

Editorial

Overcoming the Crisis of the Reviewing Process: Responsibility of a Scientific Journal

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Manuscript reviewers and the accuracy of the review process represent the basic component of the quality of a scientific journal. Authors have entrusted their research to reviewers and should expect the highest ethical standards and expertise in the reviewing process of their scientific work. Moreover, authors place a tremendous trust in peer reviewers' confidentiality and professionalism, since manuscript submissions are unpublished material, and a sort of trust agreement is made when an author submits their paper to a scientific journal. Reviewers' comments should be constructive, honest, and polite and should not be influenced by commercial interests, personal relationship or agendas. Even findings that are not statistically significant or report negative associations should not influence reviewers. Scientific journals can rely on hundreds of registered reviewers who are generally classified based on key words reflecting their field of expertise. At "Tomography" we are fortunate to have more than 300 active reviewers with a total amount of almost 200 manuscripts submitted during 2021 for a total number of 70 papers published in the same year.

The reviewer assigns a numerical score to the manuscript to quantify the estimation of the merit of the manuscript for publication. The reviewer does not select the manuscript for publication but simply renders an opinion. This opinion is weighed against the opinion of one or more additional reviewers and the editor in chief finally issues a decision about the destiny of a manuscript. The final decision remains the prerogative of the editor who scores the reviewer's assessment of the manuscript.

A careful evaluation of the submitted manuscript implies the assessment of the scientific merit and rank against what is already in the current literature [1]. Reviewers are charged with the essential task of judging whether a manuscript is important, scientifically valid, coherent and readable, and appropriate for a particular journal. Who else could stop the progression of a flawed manuscript or support the rise of an otherwise unseen study? Only the cultured and accurate reviewer can do that. The editor must rely on reviewer and is, of course, influenced by his/her assessment. Of course, not all reviewers are equally skilled in this task. Who are the best reviewers? A number of characteristics, including age, subspecialty, number of years reviewing, academic rank, and type of practice (academic or private) could be related to the quality of a reviewer [2]. Editors typically select experts in the subject to review the manuscript. Older reviewers or those with an higher academic rank tend to underestimate the importance of manuscripts [3] while younger reviewers sometimes are inclined towards expressing a more objective assessment of a manuscript. Generally, there are no definite criteria which define an accurate and dedicated reviewer since many confounding factors can hamper this task, including the grade of expertise of the reviewer in the field of the manuscript topic, the time the reviewer can dedicate to the manuscript according to the specific period of manuscript handling, the potential competition between reviewers and authors in a particular scientific field, etc.

However, the true issue is that the reviewer's role is now facing a true crisis. Journals differ in peer review requirements and guidelines, including the number and types of



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reviewers selected for each manuscript. Editors may further improve the average quality of their published manuscripts by selecting reviewers well-grounded in the scientific method and with knowledge of some statistical techniques. Unfortunately reviewing is a time-consuming process and the increasing pressure to publish may make reviewers less available to dedicate their time to assess the manuscript of other colleagues. The increasing number of journals is causing a terrific increase in reviewing invitations to individuals who frequently serve as reviewers for many scientific journals. Moreover, the reviewer activity is largely unseen, although the success of peer review relies on the skill, discernment, dedication, and fair-mindedness of a large cohort of expert reviewers. Unfortunately, no impact factor or H index increase are related to a good revision.

There are two essential components in the reviewing process, the discipline knowledge and dedication to the review process which can be provided by the reviewer. Although the reviewer could be very cultured in a particular field, the dedication to the review process of a particular manuscript could be even more important and it is not completely obvious that the reviewer will dedicate to a manuscript the right time for an accurate and objective assessment. Establishing a system for selecting appropriate reviewers and to improve the reviewing activity is the basic and essential responsibility of the journal.

Since the reviewing process is the most important element in the journal scientific value, is there a strategy which could improve it? In my opinion, there are essentially eight items which could improve this process and even overcome the true present crisis in reviewing.

1. Highest accuracy in selecting key words from the reviewers. Each reviewer should spend some time to select those keywords which better represent their knowledge, and they should continuously update these keywords according to their professional growth. Key words should not include only imaging techniques but preferentially organ, apparatus and specific disease features.
2. When the reviewer becomes too busy or does not appreciate review activity anymore, they should stop their activity. Moreover, when a reviewer refuses a lot of invitations, the journal editor should mark their status as inactive.
3. No one can know everything even in their own field. For this reason, the reviewer in charge for a particular manuscript should be allowed to involve other individuals, being potential future readers although not within the reviewer board, when the topic of the manuscript is very specific even though included in their area of expertise.
4. Editors should not proceed with reviewer involvement when the manuscript is manifestly unsuitable for publication. This will preserve reviewer time and only worthy manuscripts should undergo the reviewing cycle.
5. At least three reviewers should be involved by the editor for each manuscript. This will improve the objective assessment of the scientific value of each manuscript.
6. Those reviewers who perform their tasks better should have the highest visibility. Anyway, I think that publication of reviewer names is not enough. A public database with dedicated scores (e.g., number of reviewed papers and scores) should mention the name of the best reviewers similarly to those databases who provide authors bibliometric scores (e.g., Scopus, Web of Science). Of course, this implies the accurate scoring of the reviewers by journal editors. A further solution could be a proper salary provided by the journals for those reviewers who perform better in the reviewing process.
7. Editors should pay a higher level of attention to the reviewer's criticism than to the reviewer's scores. Reviewer scores do not express the true scientific value of a manuscript. Only reviewer comments help the editor to provide the right decision and authors to improve the scientific value of their manuscript.
8. Journals should not overwhelm reviewers with more than three manuscripts each year. An excessive number of manuscripts to be revised does not grant enough time to dedicate to each manuscript from reviewer.

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