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Article

Simulation-Based Learning in Nursing Education: Perspectives of Student Nurses in the Philippines

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Abstract: Simulation-based learning (SBL) is widely recognized as an effective educational approach that bridges theory and practice in nursing education. Despite its global adoption, limited research has examined the experiences of Filipino nursing students with SBL, particularly in resource-constrained settings. This study explored the perspectives of Bachelor of Science in Nursing students from a university in Metro Manila, Philippines, on the impact of SBL on their skills, emotional responses, and challenges encountered. A descriptive qualitative design was employed using purposive sampling of ten students who had participated in at least one SBL activity. Data were collected through semi-structured interviews and short written reflections and analyzed thematically following Braun and Clarke's framework to capture nuanced experiences. Three major themes emerged from the analysis. First, students reported initial anxiety, nervousness, and stress during their early SBL experiences, which gradually transformed into confidence, adaptability, and resilience as they gained familiarity and competence. Second, SBL enhanced technical and cognitive skills such as clinical judgment, decision-making, teamwork, and patient-centered care, supporting students' readiness for real-world practice. Third, students identified resource limitations, insufficient equipment, and time constraints as significant barriers to optimal learning, though these challenges also fostered creativity and perseverance. The findings demonstrate that SBL fosters technical competence, critical thinking, and professional growth but requires institutional support to address resource constraints and faculty development needs. This study underscores the importance of expanding SBL in Philippine nursing curricula to align with international best practices and to contribute to Sustainable Development Goals 3 (good health and well-being), 4 (quality education), and 5 (gender equality).

Keywords: Simulation-Based Learning, Nursing Education, Student Nurses

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1. Introduction

Simulation-based learning (SBL) is a cornerstone of health-care education worldwide. It provides structured, safe opportunities to apply knowledge, practice skills and develop clinical judgement before students interact with real patients [1]. Meta-analyses confirm SBL's effectiveness in improving clinical judgement, decision-making and professional confidence in nursing students [2,3]. Debriefing enhances reflective learning and consolidates skills [4]. Furthermore, SBL strengthens professional identity, ethical reasoning and family-centered care key competencies for contemporary nursing practice

[5-7]. These benefits support SDG 3 by preparing competent nurses to deliver safe, evidence-based care globally.

In the Philippines, significant health challenges persist, including high maternal mortality and inequitable access to health services. The Department of Health's Maternal, Newborn, Child Health and Nutrition (MNCHN) strategy highlights the importance of preparing competent nurses to address maternal and child health needs [8]. In response, the Commission on Higher Education (CHED) mandates competency-based, outcomes-driven approaches in nursing curricula, explicitly encouraging innovative pedagogies such as simulation [9]. Recent Philippine studies show SBL improves readiness for practice but also highlight barriers such as limited equipment and faculty training [10]. These developments align with SDG 4 on quality education and SDG 5 on gender equality.

Locally, especially in resource-constrained regions such as Cagayan Valley, nursing schools face limited simulation infrastructure and faculty expertise. Despite these challenges, student nurses remain frontline providers in clinical and community settings. Their perspectives on SBL are critical for shaping policy, allocating resources and tailoring curricula. This study examines Filipino nursing students' experiences with SBL to inform curriculum development and contribute to SDGs 3, 4 and 5.

2. Materials and Methods

2.1. Research design

This study employed a descriptive qualitative design to obtain an in-depth understanding of nursing students' experiences and perceptions of simulation-based learning (SBL). A qualitative approach was chosen because it is particularly suited to exploring subjective experiences, contextual influences and the meaning students assign to their learning processes phenomena that cannot be fully captured through quantitative methods. The descriptive design allowed participants' voices to emerge authentically, providing direct insights relevant to nursing education and curriculum development [11].

2.2. Participants and sampling

Ten Bachelor of Science in Nursing students from a university in Metro Manila, Philippines, were purposively selected based on their prior participation in at least one SBL activity and provision of informed consent. This sample allowed in-depth exploration of experiences until data saturation was reached. Students from various year levels were included to enhance data richness. Participation was voluntary, and confidentiality was maintained by removing identifiers and assigning pseudonyms.

2.3. Instrument

A semi-structured interview guide elicited students' perceptions of SBL, its benefits and challenges. The instrument was reviewed by three nursing education experts for content validity and piloted with two students for clarity.

2.4. Data collection procedure

In-depth interviews were conducted privately to ensure comfort and confidentiality. Interviews lasted 30-45 minutes and were audio-recorded with consent. Short written reflections were collected to triangulate data sources. Ethical clearance was obtained from the university ethics review board (Ref. No. SPUP_2025_00036_SR_GI); written informed consent was secured before participation.

2.5. Data analysis

Thematic analysis followed Braun and Clarke's six-step guide [11]. Transcripts were read repeatedly, codes generated inductively, and themes refined through collaborative discussions between two researchers.

2.6. Ethical considerations

The study was approved by the St. Paul University Philippines Research Ethics Committee (SPUP REC) (SPUP_2025_00036_SR_GI) on 24 January 2025, valid until 24 January 2026. Written informed consent was obtained from all participants.

3. Results

This section presents the three major themes that emerged from the thematic analysis of the participants' experiences with simulation-based learning (SBL). Each theme represents an essential dimension of their emotional, cognitive, and professional development. To enhance clarity and visual presentation, Table 1 summarizes the themes, subthemes, and representative participant quotations, while Figure 1 illustrates the overall trajectory of students' transformation through SBL.

Table 1. Summary of Emergent Themes, Subthemes, and Illustrative Participant Quotes

Theme	Subtheme	Illustrative Participant Quote
1. Emotional and Psychological Responses	From anxiety to confidence	"At first, I was really nervous because it felt like an exam, but after several sessions, I felt more confident handling patients." (P3)
	Role of facilitator support	"The instructor's feedback made me feel less scared and more prepared to respond." (P7)
2. Skill Development and Practical Application	Enhanced critical thinking	"Simulation made me think fast and decide safely without harming a real patient." (P2)
	Teamwork and communication	"We learned how to work together, just like in a hospital setting." (P9)
3. Challenges in Simulation-Based Learning	Resource and time constraints	"We sometimes lacked equipment, but we improvised with what we had." (P1)
	Adaptability and perseverance	"Even with limited tools, we learned to be resourceful and creative." (P5)

3.1. Emotional and Psychological Responses

Participants described their initial anxiety, nervousness, and stress during early SBL experiences. Over time, these emotions transformed into confidence, resilience, and adaptability. Students emphasized the critical role of supportive facilitators and structured debriefing sessions in building their self-assurance. These findings align with prior studies highlighting the importance of psychological safety and reflective feedback in simulation-based learning.

3.2. Skill Development and Practical Application

Students reported that SBL enhanced both their technical and cognitive skills, including clinical judgment, decision-making, and teamwork. Engaging in realistic patient-care scenarios helped them bridge theoretical concepts with practical application. The simulation environment encouraged collaboration, communication, and situational awareness—key competencies for effective nursing practice.

3.3. Challenges in Simulation-Based Learning

Participants identified several barriers to optimal learning, including limited resources, inadequate equipment, and restricted time for practice. Despite these constraints, students developed creativity, adaptability, and perseverance. Their resilience under resource limitations reflected an intrinsic motivation to learn and grow as future professionals.

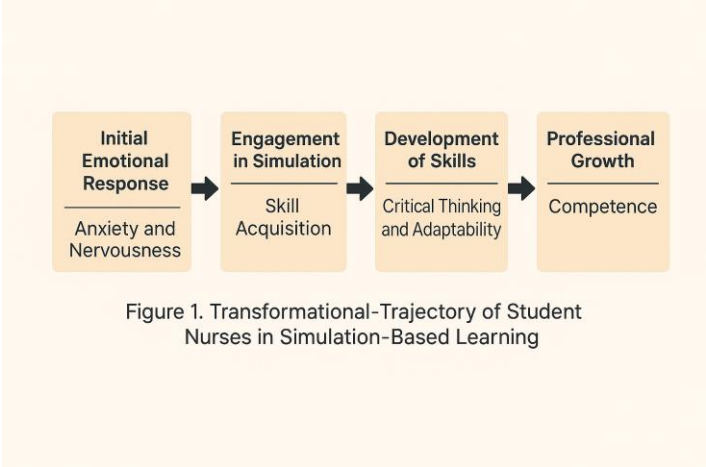

Figure 1. Transformational-Trajectory of Student Nurses in Simulation-Based Learning

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Description: Figure 1 conceptualizes the dynamic learning process experienced by nursing students during SBL. The process begins with Emotional Reactivity, marked by anxiety, stress, and uncertainty. It then progresses to Active Engagement, where learners immerse in simulated clinical activities and develop cognitive and psychomotor skills through facilitator guidance and peer collaboration. The next stage, Skill Integration, reflects the application and synthesis of clinical judgment, teamwork, and communication. Finally, the trajectory culminates in Professional Transformation, characterized by confidence, adaptability, and readiness for real-world practice. This cyclical process demonstrates how structured simulation and reflective debriefing lead to sustained competence and professional growth.

3.4. Summary

Overall, the thematic findings (Table 1) and the conceptual model (Figure 1) illustrate that SBL serves as a transformative learning experience for Filipino nursing students. The emotional challenges experienced at the beginning evolve into professional growth, underlining the importance of supportive facilitators, structured reflection, and institutional backing for effective simulation implementation.

4. Discussion

Global perspective: This study confirms international evidence that SBL improves technical, cognitive and professional competencies among nursing students [1-3]. Students' emotional trajectories initial anxiety followed by confidence align with findings on the value of structured debriefing and psychological safety [4,12]. These outcomes support SDG 3 by preparing competent nurses to deliver high-quality, safe care.

National perspective: In the Philippines, the findings support CHED's competency-based mandates [9] and the Department of Health's MNCHN goals [8]. Students' gains resonate with Philippine studies showing SBL's positive impact but also highlight barriers [10].

Local perspective: For regions such as National Capital Region the results underscore the importance of investing in simulation infrastructure, faculty training and psychological safety measures. Even modest setups can foster learning if supported by skilled facilitators and structured debriefing. This directly contributes to SDG 4 by improving educational quality and SDG 5 by empowering predominantly female nursing students.

5. Conclusions

Simulation-based learning provides transformative educational experiences for Filipino nursing students. Initial anxiety evolves into confidence, adaptability and professional competence. SBL enhances technical proficiency, critical thinking and teamwork skills essential for safe and effective clinical practice. Challenges such as resource limitations and time constraints highlight the need for institutional support and policy action. This study underscores SBL's role in aligning Philippine nursing education with global best practices and SDGs 3, 4 and 5.

6. Recommendations

Curriculum integration: Expand SBL across nursing curricula, aligning with CHED [9] and DOH [8] priorities.

Faculty development: Provide regular training on simulation pedagogy, psychological safety and structured debriefing [4,12].

Resource allocation: Invest in simulation laboratories, equipment and partnerships with hospitals and local government units [10,16].

Student support: Offer orientation and stress-management programmes to reduce simulation-induced anxiety [13].

Policy and governance: Integrate SBL into national nursing education strategies linked to SDGs 3, 4 and 5 [17].

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