Published in final edited form as:

Nurse Educ Today. 2016 February ; 37: 1–2. doi:10.1016/j.nedt.2015.11.031.

MENTORED PEER REVIEWING FOR PHD FACULTY AND STUDENTS

Jiayun Xu, PhD, RN¹, Kyoungahae Kim, PhD, MSN, RN², Melissa Kurtz, RN, BSN², and Marie T. Nolan, PhD, MPH, RN, FAAN²

¹University of Utah, College of Nursing

² Johns Hopkins University, School of Nursing

As researchers and scholars, we are obligated to generate and disseminate new knowledge that can contribute to the advancement of science and benefit humankind. In 2012 28,100 scientific journals were available, a number increasing by 3.5% annually.(Ware and Mabe 2012) The need for scholars prepared as peer-reviewers has also increased.(Broome 2010)

Developing skills needed to craft a constructive critique can be challenging without guidance from mentors. An international survey among 1,675 reviewers from 41 journals, found approximately two-thirds of reviewers wanted systematic training; however, only approximately 30% underwent such training. (Freda et al. 2009) In addition, many peer reviewers have reported a lack of confidence in their reviews. (Freda et al. 2009) This suggests that new scholars and perhaps others might benefit from more substantive and structured training in the peer review process.

Developing expertise in providing constructive critiques requires practice, similar to the process of building expertise in the development and conduct of research. (Davidoff 2004) One way to build such expertise is to engage doctoral students in the process of peer reviews. Ideally, this would involve an experienced peer reviewer, such as a faculty adviser or mentor, who could provide group mentoring, guiding two or more PhD students through the process of a manuscript review. The role of the PhD student(s) would be to serve as an ad-hoc reviewer, learning the critical elements of good peer review, as well as the process of peer reviewing. Though many PhD curriculums are already extremely demanding with little room for additional requirements, these peer review groups could occur within the classroom in the form of a learning activity, or outside of the classroom in the form of an individualized mentoring opportunity. In this commentary, we discuss the structure and use of a group peer review mentoring model to gain experience and confidence in peer review.

Corresponding Author: Jiayun Xu, University of Utah, College of Nursing, 10 South 2000 East, Salt Lake City, Utah 84112, **Phone:** 7178500057, **Fax:** not available, jiayun.xu@nurs.utah.edu.

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The funding agreement ensured the authors' independence in conceptualizing, writing, and publishing the work.

The authors have no conflicts of interest to disclose.

The mentored peer review group

We created a peer review mentoring group consisting of: (1) one faculty mentor who is an experienced peer-reviewer and is comfortable mentoring students in the art of critiquing manuscripts and (2) five pre-doctoral students interested in gaining experience in peer review. Our faculty mentor also serves as a faculty advisor in the PhD program. She obtained permission from the editors of three journals to engage PhD students in the peer review of manuscripts for which she had been requested to serve as a reviewer. She is committed to: 1) ensuring students understood the confidentiality of the peer-review process and that the manuscripts were the intellectual property of the authors. 2) being accountable for the final version of the manuscript critique, and 3) reporting the names of the PhD students who served as ad-hoc reviewers. After the mentor agreed to review a manuscript, she sent an invitation asking PhD students if they would like to participate in the manuscript critique. Two to four students participated in reviewing each manuscript. One benefit of extending an invitation for peer reviewed mentoring to multiple students is the opportunity for the students and faculty member to gain different perspectives on the manuscript and enrich the critique process.

Discussions during each review varied, but we identified one key component: that each student and the faculty mentor have an opportunity to discuss their critique of the manuscript. Although differing viewpoints and critiques arose, everyone understood that only one peer-review report would be submitted to the journal editor (i.e. reject, revise and resubmit, accept with minor revisions, or accept). The faculty mentor was key in summarizing the collective thoughts of the group discussion and constructing an itemized list of comments to include in the review sent to the editor. Following the group discussion, either a student or the faculty mentor drafted the review, which was then edited by the group and approved by the faculty mentor before submission to the journal editor. Through this experience, students gained experience understanding the review process and how to write a constructive, critical response to a manuscript.

The faculty member perspective

Much of doctoral study is spent in rigorous critique of published research. Because of this, doctoral students can be the most critical manuscript reviewers. Objectives of mentoring students in the role of peer reviewer are to; help them to determine whether a manuscript makes a substantive contribution to the literature even with limitations; appreciate the challenges of human subjects research; and to maintain an attitude of humility and gratitude for being entrusted with the critique of author's scholarly work.

The student's perspective

As pre-doctoral students, this group peer review mentoring experience has benefited us in ways defined in the literature, such as in acquiring new skills, gaining knowledge of new content in our area of interest, and contributing to quality science.(Kearney et al. 2008) Additionally, we were able to practice respectful and open communication when we discussed our different perspectives of the manuscript under review. We learned how to take

on a leadership role and guide conversations, as we observed the faculty mentor facilitate discussions during the review meeting. One notable highlight was that the faculty mentor encouraged us to attend to the value of each manuscript, even when the manuscript did not seem publishable upon initial review. This reminded us to appreciate the work required to write a manuscript and the value of ideas or methods presented within a manuscript.

We feel that gaining experience in peer reviewing is important in order to learn the elements of a good peer review and conduct high quality peer reviews in the future. In addition, learning more about the peer review process has helped us advance the quality of our personal manuscript writing. We now have a better understanding, from the viewpoint of our faculty mentor, how manuscripts might be critiqued after journal submission. Involvement in group peer reviewing is unquestionably a worthwhile experience as a PhD student.

Acknowledgements

Financial support for this work was provided by the National Institutes of Health [NIH 1 F31 NR014750-01, NIH/NINR T32 NR 013456-03, 5TL1TR001078-02], and the American Nurses Foundation/Southern Nursing Research Society Research Award, Sigma Theta Tau International (Small grant, Nu Beta Chapter Research Award), and Fahs-Beck Fund for Research and Experimentation Dissertation Grant. Tuition support was provided by Johns Hopkins University School of Nursing.

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Highlights

Mentored peer reviewing helps novice researchers build manuscript critique expertise.

Peer review groups is an individualized mentoring opportunity for faculty.

The group peer review mentoring experience demystifies the manuscript review process.

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