

A guide to reviewing

Purpose of peer review

Peer review is a very important part of scholarly publication, it is the cornerstone of the whole system. It has two key functions:

- Act as a filter, to ensure only good research is published.
- Improve the quality of the research submitted for publication.

On being asked to review:

It might seem obvious, but the first item to consider when asked to review, is does the article which you are being asked to review truly match your expertise? The Editor who has approached you, may not know your work intimately, and may only be aware of your work in a broader context. Only accept an invitation if you are competent to review the article.

If you believe that the article is relevant to your knowledge, next consider do you have time to review it? Reviewing an article can be quite time consuming. The time taken to review can vary from field to field, but an article will take, on average, 3 hours to review properly. Will you have sufficient time before the deadline stipulated in the invitation to conduct a thorough review? If you can not conduct the review let the editor know immediately, and if possible advise the editor of alternative reviewers.

Once you have established that the article is in your field, and you have sufficient time to complete the review, the next item to consider is whether there are any potential conflicts of interest. A conflict of interest will not necessarily eliminate you from reviewing an article, but full disclosure to the editor will allow them to make an informed decision. For example, if you work in the same department or institute as one of the authors, worked on a paper previously with an author or have a professional or financial connection to the article. These should all be listed when responding to the editor's invitation for review.

Conducting the review:

Reviewing needs to be conducted confidentially, the article you have been asked to review should not be disclosed to a third party. If you wish to elicit opinion from colleagues or students regarding the article you should let the editor know beforehand. It is normally not a problem to do so. Most editors welcome additional comments, but whoever else is involved will likewise need to keep the review process confidential. You should not attempt to contact the author.

Be aware when you submit your review that any recommendations or advice you make, will contribute to the final decision which is made by the editor.

Set aside two or three hours to conduct the review. It is better to complete the evaluation in one go rather than snatching time here and there.

Depending upon the journal, you will be asked to evaluate the article on a number of criteria. Some journals provide detailed guidance others do not. Normally you would be expected to evaluate the article according to the following:

1. Originality

Is the article sufficiently novel and interesting to warrant publication? Does it add to the canon of knowledge? Does the article adhere to the journal's standards? Is the research question an important one? In order to determine its originality and appropriateness for the journal it might be helpful to think of the research in terms of what percentile it is in? Is it in the top 25% of papers in this field? You might wish to do a quick literature search using tools such as Scopus to see if there are any reviews of the area. If the research been covered previously, pass on references of those works to the editor.

2. Structure,

Is the article clearly laid out? Are all the key elements present: abstract, introduction, methodology, results, conclusions?

Consider each element in turn:

- **Title**, does it clearly describe the article
- **Abstract**, does it reflect the content of the article.
- **Introduction**, does it describe what the author hoped to achieve accurately, and clearly state the problem being investigated? Normally, the introduction is one to two paragraphs long. It should summarize relevant research to provide context, and explain what findings of others, if any, are being challenged or extended. It should describe the experiment, hypothesis (es); general experimental design or method.
- Is the **methodology** appropriate? Does it accurately explain how the data was collected? Is the design suitable for answering the question posed? Is there sufficient information present for you to replicate the research? Does the article identify the procedures followed? Are these ordered in a meaningful way? If the methods are new, are they explained in detail? Was the sampling appropriate? Have the equipment and materials been adequately described? Does the article make it clear what type of data was recorded; has the author been precise in describing measurements?
- **Results**. This is where the author/s should explain in words what he/she discovered in the research. It should be clearly laid out and in a logical sequence? You will need to consider if the appropriate analysis been conducted? Are the statistics correct? If you are not comfortable with statistics advise the editor when you submit your report. Any interpretation should not be included in this section.
- **Conclusion/Discussion**. Are the claims in this section supported by the results, do they seem reasonable? Have the authors indicated how the results relate to expectations and to earlier research? Does the article support or contradict previous theories? Does the conclusion explain how the research has moved the body of scientific knowledge forward?
- On balance, when considering the whole article, do the figures and tables inform the reader, are they an important part of the story? Do the figures describe the data accurately? Are they consistent, e.g. bars in charts are the same width, the scales on the axis are logical
- If an article is poorly written due to grammatical errors, while it may make it more difficult to understand the science, you do not need to correct the English.

5. Previous Research

If the article builds upon previous research does it reference that work appropriately? Are there any important works that have been omitted? Are the references accurate?

6. Ethical Issues

- Plagiarism, if you suspect that an article is a substantial copy of a work/s you are familiar with let the editor know, please cite the previous work/s.

- Fraud, it is very difficult to detect the determined fraudster, but if you suspect that the results in an article to be untrue let the editor know explaining why you believe the results to be fraudulent.
- Are there any ethical concerns? If the research is medical in nature, has confidentiality been maintained? If there has been violation of accepted norms of ethical treatment of animal or human subjects these should also be identified.

Communicating your report to the editor:

Once you have completed your evaluation of the article the next step is to write up your report. If it looks like you might miss your deadline, let the editor know.

Some journals may request that you complete a form checking various points, others will request an overview of your remarks. Either way, it might be helpful to provide a quick summary of the article at the top of your report. It serves the dual purpose of reminding the editor of the details of the report and also reassuring the author and editor that you understood the article.

The report should contain the key elements of your review, addressing the points outlined in the preceding section. When providing commentary you should be courteous and constructive, consider, 'how would you react to receiving your suggestions'. It should not include any personal remarks.

Providing insight into any deficiencies is important. You should explain and support your judgment so that both editors and authors are better able to understand the basis of the comments. You should indicate whether your comments are your own opinion or reflected by data.

You may want to consider including your name if you wish the author to know who it was you that conducted the review.

When you make a recommendation regarding an article, it is worth considering the categories an editor will likely use for the classifying the article.

- a) Rejected due to poor quality, or out of scope
- b) Accept without revision
- c) Accept but needs revision (either major or minor)
 - Clearly identify what revision is required

If you think the article needs to be revised indicate to the editor whether or not you would be happy to review the revised article.