

STRENGTHS AND WEAKNESSES OF PEER REVIEW: ENHANCING INTEGRITY AND PROFESSIONAL STANDARDS IN PUBLICATIONS

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Keywords

Academic publishing, peer review, predatory publishing, ECR training

Abstract

The peer review process is central to academic publishing and dissemination. Without peer reviewers, the quality, standard, readability and relevance of all academic publications would have to be checked by the editors, which would be an enormous task. In the case of disreputable or predatory journals, there is pretence that peer review happens, but in reality, there is little or no checking or feedback to the author (Eaton, 2018). Typically, a predatory journal or publisher will publish any submitted paper with minimal or zero editing and review, as long as the author has paid the article processing charge (Fenske, 2021).

The most common types of peer review processes are (a) double blind, where both reviewers and authors are anonymous, (b) single blind, reviewers' names are hidden from the authors, and (c) open peer review, where names of reviewers and authors are visible. Each of these methods of review have flaws. Fully anonymised reviews should allow impartial acceptance/rejection decisions, but authors may indirectly identify themselves via self-referencing within their article. Single blinded review provides anonymity to the reviewer to critique without concerns, and, since the reviewers can see the authors' names and

affiliations, there is potential for professional, gender, racial, geographic and other biases. Open peer review is entirely dependent on professionalism by both parties. **Subject-specific** competitiveness between reviewers and authors may trigger hostile comments, counter arguments, unsubstantiated criticisms and delays in responses. Therefore, when it works well, peer review of academic work benefits the author, the editor and publisher and the readership. However, when the peer review process or editorial process is weak or corrupted, it is possible for pseudo- junk-science, plagiarised or poor-quality academic papers to be published, even by reputable journals (Bohannon, 2013; Retraction Watch, 2014). Publishing unfounded, unsupported or inaccurate claims can have serious consequences, especially in fields such as healthcare, medicine and engineering (Moher et al., 2017).

Early career researchers (ECRs) can be daunted by the peer review process. A rude peer reviewer who is unethical or incompetent can convince an inexperienced author that their work is worthless, potentially leading to abandonment of an otherwise promising academic career (Mavrogenis et al., 2020). Clearly, all ECRs need to be well prepared for publishing and peer review before they encounter any harsh realities. Understanding how to benefit from constructive feedback and having confidence to provide a measured response to unfair or unevdenced criticism, can make a great difference to the process of academic writing, for all authors.

The role and duties of a peer reviewer need to be clearly articulated by the publisher or editor, otherwise great disparities can arise in the

quality and nature of feedback received by an author. Editors and peer reviewers are not always ethical in declaring conflicts of interest and some may unjustifiably criticise work by researchers in the same field (Fanelli, 2010). Even when there is anonymity through blinding, it has been known for editors and peer reviewers to take advantage of access to draft papers to boost their own profile, by publishing a plagiarised copy before the author's work can be published (Oransky, 2022).

It is not uncommon for a journal to ask an author to nominate their own peer reviewers. This can work well if the authors and reviewers can be trusted to behave ethically. However, if not appropriately managed, this open approach can lead to corruption and academic misconduct. For example, there could be reciprocity between author and reviewer – if you give me an easy time, I will do the same for your next paper (Birukou et al., 2011). The resulting light-touch reviews that lack objectivity, do not adequately contribute to improving the quality of either papers or the journal.

If a manuscript is assigned to an inappropriate reviewer, then this could be a mistake by the editor, or the reviewer's limitations may not be fully understood. It is the responsibility of the reviewer to refuse to review a manuscript that is outside their subject area or level of competency or to notify the editor when there is a clear conflict of interest, such as knowing who the author is, or being involved in the research, when the process is supposed to be blinded. If a peer review is conducted by someone who does not understand the subject of the manuscript, then the feedback is likely to be unhelpful, misleading or unjustified.

The workshop

This workshop will be used to highlight positive and negative aspects of the peer review process. The following research questions will direct the focus of the workshop.

Research questions for workshop participants

- What positive and negative experiences have you had as a PhD student / ECR relating to peer review?
- Based on the experience of participants serving as peer reviewers, what factors

make peer review useful and successful and what could be done to make it work better?

- What types of unfair practices have you encountered that relate to peer review in publishing and dissemination? How did you respond to unfair practices?
- Should peer reviewers who conduct reviews for profitable publishers receive payment or some form of compensation?

As views and experiences from participants will be collected during the workshop, the Ethics Committee of the University of Porto, have agreed to check the methodology for compliance with their ethical requirements and ensure it meets their standards. The ethical approval will be completed before the conference.

At the start of the workshop, the participants will be asked to sign an informed consent form, which will contain an explanation of the purpose of the research and methods to be followed. The form will be made available online for use by both in-person and remote attendees of the workshop, and paper copies will be available.

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The working group members intend to include some of the feedback from participants in a future paper submitted for publication. However, no participants will be identified in the paper.

The experiences of participants will be explored, looking at the peer review process through different lenses. Using the research questions, workshop participants will be asked to suggest what more can be done to improve the operation of the peer review process for all stakeholders. In addition, the workshop participants will be asked to consider alternatives to peer review, such as continuous incremental review throughout the lifecycle of the research (Bishop, 2022) and the effectiveness of pre-print servers (Birukou et al., 2011; Packer, 2018; Puebla et al., 2022).

An app such as Padlet or Mentimeter will be used to collect anonymous contributions from participants, during and after the workshop, particularly those connecting remotely.

This workshop is of relevance to anyone interested in maintaining quality and standards in academic and scientific publishing and research.

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