

ORIGINAL RESEARCH

Supporting graduate students' skills with simulated experiences in a professional foundation course

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ABSTRACT

The population's health depends on a well-educated nursing workforce that includes graduate-prepared nurses. However, the nation's demand for graduate nurses in advanced practice, teaching, and research roles surpasses the supply. Graduate nursing educators can support student success by creating positive learning experiences for students at the beginning of their study programs. Initially, we created a pilot writing orientation, which was implemented for new students. Although the results of the pilot study showed significance with paired *t*-tests ($p < .000$; Cohen's $d = 1.21$), the writing skills were not applied in long-term coursework. Therefore, a seven-week course was created to provide students with small-scale assignments, preparing them for complex future graduate coursework. The study aimed to evaluate the effectiveness of the skills learned in the course using student ($n = 15$) and faculty ($n = 9$) focus groups. A qualitative design using thematic analysis showed the following student themes: tools to improve scholarly writing, magnitude and feasibility of the project, graduate-level writing and professional presentations, clear expectations of achieving program requirements, and professional development using a digital e-portfolio. Faculty focus groups compared the skills of students who had completed the course and those who had not. Faculty themes included stronger writing skills despite the variation, resource availability, tool use, APA format skills, and writing synthesis skills development. Overall, the participants' perspectives shared positive feedback with insightful suggestions for future course improvement.

Key Words: Graduate students, Writing skills, Science implementation, Student support, Simulation-based learning

1. INTRODUCTION

The population's health depends on a well-educated nursing workforce.^[1] Nurses belong to the nation's largest health-care profession.^[2] Over a decade, evidence has shown that nurses' education needs to change to meet the demands of the complex and evolving US healthcare system and practice environments.^[3] Graduate education prepares students to assume roles in advanced practice, leadership, teaching, and research, guiding the ever-changing healthcare environment and industry sectors.^[1,4,5] Specifically, advanced practice registered nurses (APRN) need seamless education to prepare

them for various settings, such as primary and preventive care in underserved populations and other specialties. In addition, APRN education needs to support learning that transfers evidence into practice to improve patient experience, reduce cost, and improve the health of populations.^[3,6] However, the nation's demand for graduate-prepared nurses in roles such as advanced practice, teaching, clinical specialties, and research surpasses the supply, with current nurses holding 17.4% master's degrees and 2.7% doctoral degrees.^[2] Graduate educators should prioritize student success opportunities, especially at the beginning of student programs of study,

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thereby promoting confidence and competence to complete their graduate nursing programs.^[7]

1.1 Positive learning experiences supporting diverse students

Successful graduate students reflect perceived self-efficacy, “beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives.”^[8](p.1) Munoz explains that positive experiences support self-efficacy in graduate students by building confidence and competence.^[7] Students with confidence may think they can complete graduate work but lack the capability or competence to complete it. Conversely, students may have competence in completing graduate work but lack the confidence or belief in their capabilities. Bandura stated, “The most effective way of creating a strong sense of efficacy is through mastery experiences.”^[8](p.2) Creating supportive experiences for graduate students requires the experience to fit the needs of diverse students, ranging from advanced practice nurses with master’s degrees, extensive clinical experiences, and key leadership positions to registered nurses with bachelor’s degrees, minimal leadership opportunities, and few clinical experiences. Faculty can prepare graduate students with varied clinical and academic experiences by promoting foundational graduate skills at the beginning of their program, providing equal opportunities for students to learn and use these skills during their coursework and future professional workplaces.

The literature outlines that many graduate students lack writing proficiency and other professional skills.^[9–12] Moreover, graduate students should become proficient in implementation science, “systematic adoption and integration of

evidence-based health intervention within a particular setting.”^[13–15] The underpinnings of graduate student success correlate with faculty providing supportive learning environments with opportunities to master graduate-level skills simulating learning techniques, raising students’ confidence and competence levels.^[7,16] Educators should create these supportive experiences in the curriculum with the end in mind or backward design, such as the goal of graduates becoming proficient with implementation science and written and verbal communication.^[17] Graduate students learn the application of implementation science through their capstone projects, preparing work-ready graduates.^[18–21]

1.2 Faculty learning to build experiences for student skill development

Initially, the support we provided our graduate students included enrollment in a writing orientation that all students were required to complete. As part of the new orientation, a pilot study was completed to determine the effectiveness of the intervention. The study involved the creation of an asynchronous, online web-based learning platform with a pre-post test assessing student learning (see Appendix A). The university’s institutional review board approved all procedures before conducting the writing orientation study and measuring learning outcomes. Students were given the option of having their test scores omitted from the study. The pre-post tests showed Kuder-Richardson 20 scores greater than 0.90, showing reliability. Although the graduate writing orientation showed significance and a large effect size (see Table 1), student writing competence did not transfer to other coursework long term, as confirmed by faculty perceptions of student performance.

Table 1. Results of pre-post assessments of graduate-level writing project

Cohort	Pre-assessment		Post-Assessment		t(df)	p	Cohen’s d
	M	SD	M	SD			
MSN 2020	.75	.09	.89	.07	7.28(23)	< .001	1.74
DNP 2020	.78	.08	.92	.05	8.52 (29)	< .001	2.1
MSN 2021	.78	.1	.89	.08	4.82(26)	< .001	1.21
DNP 2021	.77	.09	.91	.04	8.35(29)	< .001	2.01

Note. Masters of Science in Nursing (MSN) $n = 51$ and Doctor of Nursing Practice (DNP) $n = 60$. Excel Microsoft™ was used to compute the paired t -tests and the Cohen’s d formula.

After completing the pilot writing orientation, the faculty agreed that students’ graduate skills go beyond writing and require additional support to gain the proficiencies needed to succeed in their programs. As a result, a new seven-week course was created for MSN and DNP students that added additional learning modules simulating learning experiences

that would be commonly found throughout their programs of study, including appraising and integrating evidence, using technology platforms, preparing professional presentations, providing clear communication, and introducing them to their future graduate projects (see Appendix B). Introducing graduate learning competencies and other skills at the begin-

ning of MSN and DNP programs may provide a segue to student confidence and competency necessary to develop and communicate evidence-based quality improvement projects required during students' graduate programs.^[22,23] This new course was designed as an adjuvant to our pilot writing orientation. It simulated authentic learning experiences they would encounter throughout their graduate coursework and in future advanced practice settings.^[16]

1.3 Study aims

Our study examined whether integrating a seven-week course for graduate nursing students at the beginning of their program equips them with the essential skills needed to excel in their ensuing coursework. The method of investigation involved a qualitative approach to evaluating student and faculty perceptions of student skill development for future coursework requirements.

2. METHODS

This study's qualitative design using thematic analysis showed whether the seven-week foundational course supported the skills required for graduate-level work.^[24,25] This thematic design was used on data from focus groups, thereby "identifying, analyzing, and reporting patterns (themes) within data."^[24](p.79) The focus groups consisted of MSN and DNP nursing students and faculty.

2.1 Participants and recruitment

The university's institutional review board approved all procedures before conducting the study. The study consisted of a convenience sample of MSN (n = 9) and DNP (n = 6) students who completed the seven-week course and faculty who taught the students after they completed the course and previously taught students who have not completed it, potentially comparing their experiences. The data were collected at a nursing school at a public university in the Western region of the United States.

The seven-week course for graduate nursing students was offered to MSN students (N = 33) in the summer of 2022 and DNP students (N = 29) in the fall of the same year. After completing the semesters, both cohorts were sent emails one month, two weeks, and three days before the online focus groups, inviting them to attend voluntarily and ensuring confidentiality. The focus groups' purpose was to identify if students recognized whether the foundation course provided them with skill development for completing their graduate coursework and suggestions for improvement in the newly implemented seven-week course. The MSN students (n = 9) group was during the eighth week in the Fall 2022 semester, and the DNP (n = 6) focus group occurred eight weeks in

Spring 2023. Both cohorts were offered the chance to receive a \$25 gift card in a drawing of four gift cards per focus group.

The faculty focus groups were recruited by email at the same intervals as the students and conducted on the same date. Both MSN (n = 7) and DNP (n = 2) faculty were offered lunch as they voluntarily participated in the focus groups. Moreover, an online platform was provided to faculty who could not attend face-to-face. The faculty focus groups aimed to discuss whether the students' scholarly writing and professional communication skills have changed after completing the seven-week course.

2.2 Data collection

A faculty member with experience conducting focus groups and unfamiliar with the seven-week course was asked to moderate four focus groups: online MSN students, online DNP students, face-to-face and online MSN faculty, and online DNP faculty. The focus group moderator received \$25 for each group. All focus groups were recorded, and participants consented to the recording. The approximate length of the focus group for MSN students (n = 9) was 40 minutes, and MSN faculty (n = 7) was 30 minutes. The time frame for DNP students (n = 6) was 30 minutes and for DNP faculty (n = 2) 15 minutes. Information technology specialists at the university transcribed focus group conversations into manuscripts using a transcription program. The experienced moderator provided similar open questions to both student cohorts in the focus groups. Similarly, faculty cohorts were given open-ended questions to assess their perceptions of student skill performance in their subsequent graduate courses (see Appendix C).

2.3 Data analysis

A thematic analysis was conducted using the student focus group data to examine whether the seven-week course supported them in their program of study. Moreover, after completing the course, faculty data were analyzed to determine whether they could recognize improvement in students' scholarly writing and professional communication skills. Four colleagues reviewed the data and themes together and separately using Maguire and Delahunty's guide^[25] based on Braun and Clarke,^[24] showing consistency in the analytic processes. The content of the manuscripts was verified by listening to the recorded focus group conversations, which supported familiarity with the data—Step 1. Next, theoretical thematic analysis was conducted on faculty and student focus groups by coding each data segment aligning with the focus group questions. This Step 2 process allowed for developing and modifying the codes in the thematic analysis while colleagues outlined potential themes. Step 3 involved

colleagues reviewing the potential themes together and separately. The themes described the patterns in the data related to the research question. The colleagues worked through preliminary themes to ensure the data supported themes for Step 4. The final step, Step 5, included defining the themes and showing how they relate to each other and the research question.

3. FINDINGS

Student and faculty focus groups were conducted during the program's second semester to assess the application of graduate foundational skills in subsequent coursework. The focus group results include student and faculty perspectives regarding the study questions related to student skill attainment and learning application.

3.1 Student focus groups

The overarching theme from the MSN and DNP cohorts included knowledge and skills students attained from the seven-week course. This overarching theme is rooted in five themes: tools to improve scholarly writing, the magnitude and feasibility of the project, graduate-level writing and professional presentations, clear expectations of achieving program requirements, and professional development using a digital e-portfolio. The course provided tools to improve the students' scholarly writing, theme one. These tools included software writing assistance, the Publication Manual of the American Psychological Association (APA), and Microsoft Track Changes™. Most students agreed that the software writing assistance and APA Manual were the main tools to support their graduate writing. Some students mentioned the value of using Microsoft Track Changes™ for faculty feedback but felt more practice was needed to use this tool.

"I think the software writing assistance and the APA Manual (helped me.) Well, I didn't realize everything I write is in passive voice. In previous classes, I've used the APA Manual. But in this class, I had to read the manual."

"I actually read in the (APA Manual) using verbiage, so you're not offending people. I think there's a better way to say that. (It) helped me be more aware of that, especially (in) society."

"I think (Track Changes) is helpful, and it takes a minute to figure it out."

All graduate students are required to complete a project in their program. One of the assignments in the seven-week course required students to read the Project Handout, which outlines the magnitude and feasibility of the project, theme two, and take a quiz to assess their knowledge of the content. In addition, assignments were designed to prepare students for the project experience. However, the magnitude and fea-

sibility of the project were not always clear to the students. *"I felt like the assignments gave me the ability to gradually 'dip my toes' into what the project was actually going to be." "Maybe I would have chosen something slightly different (project), but I'd already kind of put a lot of work and effort into it already, so I stuck with it." "But I feel like it's a little bit vague (Project Handbook). So I think maybe some kind of an overview of a DNP project that has been done start to finish and just kind of painting a picture of what each of those classes are going to entail and what those expectations are."*

The focus of the seven-week course was to orient students to graduate-level writing and professional presentations, theme three, at the beginning of their program, reflecting their potential projects. Some students shared difficulty in navigating the APA Manual.

"I think I was out of practice. And so, it was kind of a nice slow start to get back into scholarly writing or professional writing."

"Those PowerPoint tips were very helpful and honestly maybe a little too helpful because I find that when I'm sitting in a presentation, I'm hypercritical of the slides that people are showing."

"There're no quick resources for APA; just use your book, and it just overwhelms me."

"Some of us haven't written APA for a couple of years or for a really long time."

The course aimed to promote successful graduate students' progression through their programs by providing clear expectations of achieving program requirements, theme four. One way to promote students' success was through clear expectations of the graduate program.

"But the class overall kind of helped us get our feet wet in everything. It's like, okay, read the project guidebook because you're going to be doing this and you start looking at evidence and articles, and you know, like it was kind of a prep class; I guess I didn't realize it at the time, though."

"So it was just helpful for me knowing that I'm working toward my end project." "I liked that it (the course) was only half of the semester. Great class and relative light compared to other classes."

In the seven-week course, students were introduced to professional development by using the digital e-portfolio tool, theme five, to organize their signature assignments and final project documents for sharing.

"It (digital e-portfolio) does seem like a very nice tool to showcase what you're doing."

"And I think also it's a good networking tool. I haven't quite figured out how to use it yet."

“There’s like so many components to it. I think it could have been broken down to where they maybe showed us a section of it or explained just so that we would feel comfortable in utilizing it.”

3.2 Faculty focus groups

The overarching theme of the MSN and DNP faculty included assessing students’ graduate-level skills. This main theme was rooted in five themes: stronger writing skills despite the variation, resource availability, tool use, APA format skills, and writing synthesis skills development.

Despite the variation, most of the faculty commented on the first theme of stronger writing skills. Overall, faculty expressed that students’ writing has improved, but more improvement is needed.

“They just vary so much by individual, but they do seem to be stronger writers than they were. I think—as a general rule.”

“So they started in the fall, and I think they’re writing better; they seem to pay a little bit more attention to APA than they did before; but there’s still people who struggle with writing.”

“This year there’s still things, but now I feel like I finally can focus on fine-tuning because I’m not focusing on where to put a period or comma or how to format an in-text citation; we can get more into graduate-level writing because we’re not focusing on grammar, sentence structure, (or) APA formatting. So I think they’re still not great writers yet.”

Some of the seven-week course resources were new to some faculty. The Writing Tips Assignment featured a comprehensive table detailing common writing errors often observed by faculty in student submissions, with examples illustrating incorrect and correct usage. Students were tasked with contributing to this repository of knowledge for future reference. Feedback from several students highlighted the assignment’s utility, noting its effectiveness in improving their writing skills. Faculty requested the availability of resources, reflecting the second theme.

“So the reference, the information like the (Writing Tips Assignment) that you’re referring to, is that anywhere in any of our resources? Is that something else that they can refer back to again? Should that be in our MSN course resources? I’d like to know what’s on that (the Writing Tips Assignment) because I haven’t seen that either, so that I could coach the students a little bit better myself.” *“So I made a video about that (Track Changes) and put it at the beginning of my class, and I don’t know if I need it anymore, now that they’re covering that (in the course). So that’s great.”*

The third theme, tool use, covers the many tools that the students learned to use. These tools included writing assis-

tance software, Microsoft Track Changes™, and e-portfolio. Students were required to purchase the writing assistance software. Moreover, the faculty shared that it was early in the semester, so there were few opportunities to use Microsoft Track Changes™. Faculty agreed that students struggled with using the e-portfolio tool.

“I had one that didn’t (use the writing assistance software) and gave them a 0 and asked them to do it, and then they did it. But the others all have.” *“They (students) didn’t understand that (using Track Changes.)”*

“They (students) had to have the link to their e-portfolio. But when I went there, I had no access; I was not allowed. So they still got it wrong.”

The fourth theme concerns the APA format used in writing. Most of the faculty shared that their APA format has improved since last year.

“I feel like overall it (APA format) is better from last year when I taught.”

“I see really big improvements with their APA formatting. I can tell you that I really have appreciated that.”

Faculty discussed the fifth theme, synthesis in writing, when discussing topics such as writing issues and suggestions for course improvements.

“So I would think that by the time they finish the lit review portion of their project paper, most of them will get synthesis: it is really hard to learn; it’s one of those incremental things.”

“I think everybody would agree that they struggle with synthesis, right? I think there should be a solid exercise on that in terms of introducing that (synthesis) to them and helping them connect the dots.”

The seven-week course included learning skills in the student’s initial semester, providing an overview of program requirements. After course completion, a faculty member shared, *“They seem to have more of the big picture of what is happening in their program.”* A student voiced, *“So I got a little bit of practice of the expectations, what the writing was supposed to look like, before I actually had to put it all together as part of my project paper.”* Another student concurred, *“I think the most helpful part was really writing a mini paper to get us more comfortable doing this more often.”* However, students and faculty agreed that the course did not help with time management.

Overall, student and faculty perceptions reflected statements that supported improvements in writing after completing the seven-week course, but faculty agreed that students struggled with writing synthesis. One student shared, *“I had to learn patience with myself, with writing, just having patience and understanding that it wasn’t going to come as quickly*

as I wanted it to.” Improving student writing skills takes effort and practice. Regarding the course assignments, students requested additional practice using Microsoft Track Changes™ and e-portfolio management, and the faculty corroborated that the students had not mastered these skills, reflecting triangulation between student and faculty perceptions.^[27] Additionally, students requested more practice using the APA Manual as some had not implemented APA guidelines for years. Another student shared an idea, “*Why don’t you do a unit on how to use the APA Manual.*” Other students requested more details on the project requirements. A student shared, “*We didn’t understand the magnitude of the project.*” Another student agreed, “*I feel like I’m getting it now, but it would have helped me to define my project in a better way at the beginning, to have more information up front.*” Students were required to read the Project Handbook and complete a quiz on the content; however, an overview of a project from beginning to end with the related courses would have supplemented the Project Handbook assignment by applying the information.

4. DISCUSSION

Graduate-level skills go beyond clear and concise writing. In addition to effective writing, other skills include recognizing appropriate sources of information, appraising the quality and pertinence of the information, and communicating the information with other healthcare professionals to improve patient care.^[23] Students enrolled in the seven-week course examined feasible quality improvement projects, searched appropriate databases, created evidence tables, and wrote small-scale papers using the writing tools in the course. These simulated experiences mirrored what they would do in their programs of study. Introducing these skills at the beginning of graduate programs can provide a segue to student confidence and competence.^[7] These graduate-level skills remain necessary to develop and communicate the results of evidence-based quality improvement projects required during students’ graduate programs. Furthermore, these skills transfer into the workplace, supporting implementation science to improve health care quality.^[2, 13, 26]

As previously mentioned, the viewpoints of faculty and students aligned several times, reflecting triangulation. Furthermore, repetitive perspectives were shared in the student and faculty groups, as confirmed by the development of the themes, supporting data saturation. Four coders conducted Braun and Clarke’s^[24] step-by-step thematic analysis of the focus groups’ data to describe and interpret the participants’ perceptions. Three of the four coders taught the seven-week course to the graduate students. Although qualitative designs are limited in their transferability, educators of nursing grad-

uate programs may find the results of this study beneficial in addressing similar issues, such as graduate-level skills, in their programs.^[27] Future studies are needed to develop evidence-based guidelines supporting the early development of graduate students’ skills in promoting academic success and work readiness.

5. CONCLUSION

Supporting students in developing graduate skills at the beginning of their programs was a learning and building process for faculty. Initially, writing improvement was the focus of supporting graduate skills at new student orientation, which progressed to a seven-week course. The course introduced students to the concept of implementation science, which includes identifying appropriate sources of information, appraising the quality and pertinence of the information, and communicating the information with other healthcare professionals to improve patient care.^[23] Creating scaffolded learning opportunities by simulating complex graduate writing and program expectations allowed students to practice complex skills at the beginning of their graduate programs, supporting future coursework success and work readiness.^[16] Students and faculty shared positive feedback about the seven-week course with suggestions for improvements.

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AUTHORS CONTRIBUTIONS

- Kristy Baron, PhD, RN, Professor Emeritus, co-developed the writing orientation pilot, co-developed the 7-week course, co-developed the study survey instruments, co-participated in IRB approval, and was the leading author and editor/revisor of the manuscript.
- Melissa Neville Norton DNP, APRN, CPNP-PC, CNE, Professor - Was the administrator who formed each team and developed the concept for the writing orientation pilot, co-development of the 7-week course, co-development of the study survey instruments, co-participated in IRB approval, and was the second author and editor/revisor for the manuscript, and corresponding author with the publisher.
- Diane Leggett-Fife, PhD, RN, co-developed the writing orientation pilot, co-participated in IRB approval, and was the third author and editor for the manuscript.
- Kelley Trump, DNP, MSN, CNE, University of Utah High School Nursing Director, co-developed the 7-week course,

co-developed the study survey instruments, co-participated in IRB approval, obtained funding from Weber State University School of Nursing, College of Nursing, and Sigma Theta Tau Nu Chapter to support the research study and was the fourth author and editor on the manuscript.

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No additional data are available.

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