Journal of Comprehensive Nursing Research and Care

Enhancing Clinical Competency: The Impact of Rural Academic-Practice Collaboration on BSN Students' Readiness for Practice

Jennifer Rogers*, Neely Chandler, Carlin Morgan, Matt Hermes, Tonia Mailow, and Dina Byers
Department of Nursing, Murray State University, 120 Mason Hall, Murray, Ky 42071, United States.

Article Details
Article Type: Research Article
Received date: 13th July, 2026
Accepted date: 21st October, 2026
Published date: 24th October, 2026

***Corresponding Author:** Jennifer Rogers, Professor, Department of Nursing, Murray State University, 120 Mason Hall, Murray, Ky 42071, United States.

Citation: Rogers, J., Chandler, N., Morgan, C., Hermes, M., Mailow, T., & Byers, D., (2026). Enhancing Clinical Competency: The Impact of Rural Academic-Practice Collaboration on BSN Students' Readiness for Practice. *J Comp Nurs Res Care 11*(2):238. doi: https://doi.org/10.33790/jcnrc1100238.

Copyright: ©2026, This is an open-access article distributed under the terms of the Creative Commons Attribution License 4.0, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

The purpose of this study is to evaluate how competency-based education (CBE) influences nursing students' preparedness for practice within academic-practice partnerships. Each student completed four 12-hour shifts with a BSN-prepared nurse preceptor in a hospital setting. Students were provided an opportunity to observe and participate in the registered nurse (RN) role. A pre- and post-survey was utilized to assess each individual student's perceived readiness for practice, clinical problem-solving, learning activities, confidence managing patient assignments, and confidence performing clinical skills. Preceptor-based clinical education greatly improved students' perceived readiness for practice, specifically in the domains of clinical problem-solving and practice readiness. Students also demonstrated substantial gains in confidence performing clinical skills, including feeding tube care, central line care, pain management, and end-of-shift reporting; however, student's confidence decreased as the patient load increased. Lower confidence presented in cardiac telemetry interpretation and tracheostomy care, identifying areas for curricular improvement. Clinical-based education executed through academic-practice partnerships enhances nursing students' readiness for professional practice. These experiences strengthen clinical judgment, promote confidence, and improve clinical skill performance. Preceptor-based clinical experiences provide an effective strategy for supporting the transition from student to professional nurse.

Keywords: Competency-based Education, Academic-practice Partnerships, Undergraduate Nursing Students, Practice Preparedness, Preceptor Model, Dedicated Education Units

Introduction

The 2021 AACN [1] Essentials called for transition to competency-based education (CBE) in nursing curricula. This transition to CBE requires reexamination of curricular design with a focus on experiential learning and assessment opportunities [2]. In an effort to conform with these standards, collaboration with academic institutions and health care organizations has been implemented as a part of curriculum design. An integral part of CBE is ensuring that graduating Bachelor of Science in Nursing (BSN) students are "practice ready", meaning that they can transfer into clinical roles upon graduation [3]. Nursing educators must consider CBE as an integral part of curricula, ensuring that nurses are "practice ready" upon entering the workforce. A challenge of producing "competent, practice-ready nurses" is that defining "competency" could be seen differently by nurse educators and clinical staff. The AACN [4] has attempted to overcome this by developing 10 Domains and accompanying sub competencies that all graduate nurses must meet prior to completing academic curricula. Completion of clinical hours is a component of attaining competency and preparing nurses to be "practice ready" upon graduation.

One of the barriers to producing "competent, practice-ready nurses" is a shortage of both registered nurses and nursing faculty. According to Health Workforce Projections published by Health Resources and Services Administration [5], national nurse shortages are projected until 2038. There is a projected 8% shortage of registered nurses in 2028, and by 2038 the shortage is 3% [5]. Solving the nursing shortage relies upon accommodating all qualified applicants in our nation's schools of nursing. Yet, nursing programs turned away 80.162 qualified applications from BSN and graduate programs in 2024. Reasons cited included an insufficient number of faculty, clinical sites, classroom space, clinical preceptors, and budget constraints. Notably, faculty shortages were identified as a top reason for not being able to accept qualified applicants into their programs [2].

Historically, traditional learning models for nursing education have provided clinical education through faculty-guided clinical training within the hospital, where a nurse educator would take approximately ten students to a floor and oversee them for a period of time. These traditional methods led to a continuing theory-to-practice gap,

inconsistent supervision and feedback, limited evaluation transparency, and transition shock [6]. Practice readiness was lacking due to fragmented curricula, inconsistent pedagogy, and limited academic-clinical integration [6]. Recent research has explored the role of dedicated education units (DEU) and academic partnerships and their potential to integrate CBE into nursing education curricula.

The DEU is a model that was first introduced in 1997. It was a strategy proposed to enhance nursing competencies, bridge theory-to-practice gaps, clarify roles, and promote students' sense of belonging in clinical settings [7]. Gangeness, Benike, Monteau, and Gerberi [8] conducted a systematic review of the literature examining the differences in learner outcomes between traditional learning methods and DEUs. Results indicated that the DEU model for clinical education enhances student satisfaction with learning, increases learning opportunities, and improves self-perceived learning performance. The review indicated that the effect of student performance outcomes still needed further research, but there did seem to be a positive relationship between DEU and competency development [8]. Stratton-Maher et al. [6] proposed the Professional Readiness and Education for Practice Framework, which utilizes authentic clinical experiences, structured mentorship, cultural safety, and digital health competencies to prepare nursing students for health care practice.

Aull and Nobles [9] described an Academic Partnership Unit where each student is assigned a home-based unit with a clinical bedside RN preceptor that serves as a clinical instructor. Students work alongside the clinical instructor for the duration of the program, except when rotating to specialty areas of practice. The success of the program is based on hospital staff engagement, as staff nurses serve as teachers and mentors for the students. Integration of students into home-based units allows for professional growth and development for both staff and students, enhancing student competency and readiness to practice. It also benefited the hospital organization by increasing the recruitment and retention of these students [9].

It is vital that, with current nursing and faculty shortages, nurse educators examine the role of clinical education models and their ability to produce practice-ready nurses. Both the DEU and academic partnerships present similar challenges. In both scenarios, the nursing student is guided by a trained nurse and has the potential to observe practices that contraindicate evidence-based nursing practices learned in the lab, simulation centers, and didactic classrooms. Effective integration of theory and practice requires strong partnerships between academic institutions and clinical providers [10]. Clinical preceptors must facilitate learning, model professional behavior, and support students in the transition from theory to practice.

Preceptor-based clinical experiences provide a multitude of benefits that elevate student learning and practice readiness. According to Bittner et al. [11], “The individualized learning experience with a clinical teacher has advantages in creating a learning environment that mirrors authentic nursing practice.” When students are able to complete an entire 12-hour shift working alongside a registered nurse, they are able to fully encompass and experience the role of their forthcoming profession. This level of clinical exposure is critical to the development of competent, professional nurses. Bowles et al. [12] emphasize that students must be exposed to current practice environments, as doing so facilitates an effective transition into the nursing profession upon graduation. Maintaining traditional approaches in nursing education without adaptation will not suitably prepare students or advance the nursing profession to meet the demands of a rapid, continuously evolving healthcare system. Academic-clinical partnerships are fundamental to ensure this is achieved.

While preceptor-based clinical experiences provide a range of notable benefits, several limitations have been identified within existing literature. As identified by Regaira-Martínez et al. [13], “Nurse preceptors face various challenges in their educational roles, including workload, lack of time, limited alignment with students, inadequate training for preceptorship, and insufficient connection with the university.” In addition, a need for greater compensation was reported. Serving as a preceptor demands significant time, effort, and commitment; inadequate compensation may contribute to increased burnout among preceptors. The extensive workload nurses encounter may contribute to frustration when they view their ability to effectively teach students as suboptimal. Inconsistencies between student and preceptor schedules may also present challenges, leading to students working with multiple preceptors during a single clinical rotation. This may obstruct preceptors’ ability to adequately evaluate students’ overall development and monitor skill acquisition. Furthermore, nurse preceptors may feel inadequately prepared to effectively train students if they have not received formal preceptor training or if there is a lack of collaboration with faculty oversight.

The Essentials: Core Competencies for Professional Nursing Education (2026) have put out the challenge to nursing schools to prepare practice-ready nurses through CBE. Yet nursing education administrators find themselves challenged with overworked faculty and a shortage of clinical educators and clinical oversight. Hospital organizations are challenged with new nurses who are not practice-ready and a decline in new graduate retention rates. This has led to further shortages and open positions [3]. The desired outcome for both the nursing faculty and the hospital organization is to have “practice-ready, competent nurses” entering the workforce.

As healthcare continues to evolve, the interaction of nursing programs and hospital organizations may offer an opportunity to overcome challenges encountered by each entity. While these opportunities have enhanced CBE education and clinical learning for the student nurse, educators continue to evaluate the role clinical partnerships have in preparing the BSN student to be practice-ready upon graduation. Current research explores the role of DEU and academic partnerships and promotes their role in CBE, but there is limited research on exploring the ability of these models to assess practice readiness of those students participating in them. This project aims to evaluate how CBE influences nursing students' preparedness for practice within academic-practice partnerships.

Materials and Methods

Prior to data collection, the study received approval from the university’s Institutional Review Board (IRB). Students were provided with an introductory statement at the beginning of the electronic survey that described the study’s purpose and explained that participation was voluntary and responses were anonymous. Students were informed that they could decline participation without penalty. No personally identifiable information was collected. Completion and submission of the survey indicated voluntary agreement to participate. The primary objective of this study was to evaluate how CBE influences nursing students' preparedness for practice within academic-practice partnerships. Students participating in this project completed an electronic pre-survey prior to completing the clinical hours and a post-survey at the completion of their clinical hours. Before beginning the research, members of the nursing administration and hospital administration of each facility met and discussed objectives for the academic partnership collaboration. The following objectives were decided upon:

- Students will use evidence-based practice, hospital and university policies and procedures while synthesizing knowledge from physical, behavioral, and humanities when performing nursing skills and providing care to clients.
- Students will become proficient in completing focused and head-to-toe assessments, medication administration, and end-of-shift reporting.
- Students will review and integrate patient assessments, labs, and diagnostic tests to develop individualized plans of care.

- Students will provide care and document care for 1-2 patients, using critical thinking and the nursing process while providing compassionate, holistic, safe, and self-directed care to optimize patient outcomes.
- Students will model professionalism, collaborate and communicate with members of the health care team, patients, and family members.

In order to meet these objectives, nurse preceptors were chosen by Site A and Site B nurse education departments. Nurse preceptors chosen were required to have a BSN and at least two years of experience as an RN. The role of the preceptor would be to supervise and mentor one to two students during each 12-hour shift. Compensation was agreed upon with the academic institution and hospital administration before initiating the project.

The preceptors would provide an opportunity for the students to observe and participate in the RN role for a 12-hour shift. BSN students would complete four 12-hour shifts with their assigned preceptor. Day 1 of the 12-hour shift, students would follow their preceptor throughout the day, assisting when indicated. Day 2-4, BSN students were given 1-2 patients from the preceptor's assigned patients to provide direct patient care under the guidance of their preceptors. Students would have an assignment due at the end of the 12 hours that would focus on the client cared for, addressing pathophysiology of the disease process, recognizing and analyzing cues, prioritization, diagnostic tests, medications, nursing interventions, evaluation, and self-reflection.

In order to assess nursing students' preparedness for practice within the academic-practice partnership, the Casey-Fink Readiness for Practice Survey © [14] was selected. Perception of readiness for professional nursing practice was evaluated via pre- and post-simulation surveys using Section I of the Casey–Fink Readiness for Practice Survey to assess students' perceptions of clinical problem-solving (Subscale 1), learning activities (Subscale 2), and practice readiness (Subscale 3) for professional nursing practice following participation in the simulation experience. The 15-item survey employs a 4-point Likert scale (strongly agree to strongly disagree) to evaluate clinical judgment, safety risk identification, care prioritization, and readiness for clinical practice [14]. A higher mean score indicates a higher level of agreement with each subscale.

Section II of the readiness for practice survey assesses confidence managing a patient care assignment. Asks students to rate their current level of confidence in managing a patient care assignment from 2 to 5 patients. A 5-point Likert scale (not confident, slightly confident, somewhat confident, confident, and highly confident) for each patient load was assessed. A higher mean score indicates a higher level of confidence.

Section III is a learning needs assessment. In this section, students are asked to rate their confidence in doing 31 skills/abilities using the scale not confident, somewhat confident, and highly confident. Skills/abilities ranged from completing a head-to-toe assessment, completing various skills (IV insertion, Nasogastric tube, central line care, etc., giving an end-of-shift report, interpreting diagnostic results, to de-escalating a violent patient and caring for the dying patient. A higher mean score indicates a higher level of confidence in each skill/ability. Items with a mean score <2 indicate lower confidence in performing the skill.

This survey was developed by Casey-Fink © and is a reliable and valid survey specifically designed to assess students' perception of confidence, critical thinking, learning activities, skills and perceived readiness to handle the responsibilities of a professional nurse, making it highly relevant for nursing education programs (https://www.caseyfinksurveys.com/surveys). Permission was obtained from Casey-Fink © to use the survey before IRB approval. The electronic survey was given to the students using Google Forms ® via Canvas ® management system prior to Day 1 and at the conclusion of Day 4 for Site A and Site B. The surveys took approximately 10-15 minutes to complete, and anonymous data were collected. Surveys were administered anonymously without identifying information or unique participant codes, preventing individual responses from being matched between the pre- and post-surveys. All available responses were included in the analysis at each time point. Students without post-survey responses were not included in the post-survey analysis.

The sample for this project included 92 BSN students at the junior/senior undergraduate level between the ages of 18-50 enrolled in Adult Health II course at a Midwestern rural university. The clinical component of the course was completed at two regional medical centers. Site A is a 142-bed, non-profit, voluntary, community hospital serving between 20,000-39,999 patients a year. Site B is a 373-bed, non-profit, faith-based health care hospital serving 200,000 patients a year across four states. For Site A, 78 students completed the pre-test prior to Day 1 and 42 completed the post-test after Day 4. For Site B, 14 students completed the pre-test, and 33 completed the post-test. Students completed the initial survey given prior to Day1.

Statistical Analysis

For section 1 of the Casey-Fink Readiness for Practice Survey, a 3x2 repeated measures ANOVA (subscale x time) assessed differences between subscale scores (subscale 1, subscale 2, subscale 3), with time (pre and post) as between-subjects factors. Post-hoc pairwise comparisons using a Bonferroni adjustment were used for significant interactions to determine where differences occurred.

For section 2 of the Casey-Fink Readiness for Practice Survey, a 4x2 repeated measures ANOVA (patient care score x time) assessed differences between patient care scores (caring for 2 patients, caring for 3 patients, caring for 4 patients, caring for 5 patients), with time (pre and post) as between-subjects factors. Post-hoc pairwise comparisons using a Bonferroni adjustment were used for significant interactions to determine where differences occurred.

Section 3 of the Casey-Fink Readiness for Practice Survey contains 31 skills. However, they are not categorized into subscales as in Section 1. An exploratory factor analysis using principal axis factoring was conducted to determine if there were logical groupings of the skills into subscales. However, 25 of the skills loaded onto a single factor, suggesting the skills are unidimensional and interrelated. Reliability analysis revealed very high internal consistency among the skills (Cronbach's $\alpha = 0.939$). Based on the high interrelatedness and consistency of the 31 skills, a single composite score was developed by calculating the mean clinical skill score across the 31 skills in section 3 for each participant. A one-way between-subjects ANOVA assessed changes in mean clinical skill score across time (pre, post), with time treated as a fixed factor. Post-hoc pairwise comparisons using a Bonferroni adjustment were used for significant interactions to determine where differences occurred.

Assumptions of normality were assessed using the Shapiro-Wilk test and visual inspection of the Q-Q plots. The homogeneity of variance was evaluated using Levine's test. The assumption of sphericity was assessed using Mauchly's test. If the assumption of sphericity was violated, a Greenhouse-Geisser correction was used. Partial eta squared (η_p^2) and Cohen's d effect sizes were reported, using the following cutoffs: η_p^2 – small (≤0.059), moderate (0.060-0.139), and large (≥0.140); d – small (0.20-0.49), moderate (0.50-0.79), and large (≥0.80). Statistical significance was set at $p \leq 0.05$. Statistical analyses were performed using IBP SPSS Statistics, version 29.0 (IBM Corp).

Results

Demographic Characteristics

Site A sample was 90.5% female and 9.5% male, with 95.2% white or Caucasian, 2.4% Asian, and 2.4% Black or African American.

Eighty-one percent had previous health care experience (Certified Nursing Assistant, medical assistant, EMT, patient care technician, Extern, nurse apprentice, etc.).

Site B sample was 87.9 % female and 12.1 % male, with 75.8% white or Caucasian, 12.1% black or African American, 6.1% Asian, and 6.1% Hispanic or Latino. Of the students participating 72.7% had previous health care experience (Certified Nursing Assistant, medical Assistant, EMT, patient care technician, extern, nurse apprentice, etc.).

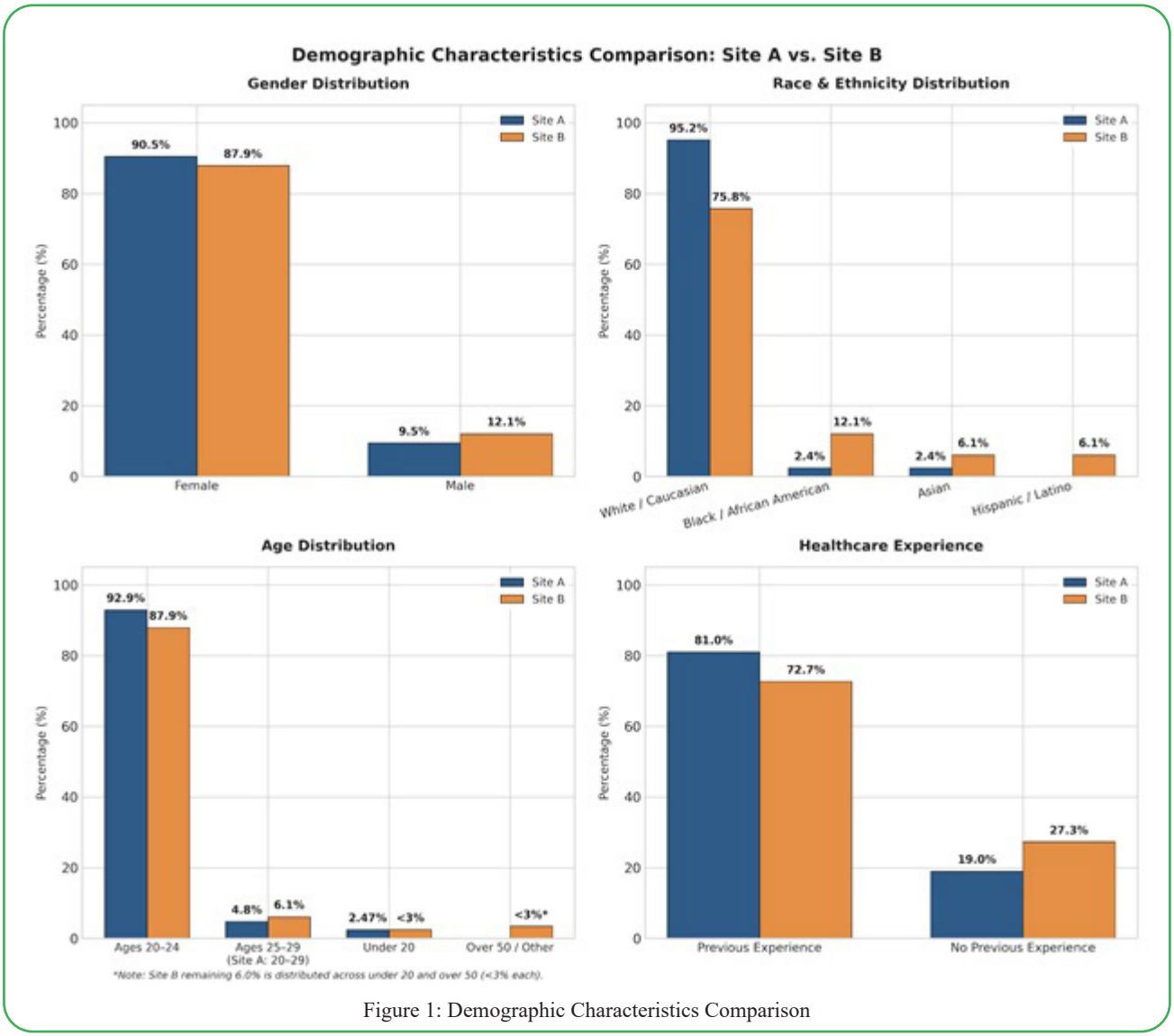


Figure 1: Demographic Characteristics Comparison

Normality, Homogeneity of Variance, and Sphericity

Data appeared to be normally distributed for the section 3 mean sub-score ($p = 0.08$), with violations of normality for section 1 subscales (1-3; $p < 0.001$) and section 2 items (caring for 2-5 patients; $p < 0.001$). However, visual inspection of the Q-Q plots suggested an appropriately normal distribution of these variables for parametric analysis. Levine's test indicated the homogeneity of variance across most variables across all three survey sections ($p = 0.08$-0.68), except for the caring for 2 patients' condition ($p = 0.01$). The assumption of sphericity was violated for both Sections 1 and 2 analyses ($p < 0.001$), so a Greenhouse-Geisser correction was applied to these analyses.

Casey-Fink Readiness for Practice Survey Section 1

Descriptive data for subscale scores by time point are presented in Table 1. The 2-way (Subscale x Time) interaction was significant ($p < 0.001$, $\eta p2 = 0.06$), indicating that the magnitude of change over time differed between subscales. Post hoc analyses indicated that Subscale 1 ($p < 0.001$, $d = 0.92$) and Subscale 3 ($p < 0.001$, $d = 0.89$) improved significantly from pre to post, while Subscale 2 saw no change from pre to post ($p = 0.42$, $d = 0.35$).

Furthermore, Subscale 3 was significantly lower than Subscales 1 and 2 at the pre time point ($p < 0.001$, $d = 0.53$-0.66), with no difference between Subscales 1 and 2 at pre ($p = 1.00$, $d = 0.19$). At post, Subscale 3 was still lower than 1 ($p = 0.01$, $d = 0.32$), but not different from 2 ($p = 1.00$, $d = 0.05$). Subscales 1 and 2 were not different at post ($p = 0.28$, $d = 0.27$).

As seen in Figure 2, results indicated the time between the pre and post-tests resulted in significant improvements in readiness behaviors for clinical problem solving (Subscale 1: d =) and practice readiness (Subscale 3: d=) while learning activities (Subscale 2) saw no meaningful change ($p=0.12$). Practice readiness (Subscale 3) was initially the weakest area for participants at baseline but improved to match learning activities (Subscale 2) competencies by the post-test. Both clinical problem solving and practice readiness were increased by the intervention.

Section 1				
Time	Subscale 1	Subscale 2	Subscale 3	
Pre (n=92)	2.98 ± 0.47	3.08 ± 0.52	2.67 ± 0.69	
Post (n=75)	3.40 ± 0.44	3.27 ± 0.57	3.24 ± 0.57	
Section 2				
Time	Caring for 2 Patients	Caring for 3 Patients	Caring for 4 Patients	Caring for 5 Patients
Pre (n=92)	3.55 ± 1.06	2.83 ± 1.23	2.02 ± 1.15	1.64 ± 1.00
Post (n=75)	4.40 ± 0.75	3.76 ± 1.09	2.92 ± 1.21	2.32 ± 1.12
Section 3				
Time	Mean Clinical Score			
Pre (n=92)	2.02 ± 0.34			
Post (n=75)	2.40 ± 0.32			
Data presented as mean ± SD				

Table 1. Casey-Fink Readiness for Practice Survey Section Scores

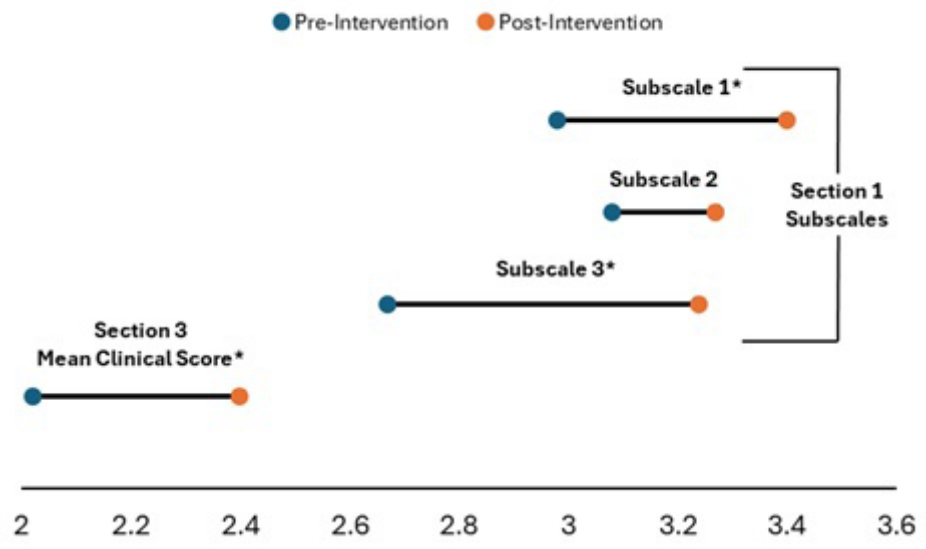


Figure 2: Pre- (blue) and post-intervention (orange) survey scores for Section 1 subscales and the Section 3 Mean Clinical Score. * Indicates a significant change from pre to post ($p<0.05$).

Casey-Fink Readiness for Practice Survey Section 2

Descriptive data for patient care scores can be found in Table 1. The 2-way interaction between patient care score and time was not significant ($p = 0.16$, $\eta_p^2 = 0.01$), while the main effects for patient care score ($p <0.001$, $\eta_p^2 = 0.73$) and time ($p <0.001$, $\eta_p^2 = 0.15$) were significant. This indicates that similar amounts of improvement over time were realized between Patient Care Scores. When collapsing across patient care scores, scores significantly improved from pre to post ($p < 0.001$, $d = 0.85$). When collapsing across time, significant differences were observed between all patient care scores ($p < 0.001$, $d = 0.89$-2.11), indicating that as the number of patients cared for increased, confidence ratings decreased.

Analysis of data showed that patient workload dictates practice confidence. A clear downward trend was identified regardless of whether it was before or after DEU intervention. As patient load increased, students' confidence decreased. Students felt the most comfortable caring for 2 patients (Total pre: 3.55, Post: 4.40). There was a significant main effect for time ($p < 0.001$, $d = 0.85$), suggesting that the intervention did build student confidence equally across all workload tiers as aggregate mean went from 2.51 at baseline to 3.35 at post-test.

Casey-Fink Readiness for Practice Survey Section 3

Descriptive data for mean clinical skill score by time can be found in Table 1. A significant main effect for time was observed ($p < 0.001$, $\eta_p^2 = 0.25$), indicating that a significant increase in mean clinical skill score was observed from pre to post ($p < 0.001$, $d = 1.17$). As demonstrated in Figure 2 the mean clinical skill score improved from 2.02 at baseline to 2.40 at post-test. Descriptive statistics for each of the 31 skills in section 3 at the pre and post timepoints are displayed in Table 2. The skill with the highest confidence rating at both timepoints was pulse oximetry, while the skill with the lowest rating at both timepoints was chest tube insertion. Feeding tube care saw the largest increase in confidence from pre to post (mean difference = 0.71, $d = 1.11$), while the smallest increase was observed in EKG/telemetry rhythm interpretation (mean difference = 0.09, $d = 0.13$).

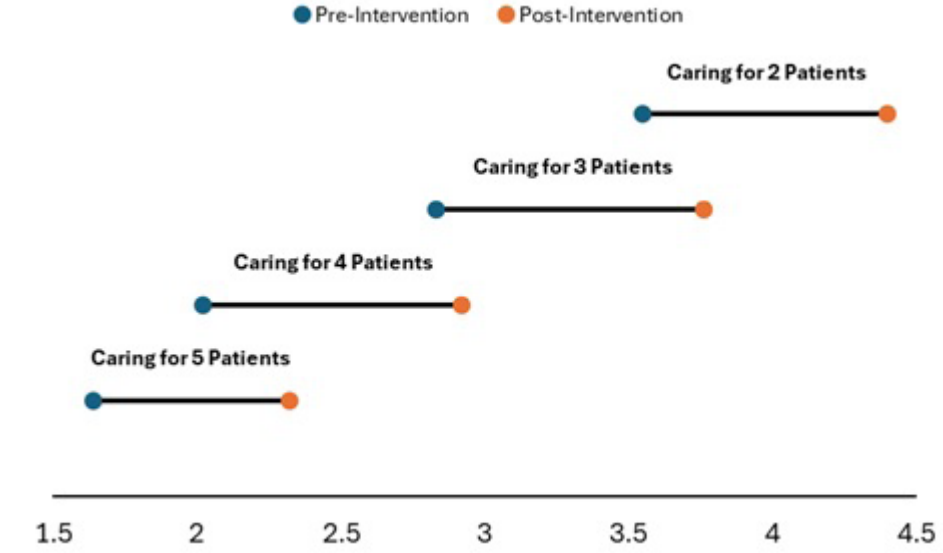


Figure 3. Pre- (blue) and post-intervention (orange) scores for Section 2 Patient Care Scores.

Section 3 Skills	Pre Mean ± SD (n=92)	Post Mean ± SD (n=75)	Mean Difference	Cohen's d Effect Size
Patient (head to toe) assessment	2.73 ± 0.44	2.93 ± 0.25	0.20	0.54
IV insertion	2.07 ± 0.59	2.40 ± 0.63	0.33	0.55
Peripheral blood draws	1.93 ± 0.75	2.39 ± 0.69	0.45	0.62
Urinary catheter insertion	2.07 ± 0.69	2.93 ± 0.68	0.32	0.47
Central line care	1.43 ± 0.62	2.12 ± 0.75	0.69	1.01
Chest tube insertion	1.08 ± 0.27	1.30 ± 0.59	0.22	0.51
Feeding tube care including NG tube, J-tube, G-tube	1.41 ± 0.59	2.11 ± 0.60	0.71	1.11
Tracheostomy care	1.29 ± 0.57	1.45 ± 0.62	0.16	0.27
Giving end-of-shift report	2.24 ± 0.54	2.73 ± 0.50	0.49	0.93
Patient admission process	1.71 ± 0.72	2.23 ± 0.72	0.52	0.72
Patient discharge process	1.69 ± 0.73	2.33 ± 0.66	0.64	0.92
PCA pump management	1.53 ± 0.62	1.84 ± 0.71	0.31	0.46
Communicating plan of care with patients and families	2.23 ± 0.63	2.65 ± 0.51	0.41	0.71
EKG/telemetry rhythm interpretation	1.58 ± 0.70	1.67 ± 0.69	0.09	0.13
Basic Life Support compressions in cardiac/respiratory arrest	2.20 ± 0.66	2.45 ± 0.60	0.25	0.39
Interpreting lab results	2.07 ± 0.56	2.45 ± 0.55	0.40	0.71
Managing pain	2.30 ± 0.60	2.82 ± 0.38	0.52	1.00
Wound care	2.32 ± 0.57	2.63 ± 0.51	0.32	0.58
Ostomy care	1.82 ± 0.66	2.42 ± 0.67	0.60	0.91
Blood product administration with RN present	1.54 ± 0.69	2.15 ± 0.72	0.61	0.86
Suicide screening	1.90 ± 0.71	2.33 ± 0.73	0.43	0.60
De-escalating a violent patient/family	1.71 ± 0.65	2.15 ± 0.72	0.44	0.64
Caring for a dying patient	2.15 ± 0.69	2.52 ± 0.60	0.37	0.58
Postmortem care	2.03 ± 0.83	2.36 ± 0.80	0.33	0.41
Managing patients with substance use withdrawal	1.74 ± 0.66	2.22 ± 0.64	0.48	0.74
Skin assessment for pressure injury	2.53 ± 0.58	2.82 ± 0.38	0.29	0.57
Use of Personal Protective Equipment	2.76 ± 0.49	2.95 ± 0.23	0.19	0.47
Medication administration	2.48 ± 0.58	2.89 ± 0.31	0.41	0.85
Fall risk assessment	2.66 ± 0.52	2.89 ± 0.31	0.23	0.52
Pulse oximetry	2.89 ± 0.31	2.99 ± 0.06	0.10	0.43
Documentation in electronic health record	2.41 ± 0.57	2.79 ± 0.44	0.38	0.74

Table 2. Pre and Post Casey-Fink Readiness for Practice Survey Section 3 Clinical Skill Ratings

The largest changes (d ≥ 0.80) from pre to post were observed in feeding tube care (d=1.11), central line care(d=1.01), managing pain(d=1.00), giving end of the shift report(d=0.93), patient discharge process(d=0.92), ostomy care(d=0.91), medication administration(d=0.85), and blood product administration with RN(d=0.86). Students didn't just improve in these areas, but their comfort levels also shifted.

Medium impact (d=0.50-0.79) skills involving workflow included patient admission processes (d=0.72), communicating plan of care (d=0.71), documentation in EHR (d=0.74), which saw moderate to large growth. Critical thinking/assessments processes included interpreting lab results (d=0.71), managing substance abuse withdrawal (d=0.74), suicidal screening (d=0.60), and deescalating violent patients (d=0.58). Psychomotor skills such as peripheral blood draws (d=0.62), IV insertion (d=0.55), patient head-to-toe assessment (d=0.54), and wound care (d=0.58) also demonstrated medium impact.

Those areas that demonstrated low growth per low post-test scores include EKG/telemetry rhythm interpretation (d=0.13), chest tube insertion (d=0.51, post-test mean was 1.30, lowest on the list), and tracheostomy care (d=0.27). These skills remained very uncomfortable for students even after the intervention, suggesting that more exposure may be beneficial. Finally, areas that had low growth but high post-test scores include pulse oximetry (d=0.43), use of PPE (d=0.47), and patient assessment (d=0.54). These results indicate that students already felt confident at baseline, with minimal room to improve.

Discussion

The findings of this study provided strong evidence that CBE delivered through a preceptor-based learning model significantly enhanced nursing students' preparedness for clinical practice. This study demonstrated that exposure to clinical environments, guided by experienced nurse preceptors, facilitated meaningful, measurable growth in critical areas, including clinical problem-solving, practice readiness, confidence in patient management, and procedural skill mastery. The results aligned with Bittner et al. [11], who noted that individualized clinical experiences create an environment that mirrors real-world nursing practice. By completing 12-hour shifts and progressively increasing patient loads, students were able to bridge the gap from theory to practice by using clinical judgment in the clinical setting.

Analysis of the Casey-Fink Readiness for Practice Survey (Section 1) revealed that the intervention was highly effective at fostering behavioral growth in clinical problem solving and practice readiness—both of which saw major behavioral leaps. Practice readiness was initially the students' weakest baseline competency, but the intervention successfully bridged this gap, allowing students to align their perceived readiness with their competence in learning activities by the conclusion of the clinical rotation. The lack of significant change in learning activities suggested a "ceiling effect," where students entered the clinical experience with high foundational confidence in these specific skills, precluding further measurable gains.

Section 2 of the survey provided critical insights into the relationship between workload and perceived clinical readiness. An inverse correlation between patient volume and confidence was evident at both pre- and post-intervention time points, with confidence scores consistently declining as the number of assigned patients increased. However, confidence significantly improved across all workload tiers following the intervention. Students consistently maintained the highest confidence levels when managing a 2-patient assignment, and confidence declined as patient complexity and volume increased. These findings indicated that while students remained sensitive to patient volume, the preceptor-based model effectively elevated the baseline of confidence across the entire spectrum of patient care assignments.

Analysis of Section 3 of the Casey Fink clinical skill ratings demonstrated that the intervention provided substantial advancement, particularly in complex procedural care and independent operational workflows. Large effect sizes were observed in complex skills such as feeding tube care (d = 1.11), central line care (d = 1.01), and pain management (d = 1.00), as well as in professional skills like end-of-shift reporting (d = 0.93). These gains underscored the benefits of authentic, preceptor-guided clinical exposure, aligning with Bowles et al. [12], who emphasized that exposure to current practice environments is imperative for an effective professional transition. Conversely, a clear educational gap was identified in cardiac telemetry interpretation (d = 0.13) and tracheostomy care (d = 0.27), where post-test confidence remained low. These findings identified potential gaps in the curricula and can assist with directing nursing faculty to place further emphasis on these skills.

Qualitative feedback from the students provided a crucial narrative complement to the statistical analysis and offered a roadmap for future curricular adaptations. Students expressed a strong desire for "expanded clinical exposure," specifically requesting the management of two patients rather than one to build real-world experience, which correlates with the statistical finding that confidence is workload-sensitive. To address the gaps identified in Section 3, students advocated for increased lab and simulation time, particularly for mastering tasks like IV insertion, urinary catheterization, and physical assessments. The request for simulations that feature "sudden changes in patient conditions" directly supports the need to bolster the low-confidence areas identified in the date, such as cardiac telemetry and tracheostomy management.

While the benefits to students are evident, the transition to preceptor-based models remains logistically challenging. As identified by Regaira-Martínez et al. [13], preceptors face significant burdens, including increased workloads and the need for formal preceptor training. The success observed in this study was contingent upon the dedication of the preceptors; however, long-term sustainability depends on nursing leadership's ability to mitigate preceptor burnout through equitable compensation and dedicated support. As noted by Chan [15], failing to address systemic barriers—such as staffing constraints and resource limitations—threatens the longevity of these partnerships.

These findings carry significant implications for nursing education, highlighting the need for targeted skill training in areas where student confidence remains low, such as cardiac telemetry and tracheostomy care. Integrating focused simulations and tailored lab modules before preceptor rotations can bridge these specific learning gaps and better equip students for complex patient scenarios. Furthermore, sustaining these academic-practice partnerships requires addressing systemic challenges, particularly mitigating preceptor burnout through structured support, equitable compensation, and formal preceptorship training. Beyond rural environments, expanding research to diverse, non-rural healthcare settings will be essential to evaluate the broader applicability and scalability of preceptor-based models across varied clinical learning environments.

Limitations

Limitations include the lack of a control group and limited generalizability due to the rural setting where the study was completed. An additional limitation is the scalability of the intervention.

Conclusion

Preceptor-based clinical education greatly improved students' perceived readiness for practice, specifically in the domains of clinical problem-solving and practice readiness. Students also demonstrated substantial gains in confidence performing clinical skills, including feeding tube care, central line care, pain management,

and end-of-shift reporting; however, student's confidence decreased as the patient load increased. These findings support preceptor based clinical education, however there are also identified barriers such as increased workload, lack of time, limited alignment with students, inadequate training for preceptorship, and insufficient connection with the university [13]. Exploring ways to overcome these barriers should be included in future research. In addition, future research should place emphasis on longitudinal outcomes, specifically whether the increased levels of readiness and confidence among students translate to increased hiring rates and retention for participating facilities. While preceptor-based clinical experiences provided an effective strategy for supporting the transition from student to professional nurse in this rural setting, research should focus on exploring the role of preceptor-based nursing education in the non-rural academic settings as well. Finally, using readiness to practice surveys like the Casey-Fink ® to develop and improve nursing education curricula. would be recommended.

Competing interests: The author(s) declare that they have no competing interests.

Acknowledgements: This project was funded by the Health Resources and Services Administration, Nursing Education Practice Quality and Retention grant.

References

1. American Association of Colleges of Nursing. (2021). *The essentials: Core competencies for professional nursing education*. https://www.aacnnursing.org/Portals/0/PDFs/Publications/Essentials-2021.pdf
2. American Association of Colleges of Nursing. (2024). *Nursing faculty shortage* [Fact sheet]. https://www.aacnnursing.org/Portals/0/PDFs/Fact-Sheets/Faculty-Shortage-Factsheet.pdf
3. Lattanzio, R. E. (2024). Enhancing nursing education for BSN students: Prioritizing communication competency for practice readiness. *Nursing, 54*(11), 58–61. https://doi-org/10.1097/NSG.0000000000000053
4. American Association of Colleges of Nursing. (2026). *The essentials: Core competencies for professional nursing education* (2026 ed.). https://www.aacnnursing.org/
5. National Center for Health Workforce Analysis. (2025). *Nurse workforce projections, 2022–2037*. Health Resources and Services Administration. https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/nursing-projections-factsheet.pdf
6. Stratton-Maher, D., Tulleners, T., Elliott, J., Ryan, L., Mcculloch, J., Roderick, G., Jayasinghe, T., Buckley, J., Newman, J.-M., Nutter, H., Southern, J., Beccaria, L., Sheridan, G., Gleeson, D., Wang, H., Wang, T., Sharma, S., Ng, L., Tan, J.-Y. (Benjamin), & Terry, D. (2026). Re-imagining nursing education: Mapping student learning, transition, and workforce readiness – A scoping review. *International Journal of Nursing Studies, 178*, N.PAG. https://doi-org/10.1016/j.ijnurstu.2026.105368
7. Edgecombe, K., Wotton, K., Gonda, J., & Mason, P. (1999). Dedicated education units: 1. A new concept for clinical teaching and learning. *Contemporary nurse, 8*(4), 166–171. https://doi.org/10.5172/conu.1999.8.4.166.
8. Gangeness, J. E., Benike, L. A., Monteau, R. E., & Gerberi, D. (2026). Dedicated education units and traditional learning models: A systematic review. *Journal of Nursing Education, 65*(1), 33–38. https://doi-org/10.3928/01484834-20250926-01
9. Aull, M., & Nobles, P. M. (2022). The academic partnership unit: Educating, recruiting, and retaining BSN nurses. *Journal of Nursing Administration (JONA), 52*(2), E1–E2. http://dx.doi.org/10.1097/NNA.0000000000001113
10. Kohanová, D., & Gelling, L. (2026). The persistent theory–practice gap in nursing: Implications for patient safety. *Journal of Clinical Nursing, 35*(7), 2899–2901. https://doi-org/10.1111/jocn.70330
11. Bittner, N. P., Campbell, E., & Gunning, T. (2021). Impact of a Dedicated Education Unit Experience on Critical Thinking Development in Nursing Students. *Nurse Educator, 46*(6), 386–388. https://doi-org/10.1097/NNE.0000000000000966
12. Bowles, W., Buck, J., Brinkman, B., Hixon, B., Guo, J., & Zehala, A. (2022). Academic-clinical nursing partnership use an evidence-based practice model. *Journal of Clinical Nursing, 31*(3–4), 335–346. https://doi-org/10.1111/jocn.15710
13. Regaira-Martínez, E., Ferraz-Torres, M., Mateo-Cervera, A. M., & Vázquez-Calatayud, M. (2024). Registered nurses' perceptions of nursing student preceptorship: Content analysis of open-ended survey questions. *Nursing & Health Sciences, 26*(3), e13142. https://doi-org/10.1111/nhs.13142
14. Casey-Fink Readiness for Practice Survey (2024). *Casey-Fink surveys*. https://www.caseyfinksurveys.com/surveys
15. Chan, G. K., Baker, N. R., Cooke, C., Cummins, M. R., Joseph, M. L., Meadows-Oliver, M., Rambur, B. (2025). The importance, challenges, and proposed solutions for preceptors to educate the nursing workforce. *Journal of Professional Nursing, 57*, 75-84. https://doi.org/10.1016/j.profnurs.2024.11.008