenging task. However, knowing what to avoid when writing the abstract can make the job a little easier.

For example, the abstract should not contain:

- Lengthy background information (readers peruse your abstract to learn about your current work, not the previous work of other researchers)

- Citations
- Details about routine laboratory procedures
- Details about the statistical methods or software used (unless this is the focus of your study)
- Undefined abbreviations or acronyms (most journals will provide a list of common abbreviations/acronyms that do not need to be defined; some journals do not allow the use of abbreviations/acronyms in the abstract)
- Results or interpretations that are not discussed in the text Once you have completed the abstract, it is important to check that all the information you have included here agrees with the information in the main body of your paper.

HOW MANY AUTHORS ARE IDEAL FOR A JOURNAL ARTICLE?

An article may be written by a single author or a group of authors. There is no ideal number as such. In 2015, an article in high-energy physics was published describing the measurement of the mass of the Higgs boson based on collisions in the Large Hadron Collider; the article boasted 5,154 authors, the printed author list needed 24 pages.

WHAT ARE THE DIFFERENT TYPES OF AUTHORSHIP IN PRACTICE NOWADAYS?

HONORARY AUTHOR: Honorary authorship is sometimes granted to those who played no significant role in the work, for a variety of reasons. Until recently, it was standard to list the head of a German department or institution as an author on a paper regardless of input. [Wrong practice]

GIFT AUTHOR: Gift authorship consist of authorship obtained by the offer of another author (honorary or not) with objectives that are beyond the research article itself or are ulterior, as promotion or favour. [Wrong practice]

GUEST AUTHOR: Guest authorship are authors that are included with the specific objective to increase the probability that it becomes accepted by a journal. [Wrong practice]

ROLLING AUTHOR: A rolling authorship is a special case of gift authorship in which the honour is granted on the basis of previous research papers (published or not) by the same research group. [Wrong practice]

GHOST AUTHOR: Ghost authorship occurs when an individual makes a substantial contribution to the research or the writing of the report but is not listed as an author. [Wrong practice]

FIRST AUTHOR: The first author in order

CORRESPONDING AUTHOR: The corresponding author is the one individual who takes primary responsibility for communication with the journal during the manuscript submission, peer review, and publication process. Normally, he also ensures that all the journal's administrative requirements, such as providing details of authorship, ethics committee approval, clinical trial registration documentation, and gathering conflict of interest forms and statements, are properly completed, although these duties may be delegated to one or more co-authors.

Generally, corresponding authors are senior researchers or group leaders with some – or a lot of experience – in the submission and publishing process of scientific research. They are someone who have not only contributed to the paper significantly but also have the ability to ensure that it goes through the publication process smoothly and successfully.

WHAT A CORRESPONDING AUTHOR IS SUPPOSED TO DO?

A corresponding author is responsible for several critical aspects at all stages of a study's dissemination – before and after publication.

If you are a corresponding author for the first time, take a look at these 6 simple tips that will help you succeed:

- Ensure that major deadlines are met
- Prepare a submission-ready manuscript
- Put together a submission package
- Get all author details right
- Ensure ethical practices are followed
- Take the lead on open access

IS CORRESPONDING AUTHOR SAME AS FIRST AUTHOR?

This is a common doubt, especially at the beginning of a researcher's career, but easy to explain: fundamentally, a corresponding author takes the lead in the manuscript submission for publication process, whereas the first author is the one who did the research and wrote the manuscript.

The corresponding author is the point of contact for editors, readers, and outside researchers who have questions about the contents of the paper. Often, the corresponding author is also the last author, but she or he may be listed first or even in the middle of the author list.

HOW DO YOU FIND THE CORRESPONDING AUTHOR?

Second, and more importantly, after a paper is published, one or more authors are designated "corresponding authors". These are the one or more authors with asterisks next to their names in published papers.

WHO IS FIRST AUTHOR OF A SCIENTIFIC PAPER?

The first author is usually the person who made the most significant intellectual contribution to the work. That includes designing the study, acquiring and analysing data from experiments and writing the actual manuscript. As a first author, you will have to impress a vast group of players in submission and publication processes but, first, if you are in a research group, you will have to catch the corresponding author's eye. The best way to give your work the attention it deserves, and the confidence you expect from your corresponding author, is to deliver a flawless manuscript, both in terms of scientific accuracy and grammar. If you are not sure about the written quality of your manuscript, and you feel your career might depend on it, take full advantage of Elsevier's professional text editing services. They can make a real difference in your work's acceptance in several stages before it comes out to the public.

HOW TO FIND A GAP IN RESEARCH?

How many times have you felt that you have finally formulated THAT new and exciting question, only to find out later that it had been addressed before? Probably more times than you can count. There are some steps you can take to help identify research gaps since it is impossible to go through all the amount of information and research available nowadays:

- **Select a topic or question that motivates you:**
Research can take a long time and surely a large amount of physical, intellectual and emotional effort, therefore choose a topic that can keep you motivated throughout the process.

- **Find keywords and related terms to your selected topic:**
Besides synthesising the topic to its essential core, it will help you in the next step.
- **Use the identified keywords to search literature:**
Identify cited literature present in the relevant publications marked in the step above.

Look for topics or issues that are missing or not addressed within (or related to) your main topic.

- **Read systematic reviews:**
These documents plunge deeply into scholarly literature and identify trends and paradigm shifts in fields of study. Sometimes they reveal areas or topics that need more attention from researchers and scientists.

To keep track of all the new literature being published every day is an impossible mission. Remember that there is technology to make your daily tasks easier and reviewing literature can be one of them. Some online databases offer up-to-date publication lists with quite effective search features:

WHAT IS MY H-INDEX?

Basically, the H-index score is a standard scholarly metric in which the number of published papers and the number of times their author is cited is put into relation. The formula is based on the number of papers (H) that have been cited H times and the other papers have no more than H citations each. See the table below as a practical example:

PUBLICATION	>	TIMES CITED	
1	>	79	
2	>	71	
3	>	45	
4	>	36	
5	>	10	
6	>	7	H-index=6
7	>	6	
8	>	3	
9	>	1	

In this case, the researcher scored an H-index of 6, since he has 6 publications that have been cited at least 6 times. The remaining articles, those that have not yet reached 6 citations, are left aside.

A good H-index score depends not only on a prolific output but also on a large number of citations by other authors. It is important, therefore, that your research reaches a wide range of audience, preferably one to whom your topic is particularly interesting or relevant, in a clear, high-quality text. Young researchers and unexperienced scholars often look for articles that offer academic security by leaving no room for doubts or misinterpretations.

WHAT IS A GOOD H-INDEX SCORE JOURNAL?

Journals also have their own H-Index scores. Publishing in a high H-index journal maximises your chances of being cited by other authors and consequently may improve your own personal H-index score. Some of the "giants" in the highest H-index scores are scholars in top universities such as Oxford with the highest score being 146, according to Google Scholar.

Knowing the H-index score of journals of interest is useful when searching for the right one to publish your next paper. Even if you are just starting as an author and you still don't have your own H-index score, you may want to start in the right place to skyrocket your self-worth.

See below some of the most commonly used databases which help authors find their H-index values:

- Elsevier's **Scopus**: Includes citation tracker, a feature that shows how often an author has been cited. To this day, it is the largest abstract and citation database of peer-reviewed literature.
- Clarivate Analytics' **Web of Science**: a digital platform that provides the H-index with its Citation Reports feature.
- Google Scholar**: a growing database that calculates H-index scores for those you have a profile.

Maximise the impact of your research by publishing high-quality articles. A richly edited text with flawless grammar may be all you need to capture the eye of other authors and researchers in your field. With Elsevier, you can have the guarantee of an excellent output, no matter the topic or target journal.

HOW SHOULD YOU WRITE THE INTRODUCTION?

In the introduction you will need to do the following things:

- Present relevant background or contextual material
- Define terms or concepts when necessary
- Explain the focus of the paper and your specific purpose
- Reveal your plan of organisation

HOW SHOULD YOU REVISE THE FINAL DRAFT OF YOUR MANUSCRIPT?

Check overall organization: logical flow of introduction, coherence and depth of discussion in body, effectiveness of conclusion.

- **Paragraph level concerns:** topic sentences, sequence of ideas within paragraphs, use of details to support generalisations, summary sentences where necessary, use of transitions within and between paragraphs.
- **Sentence level concerns:** sentence structure, word choices, punctuation, spelling.
- **Documentation:** consistent use of one system, citation of all material not considered common knowledge, appropriate use of endnotes or footnotes, accuracy of list of works cited.

HOW SHOULD I WRITE A COVER LETTER TO MY JOURNAL EDITOR?

One of the most neglected aspects of journal submission is the cover letter. Although it may seem like a formality, the cover letter is actually an important part of the submission process. The cover letter is your chance to tell the editor about your manuscript, why it is important, and how it fits into the scope of their journal. Overall, the letter should grab the editor's attention. This letter should not be written hurriedly, because the quality of the cover letter can make or break your chances of publication. The cover letter should follow a fairly standard format.

Sample Cover Letter:
<https://authorservices.taylorandfrancis.com/writing-a-cover-letter/>

WHAT SHOULD BE THE FORMAT OF A COVER LETTER TO THE JOURNAL EDITOR?

The first thing you need to do is check your target journal's author instructions for the cover letter requirements. Sometimes, the journals will request that certain phrases or statements be included in the cover letter. If this is the case, then make sure that your letter contains all the required information and statements mentioned in the instructions. Before writing the letter, here are a few key things to remember about the format of the letter.

- The letter should be written on a letterhead, and it should be limited to about one or one and a half pages long. All the proper letter heading materials should be included (the date and the address of the recipient should be at the top left, under the letterhead).
- It should address the editor by name, if this is known.
- The body of the letter should include four short paragraphs.
- The first paragraph should introduce the author while stating that the author is submitting a manuscript for review. This section should include the title of the manuscript and the journal name.
- The second paragraph should cover the focus of the manuscript. This should include about 4-5 sentences that describe the focus of the study, the hypothesis, the approach, and the methodology.
- The third paragraph should be about 2-3 sentences and should describe the key findings and how these contribute to the field. It should also describe the scope of the manuscript to the journal based on the details of the manuscript. If you have any other important details that might make your manuscript stand out and encourage the editor to send it for review, then do not forget to mention those details in this paragraph.
- The final paragraph should always thank the editor for considering the manuscript for publication.

HOW DO I WRITE A JOURNAL ARTICLE FROM MY THESIS?

You are almost completing your PhD thesis and want to convert it into a journal article. Or you're initiating a career as a journal writer and intend to use your thesis as a starting point for an article. Whatever situation, turning a thesis into a journal article is a logical step and a process that eventually every researcher stumble upon.

But... How to start?

The first thing to know about converting a thesis into a journal article is how different they are:

Thesis Characteristics:

- Meets academic requirements
- Reviewed by select committee members
- Chapters
- Lengthy, no word limits
- Table of contents
- Lengthy research of literature
- IRB approval described in detail
- Description and copies of tools used
- All findings presented
- Verb tenses

Journal Article Characteristics:

- Meets journalistic standards
- Reviewed by a panel of blind reviewers
- Sections
- Word limits
- Manuscript format
- Succinct research of literature
- IRB described in 1 to 3 sentences
- Essential and succinct tool information
- Selected findings presented
- Verb tenses are fairly consistent

Converting thesis to journal article may complex, but not impossible.

A thesis is a document of academic nature, being, therefore, more detailed in content. A journal article, however, is shorter in length, highlighting key points in a more succinct format. Adapting a thesis for conversion into a journal article is a time-consuming and intricate process that can take you away from other important work. In that case, Elsevier's Language Editing services may help you focus on important matters and provide a high-quality text for submission in no time at all. If you are going to convert a thesis into a journal article, with or without professional help, here is a list of many steps you will likely have to go through:

I. Identify the best-fitted journal for your work

- Ensure that your article is within the journal's aim and scope
- Check the journals' recommended structure and reference style

II. Shorten the length of your thesis

- Treat your thesis as a separate work.

- Paraphrase but do not distort meaning
- Select and repurpose parts of your thesis.

III. Reformat the introduction as an abstract

- Shorten the introduction to 100-150 words but maintain key topics to hold the reader's attention
- Use the introduction and discussion as basis for the abstract

IV. Modify the introduction

- If your thesis has more than one research question or hypothesis, which are not all relevant for your paper, consider combining your research questions or focusing on one for the article
- Use previously published papers (at least three) from the target journal as examples

V. Tighten the methods section

- Keep the discussion about your research approach short.
- Use previously published papers (at least three) from the target journal as examples

VI. Report main findings in the results

- Expose your main findings in the results section in concise statements

VII. Discussion must be clear and concise

- Begin by providing an interpretation of your results: What is it that we have learned from your research?
- Do not repeat your results in the discussion section
 - Situate the findings to the literature
 - Discuss how your findings expand our perspective
 - Briefly present ways in which future studies can build upon your work and address limitations in your study

VIII. Limit the number of references

- Journals limit the number of citations, so make sure:
 - To choose the most relevant and recent
 - To format them correctly
 - Consider using a reference manager system (e.g., Mendeley) to make your life easier.



WHAT IS AN EFFECTIVE TITLE?

The title of your manuscript is usually the first introduction readers (and reviewers) have to your work. Therefore, you must select a title that grabs attention, accurately describes the contents of your manuscript, and makes people want to read further.

An effective title should:

- Convey the main topics of the study
- Highlight the importance of the research
- Be concise
- Attract readers

Writing a good title for your manuscript can be challenging. First, list the topics covered by the manuscript. Try to put all of the topics together in the title using as few words as possible. A title that is too long will seem clumsy, annoy readers, and probably not meet journal requirements.

Example:

Does Vaccinating Children and Adolescents with Inactivated Influenza Virus Inhibit the Spread of Influenza in Unimmunised Residents of Rural Communities?

- This title has too many unnecessary words.
- Influenza Vaccination of Children: A Randomised Trial
- This title doesn't give enough information about what makes the manuscript interesting.
- Effect of Child Influenza Vaccination on Infection Rates in Rural Communities: A Randomised Trial
- This is an effective title. It is short, easy to understand, and conveys the important aspects of the research.

Think about why your research will be of interest to other scientists. This should be related to the reason you decided to study the topic. If your title makes this clear, it will likely attract more readers to your manuscript.

TIP: Write down a few possible titles, and then select the best to refine further. Ask your colleagues their opinion. Spending the time needed to do this will result in a better title.

WHAT ARE THE USES OF KEYWORDS?

Keywords are a tool to help indexers and search engines find relevant papers. If database search engines can find your journal manuscript, readers will be able to find it too. This will increase the number of people reading your manuscript, and likely lead to more citations. However, to be effective, keywords must be chosen carefully. They should:

- Represent the content of your manuscript
- Be specific to your field or sub-field

Examples:

- **Manuscript title:** Direct observation of nonlinear optics in an isolated carbon nanotube
- **Poor keywords:** molecule, optics, lasers, energy lifetime
- **Better keywords:** single-molecule interaction, Kerr effect, carbon nanotubes, energy level structure
- **Manuscript title:** Region-specific neuronal degeneration after okadaic acid administration

- **Poor keywords:** neuron, brain, OA (an abbreviation), regional-specific neuronal degeneration, signalling
- **Better keywords:** neurodegenerative diseases; CA1 region, hippocampal; okadaic acid; neurotoxins; MAP kinase signalling system; cell death
- **Manuscript title:** Increases in levels of sediment transport at former glacial-interglacial transitions
- **Poor keywords:** climate change, erosion, plant effects
- **Better keywords:** quaternary climate change, soil erosion, bioturbation

GIVE A GENERAL IDEA ABOUT FORMATTING MANUSCRIPT

It is important to format your manuscript according to your target journal's requirements, which can be found in the Instructions for Authors. This will speed up the submission process because the journal's editorial team will not have to send your manuscript back to you for formatting. It can also increase your chances of success because you will not omit materials that the journal might require.

TIP: Before writing a complete draft of your manuscript, it is a good idea to select an initial target journal. Read the formatting requirements for the journal on its website, then write your draft. This could save you a lot of time, as you won't have to reformat an already-written manuscript after selecting the journal!

Review all guidelines and ensure that your manuscript meets them. Have you:

- Obeyed all word and character limits (title, running title, abstract, manuscript text)?
- Included all required sections?
- Met language requirements (US or UK English)?
- Supplied all requested contact information?
- Inserted figures in the correct location (in text, end of manuscript, separate files)?
- Correctly formatted references?
- Used the correct file format for your images (.jpg, .png, .pdf, .ppt)?
- Stated any conflicts of interest?
- Included details of any required ethics and regulatory permissions?
- Obtained consent from all authors?

TIP: Some journals provide templates to assist authors. Also look for template style files for use with your reference manager.

WHAT IS REGISTER?

We use the term 'register' to refer to varieties or styles of speaking and writing. Registers vary because the language is used for different purposes, in different contexts and for different audiences. For example, there is a legal register, a register of advertising, registers of banking and a register of weather forecasting. We commonly recognise registers because of their specialised vocabulary but also because of uses of grammar.

WHY DO JOURNALS ASK FOR KEYWORDS?

A keyword is a key to information. Keywords point researchers to relevant papers—papers that may not come to a researcher's attention in the normal course of her or his reading. Relevant papers may escape notice because they are published in journals that a particular researcher does not read regularly. And even when such papers are published in journals that the researcher does read regularly, he or she may not realise that those papers are relevant because their titles may fail to indicate their relevance.

ARE OPEN ACCESS JOURNAL ARTICLES MORE CITED THAN NON-OPEN ACCESS ARTICLES?

Open access (OA) is a publishing model gaining in popularity. In the last five years, there has been a strong push from many major institutions to shift partially or fully to open access. Plan S, an initiative by a group of 11 European funding agencies requires that all funding recipients publish in OA journals, is one such example. Proponents of open access publishing argue that it is a fairer model that promotes accessibility of science and research to the public.

WHAT IS THE DIFFERENCE BETWEEN A REFERENCE AND A CITATION?

A citation tells the readers where the information came from. In your writing, you cite or refer to the source of information. A reference gives the readers details about the source so that they have a good understanding of what kind of source it is and could find the source themselves if necessary. Reference comes at the end of a research paper.

DO YOU HAVE TO CITE EVERYTHING YOU REFERENCE?

Each reference cited in text must appear in the reference list, and each entry in the reference list must be cited in text.

CAN YOU PUT A CITATION IN THE INTRODUCTION?

Whenever you use information from a source, you must cite it, even if the citation will occur in the introduction of your paper.

WHAT IS THE GENERAL RULE OF THUMB WHEN CITING SOURCES?

To avoid the potential for plagiarism, a good rule of thumb is to provide a citation for any idea that is not your own. This includes direct quotations, specific reference to an obscure fact, figure, or phrase.

IS IT OK TO CITE IN YOUR CONCLUSION?

If you have already cited the ideas earlier in your paper that you are summarising in your conclusion, you do not need to cite them again. You should not introduce new ideas in the conclusion.

WHAT THINGS DO NOT NEED TO BE CITED?

- Facts that are found in many sources (ex: Marie Antoinette was guillotined in 1793.)
- Things that are easily observed (ex: Many people talk on cell phones while driving.)
- Common sayings (ex: Every man has his price.)

DO YOU HAVE TO CITE IF YOU USE YOUR OWN WORDS?

Always cite your paraphrase. Summarise: when you are condensing the author's words or ideas without altering the meaning or providing interpretation using your own words, you're presenting the original information in a nutshell. Always cite it.

WHAT ARE THE FOUR THINGS THAT NEED TO BE CITED?

Information that always must be cited—whether web-based or print-based—includes:

- Quotations, opinions, and predictions, whether directly quoted or paraphrased
- Statistics derived by an original author you borrow
- Visuals in the original
- Another author's theories
- Case studies

CAN YOU HAVE REFERENCES WITHOUT CITATIONS?

No, a reference list only provides the list of references that were cited in the main text. If additional literature was useful for the research, it should be cited accordingly. Unlike a syllabus, a reference list is not just a collection of literature on a certain topic.

CAN YOU PLAGIARISE A CITATION?

Citations have a fixed format and should match any other use of that citation. However, copying the reference list of another writer is plagiarism as you are presenting the reference list — the product of a literature search i.e. their work — as your own work.

WHAT ARE COPYRIGHT LAWS?

Copyright laws exist to protect our intellectual property. They make it illegal to reproduce someone else's expression of ideas or information without permission. This can include music, images, written words, video, and a variety of other media.

At one time, a work was only protected by copyright if it included a copyright trademark (the © symbol). According to laws established in 1989, however, works are now copyright protected with or without the inclusion of this symbol.

Anyone who reproduces copyrighted material improperly can be prosecuted in a court of law. It does not matter if the form or content of the original has been altered — as long as any material can be shown to be substantially similar to the original, it may be considered a violation of the Copyright Act.

DO I HAVE TO CITE SOURCES FOR EVERY FACT I USE?

No. You do not have to cite sources for facts that are not the result of unique individual research. Facts that are readily available from numerous sources and generally known to the public are considered "common knowledge," and are not protected by copyright laws. You can use these facts liberally in your paper without citing authors. If you are unsure whether or not a fact is common knowledge, you should probably cite your source just to be safe.

IF I CHANGE THE WORDS, DO I STILL HAVE TO CITE THE SOURCE?

Changing only the words of an original source is not sufficient to prevent plagiarism. You must cite a source whenever you borrow ideas as well as words.

IF I CITE THE SOURCE, CAN I STILL BE ACCUSED OF PLAGIARISM?

You are allowed to borrow ideas or phrases from other sources provided you cite them properly and your usage is consistent with the guidelines set by fair use laws. As a rule, however, you should be careful about borrowing too liberally — if the case can be made that your work consists predominantly of someone else's words or ideas, you may still be susceptible to charges of plagiarism. Also, if you follow the words of a source too closely, and do not use quotation marks, it can be considered plagiarism even if you cite the source.

IF I WRITE SOMETHING SOMEBODY ELSE ALREADY WROTE, BUT I DIDN'T KNOW THEY WROTE IT, IS THAT STILL PLAGIARISM?

While it is possible that you might write on the same topic as someone else, odds are that you will not have exactly the same ideas or express them in exactly the same way. It is highly unlikely that you would be accused of plagiarising a source you have never read. Be careful, however, of "accidentally" plagiarising from sources you have read and forgotten — if your ideas turn out to have been influenced by a source that you read but failed to cite for any reason, you could be guilty of plagiarism.

WHAT IS THE PUBLIC DOMAIN?

Works that are no longer protected by copyright, or never have been, are considered "public domain." This means that you may freely borrow material from these works without fear of plagiarism, provided you make proper attributions.

HOW DO I KNOW IF SOMETHING IS PUBLIC DOMAIN OR NOT?

The terms and conditions under which works enter the public domain are a bit complicated. In general, anything published more than 75 years ago is now in the public domain. Works published after 1978 are protected for the lifetime of the author plus 70 years. The laws governing works published fewer than 75 years ago but before 1978 are more complicated, although generally copyright protection extended 28 years after publication plus 47 more years if the copyright was renewed, totalling 75 years from the publication date. If you are uncertain about whether or not a work is in the public domain, it is probably best to contact a lawyer or act under the assumption that it is still protected by copyright laws.

DO I NEED TO PROVIDE THE NAMES OF PREFERRED REVIEWERS TO THE EDITOR?

Journal editors often find it challenging to appoint reviewers. So, if they wish to hasten the publication process, you may be asked to suggest reviewers. If you give the names of preferred reviewers, you should not contact these people separately. The journal will send out review invitations to them if they find these reviewers suitable.

HOW CAN I DEAL WITH CONFLICTING EDITOR AND REVIEWER COMMENTS?

It is not unusual to have conflicting reviewer comments. In such cases, you have to take a call on whether you agree with the reviewer's opinion or the editor's. Based on your decision, you should provide a point-by-point response to each of the comments. Additionally, in the covering letter to the editor, explain that you had to choose between some of the comments as they were conflicting, but you have provided reasons for your choice.

WHAT'S THE DIFFERENCE BETWEEN QUANTITATIVE AND QUALITATIVE METHODS?

- I. **Quantitative research** deals with numbers and statistics, while **qualitative research** deals with words and meanings.
- II. **Quantitative methods** allow you to test a hypothesis by systematically collecting and analysing data, while **qualitative methods** allow you to explore ideas and experiences in depth.

WHAT IS A QUANTITATIVE RESEARCH DESIGN?

Quantitative research designs are either descriptive [subjects usually measured once] or experimental [subjects measured before and after a treatment]. A descriptive study establishes only associations between variables; an experimental study establishes causality.

WHAT IS QUANTITATIVE RESEARCH?

- Quantitative research is the process of collecting and analysing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalise results to wider populations.
- Quantitative research is the opposite of qualitative research, which involves collecting and analysing non-numerical data (e.g. text, video, or audio).
- Quantitative research is widely used in the natural and social sciences: biology, chemistry, psychology, economics, sociology, marketing, etc.

Quantitative research question examples:

- What is the demographic makeup of Singapore in 2020?
- How has the average temperature changed globally over the last century?
- Does environmental pollution affect the prevalence of honeybees?
- Does working from home increase productivity for people with long commutes?

Quantitative research methods:

You can use quantitative research methods for descriptive, correlational or experimental research.

- In descriptive research, you simply seek an overall summary of your study variables.
- In correlational research, you investigate relationships between your study variables.
- In experimental research, you systematically examine whether there is a cause- and-effect relationship between variables.

Correlational and experimental research can both be used to formally test hypotheses, or predictions, using statistics. In these two types of research, the results can be generalised to broader populations based on the sampling method used.

To collect quantitative data, you will often need to use operational definitions that translate abstract concepts (e.g., mood) into observable and quantifiable measures (e.g., self-ratings of feelings and energy levels).

Quantitative research methods

Research Method	How to use	Example
Experiment	Control or manipulate an independent variable to measure its effect on a dependent variable.	To test whether an intervention can reduce procrastination in college students, you give equal-sized groups either a procrastination intervention or a comparable task. You compare self-ratings of procrastination behaviours between the groups after the intervention.
Survey	Ask questions of a group of people in-person, over-the-phone or online.	You distribute questionnaires with rating scales to first-year international college students to investigate their experiences of culture shock.
(Systematic) observation	Identify a behaviour or occurrence of interest and monitor it in its natural setting.	To study college classroom participation, you sit in on classes to observe them, counting and recording the prevalence of active and passive behaviours by students from different backgrounds.
Secondary research	Collect data that has been gathered for other purposes e.g., national surveys or historical records.	To assess whether attitudes towards climate change have changed since the 1980s, you collect relevant questionnaire data from widely available longitudinal studies.

Quantitative data analysis:

Once data is collected, you may need to process it before it can be analysed. For example, survey and test data may need to be transformed from words to numbers. Then, to analyse your data, you can use descriptive and/or inferential statistics to answer your research questions.

Descriptive statistics will give you a summary of your data and include measures of averages and variability. You can also use graphs, scatter plots and frequency tables to visualise your data and check for any trends or outliers.

Using inferential statistics, you can make predictions or generalisations based on your data. You can test your hypothesis or use your sample data to estimate the **population parameter**.

Examples of descriptive and inferential statistics, you hypothesise that first-year college students procrastinate more than fourth-year college students. You collect data on procrastination levels of the two groups using 7-point self-rating scales.

First, you use descriptive statistics to get a summary of the data. You find the mean (average) and the mode (most frequent rating) of procrastination of the two groups and plot the data to see if there are any outliers.

Next, you perform inferential statistics to test your hypothesis. Using a t-test to compare the mean ratings of the two groups, you find a significant difference and support for your hypothesis.

You can also assess the reliability and validity of your data collection methods to indicate how consistently and accurately your methods measured what you wanted them to.

Advantages of quantitative research:

Quantitative research is often used to standardise data collection and generalise findings. Strengths of this approach include:

- **Replication**
Repeating the study is possible because of standardised data collection protocols and tangible definitions of abstract concepts.
- **Direct comparisons of results**
The study can be reproduced in other cultural settings,

HOW TO STRUCTURE QUANTITATIVE RESEARCH QUESTIONS?

There is no "one best way" to structure a quantitative research question. However, to create a well-structured quantitative research question, we recommend an approach that is based on four steps:

- **STEP ONE:** Choose the type of quantitative research question (i.e., descriptive, comparative or relationship) you are trying to create.

times or with different groups of participants. Results can be compared statistically.

- **Large samples**
Data from large samples can be processed and analysed using reliable and consistent procedures through quantitative data analysis.
- **Hypothesis testing**
Using formalised and established hypothesis testing procedures means that you have to carefully consider and report your research variables, predictions, data collection and testing methods before coming to a conclusion.

Disadvantages of quantitative research

Despite the benefits of quantitative research, it is sometimes inadequate in explaining complex research topics. Its limitations include:

- **Superficiality**
Using precise and restrictive operational definitions may inadequately represent complex concepts. For example, the concept of mood may be represented with just a number in quantitative research but explained with elaboration in qualitative research.
- **Narrow focus**
Predetermined variables and measurement procedures can mean that you ignore other relevant observations.
- **Structural bias**
Despite standardised procedures, structural biases can still affect quantitative research. Missing data, imprecise measurements or inappropriate sampling methods are biases that can lead to the wrong conclusions.
- **Lack of context**
Quantitative research often uses unnatural settings like laboratories or fails to consider historical and cultural contexts that may affect data collection and results.

- **STEP TWO:** Identify the different types of variable you are trying to measure, manipulate and/or control, as well as any groups you may be interested in.
- **STEP THREE:** Select the appropriate structure for the chosen type of quantitative research question, based on the variables and/or groups involved.
- **STEP FOUR:** Write out the problem or issues you are trying to address in the form of a complete research question.

[Visit <http://dissertation.laerd.com/how-to-structure-quantitative-research-questions.php>]

WHAT ARE THE FOUR TYPES OF QUANTITATIVE RESEARCH?

There are four main types of quantitative research:

- 1) Descriptive
- 2) Correlational
- 3) Causal comparative/quasi-experimental, and
- 4) Experimental research – attempts to establish cause – effect relationships among the variables.

These types of design are very similar to true experiments, but with some key differences.

WHAT ARE QUANTITATIVE METHODS?

Quantitative methods emphasise objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques.

WHAT ARE THE CHARACTERISTICS OF QUANTITATIVE RESEARCH?

- Large Sample Size.
- Structured Research Methods
- Highly Reliable Outcome
- Reusable Outcome
- Closed-ended questions
- Numerical Outcome
- Generalization of Outcome
- Prior study.

DIFFERENCE BETWEEN QUANTITATIVE AND QUALITATIVE RESEARCH METHODS?

BASIS FOR COMPARISON	QUALITATIVE RESEARCH	QUANTITATIVE RESEARCH
Meaning	Qualitative research is a method of inquiry that develops understanding on human and social sciences, to find the way people think and feel.	Quantitative research is a research method that is used to generate numerical data and hard facts, by employing statistical, logical and mathematical technique.
Nature	Holistic	Particularistic
Approach	Subjective	Objective
Research type	Exploratory	Conclusive
Reasoning	Inductive	Deductive
Sampling	Purposive	Random
Data	Verbal	Measurable
Inquiry	Process-oriented	Result-oriented
Hypothesis	Generated	Tested
Elements of analysis	Words, pictures and objects	Numerical data
Objective	To explore and discover ideas used in the ongoing processes.	To examine cause and effect relationship between variables.
Methods	Non-structured techniques like In- depth interviews, group discussions etc.	Structured techniques such as surveys, questionnaires and observations.
Result	Develops initial understanding	Recommends final course of action



QUALITATIVE RESEARCH DESIGNS



WHAT IS THE DIFFERENCE BETWEEN RESEARCH QUESTIONS & RESEARCH OBJECTIVES?

It is two different things entirely, the research objectives are the purpose or the intended task plan to be achieved in a project while research question is the process of stating the problem of the research, this gives a deep insight about the research to be embarked on.

A research problem, or phenomenon as it might be called in many forms of qualitative research, is the topic you would like to address, investigate, or study, whether descriptively or experimentally. It is the focus or reason for engaging in your research. It is typically a topic, phenomenon, or challenge that you are interested in and with which you are at least somewhat familiar.

A research question is a way of expressing your interest in a problem or phenomenon. Research questions are not necessarily an attempt to answer the many philosophical questions that often arise in schools, and they are certainly not intended to be an avenue for grinding personal axes regarding classroom or school issues. You may have more than one research question for a study, depending on the complexity and breadth of your proposed work. Each question should be clear and specific, refer to the problem or phenomenon, reflect an intervention in experimental work, and note the target population or participants.

WHAT IS A HYPOTHESIS?

A research hypothesis essentially is a declarative statement of how you expect the research to turn out. In a way, it is a possible answer to your research question. It should be brief, note your important variables, and suggest something you can test or descriptively investigate. It is typically included in experimental research but is also found in descriptive research such as factor analyses or survey-based investigations. It is not typically included in qualitative research in which the results are intended to be emergent (refer to chapter 7). In the case of experimental research and quantitative types of descriptive research, your research question often directly leads to your hypothesis. Therefore, it is good practice to ensure that your research topic or problem statement, research question, and hypothesis use consistent language regarding variables and any anticipated outcomes. Certainly, you would write a hypothesis for each question that you propose.



WHAT IS THE IMPORTANCE OF FORMULATING A RESEARCH PROBLEM?

A research problem is the preliminary step in conducting a research study. A research problem helps you understand the research procedure in a better manner. Most beginners in research think that a research problem is easy to formulate but, it is not so. A research problem needs great thought on the part of the researcher in order to formulate a scientific research problem. A scientific research problem is one that can be solved using scientific procedures.

In actual the purpose of the research problem is to determine the objective and intention of the research; in the absence of an aim or objective you cannot determine the research methodology. A research problem can help you identify every step of the research process: the study design, sampling strategy, research instrument and research analysis.

The research problem should have great clarity since the research process generates more questions. In the absence of a clear and well-defined research problem the researcher can become confused. In addition, the research question or research problem should have to be interesting so that the researcher becomes well engaged in the research. The passion of the researcher in conducting the research matters a lot in the research.

The research problem should have to be manageable within your resources, otherwise it will become difficult for you to undertake it. You should know about the time, energy, and money that you have in order to design manageable research.

WHAT IS THE DIFFERENCE BETWEEN RESEARCH METHOD AND RESEARCH METHODOLOGY?

Do you know that there is a difference between research methods and research methodology? Researchers use them interchangeably, but they are different.

Research methods are ways of data collection and analysis. Whereas research methodology is a broad term including theoretical and philosophical underpinnings along with research methods.

Research methods are the various procedures, schemes, steps and algorithms used in research. All the methods used by a researcher during a research study are termed as research methods. They are essentially planned, scientific and value neutral. They include observations, theoretical procedures, experimental studies, numerical schemes, statistical approaches, etc. Research methods help us collect samples, data and find a solution to a problem. Particularly, business and scientific research methods call for explanations based on collected facts, measurements and observations and not on reasoning alone. They accept only those explanations which can be verified by experiments.

Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially, the procedures by which researchers go about their work of describing, explaining and predicting phenomena are called research methodology. It is also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of research.

WHAT IS A RESEARCH PROBLEM AND HOW TO PRESENT PROBLEM STATEMENT?

A research problem is a statement about an area of concern, a condition to be improved, a difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory, or in practice that points to the need for meaningful understanding and deliberate investigation. In some social science disciplines, the research problem is typically posed in the form of a question. A research problem does not state how to do something, offer a vague or broad proposition, or present a value question.

The purpose of a problem statement is to:

- Introduce the reader to the importance of the topic being studied. The reader is oriented to the significance of the study and the research questions or hypotheses to follow.
- Place the problem into a particular context that defines the parameters of what is to be investigated.
- Provide the framework for reporting the results and indicates what is probably necessary to conduct the study and explain how the findings will present this information.

To survive the "so what" question, problem statements should possess the following attributes:

- Clarity and precision [a well-written statement does not make sweeping generalisations and irresponsible statements]
- Identification of what would be studied, while avoiding the use of value-laden words and terms
- Identification of an overarching question and key factors or variables
- Identification of key concepts and terms
- Articulation of the study's boundaries or parameters
- Some generalisabilities regarding applicability and bringing results into general use
- Conveyance of the study's importance, benefits, and justification [regardless of the type of research, it is important to address the "so what" question by demonstrating that the research is not trivial]
- Does not have unnecessary jargon
- Conveyance of more than the mere gathering of descriptive data providing only a snapshot of the issue or phenomenon under investigation

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Basic characteristics of research problem:

- Reflecting on important issues or needs
- Basing on factual evidence (it's non-hypothetical)
- Being manageable and relevant
- Suggesting a testable and meaningful hypothesis (avoiding useless answers)



WHAT IS RESEARCH DATA AND WHAT ARE DIFFERENT TYPES OF RESEARCH DATA?

TYPES OF RESEARCH DATA

Data may be grouped into four main types based on methods for collection: observational, experimental, simulation, and derived. The type of research data you collect may affect the way you manage that data. For example, data that is hard or impossible to replace (e.g. the recording of an event at a specific time and place) requires extra backup procedures to reduce the risk of data loss. Or, if you will need to combine data points from different sources, you will need to follow best practices to prevent data corruption.

OBSERVATIONAL DATA

Observational data are captured through observation of a behaviour or activity. It is collected using methods such as human observation, open-ended surveys, or the use of an instrument or sensor to monitor and record information – such as the use of sensors to observe noise levels at the Mpls/St Paul airport. Because observational data are captured in real time, it would be very difficult or impossible to re-create if lost.

Image courtesy of <https://dorothyjoseph.com>



EXPERIMENTAL DATA

Experimental data are collected through active intervention by the researcher to produce and measure change or to create difference when a variable is altered. Experimental data typically allows the researcher to determine a causal relationship and is typically projectable to a larger population. This type of data is often reproducible, but it often can be expensive to do so.



SIMULATION DATA

Simulation data are generated by imitating the operation of a real-world process or system over time using computer test models. For example, to predict weather conditions, economic models, chemical reactions, or seismic activity. This method is used to try to determine what would, or could, happen under certain conditions. The test model used is often as, or even more, important than the data generated from the simulation.

DERIVED/COMPILED DATA

Derived data involves using existing data points, often from different data sources, to create new data through some sort of transformation, such as an arithmetic formula or aggregation.

For example, combining area and population data from the twin cities metro area to create population density data. While this type of data can usually be replaced if lost, it may be very time-consuming (and possibly expensive) to do so.



WHAT ARE BEST SOFTWARE FOR RESEARCH AND PUBLISHING?

Grammar software:

- Grammarly
- Ginger
- Whitesmoke
- ProWritingAid

Summarization software

- Summarize Bot
- Resoomer
- SMMRY
- Text Summarization
- Text Compactor

Citation Management Software:

- Citelighter
- Docear
- Recipes4Success
- OttoBib
- RefDot
- Zotero
- EasyBib
- CiteThisForMe



Reference management software	Cost	Does it integrate with Microsoft Word?	Can it capture a webpage to create a record?
RefWorks	US\$ 100/year or free at any subscribing academic institution	Yes (requires download of Write-N-Cite utility)	Yes
Zotero	Free/open source	Yes) also works with open office)	Yes
EndNote	US\$249.95	Yes (also works with openoffice)	No
Mendeley	Free	Yes (also works with Openoffice)	Yes
Citationsy	Free	Yes (also works with openoffice)	Yes

Statistical analysis software

Statistical analysis software products are specialised programs designed to allow users to perform complex statistical analysis. These products typically provide tools for the organisation, interpretation, and presentation of selected data sets. Statistical solutions typically package these data management capabilities with features specific to statistical analysis. Statistical analysis capabilities refer to capabilities that support analysis methodologies such as regression analysis, predictive analytics, and statistical modelling, among many others.

List of Stat Software:

- SPSS Statistics.
- RStudio.
- Stata.
- JMP.
- Minitab 18.
- eviews.
- GNU Octave.
- OriginPro.
- Matlab

101 FAQs & ANSWERS





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