

## **Role of Online Journals and Peer-reviewed Research**

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Source: Northwest Science, 88(3):264-265.

Published By: Northwest Scientific Association

DOI: <http://dx.doi.org/10.3955/046.088.0310>

URL: <http://www.bioone.org/doi/full/10.3955/046.088.0310>

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## Role of Online Journals and Peer-reviewed Research

The recent explosion of online journals has led some researchers, scientists and academics to reconsider their traditional venues for publishing research. These on-line journals have the potential for quickly disseminating research, but they also present lots of uncertainty, confusion, and pitfalls for researchers. Many academics search out journals with high impact factors or short review time for publication. These are important criteria to consider when choosing journals, but impact factors and review time can be manipulated by publishers, and some journals do not use associate editors or have fully functional editorial boards. Online journals also have many of the same issues with the peer-review process that more established journals need to address. Thus, before I examine the opportunities and concerns with online journals, I will discuss some of the most important tenets of the peer review process for scientific journals.

One of the most important considerations for authors is to assess how individual journals are organized, including the structure and function of their editorial board and the rigor and transparency of the journal's peer review process. All journals have editors but not all journals have a truly functioning editorial board. The best process is to have journals that use associate editors (AEs) with expertise in specific subject matter areas. Journal editors assign papers to AEs who are usually well connected with their field of expertise and have a primary responsibility to find reviewers who can provide thorough reviews. These AEs also have an important role as they reconcile different reviewer comments and make recommendations on suitability of paper to the journal editor. The editor makes the final decision on papers but a

well-functioning editorial board with many AEs ensures that papers are being sent to qualified reviewers and provides an important expert recommendation to the editor. Not all journals use AEs, and some publishers have decided to pay editors to find reviewers and bypass AEs in order to speed up the review process. This is a poor way to run a journal for several reasons. First, the editor's main focus is to quickly find reviewers for many papers, sometimes in fields of expertise that they may not know well, potentially leading to poor matches of reviewers and inadequate reviews. Second, without the AE, there is no recommendation from an expert in the field, an important process for an informed decision by the editor. Third, the editor makes decisions on numerous papers and has an unusually strong influence on which papers get accepted or rejected. Without a group of functioning AEs, the journal essentially has an editorial board by name only. Some mercenary publishers have decided to do away with AEs mostly to speed up the review process and increase journal impact. Eliminating the AE step does shorten review time but can seriously erode the peer review process that is an important part of journal quality control.

There are some other protocols that can be helpful for the peer review process. Use of double blind reviews (both the author and reviewer names are unknown) and using three reviewers can help with both impartiality and rigor of review. In addition, having clearly defined reviewer guidelines is helpful for reviewers to evaluate different sections of papers including methods, data analyses, results, discussion, and conclusion. As a reviewer, I like to see all of the reviewer comments; this can be particularly helpful for new reviewers who can assess the comments of other reviewers. Lastly, having straightforward manuscript submittal software for journals reduces frustration for authors

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when they submit papers and helps reviewers, AEs, and the editor track manuscripts.

How does the peer review process relate to online journals? All of the abovementioned protocols and potential problems are magnified by online journals. Does the journal have a qualified set of AEs who are knowledgeable in their fields of expertise? Is the rigor of review adequate? What is the role of the AEs/editorial board and editor? In addition, most quality in-print journals have technical editors who ensure papers are well written, follow journal guidelines, and catch obvious mistakes that the reviewers/editorial board may have missed. This step may not occur in some online journals and could potentially degrade the quality of the final paper. An obvious advantage of online journals is that they can get new research disseminated more quickly than in-print journals. But it is unclear how rigorous and transparent the peer review process is for many online journals, and potentially degrading quality and rigor of review for speed of information is an unacceptable tradeoff in my opinion. Another benefit of online journals is that they usually have free access, which is a benefit for readers who may not have access to expensive journals.

In summary, online journals have some potential to quickly provide new research and information to readers. Eliminating cost and providing access to all readers is a big positive. However, online journals will have to prove their credibility. Until they start getting cited regularly and develop impact factors they may have difficulty attracting the highest quality papers. Online journals may have already forced changes in traditional in-print journals. Many journals now provide online versions of papers that have been fully accepted and formatted as soon as they are available. This does not replace the in-print version of paper copy, but is available to authors and some readers several months earlier than print versions. Overall, the explosion of online journals is confusing to many authors, and the quality of journals is uncertain, uneven, and difficult to evaluate. To ensure that high quality online journals are credible, an evaluation process is needed that includes a transparent review process, editorial board empowerment, and ranking of the quality of online journals. Until this process is in place, online journals will continue to intrigue but not satisfy author needs.