Reviewing articles for peer review journals

How to do it...

The second of two articles looking at the peer review process. This month, how to review an article. By Peter Hogg, H Brian Bentley, Julia Parrott, Jennifer-Jane Bridges, Peter Hoskins, and Stuart Mackay.

Introduction

The article in last month's *Synergy* outlined background information to peer reviewing, with particular reference to the international journal, *Radiography*, and gave a general appreciation of the processes and procedures that surround peer review.

This article focuses on the practicalities of how to review an article. As such, it should be valuable to reviewers, potential reviewers and authors. Surprisingly little is written about how to review an article for a journal and because of this, the content was derived by asking existing *Radiography* reviewers for advice on how to review an article, and examining Instructions to Authors and Instructions to Reviewers on several peer reviewed journal websites. Directed reading is included to assist new and potential reviewers develop their knowledge and skill about how to review and critique articles.

Types of article

It is important that the reviewer is mindful of the types of articles that can be submitted to the journal. On this basis, reviewers should comment accordingly. Article types are indicated within Instructions to Authors[1], along with criteria about what each article type should look like.

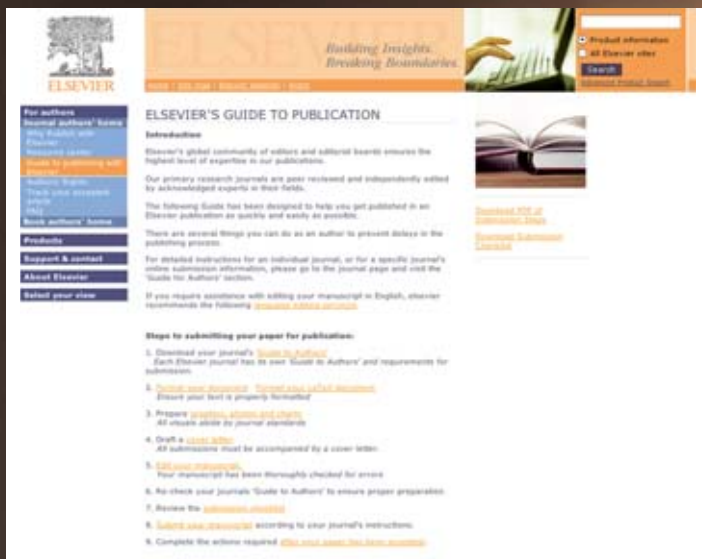
Approaching the article

Reviewers differ on how they approach an article. For *Radiography*, the article is presented as a web-based 'portable document format' (PDF) file. Some reviewers read it on screen and make notes into a word processor. Some print out the PDF and make notes and annotations directly onto the print copy, transcribing them into a word processor later. There is no right way – what is important is that the reviewer sets aside time to undertake the review in a place that is conducive to producing an objective constructive review. An important point to bear in mind is completing the review within the allocated timescale.

What to look for

It is of paramount importance that reviewers have article critique skills. A wide range of literature exists about article critique, most notability in good quality research methods books. In addition, we have appended some general reading that will help new and would-be reviewers to develop their reviewing and article critique abilities[1-14]. See also the checklist opposite which gives some good points to consider.

Hard or soft copy – which way do you work?



When reviewing the article, consideration should be paid to the following:

1. English: this is important but not critical, because deficiencies can be improved. Obviously, there is a point beyond which the article is unintelligible and, as such, the reviewer would have no option but to reject it. The key thing is to look beyond the standard of English and ask fundamental questions about the science and content of the work. That said, it is not uncommon to indicate that the article needs to be edited for English. Please note that *Radiography* does not offer a service to edit articles for authors and as such the responsibility lies with the author.

Factors like grammar, spelling, typographical errors, sentence and paragraph construction should be assessed and commented upon. Given that *Radiography* is an international peer reviewed journal (more than 50% of submitted articles are international), it is not unusual for the author's first language not to be English, and at times this can be spotted easily. If this is the case, consider suggesting that the author seeks help from a professional or a colleague who has a good command of the English language. It is also worth noting that, at a recent Editorial Board, it was agreed that American-English and also 'Standard' English are acceptable. This is consistent with most other international journals that are British in origin.

2. Structure: no matter what type of article, there should be a logical structure. Additionally, for certain article types, a specific structure may be indicated in the Instructions to Authors and this should be adhered to.

Various factors should be taken into account when assessing structure. For example arguments should be logical, organised and coherent, building from a general position and then focusing into the key issues. Repetition should be avoided. Sub-sections should be consistent with what is expected – for example, the abstract should reflect concisely the article and as such provide a clear window into it. Similarly, if the article type has results, these should be clearly set out in a fashion that is easy to follow.

3. Content: the reviewer should consider whether the article adds to the existing body of knowledge and also whether it fits within the aims and scope of the journal. Alongside this, the rationale for the paper should be assessed.

If the article requires the use of a method, its validity and reliability should be considered and if necessary commented upon – it should be described in such a way that it can be reproduced. A poor method would bring into question the quality of the article – no matter how well constructed the rest appears to be. Poor methods lead to poor results which develop into questionable conclusions. The discussion

A checklist for reviewer

Plagiarism
✓ Is the work the same or similar to other works?

Instructions to Authors
These instructions outline how the article should be presented, including referencing style.
✓ Have a copy of these available when you review the paper
✓ Check for compliance

Topic
✓ Is the topic aligned to the aims and scope of the journal?
✓ Has the article got importance to the profession?
✓ Is the work original?

Use of English language
✓ Is it of an acceptable standard?
✓ Do grammatical errors exist?
✓ Do spelling errors exist?
✓ Do typographical errors exist?
✓ Are acronyms defined adequately?
✓ Is it logical/does it tell a story?

Title
✓ Does it indicate clearly and concisely the topic?

Key words
✓ Are they suitable, considering the topic area?
✓ Are they consistent with mesh headings (http://www.nlm.nih.gov/mesh/)?

Abstract
✓ Does it state concisely the purpose of the work?
✓ Does it accurately describe the method used (if appropriate)?
✓ Does it summarise the results (if appropriate)?
✓ Does it indicate the conclusions?

Introduction
✓ Is the problem or need for the work defined?
✓ Is the relevant background information/literature discussed?
✓ Is it concise?
✓ Is the purpose of the work stated clearly?

Method (if relevant)
✓ Is how it was done and why adequately explained?
✓ Is it adequately supported by evidence, such as literature?
✓ Is it reproducible?
✓ Is it valid/reliable?
✓ Is it concise?

Results
✓ Are they clear and concise?
✓ Does it make appropriate use of graphics/figures?

Discussion
✓ Does it discuss the results 'within themselves'?
✓ Are the findings/results related to the existing body of knowledge?
✓ Does it develop arguments and theories from evidence?
✓ When required, does it discuss the implications of the work to practice?
✓ Are suggestions made about 'what next'?

Conclusion
✓ Is this supported by the material debated in the work?
✓ Is new information introduced at this stage?
✓ Is this valid? NB: this could be tempered by limitations of the work.
✓ Are new directions suggested?

References
✓ Are they timely/or historically significant?
✓ Are they sufficient in quantity to support the work?
✓ Are they adequate in quality, normally being predominantly derived from peer-reviewed sources?

Appendices
✓ These should only be included when appropriate
✓ Are they concise?

Ethics
✓ Is the Helsinki Declaration adhered to?
✓ Does the work contain unethical practice?

Footnotes
✓ Can be helpful, but must be concise and not used too often

should be more than a simple description of the results; analytical comments should be included, along with any new theories. Any inferences must, of course, be grounded in evidence. Within the discussion, it is common for results to be related to and contrasted against the existing body of knowledge.

The references should be assessed for quality and quantity and presented in a style that is indicated in the Instructions to Authors. There are no hard and fast rules for how recent references should be, since historical work is likely to have older ones and, on occasion, seminal work may appear at first sight to be quite dated. No research is perfect and, as such, limitations of the work should be acknowledged. Conclusions may require tempering in light of deficiencies and as such the author should address this. Finally, anecdotal comments must be avoided.

4. Plagiarism: the presenting of someone else's ideas (published or unpublished) as if they were your own. To help editors and reviewers with the detection of this, *Radiography* has a direct web-link to 'similar articles' published within Medline – this is a web-based facility which is easy to use. If a reviewer suspects plagiarism, they should inform the editor immediately. If the reviewer feels that the work has been published previously, the reviewer should ideally indicate the reference of the published article to the editor. The Editor in Chief deals with suspected cases of plagiarism.

5. Ethics: all research involving humans must comply with the Helsinki Declaration, as indicated in the Instructions to Authors. This Declaration contains many principles about research with humans and it is valuable for reviewers to familiarise themselves with them. When ethical approval is required for research work, the author should indicate that they have gained formal permission from appropriate bodies to conduct their research. Reviewers should assess articles for ethical requirements and if it is clear that permission should have been granted and it is not mentioned, the reviewer must request its inclusion.

Constructive comments and reviewer recommendation

Reviewers have to reach a decision about an article and convey this as a recommendation to the editor, who will then decide whether the article is worthy for publication. For *Radiography,* the decisions are:

- Accept – publish as is
- Reject – do not publish
- Revise – the article needs further work.

It is common for reviewers to justify their opinion by making constructive comments about the article. Such comments arise from the notes and annotations mentioned earlier, and can be used to help an author realise why their article has been rejected. They could also provide a set of points on which aspects of the article need improving before it can be accepted for publication. Reviewer comments should not be patronising. They should be clear and concise and if a problem is noted, ideally a possible solution(s) should be indicated. It is important that reviewers are not idealistic, because research will often have flaws. Nothing is perfect. In addition, for empirical work, it is important to recognise that the work is 'completed' and so the suggestion of an alternative methodological approach would not be helpful.

There are many different styles used by reviewers to convey comments. Some are succinct, for instance:

Excellent article, but it does require further work. Please can you address:

- *English and typographical errors*
- *Use more up to date references*
- *Limit the number of tables*
- *Condense the discussion and introduction*
- *Make the abstract more clearly reflect the article.*

Other reviewers can be more detailed and verbose:

- *Methodology, para 5, line 6 – who is 'the researcher'? Perhaps this could be replaced with 'to a member of the research team'.*
- *Methodology, para 6 – this is a single sentence paragraph. Can it be incorporated into another?*
- *Methodology, para 7, line 2 – here you use 'X-ray' but in other places 'x-ray'. Please be consistent.*
- *Methodology, para 7, line 8 – please consider replacing the word 'would' with 'may'.*

(NB: There were almost 100 [constructive] comments to this feedback).

There are times when the reviewer decides to reject an article and they may wish to compose their reasoning as to why. For instance:

This could have been an interesting piece of work in a field were there is a paucity of evidence for student centred learning approaches. It was pleasing to see that there are evaluations going on in this area and attempts made to write them up. However, there were some major flaws in the methodology of this evaluation and the write up lacked some essential information which made it impossible to recommend this article for publication.

Conveying the recommendation

The final responsibility of the reviewer is to convey their opinion to the editor. For *Radiography,* this is done over the internet through the Elsevier website. The reviewer must indicate their decision (accept, reject or revise) and any free text comments as indicated above.

Comparing your review

This final stage is optional and could be viewed as self development. Normally, each article has two or more reviews conducted upon it. When all the reviews are completed and uploaded onto the website, the reviewers are sent an email to say that they can access the 'other reviewer' comments and decision. It is worthwhile accessing these comments as they help develop your own ability. This is particularly important for new/novice reviewers.

If you are keen to be a reviewer for *Radiography,* please email RadiographyJournal@elsevier.com with your CV, indicating that you wish to be considered as a reviewer.

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How to use this article for CPD

This month, instead of the Test Yourself section, there is this extended editorial on recording your CPD, designed to help you reflect more fully on what you have learned.

You may now feel that you are able to offer your services as a peer reviewer and, if you feel you meet the criteria, your application to *Radiography* would be very welcome! The article may be useful in giving you an improved understanding of the rationale for and processes involved in peer review and in helping to 'de-mystify' what peer review is about, enabling you to use *Radiography* in a more structured and informed way. If this is the case, you might consider using some of these points when you record this learning activity in **CPD Now**:

Summary of learning: *what did I learn?*
This article helped me to understand the rationale for, and the processes involved in, peer review for publication in my professional body's quarterly peer review journal *Radiography*. This gave me an introduction to a number of topics, including:

- The role of peer review in ensuring that the appropriate academic standards for publication are met.
- The role of peer review in examining the validity of the research methodologies and their appropriateness to the issues examined.
- The qualities and experience required of a peer reviewer.
- The purpose and relevance of peer review in the development of a professional evidence base to support evolving practice and to challenge the assumptions of existing practice.

Practice outcomes: *how has this improved or enhanced my professional performance and benefited my patients/clients?*
This CPD activity has focused primarily on developing my knowledge and appreciation of peer review and, as yet, has shown no tangible impact on my practice. However, the longer term benefits to my practice will be immense. I will be able to tackle articles in my peer review journal with a clearer understanding of their review and publication and this will help my critical evaluation of such articles, although I accept that this is in itself a different skill which I need to develop.

My informed use of peer reviewed material will support my keeping up to date in my practice. I will be able to make a more concrete assessment of the value of this current CPD activity, therefore, in the longer term. I will be able to evidence this with specific examples of future changes to my practice in the light of peer reviewed material I will be using. This CPD activity is therefore enabling me to develop the skills and understanding necessary to support my future practice.

Further learning needs: *has this activity identified other things I need to learn or would like to consider in more detail?*
I consider that this article has given me a clear understanding of peer review and that I don't currently need to undertake any more work on this specific topic. However, I am conscious that if I am to use peer reviewed material appropriately I need to develop my critique skills and I plan to start doing this by using an article on this topic published in my professional body's monthly technical journal (How to critique a scientific article: a beginner's guide, *Synergy*, June 2007)

You might assign work you do on these topics to **CPD Now** outcomes:

01 Practical skills
02 Knowledge base
04 Legal/ethical
06 Manage knowledge and information
07 High quality healthcare/ education
19 Evidence to support practice
20 Knowledge and skills in audit and research