

Impact of Nursing Clinical Elective Courses on New Graduate Nurses' Clinical Practice

A Mixed-Methods Descriptive Study

Lisa S. Lewis, EdD, MSN, RN, CNE; A. Michelle Hartman, DNP, RN, NP;
Christina Leonard, DNP, APRN, FNP-C, CNL; Allen Cadavero, PhD, RN, CCRN; and
Staci S. Reynolds, PhD, RN, ACNS-BC, CCRN, CNRN, SCR, CPHQ, FAAN

ABSTRACT

Background: Clinical elective courses provide additional specialty knowledge for prelicensure nursing students; however, it is unknown how these courses impact nurses' clinical practice after graduation.

Purpose: To describe how clinical nursing electives impact graduates' clinical practice.

Methods: A mixed-methods descriptive design was used. Students who graduated from a prelicensure nursing program were sent an electronic survey and participated in qualitative interviews.

Results: Thirty-three graduates completed the survey, with 9 participating in interviews. Sixteen graduates worked in clinical practice areas that were the same, or related to, the clinical elective they took. Many graduates felt that taking the elective course improved their confidence in the clinical setting and provided increased knowledge that put them at an advantage over their peers.

Conclusion: Clinical electives may offer a means to meet health care system needs by preparing a more confident, knowledgeable new graduate in specialty areas in which nurses are needed most.

Keywords: clinical practice specialties, curriculum, nurse specialists, nursing education, nursing specialties

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Prelicensure education for health professions, including nursing, focuses on preparing an entry-level professional with foundational skills—a generalist.¹ Specialization in clinical areas is accomplished through on-the-job training. To introduce students to specialty areas, many health care profession schools offer clinical electives, including oncology, perioperative, palliative care, and geriatrics, among others.²⁻⁵ Berlie and colleagues⁶ provide direction for health care professional schools in how to appropriately align elective courses with the school's institutional mission. Offering clinical electives helps meet the postgraduate needs of students and employers. Additionally, clinical electives may enhance

faculty development and their teaching experience, strengthen partnerships with clinical settings, and help move the profession forward by improving knowledge and skills related to specialty clinical areas.⁶

Literature Review

While there are noted benefits to offering clinical electives for students,⁶ they can be challenging to maintain due to logistical issues.⁷ As such, it would be helpful to understand how clinical electives impact students beyond the classroom. A literature search in the Cumulative Index to Nursing and Allied Health Literature and PubMed databases identified 30 articles related to clinical electives in health professional schools, including 11 in medicine, 8 in nursing, 5 in pharmacy, and 6 in other (eg, chiropractic, interprofessional clinical electives). Key search terms included *education* OR *outcomes of education* AND *clinical elective* OR *elective course*. Of the 30 articles, 11 provided evaluation data on the course itself, including the quality of the course, satisfaction with the course, how well the course met the objectives, and the student's intent in going into the specialty field after graduation.⁸⁻¹⁸ Another 17 studies evaluated student-related outcomes immediately following the course, such as knowledge, confidence, attitude, and perceptions related to the content.^{4,5,12,19-32} Two other studies did not evaluate student outcomes.^{3,6}

Author Affiliations: Associate Professor (Drs Lewis and Reynolds) and Assistant Professor (Drs Leonard, Cadavero, and Hartman), Duke University School of Nursing, Durham, North Carolina.

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Correspondence: Dr Reynolds, Duke University School of Nursing, 307 Trent Drive, Durham, NC 27710 (Staci.reynolds@duke.edu).

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Only 3 studies evaluated how many students actually accepted positions in the specialty taught in the clinical elective on graduation.^{2,18,32} Schmidt and Brown² sent an electronic survey 4 to 9 years post-graduation to 50 nursing graduates who completed a perioperative elective. The purpose was to determine whether the perioperative clinical elective influenced the graduate's career choices; 25% of respondents worked in the perioperative area, and many felt that the elective benefited their career.² Similarly, Rogers and colleagues¹⁸ described how a perioperative elective was developed and evaluated how many students accepted positions in the perioperative clinical area on graduation. Lastly, Maneval and colleagues³² described how many graduates were hired into specialty areas after taking clinical electives in their prelicensure program, including perioperative, neonatal intensive care, and oncology nursing electives.

Whereas these articles evaluated post-graduation career choices based on the clinical electives taken by students, it is unknown *how* or *if* the electives impacted the student's nursing practice after graduation. As such, there is a gap in the nursing literature about the benefits of clinical elective courses. Additionally, 2 of the 3 studies only evaluated outcomes from nurses who took a perioperative elective. There is a need to better understand how other clinical electives may impact career decisions and how these electives impact new graduate nurses' clinical practice.

Purpose

In our school of nursing, students enrolled in an accelerated bachelor of science in nursing program are offered several different clinical electives during their 4-semester program. Clinical electives include neuroscience nursing, critical care nursing, perioperative nursing, and population health practice. The purpose of this study was to describe how these clinical electives impacted new nurse graduates' clinical nursing practice after graduation, including how many accepted positions within the specialty area. Data from this study may inform how clinical electives are offered in prelicensure nursing programs and will add to the body of knowledge about the link between clinical nursing electives and their impact on nursing practice.

Methods

Design, Setting, and Sample

A mixed-methods descriptive study design was used. The study took place at a private nursing school in the Southeastern United States that admits approximately 70 prelicensure nursing students twice a year. The sample included students who graduated in December 2021 or May 2022.

Survey

To collect quantitative data, new nurse graduates were asked to complete a short, 5- to 10-minute online survey

to understand the impact of the clinical elective on their nursing practice. The survey was anonymous and voluntary, and consisted of 23 total questions (8 demographic items, 4 items related to their experience with the clinical elective, ten 4-point Likert scale questions of 1 = strongly disagree to 4 = strongly agree, and 1 open-ended comment box). Survey questions were developed by members of the research team and reviewed for face validity. Consent was implied by clicking on the electronic survey link.

Procedure

Prior to graduation, prelicensure nursing students provided their personal email address to the program office. Approximately 8 to 10 months after graduation, the electronic survey was sent to graduates who completed a clinical elective course. This timeframe was chosen to allow time for the graduated students to complete their licensure examination and new graduate nursing orientation. To encourage participation, new graduate nurses could enter their name into a drawing to win a \$25 gift card on survey completion. The survey was sent in October 2022 to nursing students who graduated in December 2021; another survey was sent in April 2023 for nursing students who graduated in May 2022.

At the end of the survey, nurses were offered the opportunity to provide their name and email address if they were interested in being contacted for a short qualitative interview. To encourage participation, their name was entered into a separate drawing to win a \$25 gift card. Qualitative interviews occurred via an electronic platform (Zoom), audio-recorded, and transcribed verbatim. Qualitative questions were developed by the research team, and can be found in Supplemental Digital Content Table 1, available at: <http://links.lww.com/NE/B461>. Interviews were conducted by 3 members of the research team with experience in qualitative interviewing. The interviewers were faculty who had taught the elective courses; they only interviewed participants who had been enrolled in courses taught by other faculty.

Data Analysis

Descriptive statistics (frequency, percent, mean, and SD) were used to evaluate quantitative data from the electronic survey. For the qualitative data, de-identified interview transcripts were read by 2 members of the research team (S.R. and L.L.). Two research team members (S.R. and L.L.) with experience in qualitative methods conducted content analysis and coded the data to identify concepts and patterns. Discrepancies were solved through discussion. A third researcher (A.C.) reviewed the codes through an audit check. This study was deemed exempt from the university's institutional review board and did not meet the definition of human subjects research.

Results

A total of 119 new graduates were invited to participate; 33 completed the electronic survey (27.7% response rate). The majority were female ($n = 31, 94\%$) with a mean age of 30.4 years ($SD 6.3$, range 24-43). Most participants completed the population health practice elective ($n = 13, 39.4\%$), followed by critical care nursing ($n = 11, 33.3\%$), perioperative nursing ($n = 11, 33.3\%$), and neuroscience nursing ($n = 4, 12.1\%$). Six (18.2%) respondents took more than 1 clinical elective. Almost half ($n = 16, 48.5\%$) of students reported that the unit/area that they currently work in was related to the clinical elective course they took (see Supplemental Digital Content Table 2, available at: <http://links.lww.com/NE/B462>).

Most students felt the clinical elective course provided them with skills or knowledge they would apply to a different specialty after graduation ($n = 24, 72.7\%$). Over half ($n = 17, 51.5\%$) originally enrolled in the clinical elective(s) because they had a passion or enthusiasm for the specialty or were interested in learning more about the specialty to determine whether they wanted to pursue a position in that clinical area after graduation ($n = 17, 51.5\%$). Many also felt the elective was enjoyable and interesting ($n = 27, 81.8\%$) (see Supplemental Digital Content Table 3, available at: <http://links.lww.com/NE/B463>). Regarding ways in which the clinical elective course(s) prepared them for their current positions, 60.6% ($n = 20$) of respondents indicated that the course(s) helped them feel more comfortable or less anxious in the job environment post-graduation, with 36.4% ($n = 12$) feeling more prepared (Table 1).

Graduates were also asked to rate statements regarding their perceptions of the clinical elective course(s) on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree). Similar to the previous responses, many graduates felt that taking the clinical elective course helped prepare them for working within health care teams (mean = 3.4, $SD = 0.55$) and that the course helped improve their critical thinking skills (mean = 3.1, $SD = 0.68$). The highest rated items were the statements “I would recommend this elective to other prelicensure students” (mean = 3.7, $SD = 0.53$) and “I am glad that I chose this clinical elective during my time in the prelicensure program” (mean = 3.7, $SD = 0.54$) (Table 2).

Table 1. Ways Clinical Elective Course(s) Prepared Participants for Their Current Position^a

Responses	n (%)
I felt more comfortable or less anxious in the job environment	20 (60.6)
I felt more prepared for the job	12 (36.4)
The course did not really prepare me for the job	11 (33.3)
My orientation reinforced content that was covered in the elective	9 (27.3)

^aCount does not add up to 33 as individuals selected more than one choice.

Table 2. Participants' Perceptions About Impact of Clinical Elective Course(s) on Their Clinical Practice After Graduation^a

Question	Mean (SD)
I would recommend this elective to other prelicensure students	3.7 (0.53)
I am glad that I chose this clinical elective during my time in the prelicensure program	3.7 (0.54)
Taking this elective:	
Helped boost my confidence in the clinical setting	3.4 (0.79)
Helped prepare me for working in health care teams	3.4 (0.55)
Was relevant to my nursing practice	3.2 (0.71)
Helped improve my critical thinking skills	3.1 (0.68)
Helped me feel more comfortable in caring for my unit's patient population	2.9 (0.84)
Helped me feel more prepared in the clinical setting during my first months of nursing practice	2.9 (0.84)
Improved my knowledge during my first months of nursing practice	2.9 (0.78)
Influenced the direction of my future career.	2.8 (0.87)

^a4 = strongly agree to 1 = strongly disagree.

A total of 9 graduates participated in qualitative interviews; 3 completed both the critical care and perioperative courses, 3 completed the population health practice course, 1 completed the critical care course, 1 the perioperative course, and 1 the neuroscience nursing course. The majority of students ($n = 7, 77.8\%$) decided to enroll in the clinical elective out of interest in learning more about the clinical practice specialty. One participant who took the critical care elective stated: “I knew I didn't really want to go into an ICU setting, but I thought maybe [I would go into the ICU] later on in my career, so to have that elective and that kind of information as a resource would be beneficial to me.” Over half of participants ($n = 5, 55.6\%$) noted that taking the elective course validated the area they wanted to work in (or did not want to work in) after graduation. One graduate stated: “I think [taking the elective course] reinforced my excitement and belief that I could do critical care nursing.”

When asked about how the clinical elective benefitted their career, all participants identified that taking a clinical elective helped to build their confidence, along with other nontechnical soft skills in the clinical setting:

From a general sense of being comfortable [in the clinical setting], I think [taking the clinical elective] most certainly helped. I think anytime you can learn about something in a low stress environment in school before you're actually [working] on the floor, makes a huge difference.

One participant noted having more patient interactions increased their confidence by “just talking to patients and understanding the flow of introducing yourself as a nurse, and growing confidence in that way as well ... like making strangers trust you very quickly.”

Other ways in which taking the clinical elective course benefitted the graduates was that the courses helped them build relationships and network with clinicians and peers (n = 4, 44.4%), increased their clinical knowledge (n = 7, 77.8%), and gave them an advantage over other recent graduates who did not have exposure to that clinical area during their nursing program (n = 3, 33.3%). One participant stated: “I definitely think [taking the clinical elective] improved my knowledge; I knew what the [pediatric intensive care unit] nurse was talking about when they stated ‘The patient’s intubated.’”

While interviewing for a clinical position, one participant felt that completing the elective course gave them an advantage over other graduates, stating:

[Taking the critical care elective] made me a step above other people when I was talking to the interviewers; [the reviewers stated] ‘We saw you took the critical care elective, and you were in the cardiac ICU for a semester. A lot of people didn’t have that opportunity with everything going on with COVID, and that’s why we wanted to interview you for the position.’

Many participants also felt that taking the clinical electives positively impacted their clinical practice after graduation. However, 1 participant noted that, whereas clinical electives are beneficial, they do not entirely determine a student’s career path: “[Taking a clinical elective course is] an opportunity for learning, but it is not the only opportunity for learning. You’re going to learn what you need to learn when you get a job. Everyone was very happy with their careers and got the jobs they wanted, so electives help, but I don’t think it’s the answer. That’s what preceptorship is for too.”

Discussion

This mixed-methods descriptive study examined how clinical elective courses taken during a prelicensure nursing program impacted new graduate nurses’ clinical practice after graduation. Similar to other studies, nursing graduates in this study felt that taking the elective course helped increase their overall knowledge of the field, even if they ended up not working within that clinical area on graduation.^{12,24,25} Findings from both the quantitative and qualitative methods revealed that clinical elective courses helped improve graduates’ confidence and comfort within the clinical setting. This finding is similar to Howard and colleagues,³³ who evaluated nursing students’ experiences with working in a clinical role during the COVID-19 pandemic. This study found that nursing students’ confidence was increased while in this role and also helped develop needed soft skills, such as how to speak with patients and visitors.³³ Additionally, in a large scoping review, Masso and colleagues³⁴ found that increased confidence in the clinical setting is a factor that influences practice readiness for new graduate nurses.

In addition to the impact on the new graduate nurse’s clinical practice, clinical electives have the potential to be

a critical element in the prelicensure nursing curriculum. The American Association of Colleges of Nursing *The Essentials: Core Competencies for Professional Nursing Education*¹ calls for a change to competency-based education that outlines specific competencies new graduate nurses should have including clinical skills from 4 key areas: wellness and disease prevention, regenerative and restorative care, chronic disease management, and hospice and palliative care. Nursing programs may consider developing or revising clinical elective course(s) to target these focus areas.³⁵

Offering clinical elective courses can have logistical challenges, due to the faculty shortage and low student enrollment, among other reasons.⁷ Whereas the critical care, perioperative, and population health practice electives were consistently in high demand at this institution, the neuroscience nursing elective struggled to maintain the minimal enrollment when offered. Nursing programs may consider weighing the benefits and disadvantages before offering these types of resource-intensive clinical elective courses, especially if student enrollment is low. Another challenge is scheduling clinical elective hours in addition to the clinical hours in the traditional curriculum. Nursing programs that do not offer clinical elective courses may consider developing specialty tracks for students to expose them to other areas.

The main takeaway from the current study was that clinical elective courses helped improve graduates’ confidence in the clinical area; nursing programs may consider other ways to learn these types of skills, such as through simulation,³⁶ which require fewer resources. Schools of nursing may consider partnering with local health systems or hospitals through an academic-practice partnership to determine what specialty units/areas may have staffing shortages that could benefit from a pipeline of new graduate nurses; this would enhance nursing programs’ ability to offer relevant elective courses. Indeed, the perioperative elective course offered at this institution was developed from needs identified within our own academic-practice partnership. Curricula typically are focused on nurse generalists, and the elective courses provide students with an opportunity to learn skills specific to their desired area of practice. Learning these skills, along with leveraging the resources from an academic-practice partnership, may allow for more successful transitions into practice.^{18,32,37} Further research is needed on how prelicensure nursing courses impact nurses’ practice after graduation; this type of research could better inform both academic and practice partners, leading to stronger evidence to support the development of academic-practice partnerships.

Limitations

Whereas this descriptive study identified beneficial information in how clinical electives impact nursing practice, there were several limitations. First, this study

was conducted with graduates from 1 private university with an accelerated prelicensure nursing program, which may limit generalizability. The sample size was small with only 33 nurses participating in the survey and 9 in the qualitative interviews. Additional participants may have yielded different results. Future research may consider including participants from other health care professions, completing a longitudinal study where students are followed for several years after graduation, or conducting a retrospective study of new graduate nurses that asks about their educational experiences prior to graduation. Feedback from employers was not obtained in this study but may provide valuable insight in a future research study.

Conclusion

This study evaluated how taking clinical elective courses in a prelicensure nursing program affected nursing students after graduation. A key finding was that clinical elective courses improved nurse graduates' sense of self-confidence in the clinical setting. Nursing programs should weigh the advantages and disadvantages of offering clinical elective courses. As these courses require many resources and time, programs may consider leveraging an academic-practice partnership to ensure that clinical elective courses offered are beneficial to local health systems and hospitals.

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TEACHING TIP

It's All About the Clues: Medication Math Calculation Escape

Being competent in medication math calculations is essential to safe nursing practice. Students find medication calculation difficult and struggle to engage in learning these skills. In preparation for the medication math competency examination, faculty prepared a comprehensive review of medication math calculation skills learned during the first semester of a nursing fundamentals course. The medication math calculation skills reviewed included reading medication labels, conversion between household and metric units of measure, intravenous drip rates, tube feeding, weight-based, as well as oral, liquid, and injectable, medication calculations. Using the genre of an escape room game, students worked in teams and were challenged to escape the classroom by solving medication math clues. Correct answers from the medication calculation clue provided a 3-digit code that opened a resettable 3-digit combination lockbox containing another medication calculation clue to solve. Students would continue solving clues that created 3-digit combinations until all lockboxes were opened, clues retrieved, and calculations solved. The last medication math calculation created a combination to unlock a box containing prizes. Students were then approved to escape the classroom. Team escape times were posted on the Leader Board via PowerPoint slide in the classroom. Students escaped the activity with times ranging from 25 to 45 minutes. The anecdotal response from students was positive, indicating a better comprehension of medication math calculations.

By **Lois Rajcan**, PhD, RN, and **Angela Salio**, MSN, RNC-OB, John and Karen Arnold School of Nursing, Alvernia University, Reading, Pennsylvania, Lois.Rajcan@alvernia.edu.

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TEACHING TIP

Building Connections Through a Creative, Student-Focused Use of NCLEX Care Areas

In nursing education, supportive human connections that promote communication and caring are essential to the success of our efforts and the success of our students. At the beginning of the semester, students complete an individual worksheet with a self-care plan. Focusing on building caring relationships, this exercise (which is easily replicated regardless of level or content) incorporates the use of the 8 NCLEX Client Care Areas. Students address each of the client care areas with a need that they themselves have or a way in which they will maintain self-care in that area. An additional area of their self-care plan asks them to include something specific about themselves that they want or need the instructor to know. These self-care plans are kept in confidence between the instructor and the student and allow for building connections and understanding by creating talking points. At midterm (and as needed), the instructor contacts students individually, focusing on their key points and any areas of concern or special focus. At any educational level, connection and caring are essential—even more so in nursing. Modeling caring and connection in the classroom allows the students to experience those same key caring and communication elements that they, in turn, will bring to their own patient care experiences.

By **Kelly A. Cole**, EdD, RN, CNE, Fort Hays State University, Hays, Kansas, kacole2@fhsu.edu.

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