
Revising a manuscript after peer-review: a primer for first-time authors

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By the time I submitted my first article to a peer-reviewed journal, I already knew the drill. As managing editor for a scientific research journal, I thoroughly understood the process of sending a manuscript to reviewers—or “referees”, in the terminology preferred by the purists—and forwarding the subsequent reviews to the authors for a response. The authors then responded to the referees’ comments, and revised their manuscript accordingly. Suggested revisions that were not incorporated were justified in the authors’ responses. The process continued when the revised manuscript and responses were resubmitted to the journal, and the editorial office staff returned the responses to the review comments to the referees for additional review.

The editor then decided, based on the referees’ comments, whether the paper needed minor revision or required a total rewrite. Decision categories for a journal vary, but some standard classifications include *Accepted*, *Acceptable after minor revision*, *Acceptable after major revision*, *Reject but encourage de novo resubmission*, or *Reject*. Contingencies regarding

decisions also may occur. For instance, the decision to accept a manuscript may be contingent on receiving final style and format revisions and all materials associated with the manuscript that the publisher requires. Furthermore, the rationale for rejection letters may range from “not high enough priority” (which may translate into “not a large enough page budget”) to “lack of conformance to the writer’s guidelines”.

As managing editor, part of my job was to ensure that the authors responded adequately and appropriately to the referees’ comments, since reviewers normally are chosen because of their expertise and because they usually perform the review function *pro bono*. Although I was never too hard on the authors, I did observe the process from only one side: the editorial office. Consequently, when I submitted my first article for publication in a peer-reviewed journal, I got a taste of my own medicine when I received reviews to my paper. In any event, the revision process in most cases results in a better product, and I advise authors to approach the process methodically and analytically.

Analyzing

When comments are received, they are generally thorough and precise. Even when they’re not, authors must still respond credibly

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and professionally to satisfy the reviewer that the comments were taken seriously. After authors get over the initial indignation of having to face criticism of an article over which they have labored for many hours, they realize that the paper will indeed be improved if the suggested changes are incorporated. But after reexamining a submission and analyzing the comments, authors may discover that different approaches to the revision process exist.

One good method is to "chunk" the project into bite-sized segments that can be more easily managed while allowing authors to see the whole picture instead of just the individual items that require modification. An author's need to see the trees as well as the forest can be met by juxtaposing both the minor and major revisions.

Prioritizing

Authors should categorize the priority of each of the referees' suggestions. For instance, indications for revised sentence structure—as embarrassing as they may be—still need to be addressed within the manuscript. But authors should not initially waste too much time correcting mechanics such as syntax and grammar when the chance exists that the text in question may be removed altogether because of comments from other referees. So begins the process of note taking by which authors itemize each comment in a line-item format such as in the following example:

Referee 1

- The second sentence of the Abstract is poorly written; rewrite for clarity.
- Change the entire paper from passive to active voice.
- Delineate exactly what is meant by "printer preferences regarding autoradiograms versus phosphoimaging."
- Give less detail on your specific environment.
- The protocols for drug administration and follow-up are outdated. Use current accepted protocols for the last two experiments.

Referee 2

- Delete the second sentence of the Abstract since it doesn't add any pertinent information.
- Exclude specifics about such production work as "printer preferences".
- For perspective, cite specifics about your particular environment.
- Repeat the final two experiments using current FDA drug protocols. Also, your results are written almost verbatim from similar experiments I performed and published a year ago.

Some tough decisions

It's evident that a number of considerations face the authors of a manuscript that has undergone peer review: You must accurately differentiate which comments recommend the same action, but with different wording, from comments that directly contradict one another. How do you address comments from one referee that are in direct opposition to the other referee? For instance, whose advice do you take when referee 1 recommends giving less detail about environment and referee 2 wants more detail? Which reviewer's advice do you choose to follow, and why? And how do you justify your decision to the referee whom you are choosing to oppose? In any event, remember that all suggestions deserve a response.

As in any human interaction, authors should be sensitive to the feelings of the referee and respond with both appreciation for the suggestion and justification for the action taken or not taken. Conversely, when a referee seems to be taking personal offense to a particular component of the article, authors should not respond similarly; the referee may not be correct, but they are offering a valuable service for free. Responsive yet sensitive acknowledgments always work better than confrontational and defensive behavior. For example, when referee 2 insinuates that you may be plagiarizing him, you could simply state that "the results of the

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experiment were similar to those of the referee" but that "an effort will be made to personalize the text so it is less similar to that in the reviewer's own paper."

Once authors have succinctly itemized all comments—general and specific—it becomes easier to get an overview of what is being suggested and to determine some hierarchy for your response—a sort of triage for response. Combining the comments into a single list, with comments ranked in terms of their priority (e.g., major substantive issues, minor issues, rewriting to address grammatical or clarity issues), will make it easier for authors to address each comment appropriately. In the sample comments provided above, for instance, the drug protocol comments would take precedence over grammatical concerns; grammar can be corrected later, but if experiments must be performed again, that process should be started quickly.

Responding to comments

Whether authors should answer each comment first, then revise the paper to fit their response, or work the other way around is up to the author. Either system may work for an author, depending on their personal thought process and varying approaches to analysis of the comments. For instance, some authors may choose to segregate all general comments, respond appropriately, and then incorporate changes based on their responses. Another author may prefer to make all substantive changes that relate specifically to certain parts of the text, then review the general comments for legitimacy, revising or perhaps rewriting the

entire paper. Finally, based on the revisions, the author would respond to each review comment.

For revisions that do not require a major rewrite, it may be easier to analyze the review comments and respond to each item while planning how to revise the paper. One such a process might involve the following steps:

- Review the comments from each referee, and assign each response a number.
- Review the manuscript.
- Respond to each comment from each referee separately.
- Based on the response to the comment, decide what action will be taken on the manuscript (including no action at all).
- For comments that require action, mark the number of the comment on the manuscript where the revision will be incorporated.
- Revise the paper to address the comment.

The key to effectively revising a manuscript is to find a system that generates the least amount of stress and frustration while addressing review comments and facilitating changes, thereby producing the best paper possible. Just remember: To submit an article for peer-review is a privilege; to have it accepted is an honor. **Ω**

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