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ORIGINAL RESEARCH

From Simulation to the Clinical Area: A Mixed-Methods Study Comparing Skills Laboratory Proficiency and Clinical Performance (RLE) Among Nursing Students in a Philippine University

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Background: Skills laboratories play a vital role in nursing education by helping students develop procedural skills in a safe, controlled setting. Yet, it remains unclear how well these lab-based skills translate to real clinical performance (Related Learning Experience, RLE), especially within Philippine nursing programs.

Aim: This study compares nursing students' performance in skills lab return demonstrations and in real clinical settings (RLE), and explores how students perceive both environments.

Methodology: A sequential explanatory mixed-methods approach was used. Quantitative data were obtained from the academic records of 138 randomly selected second-, third-, and fourth-year nursing students, comparing their skills lab and clinical (RLE) grades using descriptive statistics and a paired *t*-test. Qualitative insights were gathered from six focus group discussions and analyzed thematically.

Results: Students received higher RLE grades than skills-lab grades (RLE: M = 84.88, SD = 2.01; skills lab: M = 82.60, SD = 5.96; mean difference = 2.28 points, 95% CI 1.29 to 3.27; t(137) = −4.54, $p < 0.001$; Cohen's dz = 0.39). Thematic analysis revealed four themes: (1) labs build foundational knowledge but can feel unrealistic; (2) clinical exposure and teamwork were perceived to strengthen performance and confidence; (3) memorization-heavy lab training was perceived to limit flexibility in real practice; and (4) emotional factors, such as anxiety and fear of mistakes, shaped students during the transition to patient care.

Conclusion: Skills labs are essential for introducing core procedures and building initial confidence, but students' clinical (RLE) grades were modestly higher than their skills lab grades. Students described gaps in realism and assessment alignment between settings, alongside transition anxiety. Enhancing simulation realism, emphasizing clinical reasoning in lab assessments, and strengthening lab–clinical coordination may better align training with clinical expectations and support students' transition to practice.

Keywords: nursing students, clinical performance, simulation training, clinical education, related learning experience, RLE, mixed methods research

Introduction

Skills laboratories and simulation are widely used in nursing education to develop foundational psychomotor and communication skills before clinical placement.[1] However, translating simulated performance into safe and effective care in real clinical environments remains challenging, partly because clinical settings are complex, unpredictable, and emotionally demanding.[2] Evidence from simulation research suggests that students may still feel underprepared when they encounter authentic clinical demands despite prior laboratory exposure.[3]

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To contextualize the measures used, in this study, *skills laboratory proficiency* refers to assessed performance during return demonstrations in a simulated setting, typically guided by procedural checklists and instructor feedback.[3] In contrast, clinical *performance* refers to assessed performance during Related Learning Experience (RLE) rotations with real patients, where technical execution is integrated with judgment, communication, teamwork, and professionalism.[4] In the present analysis, these constructs were operationalized using students' official skills laboratory return-demonstration grades and RLE grades as performance indicators.[5]

International evidence indicates that simulation-based training can improve confidence, satisfaction, and short-term performance.[6–8] However, learners may still feel underprepared when clinical demands differ from simulated conditions,[9] and early clinical exposure and role transition stress have been linked with perceived preparedness and adaptation challenges among nursing learners[10,11.] Anxiety and fear of error can further shape students' learning and performance across both settings.[12–14] These findings suggest that differences between skills laboratory and RLE assessments may reflect contextual demands as well as assessment conditions, highlighting the value of examining performance across settings alongside students' explanations of their transition experiences and clinical teaching environments.[15]

This work is conceptually guided by Situated Learning Theory and Benner's Novice-to-Expert framework.[16,17] Situated Learning views the skills laboratory as a simulated community of practice, while RLE represents authentic participation in clinical communities.[16] Benner's framework frames students as novices who gain competence through repeated clinical experiences and guided reflection.[17] These perspectives inform the comparison of assessed performance in both settings and the exploration of students' accounts of transition, realism, and support.

Using a sequential explanatory mixed-methods design, this study (1) compares nursing students' skills laboratory return-demonstration grades with their RLE clinical performance grades and (2) explores students' perceptions of both learning environments to explain observed quantitative patterns. This study was guided by the hypothesis that there is no statistically significant difference between mean skills laboratory grades and mean RLE grades among nursing students.

Methodology

Research Design

A sequential explanatory mixed-methods design (QUAN → QUAL) was used, with priority given to the quantitative phase. The quantitative strand compared students' skills laboratory return-demonstration grades and clinical performance (RLE) grades, followed by focus group discussions to explain the observed quantitative pattern.[18]

The design was selected to examine whether assessed performance differs across two learning and assessment contexts (simulation-based skills laboratory vs authentic clinical placement) and to explore students' explanations for any differences. Because both measures are post-training academic grades collected in routine instruction (rather than baseline and follow-up measures with a control/comparison group), the study does not permit causal inference about the effect of skills laboratory training on clinical performance.

Phase I (quantitative) was conducted first by extracting paired skills lab and RLE grades from official records for eligible BSN II–IV students and analyzing within-student differences. Phase II (qualitative) followed, using the quantitative results (overall difference and variability across settings) to refine the focus group guide toward factors that students believed shaped performance across the two contexts (eg, realism, supervision, anxiety, teamwork, and assessment expectations). The integration occurred at interpretation, where qualitative themes were used to explain and contextualize the quantitative findings.

Quantitative comparison was prioritized because the primary objective was to estimate the magnitude and direction of the within-student difference between skills lab and RLE grades. The qualitative component was intentionally secondary and explanatory, aimed at identifying contextual mechanisms and transition experiences that could plausibly account for the observed performance pattern and to inform recommendations for aligning skills-lab training with clinical expectations.

Sampling

A proportionate stratified random sampling approach was used to ensure representation across year levels and class sections (BSN II–IV) in a private university in Dagupan City, Philippines. The total eligible population comprised 208 students.

Eligibility for the quantitative phase included BSN II–IV students (BSN II-A, II-B, II-C, III-A, III-B, IV-A) with complete academic records for both (a) skills laboratory return-demonstration grades and (b) Related Learning Experience (RLE) grades from the same academic term. For the qualitative phase, eligible students who volunteered for focus group discussions (FGDs) and provided written informed consent were included.

Students were excluded if they were first-year students (no RLE exposure), not enrolled in the eligible sections, on leave/withdrawn, or had missing/incomplete records for either skills lab or RLE grades. For the qualitative phase, students were excluded if they declined/withdrew consent, could not attend the scheduled FGD, or did not agree to audio recording.

The minimum sample size was determined through an a priori power analysis for a paired mean comparison. Assuming a moderate effect size (Cohen's $d = 0.50$), two-tailed $\alpha = 0.05$, and power = 0.80, the minimum required sample size was 128 participants.[19,20]

To improve precision and account for potential incomplete records, 138 students were included in the final quantitative analysis, exceeding the minimum requirement.

Randomization was performed using the official enrollment roster: each eligible student was assigned a computer-generated random number in Microsoft Excel (RAND function), the list was sorted in ascending order, and students were selected proportionately from each section until the target sample size for that section was reached.

Respondents	Frequency	Sample
BSN II-A	30 Students	17
BSN II-B	32 Students	19
BSN II-C	32 Students	21
BSN III-A	35 Students	24
BSN III-B	36 Students	24
BSN IV-A	43 Students	33
Total	**208**	**138**

For the qualitative phase, six FGDs were conducted with six students per group (total n = 36), ensuring representation across BSN II–IV. Participants were recruited through purposive volunteer sampling after the quantitative phase to capture students' experiences across both learning environments.

Data Instruments

Data sources included (1) official academic grades for the quantitative phase and (2) a semi-structured focus group guide for the qualitative phase.

Quantitative outcome measures were percentage grades (0–100) extracted from official records: (a) skills laboratory return-demonstration grades (procedure-based performance assessed in the simulation laboratory) and (b) RLE grades (clinical performance evaluated during clinical rotations with real patients). Paired grades were obtained from the same academic term for each student. Because the procedures, cases, and clinical tasks differ across year levels and courses, the two outcomes were treated as routine course/rotation performance indicators reported on a common 0–100 scale rather than as equivalent tests of the same content. The underlying assessment rubrics are context-specific and not psychometrically equivalent; therefore, the comparison is interpreted as a difference between two assessment contexts

rather than a direct measure of change or causal effect. No additional standardized competency tests were administered beyond routine course/rotation grading.

Skills laboratory return-demonstration grades were derived from standardized procedure checklists used by skills-lab faculty within the course. RLE grades were derived from the college's clinical performance evaluation form used by clinical instructors during rotations. Both assessment tools are aligned with course/rotation learning outcomes and converted to a 0–100 percentage grade using the college grading policy; however, the tools assess overlapping but not identical domains and were not designed as psychometrically equivalent measures.

The focus group guide was adapted from Smyrnakis, Thorne, and Shawto explore students' perceptions of skills laboratory training and clinical practice.[21] Questions were open-ended with probes to support depth and consistency across groups.

The guide included two parts:

Part 1. Strengths and weaknesses

a. a. What are the perceived strengths of skills laboratory training?
b. b. What are the perceived weaknesses of skills laboratory training?
c. c. What are the perceived strengths of clinical practice (RLE)?
d. d. What are the perceived weaknesses of clinical practice (RLE)?

Part 2. Preparedness for clinical practice

a. a. How would you rate your preparedness for clinical practice after completing skills laboratory training (eg, 1–10 or 10–100%)? Please explain your rating.

Data Collection

Data were collected at a private university in Dagupan City, Philippines during the second semester of Academic Year 2024–2025 (January 28 to February 21, 2025). The quantitative phase was completed first, followed by FGDs to explain and contextualize the quantitative results.

Quantitative Data Collection (Academic Records)

With institutional approval, paired skills laboratory return-demonstration grades and RLE grades were retrieved from official academic records for BSN II–IV students. Grades were recorded as percentage scores (0–100). To enhance comparability, paired grades were drawn from the same academic term for each student. Skills laboratory grades were assigned by skills-lab instructors using procedure-specific checklists, while RLE grades were assigned by clinical instructors using the college's routine clinical performance evaluation form. Although standard forms are used within each setting, inter-rater reliability was not formally quantified in this study and is acknowledged as a limitation.

Qualitative Data Collection (Focus Group Discussions)

Six FGDs (n = 36; six participants per group) were conducted using the semi-structured guide. Sessions were moderated by members of the research team, audio-recorded with consent, and supplemented with field notes to capture contextual details and non-verbal cues.

To promote credibility and consistency, the same guide and neutral facilitation approach were used across groups, and key points were summarized at the end of each session for immediate participant verification through member checking.

Ethical Consideration

Ethical approval was obtained from the University of Luzon College of Nursing Research Ethics Committee (Approval Number NR-SL-007-25). All participants provided written informed consent after being informed of the study purpose, procedures, risks and benefits, voluntary participation, and right to withdraw without penalty.

Permission to access academic records was secured through the Dean of the College of Nursing and Midwifery. Academic data were retrieved and verified for completeness in coordination with course and clinical instructors.

Confidentiality and anonymity were ensured by assigning unique codes to participants and removing identifying information from transcripts and datasets. Files were stored in password-protected folders accessible only to the research team.

Treatment of Data

Data analysis followed the sequential explanatory approach: quantitative analysis was conducted first, and qualitative analysis was used to explain and contextualize the quantitative results.

Quantitative Data Analysis (Phase I)

Analyses were performed using SPSS version 25. Descriptive statistics (mean, standard deviation) were computed for skills lab and RLE grades. Normality of the paired difference scores (RLE − skills laboratory) was evaluated using Q–Q plots and the Shapiro–Wilk test. The Shapiro–Wilk test indicated a statistically significant deviation from normality ($W = 0.967$, $p = 0.002$); however, inspection of the Q–Q plot suggested only minor departures, and no influential outliers were detected. Given the robustness of the paired-samples *t*-test at this sample size, the analysis was retained and complemented with bootstrap confidence intervals. Effect size was calculated as Cohen's dz ($t/\sqrt{n}$). Differences in score variability (SD) across contexts were interpreted cautiously as they may reflect grading consistency and contextual factors rather than true performance variability.

Qualitative Data Analysis (Phase II)

Audio recordings were transcribed verbatim. Data were analyzed using reflexive thematic analysis following Braun and Clarke's six-step process: familiarization, initial coding, theme development, theme review, theme definition/naming, and reporting.[22] NVivo (version 7) supported data management and retrieval.

To strengthen dependability, two researchers independently coded an initial subset of transcripts, discussed discrepancies to refine a shared codebook, and then coded the remaining transcripts with regular consensus meetings. An audit trail (coding decisions, theme development notes) was maintained.

To minimize interpretive bias, the team used bracketing and reflexive auditing by documenting assumptions and analytic reflections throughout the process. Field notes were used to support triangulation during interpretation.

Credibility was enhanced through immediate member checking (end-of-session summaries) and peer debriefing within the research team. Reporting followed a transparent QUAN→QUAL integration, using qualitative themes to explain quantitative patterns.

Integration of Findings

Integration occurred at the interpretation stage using a weaving approach: quantitative results (mean differences and variability) were presented first, followed by qualitative themes that explained contextual, instructional, and emotional factors influencing performance across settings.

Results

Quantitative Analysis

Table 1 summarizes nursing students' performance in the skills laboratory and in the clinical setting during Related Learning Experience (RLE). Mean scores were 82.60 (SD = 5.96) in the skills laboratory and 84.88 (SD = 2.01) in RLE.

Table 1 Paired Comparison of Skills Laboratory Return-Demonstration Grades and Related Learning Experience (RLE) Grades Among Nursing Students

Skills Lab Mean (SD)	RLE Mean (SD)	Mean Difference (RLE - Skills)	95% CI	t(df)	p-value	Cohen's dz
82.60 (5.96)	84.88 (2.01)	2.28	1.29 to 3.27	−4.54 (137)	<0.001	0.39

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RLE scores were higher by a mean of 2.28 points (95% CI 1.29 to 3.27). This difference was statistically significant (paired *t*-test: $t(137) = -4.54$, $p < 0.001$) with a small-to-moderate effect size (Cohen's dz = 0.39).

Scores were more variable in the skills laboratory than in the clinical setting, as reflected by the larger standard deviation in the laboratory grades (Table 1).

Together, these findings suggest that the observed pattern may reflect differences in assessment stringency or rubric emphasis between the skills-lab and RLE components, where skills-lab grading may be more criterion-strict while RLE grading may better capture progressive task completion in authentic settings.

Qualitative Analysis

A thematic analysis of the focus group discussions yielded four themes describing students' experiences of skills laboratory training and clinical practice. Participant codes indicate year level and section.

Theme 1: Skills Laboratories Enhance Readiness but Have Limited Realism

Students shared that skills laboratory training helped them build a solid foundation in nursing knowledge and initial confidence for clinical work. They found return demonstrations particularly useful for understanding procedures, becoming familiar with nursing tasks, and easing pre-clinical anxiety. Many emphasized that these sessions gave them the groundwork needed to avoid feeling "lost" when they first entered the clinical environment (Figure 1).

However, students consistently pointed out that skills laboratory training often lacked realism. They described the environment as overly theoretical, reliant on memorization, and centered around lengthy procedural checklists that did not always reflect real hospital practices. Many reported challenges with unfamiliar hospital equipment, observed differences in techniques among practicing nurses, and experienced a significant adjustment period when transitioning to real clinical settings. Additionally, variations in instructors' teaching styles sometimes led to further confusion (Figure 1).

> Skills lab training builds knowledge and preparedness, for better understanding. (2-A)
>
> Return demonstration serves as a guide for student nurses; it serves as background knowledge. (2-C)
>
> The checklist is too long and contains too much information compared to the clinical area. (4-A)
>
> Different clinical instructors have different teaching styles and techniques. (4-A)

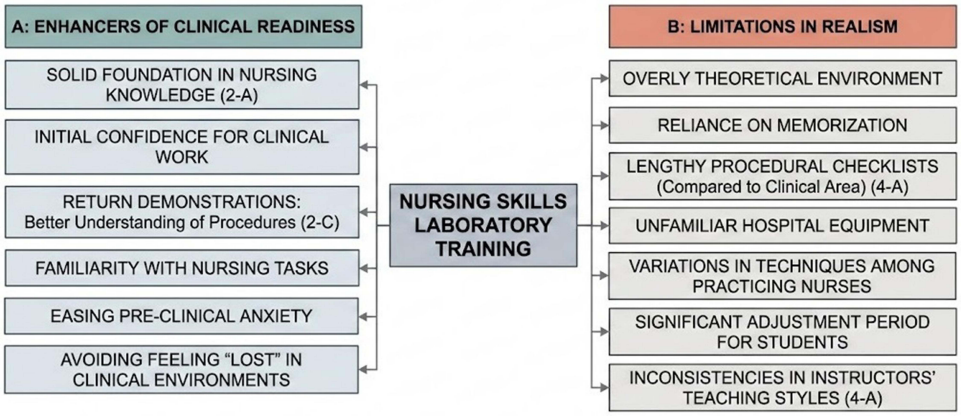

Figure 1 The Dual Impact of Skills Laboratory Training on Clinical Readiness.

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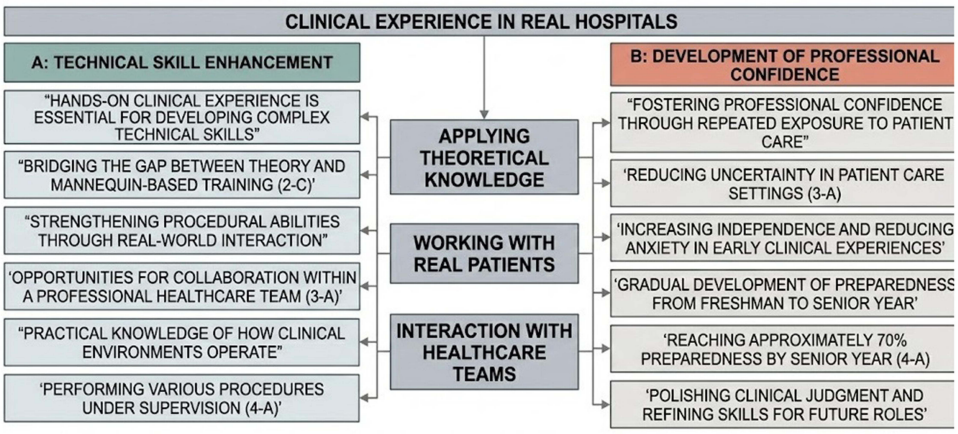

Figure 2 The Contribution of Clinical Practice to Skill Development and Confidence.

Theme 2: Clinical Practice Strengthens Performance and Confidence Through Hands-On Experience

Students highlighted that hands-on clinical experience was essential for developing technical skills, applying knowledge, collaborating with teams, and understanding hospital workflows. Working directly with patients was seen as invaluable for strengthening procedural abilities and bridging the gap between theory and practice (Figure 2).

Clinical practice was also described as crucial for fostering professional confidence. Students noted that repeated exposure to patient care helped reduce uncertainty and increased their ability to function independently. Early clinical experiences, in particular, were credited with helping students feel less overwhelmed as they prepared for their future roles as nurses (Figure 2).

> You can enhance your skills because it's a real patient and not on the mannequin. (2-C)
>
> More confident because you already know what to do in the hospital due to prior exposure and experience. (3-A)
>
> Teamwork is appreciated because it's applied to real patients. (3-A)
>
> Clinical practice is not limited—students can perform various procedures under supervision and learn from multiple clinical instructors, helping them develop into future nurses. (4-A)
>
> Preparedness gradually improves from freshman to senior year. By senior year, students are about Seventy percent (70%) prepared, with the remaining Thirty percent (30%) focused on final refinements. (4-A)

Theme 3: Memorization-Based Learning Limits Practical Effectiveness

Students characterized skills laboratory training as highly focused on memorization, which they felt limited their ability to adapt to real clinical situations. In this theme, practical effectiveness refers to students' perceived ability to apply laboratory-taught procedures flexibly, efficiently, and safely in real clinical contexts under time, workload, and resource constraints (Figure 3).

Participants described challenges in translating memorized procedures into context-dependent decision-making during patient care. Several reported needing to modify or streamline laboratory-taught steps to fit real-world demands, which sometimes led to confusion and reduced confidence during early clinical exposure (Figure 3).

> More on memorization, but when in clinical duty, they do not follow. (2-C)
>
> Return demonstrations focus on ideal, book-based knowledge, while hospital practice emphasizes practicality. (4-A)
>
> The checklists for skills lab are too long. (3-A)

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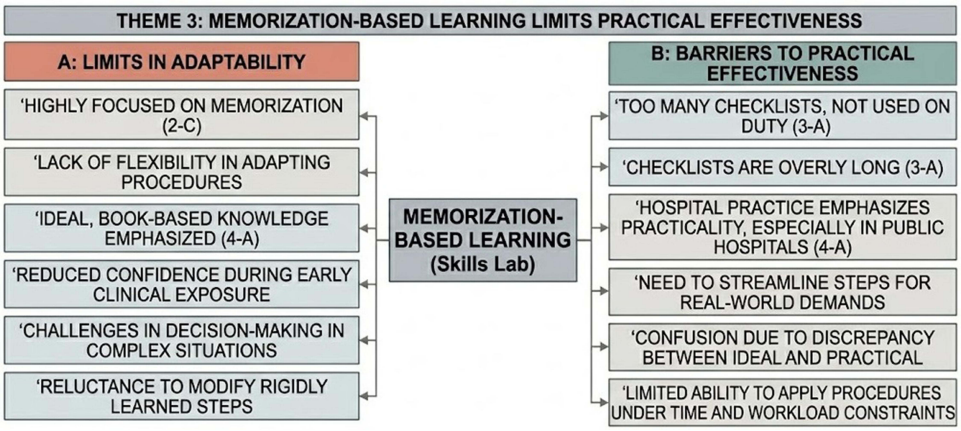

Figure 3 Memorization-Based Learning Limits Practical Effectiveness.

Return demonstrations focus on ideal, book-based knowledge, while hospital practice emphasizes practicality, especially in public hospitals. (4-A)

Too many checklists, and they are not even used during duty. (3-A)

Theme 4: Emotional and Psychological Factors Influence Performance

Students frequently reported feelings of anxiety, nervousness, fear of making mistakes, and challenges with communication—especially when interacting with actual patients. Many described only moderate levels of self-perceived readiness, attributing their lack of confidence to limited experience and concerns about causing harm (Figure 4).

The transition from laboratory training to clinical practice was consistently described as stressful, particularly when students faced heavy patient loads, inconsistent supervision, unfamiliar procedures, and varying approaches among instructors. Participants emphasized that supportive clinical instructors played a key role in easing this transition and building their confidence.

Nervous due to handling real patients. (2-A)

Weak communication skills because it's with real patients now, not mannequins. (2-A)

Pressured because procedures were not practiced in the skills lab but are suddenly required to be performed in the clinical area. (2-B)

One student nurse handles fifteen (15) patients. (4-A)

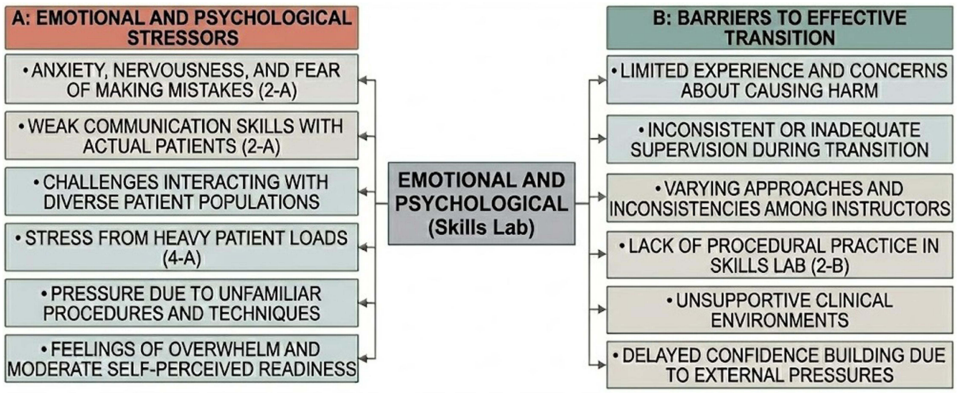

Figure 4 Emotional and Psychological Factors Influence Performance.

Discussion

Table 1 shows that nursing students scored an average in simulated skills labs and a higher average during their Related Learning Experience (RLE). The difference is statistically significant, with students receiving higher grades in the clinical setting than in simulation-based return demonstrations. Because both outcomes are routine post-training academic grades derived from different assessment tools, this pattern should be interpreted as a modest difference between assessment contexts rather than causal evidence that skills laboratory training improves clinical performance (RLE).

These findings align with evidence that both simulation and clinical exposure can improve nursing students' satisfaction, self-confidence, and perceived readiness, but that authentic patient care and participation in real clinical workflows are critical for the transfer of learning beyond checklist performance.[23–27] While laboratory environments are valuable for introducing skills and reducing pre-clinical anxiety, they may not fully reproduce the complexity, time pressure, and unpredictability of hospital practice, which are commonly reported stressors during first clinical training.[28–30]

This pattern can be interpreted using Situated Learning Theory and Benner's Novice-to-Expert framework.[16,17,31,32] Situated learning emphasizes that learning is strengthened through participation in authentic settings and communities of practice rather than isolated rehearsal,[16,27] while Benner's framework conceptualizes competence as developing progressively through repeated clinical experience and situated judgment.[17,32]

Theme 1 helps explain why skills laboratory grades were comparatively lower and more dispersed. Although one participant noted that skills lab training

> Builds knowledge and preparedness… for better understanding (2-A)

another framed return demonstrations as preparatory rather than fully realistic:

> Return demonstration serves as a guide for student nurses; it serves as background knowledge (2-C)

Students described the lab as

> Too theoretical (more on words) (2-A)

and as relying on memorization, which can limit flexible application under real-world constraints—an observation consistent with research showing that recall-based performance may not reflect deeper understanding or transfer.[29,33] They also highlighted misalignment with clinical workflow

> The checklist is too long and contains too much information compared to the clinical area (4-A)

and a contextual mismatch in equipment and techniques across settings, both of which can hinder transfer from training to practice.[25,26,34,35]

Theme 2 explains why students perceived stronger and more consistent performance during RLE. Participants emphasized that real patient care allows skill refinement and decision-making in context:

> You can enhance your skills because it's a real patient and not on the mannequin (2-C)

and

> More confident because you already know what to do in the hospital due to prior exposure and experience (3-A)

Evidence from undergraduate clinical education similarly suggests that learning with real patients and authentic supervision supports performance development and perceived competence.[27,36,37] Students also highlighted teamwork—

> Teamwork is appreciated because it's applied to real patients (3-A)

—which is consistent with evidence that nursing teamwork is essential for patient-centered care.[38] Finally, students described readiness as progressive

> Preparedness gradually improves from freshman to senior year… about seventy percent prepared [4-A]

aligning with research that readiness for practice develops over time through repeated exposure and supported clinical learning environments.[26,36,39]

Theme 3 reinforces that a memorization-heavy approach can limit practical effectiveness, defined here as the perceived ability to apply procedures flexibly, efficiently, and safely in real clinical contexts under time, workload, and resource constraints. Students repeatedly emphasized checklist burden

> The checklists for skills lab are too long [3-A]

and the gap between idealized steps and pragmatic practice

> Return demonstrations focus on ideal, book-based knowledge, while hospital practice emphasizes practicality [4-A]

Prior qualitative work on the theory–practice gap similarly notes that students often need to adapt what is taught in controlled settings to fit the realities of clinical work.[25,26,29]

Theme 4 highlights the role of emotional and interpersonal demands in shaping both simulation and clinical performance. In the laboratory, students reported anxiety and communication difficulties; in clinical settings, anxiety shifted to real patient interaction

> Nervous due to handling real patients [2-A]

> Weak communication skills because it's with real patients now, not mannequins [2-A]

These accounts are consistent with literature describing anxiety during simulation-based learning and stress during early clinical training, including concerns about exposure of skills, fear of error, workload pressures, and the challenges of adjusting to new clinical expectations.[28,40,41] Students also emphasized that supportive clinical instructors and clear expectations ease transition, which aligns with research on the clinical learning environment, supervision, and academic–practice partnerships in promoting readiness and smoother transitions into practice.[36,37]

Several limitations warrant emphasis. The study was conducted in a single institution, limiting transferability. Quantitative outcomes were based on routine academic grades that are context-specific and not psychometrically equivalent measures of the same competency construct across settings. Potential confounding by year level, clinical area, task complexity, and instructor effects cannot be ruled out. Inter-rater reliability and grading calibration were not measured, and the lower standard deviation in RLE grades may reflect grading compression. Accordingly, conclusions are restricted to describing modest differences between assessment contexts and students' perceptions of factors shaping those differences.

Implications for nursing education include strengthening alignment between skills laboratory and clinical assessment by mapping shared competency domains, calibrating raters, and using common performance descriptors across settings. Enhancing simulation realism (eg, time constraints, teamwork, decision-making scenarios, and use of clinical equipment) and incorporating structured debriefing may better support transfer to practice.[25,38,39] Mentorship, orientation, and stronger academic–practice partnerships can also support students' transition into clinical roles by clarifying expectations and improving supervision.[36,37] Future studies should use standardized outcome measures and longitudinal or quasi-experimental designs to better disentangle contextual grading effects from performance change.

Conclusion

Using routine academic grading data, students' RLE grades were modestly higher than their skills laboratory return-demonstration grades. This finding should be interpreted as a small-to-moderate difference between two assessment contexts rather than evidence of training effectiveness or causal improvement.

Qualitative findings showed that students viewed the skills laboratory as foundational but sometimes unrealistic and checklist-driven, while clinical placement offered authentic learning and teamwork alongside transition anxiety and workload pressures. Together, these results point to opportunities to better align simulation and clinical assessment expectations and to strengthen transition support.

Future research should apply standardized, validated competency measures and longitudinal or quasi-experimental designs to evaluate the effectiveness of skills laboratory training and to account for contextual grading variability.

Disclosure

The authors report no conflicts of interest in this work.

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