Training Programs for Peer Reviewers

For the Annals of Emergency Medicine

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The formal training of most scientists (at least physician scientists) does not include critical analysis of manuscripts, but most seem to feel that their ability to judge the scientific merit of manuscripts is innate or acquired through osmosis. We know from their manuscripts (and several studies) that that is not so, that most reviewers are not good at detecting important flaws, and that reviewer reliability is related to the level of the reviewer's training in methodology (1). No major medical journal provides training for peer reviewers, and most do not even know what previous experience their reviewers possess. It is naive for an editor to assume that new reviewers already have appropriate skills or accurate job expectations for a particular journal, especially when journals also lack validated measures of the accuracy and quality of completed reviews.

The scientific knowledge on peer-reviewer training can be summarized in one sentence: As far as I know, there is only one study, which showed that refining rating scales and providing brief reviewer-training manuals can roughly double the agreement between reviewer ratings of manuscript quality (2). On the broader topic of training physicians to appraise scientific literature critically (for example, in a journal club or with "evidence-based medicine"), only a few worthwhile studies have been done, and they tell us only that our present methods improve reviewers' estimation of their own skills but not their actual performance (3).

Ours is a society-sponsored monthly peer-reviewed journal with a circulation of 25,000 and about 450 regular reviewers. For years, we have conducted a workshop for our journal's peer reviewers at our major annual scientific meeting; it is open to any reviewer and typically is attended by 40 to 50 of our more-experienced ones. The 4-hour workshop consists of several didactic lectures on study design, question-and-answer sessions with editors and journal staff, and sometimes review of sample good and bad reviews and manuscripts. It requires modest effort and expense for the journal. We examined its impact formally in a study to be presented at the International Congress on Biomedical Peer Review and Global Communication this fall in Prague; we found no change in global quality ratings of reviews (although the workshop was well received by participants). We are now examining modifications, such as targeting new reviewers, and developing a multifactorial rating scale, which will be more reliable and precise than the previous single global rating.

The simplest, and minimally acceptable, reviewer "training" is a detailed job description and introduction, which we provide in written form to all reviewers after they are recruited. Our workshop has taught us that most reviewers have mistaken ideas of what editors expect from them. The job description runs about 5000 words and addresses the following topics in nuts-and-bolts detail, with examples:

- The purpose and limitations of peer review.
- How manuscripts are screened and assigned.
- Ethical obligations of the reviewer to the journal and the author.
- Determining that the reviewer has the appropriate expertise.
- Revealing conflicts of interest.
- How to review the manuscript.
- Journal requirements for various study types (design, format, and so forth).
- How the review should be documented in comments to authors and to editors.
- Our concerns with timeliness, and how to minimize delays.
- Why the accept-reject decision might be different from the reviewer's recommendation.
- Communication with the journal.
- What feedback the reviewers can expect from the journal.

Another form of relatively simple training, whose effectiveness is also unknown, is providing comments to reviewers. This can be as simple as merely communicating whether a review was good or can involve sending them the reviews of the other reviewers on the same manuscripts, pointing out what they might have missed. Detailed comments can be provided on the specific strengths and weaknesses of their review, but this entails much more work.

The final, and essential, component of reviewer training and orientation is the use of an evaluation or grading system for reviews, which permits poor reviewers to be identified and either educated or dropped. This requires routine editor rating of reviewing and periodic assessment of the ratings. Reliable grading systems should be explicit and multifactorial and should include a scale of at least 7 points (2). Ratings should be communicated to the reviewer.

In summary, scientific knowledge on the important topic of reviewing is seriously lacking. Reviewer training is only one means to the real end—greater reliability of reviews, which also depends on a well-designed manuscript-rating system. Our impression has been that the orientation manuals and reviewer ratings are productive; the jury is out on the workshop and the detailed comments to reviewers. At a minimum, all but the smallest journals should have an explicit rating system for reviewers, provide reviewers a detailed job description and orientation packet, and give them some sort of response to each review, even if it is only copies of other reviewers' remarks on the manuscript in question.

References
2. Strayhorn Jr Jr, McDermott Jr Jr,


For Technical Communication

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When I was named editor of Technical Communication 2 years ago, I was charged with a number of tasks that included enlargement of the pool of potential peer reviewers for manuscripts submitted and provision of training for prospective peer reviewers. Indeed, the Society for Technical Communication (STC) considered those items so important that the board of directors included a tactic in STC's latest strategic plan to "establish comprehensive programs to develop ... qualified peer reviewers for Technical Communication."

As one way of implementing that tactic, I proposed a workshop to be offered at 3 regional conferences in the fall of 1996 and at STC's annual conference in May 1997. Through a combination of brief presentations and exercises, the workshop would cover:

- The journal's audience.
- The types of articles that the journal publishes.
- The review process and review criteria.
- Effective approaches to writing the review.

Several workshop activities would be included. For example, in the segment on the peer review process and review criteria, participants would work in small groups on 2 ethical problems that might be encountered in double-blind peer reviewing (what to do if a reviewer discovers that he or she knows the author's identity, and how to focus on ideas, rather than personalities, when reviewing controversial manuscripts). In the segment on writing the manuscript evaluation, participants would again work in small groups to identify the best strategy for conveying mixed news to a prospective author whose manuscript rests on good ideas but who has misinterpreted data or has failed to communicate conclusions effectively.

On completion of the workshop, participants would be considered qualified to serve as peer reviewers for Technical Communication.

I had hoped to present the workshop 4 times in 1996 and 1997: at regional conferences in Knoxville, Dallas, and Salt Lake City during October and November and at the annual conference in Toronto in May. But I have presented it only once, at one of the regional conferences. Why only once? And how can the problem be solved?

The difficulty seems to be that the topic is perceived to be of interest to few members. The STC annual-conference program committee declined the workshop but provided another venue (a table at one of the continental breakfasts) that allowed me to meet with prospective reviewers. One of the 3 regional conferences made similar arrangements; another could accept only 1 of the 2 workshops that I proposed (the 2nd workshop was aimed at recruiting new authors to implement another part of the same tactic). It was not possible to present an interactive workshop over breakfast or lunch, so these sessions took the form of an informal presentation followed by questions and answers.

I intend to propose the same workshop for the 1998 STC annual conference. The key, I think, will be to present it to the program committee as an explicit implementation of part of the strategic plan (the plan was not approved by the board until after the proposal deadline last year, so I was not able to frame it in those terms). Then I will need to market the workshop aggressively through such venues as the TECHWR-L listserv and perhaps an advertisement in the February and May issues of the journal.

For Obstetrics & Gynecology

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For the last 4 years, the editors of Obstetrics & Gynecology have presented the "Journal Reviewer Workshop" at annual meetings of the journal's sponsor, the American College of Obstetricians and Gynecologists (ACOG). The idea for this activity came from a consultation visit by Edward J Huth, who advised that we augment our reviewer file. The program has 2 goals: to identify and recruit reviewers not already on our roster, especially those who are younger and perhaps less known, and to train reviewers to help them to improve their reviewing skills. Those goals are stated explicitly in the meeting program, and any interested ACOG fellow may attend.

The workshop itself lasts 90 minutes.
with 4 formal presentations of 15 minutes each and 30 minutes for questions and discussion. The editor opens with a general description of the peer-review process, emphasizing how reviews are used in arriving at decisions about manuscripts; the journal's most recent statistics are also given. The managing editor then outlines how manuscripts flow through the system and reviews the forms used and their purposes. One associate editor describes how to review a manuscript, and the other covers how to write a report that will be helpful to both the editor and the author.

The question-discussion period is usually lively. Handouts include reviewer forms (for comments to editor and author), instructions for authors, a guide to writing for this journal, and, most important, a form for the reviewer to indicate his or her fields of expertise, best mailing address, telephone and fax numbers, and e-mail address.

Typically, about one-third of the attendees represent our primary target population of new and unknown reviewer candidates. Another one-third are already on our reviewer roster, and we hope that they will benefit from the instruction provided. Regardless of our efforts to define the program's objectives clearly in the meeting program, about one-third appear to come hoping to learn how to get papers published, and some of these probably go away disappointed.

Has the effort been successful? The rating forms turned in by the attendees are strongly positive. More important, of course, is the question of whether we have "captured" good reviewers. Here we have only impressions, but the editors believe that we have identified a number of good reviewers who would not otherwise have come to our attention.

I recommend this type of initiative to any journal that wishes to augment its reviewer roster. The keys to its success are writing the announcement or invitation precisely to emphasize the goals, planning the formal presentations carefully to cover what is important for reviewers to know, and using the opportunity to capture as much information as possible about the new reviewers.

Reflections on a MacArthur Fellowship

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The news generally comes out of the blue. The process of selecting MacArthur fellows is confidential. Nominations are made by a small group of designated persons not publicly identified, and the selection is in the hands of a committee whose membership also is not made public. There is no way to apply for a MacArthur fellowship. Two dozen or more fellows are selected each year. They come from a broad range of fields—poetry, history, science, medicine, and community action are examples. MacArthur fellows get their checks quarterly for 5 years, with the amounts determined solely by their ages at the time of their awards. No strings are attached—no progress reports, no promise to work on one or another topic, no accounting for the use of funds, not even requests to help the MacArthur Foundation in its future activities.

My own MacArthur fellowship came in July 1990. It was not quite totally unexpected: A good friend had let me know some time earlier that I had been nominated. Still, the news left me almost speechless. And the award changed my life in some important ways. First was the immediate sense of freedom. I had retired from the US Public Health Service a few years earlier and was working a combination of part-time jobs at McGill University in Montreal, the New England Journal of Medicine in Boston, and the Department of Health and Human Services in Washington, DC. I had picked and developed each of those activities, and I found them very satisfying, but it was a hectic life that often left me with little energy or interest in other things. The MacArthur award changed that, and I soon left the work in Boston.

Close on the heels of the sense of freedom was a sense of responsibility. How could I use this gift to accomplish something that would otherwise be out of reach? A substantial part of the time freed up was devoted to continuing my research on cancer, but some time was left over. I soon settled on writing a book, but it was many months before I could determine which of several competing books to pursue.

Third was a recognition that the award itself was having an impact on my professional life, both directly and indirectly. There is a "Wow!" factor that is related to the 5 years of generous and unsolicited support, and I find that it continues after the end of the fellowship. I have no doubt that the award was also important in some of the opportunities that I have had since that time.

Finally, there has been a long, slow sense of frustration about a book not yet written, in part because I have been attending to so many other activities that I continue to regard as important.

The book has gone through much evolution, from a narrow focus on misconduct in science to a much broader focus on how science progresses. There are many distasteful things about misconduct, but perhaps the worst is the effect that it can have on progress, including the false leads and the deception and misdirection of other investigators who might have used their own time, effort, and grant support to better advantage. The evolution of the book has caused