



Fostering Connection and Engagement Evaluating Student Peer Review Experience in Graduate Asynchronous Research Courses

Maya Joseph¹, PhD, RN, CCRN, Umamaheswari Venugopal², MSN, RN, CCRN, NEA-BC, and Brenda Marshall³, EdD, APN, ANEF, FAANP,

^{1,2}Assistant Professor, William Paterson University School of Nursing, Wayne, NJ. 07470, United States.

³Professor, Montclair State University School of Nursing, Montclair, NJ. 07043, United States.

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***Corresponding Author:** Brenda Marshall, EdD, APN, ANEF, FAANP, Professor, Montclair State University School of Nursing, Montclair, NJ. 07043, United States.

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Abstract

Seven-week asynchronous formats for nursing education offer scheduling flexibility to learners, however their condensed nature may inadvertently reduce opportunities for critical thinking, meaningful peer discussions, and thorough engagement with course content. Pedagogy that includes constructive experiential teaching methods has been demonstrated to improve nursing students' skills for training, analyzing, and problem solving, and learner engagement. This study implemented an experiential low-stakes assignment of peer review in an asynchronous 7-week graduate research course. Students submitted drafts of final papers for anonymous peer review, thereby simultaneously experiencing the roles of anonymous reviewer and evaluated author. Rubrics were provided and each student was required to identify strengths and weaknesses of their assigned author's manuscript. A retrospective, mixed-method narrative design was employed to evaluate the impact of a low stakes anonymous peer review assignment on student engagement and learning. One hundred five narratives from five online research courses were evaluated. Ninety-eight percent of learner narratives reflected engaged learning, 55% identified improvement in writing skills, and 77% indicated a sense of belonging to a culture of collective learning. Utilization of a low stakes peer review assignment with well-scaffolded, student-centered, experiential constructivist pedagogy improved student engagement in learning, writing skills, as well as created a virtual atmosphere of student-supported collaboration through the development of a culture of collective learning.

Keywords: Mixed Methods, Peer Review, Nursing Research, Engaged Learning, Experiential Pedagogy

Introduction

The centrality of nursing scholarship and evidence-based practice (EBP) to advanced nursing care—and its role in improving patient outcomes and healthcare quality—is well documented [1, 2]. At the core of EBP is the practitioner's ability to critically understand, apply, and evaluate research. These skills require higher-order thinking, discernment, and sustained cognitive engagement. Both basic as well as advanced nursing education have identified EBP as one of the

eight foundational AACN Essential Concepts [3]. The fourth domain—scholarship for the nursing discipline—emphasizes the need for nurses to generate, interpret, and apply complex knowledge, and to critically assess methodologies for quality improvement, evaluation, and research. The importance of courses in nursing research, and their impact on nursing practice, cannot be overlooked.

Health Resources and Services Administration's (HRSA) prediction of the growing workforce demand for nurses, 79,000 by this year alone, has strained the nursing profession both clinically and academically. To respond to this need, many nursing programs have utilized accelerated, flexible course formats to expand enrollment [3-5]. One format asynchronous 7 week online course- has become increasingly common. These courses teach the same content as the 14-15 week format, but in a shorter time frame. Questions remain, however, about the ability of this shortened schedule to actually cultivate the deep learning necessary for research competency. Studies have shown that students in shortened courses often engage less in critical thinking, discussion, and meaningful comprehension unless intentional, diverse pedagogical strategies are employed [5].

The structure of the asynchronous 7-week course tends to favor surface level learning that is focused on rote memorization and basic comprehension rather than fostering the necessary analytical and evaluative skills, usually learned in research courses, which are required to provide comprehensive, state of the art, nursing care [6]. Especially in graduate nursing education, courses taken by those seeking to become advanced practitioners, the higher order cognitive skills are imperative as well as indispensable. Zang et al. [7] underscores the need for nurses to have the skills to critically evaluate evidence, problem-solve in complex - often chaotic-environments, and apply research to nursing practice. Experiential, active learning pedagogies have been shown to enhance these skills, improving students' ability to reason, judge, and innovate—while also increasing overall teaching satisfaction [7]. Finlayson et al., [8] identifies the process of peer review as a means to improve scholarship, writing and communication skills.

This study evaluates the implementation of an anonymous, low-stakes

peer review assignment as an active learning strategy designed to foster engagement in a graduate-level, asynchronous 7-week nursing research course. Specifically, the study investigates whether this pedagogical approach enhances student learning and engagement—both essential for developing the research acumen central to professional nursing practice.

Materials and Methods

Design: A retrospective review of archived online discussion posts were examined through a mixed methods design using a dominant qualitative, content analysis stem. Institutional Review Board (IRB) approval was obtained from the teaching institution before the examination of discussion posts.

Participants and Setting: Participant discussion-board narratives from a northeastern public university graduate level, asynchronous 7-week research courses delivered between 2021-2023 were then retrieved. Most students in this course were in the first year of their graduate studies, and this course is the first and only research course mandated. All identifiers were removed from the narratives by the professor with access to original posts, were randomized, and distributed to three researchers. All narratives were kept in a OneDrive password protected folder.

Pedagogical Procedure: In week five of the course students had a mandated Complete/Incomplete assignment to anonymously evaluate a peer's draft of the final research proposal paper. A video embedded in week five provided clear instruction on providing instructive feedback and use of the rubric. All students were emailed a peer's paper, along with a rubric that included a rating form as well as an area for narrative feedback identifying the author's strengths and weaknesses. Comments from the anonymous student evaluator, as well as the professor, were emailed back to the original authors in week six, supporting final paper revisions, which were due in week 7. A discussion board reflection of a minimum of 250 words evaluating the impact of this assignment on learning, as a reviewer and recipient, was assigned for week 6. Those discussion board reflections were used to evaluate the impact of the peer for week 6. Those discussion board reflections were used to evaluate the impact of the peer review assignment in this study.

Analysis: The artificial Intelligence (AI) tool ChatGPT-4 identified ten randomized posts out of the total narratives retrieved. These ten posts were distributed to the three researchers, who conducted independent reviews. The results were then compared to AI evaluation for themes. Only engaged learning was established prior to the independent review with the others developed using inductive category development through analysis and immersion in the narratives. The combination of researchers and AI was used to establish inter-rater reliability and content validity, with concurrence achieved on three themes - Engaged Learning, Improved Writing skills, and Collective Learning Culture. Two subcategories were delineated in each category, which increased the granular insights of the primary themes.

Results

Quantitative Results: One hundred seven narratives (107) were retrieved, two were removed having been identified as having unrelated content, leaving 105 narratives for the final review. Ninety-eight percent (n=103/105) of the students were engaged in active learning. These 103 narratives reflective of active learning were randomized to obtain 15 for review of sub-categories. From this sample, researchers identified that 53.33% (9/15) indicated increased knowledge of research, and 73.33% (11/15) for critical thinking. From the total sample, 55% (n=58/105) reflected improved writing skills. This category also underwent randomization to identify 15 narratives for subcategory review. The subcategory of 'self-reflection and improvement' was indicated in 80% (12/15) and increased organization in 53.33% (8/15). The category of creating a culture of collective growth, using the full sample, was identified

in 77% (n=81/105). Fifteen randomized narratives from the 81 original were then reviewed. Eighty percent (12/15) identifying learning from others, and 66.66% (10/15) providing and receiving constructive feedback.

Qualitative Results

Theme 1: Engagement in Active Learning

The narratives under the theme of engagement in active learning noted increased knowledge of research and critical thinking. For this theme, the data saturation was achieved around responses 12–15. By this point, many responses reiterate the common benefits of reviewing others' work, without introducing new insights.

Enhanced Knowledge of Research

Student posts demonstrated that the assignment increased their understanding of research quality and methodological rigor, allowing them to gain deeper insights into research concepts and standards. The following are examples of student narratives showing enhanced knowledge of research.

“Before reviewing the work, I read the standard framework that guides proposal and dissertation writing. I understood the specific elements that students should incorporate in the introduction, literature review, methodology, results, analysis/discussion, and conclusion. I also understood how the different sections link to identify a problem, formulate research questions or hypotheses, conduct a literature review to identify gaps, and propose viable methods to collect and analyze data to address the study questions. This information allowed me to critically appraise the peer's work to identify the strengths and weaknesses of the paper.” (Student # 9)

“While reviewing my peer's paper, I was able to gain a new perspective on what is required for a high-quality research study. By reading someone else's research study proposal, I had the opportunity to examine each component of a research design and evaluate how they fit into a cohesive plan.” (Student # 39)

Critical Thinking

The narratives described how critically examining another student's paper, with a special focus on recognizing the strengths and weaknesses of the proposal, improved their critical thinking and analysis capabilities. This critical evaluation is reflected on all aspects of the proposal which includes the research process, organization of ideas, and writing capabilities.

“I think reviewing another person's paper can provide me with valuable learning experiences, such as improving my critical reading skills, gaining insight into other research methods and perspectives, and identifying potential strengths and weaknesses in writing.” (Student # 10)

“While reading my peer's research study proposal, I had to assess the research design's strength and critically analyze the implications associated with each component of the paper.” (Student # 39)

Theme 2: Improved Writing Skills

The theme of improved writing skills included the categories of self-reflection, improvement, and organization. From about response 15 on, the reflections reinforced the previously identified themes, with no additional insights emerging, indicating data saturation.

Self-reflection and Improvement

The narratives reflected how evaluating others' work encouraged self-assessment, leading to improvements in the structure and clarity of the student's work. The insights gained from peer evaluation facilitated self-reflective improvements, demonstrating growth and adjustment. This increased awareness allowed students to identify and address previously overlooked errors, including proper APA-7 formatting, utilization of weak phrases, and lack of clarity.

“By conducting a peer review, I was able to review my APA formatting, grammar, and background information”. (Student # 1)

“The peer review allowed me to correct any vague terms and change my phrases to express my thoughts more clearly.” (Student # 14)

“The most important thing I learned from reviewing another person’s paper is that you can always find a spelling or grammatical error if you proofread your paper again.” (Student # 31)

Organization

The narratives reflected that peer review enabled them to improve the structure, content organization, and clarity of their writing. Multiple reflections emphasized the importance of simplifying and reorganizing the paper for clarity and conciseness when rewriting. For example, having a rubric and organization checklists.

“My thoughts will be better organized and expressed in my writing going forward. I was also able to detect and fix mistakes in my writing.” (Student # 1)

“The ability to better organize my ideas is one of the most significant things I get from reading another person’s work.” (Student # 7)

Theme 3: A Culture of Collective Growth

The subcategories identified within the culture of collective growth were learning from others and providing and receiving constructive feedback. The theme of the Culture of collective growth reached data saturation by narratives 20-25. Rigorous saturation was obtained by examining all narratives in detail, ensuring that no additional themes arose in the later responses.

Learning from Others

The subcategory learning from others emerged from the narratives that explicitly described gaining insight, knowledge, or ideas by evaluating a peer’s paper. These student discoveries encompassed aspects related to research design, academic writing, and feedback strategies.

“By reviewing another’s paper, I was able to learn and understand how to not only provide others with feedback regarding their work, but it also helped me self-reflect and assess my paper.” (Student # 4)

“I found the peer review assignment to be a mutually beneficial activity. I felt like this assignment improved my skills in assessing and providing feedback to my peers and also helped me self-assess and improve my work. It was helpful to be able to read the work of a classmate because making the comparison to my work allowed me to make suggestions to my peer and also adjust my paper.” (Student # 23)

Providing and Receiving Constructive Feedback

The subcategory *providing and receiving constructive feedback* identified narratives that reflected receiving feedback that inspired the learners to refine their work, and also to provide constructive feedback that cultivated growth and learning in others. The narratives described this experience of providing feedback, explaining that it will help them to provide objective and constructive feedback to their colleagues at work. They also indicated how they learned to appreciate constructive criticism when it was provided to them. Receiving positive feedback increased their confidence as well.

“Conducting a peer review allowed me to be mindful of the choice of words used, regarding using words that will cause fear to the writer or discourage the writer, but using words that can help the writer gain confidence when correcting the paper.” (Student # 3)

“It makes me feel like I’m a member of the scientific community. It gives me some satisfaction to know that I can contribute to the improvement of a piece of work and that others may do the same for me.” (Student # 49)

“The review also provided me with the opportunity to appreciate feedback about the strengths and weaknesses of the assignment. In addition, it was nice to peer review another person’s paper as this is a skill with practical application which can be utilized in the workplace when providing feedback”. (Student # 87)

Discussion

This study demonstrated the efficacy of peer review as an experiential, constructivist pedagogical tool that enhances learner engagement, strengthens academic writing skills, and fosters a collaborative learning environment. Rooted in principles of social interaction and reflective practice, peer review encourages students to engage deeply with both their own work and the work of their peers, promoting critical thinking and the development of evaluative judgment [9]. Within the context of this asynchronous 7-week graduate research course, scaffolded lessons were intentionally designed to cultivate students’ ability to give and receive constructive feedback, revise their writing with purpose, and engage meaningfully with research content.

Goes and Jackman [10] emphasize the value of peer review in nursing education for advancing debriefing and reflection—core components of effective knowledge integration. Similarly, Borger [11] supports the use of peer review within collaborative learning platforms, highlighting its role in amplifying diverse perspectives, promoting inclusive participation, and cultivating a sense of belonging within a community of inquiry.

The structured design of the peer review assignment in this study enabled students to co-construct knowledge, thereby embodying the tenets of constructivist learning. As students actively engaged with one another, they not only improved their individual writing but also contributed to a shared culture of academic growth. This model aligns with emerging paradigms in nursing education that emphasize innovation, digital literacy, and pedagogies grounded in collaboration, self-reflection, and active learning.

Limitations of this study include the use of only one university in the northeastern United States, and five courses taught by only one professor. This makes any larger generalization of these results difficult. Future studies can explore a more diverse student population and the implementation of this pedagogy in different courses.

Adaptation of asynchronous 7-week courses in nursing education necessitates efficient and effective learning strategies. Application of skills required in peer review empower students and stimulate ownership of the learning experience as a method to improve their own academic performance as well as learning satisfaction. As demonstrated in this study, implementation of a low-stakes peer review assignment courses increased peer engagement and collaboration, improved critical thinking and writing skills resulting in an enhanced overall academic performance for these students.

Competing Interests: The authors declare that they have no competing interests.

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