**PUBLICATION PEER REVIEWING****Dr. Nagi Zomrawi Mohammed***

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ABSTRACT

Publication and scientific research are some interests of schooler community. Many of them, especially beginners and those, who are interesting to know more about this matter and its circulation from submission up to publication. Peer review is a framework used to assess the quality of research article prior to publication and gives authors feedback. It judges the validity, significance and originality of the work. This review article tried to provide a general concept of

scientific publications and their types, peer review and peer review models, and publication route. Moreover, it highlighted some relevant topics such as plagiarism, data fabrication and publication ethics. From literature review and topics discussed, it can be noted that, scientific publication starts with correct writing of the article i.e., knowing how to write an article considering the type of the article to be written. Knowing peer review process and common types of peer review models is also necessary. Committing to research ethics leads to avoid plagiarism and altering research materials. Moreover, it is also necessary to know how article is evaluated and how review report is written and submitted.

KEYWORDS: Article, Citation, Fabrication, Falsification, Manuscript Transfer Program (MTP), Peer reviewing, Plagiarism, Publication, Research integrity, Reviewer, Scientific research, and Single blind reviewing.

INTRODUCTION

Scientific paper or sometimes known as journal article is a special type of written work. This work can be a production of laboratory, field, social or even self-experience. It always

subjects to peer reviewing process.^[7] It is usually written to meet especial characteristics, such as:

- Published in a periodical (journal) oriented to publish this kind of work.
- Peer reviewed.
- Citable.
- Include citations i.e., the paper frequently refers to previous publications that are relevant to the work topic. All cited works are listed in a reference section at the end of the paper.
- Written in specific structure. This structure should include:
 - ✓ Title: reflecting the contents of the article.
 - ✓ Author(s): who contributed to the work.
 - ✓ Abstract: brief synopsis of paper.
 - ✓ Introduction: context and purpose of study.
 - ✓ Materials and methods: how did the study executed.
 - ✓ Results: objective presentation of what found out.
 - ✓ Discussion: debates what do results mean.
 - ✓ Acknowledgments (optional): who helped and support to complete the work.
 - ✓ References/Literature cited: whose work did publication refer to.
 - ✓ Appendices (optional): extra Information.^[7]

Each periodical usually has its own template. This template follows a special style of writing and data presentation to layout the work.

TYPES OF JOURNAL ARTICLES

Publications or journal articles can be assorted in different types. The most common types are; original, short, case study and methodologies article.^[8] The following are some of publication types.

a. Original research article

This is the most common type of journal manuscript used to publish full reports of data from research. It may be called an original article, research article, research, or just article.

b. Short article

Known also as report article or brief communication. This type of paper communicates brief report of data from original research.

c. Review Article

Review article provides a comprehensive summary of research on a certain topic, and a perspective on the state of the field and where it is heading.

d. Case Study

This article reports specific instance of interesting phenomena. A goal of case study is to make other researchers aware of the possibility that a specific phenomenon might occur.

e. Methods

Methods or Methodologies presents a new experimental method, test, or procedure. The method described may either be completely new or may offer a better version of an existing method. The article should describe a demonstrable advance on what is currently available ^[8].

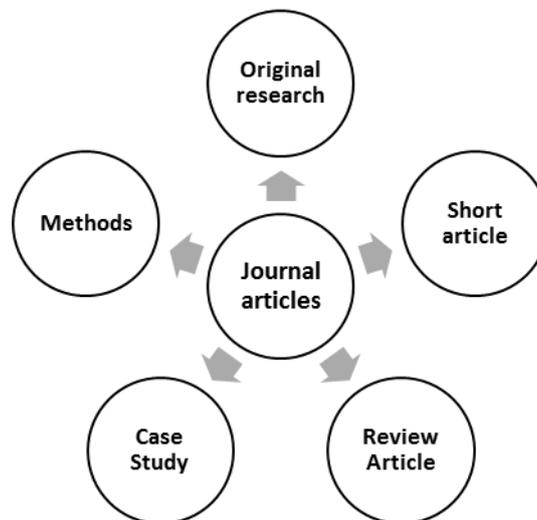


Fig. 1: Types of journal articles.

RESEARCH INTEGRITY AND ETHICS

Research integrity means directing research to make others to have confidence and trust in the methods and the results of the research.^[7] It principally based on honesty, responsibility, fairness, and accountability for all author, reviewer and the journal represented by the editor.

Author should be honor enough to submit original and not previously published research. And not submit the research to more than one journal at the same time.

Author ethics also concerned with source of finding i.e., reliability of the collected data and the correctness of the results.

When, the article has more than one author, it should be important to be sure that all mentioned authors are really contributed to the work and they are agreeing to submit the manuscript to the specific journal.

On the other hand, reviewer should stick to the basic principles of peer reviewing ^[4] that include:

- Only agree to review manuscripts for which they have the subject expertise required to carry out a proper assessment and which they can assess in a timely manner.
- Respect the confidentiality of peer review and not reveal any details of a manuscript or its review, during or after the peer-review process, beyond those that are released by the journal.
- Not use information obtained during the peer-review process for their own or any other person's or organization's advantage, or to disadvantage or discredit others.
- Declare all potential conflicting interests, seeking advice from the journal if they are unsure whether something constitutes a relevant interest.
- Not allow their reviews to be influenced by the origins of a manuscript, nationality, religious or political beliefs, gender, or other characteristics of the authors, or by commercial considerations.
- Be objective and constructive in their reviews, refraining from being hostile or inflammatory and from making libelous or derogatory personal comments.
- Acknowledge that peer review is largely a reciprocal endeavor and undertake to carry out their fair share of reviewing and in a timely manner.
- Provide journals with personal and professional information that is accurate and a true representation of their expertise.
- Recognize that impersonation of another individual during the review process is considered serious misconduct.

Journal ethics are generally declared by the journal and can be found in the journal website. Sometimes sent by the journal editor to the reviewer.

Committee on Publication Ethics (COPE) is a non-profit organization dedicated to promoting integrity in research and its publication.^[4]

(COPE is committed to educating and supporting editors, publishers and those involved in publication ethics with the aim of moving the culture of publishing towards one where ethical

practice become a normal part of the publishing culture. Its approach is firmly in the direction of influencing through education, resources and support its members, alongside the fostering of professional debate in the wider community).^[4]

Publication Peer Review

Peer review is a proven system that used to do the following:

1. Assess the quality of research and its presentation, prior to publication.
2. Gives authors feedback to improve the quality of their research papers before publication.^[2]

The peer review process judges:

- ✓ The validity of the work,
- ✓ The significance of the work, and
- ✓ The originality of the work.

Peer review in all its forms plays an important role in ensuring the integrity of the scholarly record. The process depends to a large extent on trust and requires that everyone involved behaves responsibly and ethically. Peer reviewers play a central and critical part in the peer-review process.

The peer review process is based on three entities; the authors, the editors, and the reviewers. Its circulation depends to some extent on the journal and its peer review model adopted. A sample of peer review process can be summarized as follows:

1. It always starts by the author who responsible to submit the article to the journal for publication. Author should take into consideration all ethics concerned.^[6]
2. The journal editor sends the article to reviewers relevant to the same field of the article.
3. The reviewers provide feedback after evaluating the work. And judge whether they think the study is of high enough quality to be published.
4. The authors may then revise the manuscript article according to the reviewer comment and resubmit it back to the editor.
5. Articles that meet the required standards are accepted for publication.

The following model of peer review process is taken after Wiley.^[2]



Fig. 2: Peer review process (After Wiley).

Types of Peer Review

The three most common types or models of peer review are single blind, double blind, and open peer review. Overtime, new models have developed such as collaborative, third party, post publication, Transferrable, and transparent peer review, which are key variations from the standard approach.^[1]

1. Single blind: Author does not know the identity of the reviewer.
2. Double blind: Reviewer does not know the identity of the author, and vice-versa.
3. Open peer review: The identity of the author and the reviewer is known by all participants, during or after the review process.
4. Collaborative: Two or more reviewers work together to submit a unified report. Or Author revises manuscript under the supervision of one or more reviewers.
5. Third party: Authors make change to their manuscript base on an independent peer review service. Then submit it to the journal
6. Post publication: With this type, assessment and revision of a paper continues / or occurs after publication. This may take the form of a comments page or discussion forum alongside the published paper.
7. Transferrable or Cascading peer review: Some of journals participate in a Manuscript Transfer Program (MTP). If an author's initial submission is not accepted, they may choose to transfer their manuscript to a more suitable journal. If the manuscript was peer reviewed, the reviewer reports will transfer to the new journal along with the manuscript files, to be considered by the new journal's editor.
8. Transparent Peer review: Review report is posted with the published article. Reviewer can choose if they want to share their identity.

REVIEW REPORT

A review report written by the reviewer should assess the layout and the contents and make a recommendation towards a manuscript paper.

Manuscripts will include an introduction, methods (including proposed analyses), and data (where applicable), results, discussion, and references. Reviewers will be responsible to assess:

1. The importance of the research question(s), for journals that normally include this as a criterion for acceptance.
2. The logic, basis, and credibility of the proposed hypotheses.
3. The soundness and feasibility of the methodology and analysis.
4. Whether the clarity and degree of methodological detail is sufficient to exactly replicate the proposed experimental procedures and analysis.
5. Whether the authors have pre-specified sufficient outcome-neutral tests for ensuring that the results obtained are able to test the stated hypotheses, including positive controls and quality checks.

A recommendation of the reviewer usually be one of the following:

1. Accepted,
2. Offered the opportunity to revise, or
3. Rejected outright.

Each journal offers its own review template. Figure (3) below is a sample of which. It can be available to the reviewer through journal website or send via email.

I. Points for Reviewers to Consider		
<input type="checkbox"/>	Are the title, abstract and keywords appropriate?	<input type="radio"/> Yes <input type="radio"/> No
<input type="checkbox"/>	Is the statement of objectives adequate and appropriate in view of the subject matter?	<input type="radio"/> Yes <input type="radio"/> No
<input type="checkbox"/>	Is the description of materials and methods sufficiently informative to allow replication of the experiment?	<input type="radio"/> Yes <input type="radio"/> No
<input type="checkbox"/>	Do the data support the conclusions?	<input type="radio"/> Yes <input type="radio"/> No
<input type="checkbox"/>	Are the figure and tables (and maps, if any) relevant?	<input type="radio"/> Yes <input type="radio"/> No
<input type="checkbox"/>	Is the work sound from the point of view of concept, method, and technique applied?	<input type="radio"/> Yes <input type="radio"/> No
<input type="checkbox"/>	Are the references adequate and in agreement with the guide for authors?	<input type="radio"/> Yes <input type="radio"/> No
<input type="checkbox"/>	Is the English correct and understandable to a multidisciplinary and multinational readership?	<input type="radio"/> Yes <input type="radio"/> No
<input type="checkbox"/>	Other important consideration? (Please specify on separate sheet)	<input type="radio"/> Yes <input type="radio"/> No

Fig. 3: Sample of review form (After Journal of Mountain Science).

A letter of acceptance will be issued by the journal editor to manuscripts that pass peer review indicating that the article will be published pending successful completion of the

study according to the pre-registered methods and analytic procedures, as well as a defensible and evidence-based interpretation of the results.

Copywriting is the act or occupation of writing text for the purpose of publication.

On the other hand, manuscripts that offered the opportunity to revise are suspended till performing the required remarks recoded by the reviewers.

PLAGIARISM

Plagiarism is the practice of taking someone else's work or ideas and passing them off as one's own.^[5] Or the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.^[3]

It can be classified into different types. All of which are serious and contradicts publication ethics. The most common types of plagiarism are; Direct Plagiarism, Self-plagiarism, Mosaic plagiarism and Accidental plagiarism.

1. Direct Plagiarism: is the word-for-word transcription of a section of someone else's work, without attribution and without quotation marks.
2. Self-Plagiarism: occurs when an author submits his own previous work, or mixes parts of previous works, without permission from all professors involved.
3. Self-plagiarism also applies to submitting the same work for in different journals with different titles.
4. Mosaic Plagiarism: occurs when an author borrows phrases from a source without using quotation marks or finds substitutes for the author's language while keeping to the same general structure and meaning of the original. Sometimes called "patch writing,"
5. Accidental Plagiarism: occurs when a person neglects to cite their sources, or misquotes their sources, or unintentionally paraphrases a source by using similar words, groups of words, and/or sentence structure without attribution.

FALSIFICATION AND FABRICATION OF DATA

Falsification is the practice of omitting or altering research materials, equipment, data, or processes in such a way that the results of the research are no longer accurately reflected in the research record.^[3]

Fabrication is the practice of creating data or results and recording and/or reporting them in the research record.

Both falsification and fabrication are probably among the most serious offenses in scientific research as they challenge the credibility of everyone, and everything involved in a research effort.

These offenses make it very difficult for scientists to move forward as it is unclear to anyone what if anything is true and can be trusted. Fabrication can lead students and colleagues to waste precious time, effort, and resources investigating dead ends.^[7]

Falsification and fabrication of data are hard uncovered. This is so because research studies are difficult to replicate. Sometimes results are not wrong, but the data are false.

Falsification and fabrication of data represent a problem because they send other researchers down to wrong track. Wastes time and money. Besides, in some fields such as medicine can represent danger.^[7]

CONCLUSION AND RECOMMENDATION

Lack of experience in scientific publishing makes those interested in an essential need to know how to write and publish scientific article.

From topics reviewed above, it can be concluded with that it is necessary for schoolers to be aware of:

- ✓ Correct writing of journal article.
- ✓ Identifying the type of the article to be written.
- ✓ Knowing peer review process and common types of peer review models.
- ✓ Using correct data and avoid plagiarism and commit to research ethics.

It is also necessary to have an idea about how article is evaluated, and review report is written.

Peer review has different models, but in its all models represents an important role in ensuring the integrity of the publications.

REFERENCES

1. <http://www.bates.edu/biology/student-resources/resources/>.
2. <https://onlinelibrary.wiley.com/>.
3. <https://ori.hhs.gov/definition-misconduct>.
4. <https://publicationethics.org/about/our-organisation>.

5. [https://uncw.edu/ulc/services/writing/avoidplagiarism.html#:~:text=The%20Oxford%20English%20Dictionary%20\(OED,%22%20\(%22Plagiarism%22\)\)](https://uncw.edu/ulc/services/writing/avoidplagiarism.html#:~:text=The%20Oxford%20English%20Dictionary%20(OED,%22%20(%22Plagiarism%22))).
6. https://undsci.berkeley.edu/article/howscienceworks_16.
7. <https://www.ncbi.nlm.nih.gov/>.
8. <https://www.springer.com/gp/authors+editors/authorandreviewertutorials/writing-a-journal-manuscript/types-of-journal-articles/10285504>.