❑ 205

Nursing Students' Experiences of Basic Life Support Training and Its Role in Emergency Care Competence

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ABSTRACT

Purpose of the study: This study explored how BLS training shapes emergency care competence development and early professional identity among vocational nursing students.

Methodology: A qualitative descriptive design with thematic analysis was employed. Data were collected through semi-structured interviews with vocational nursing students following structured BLS simulation training. Data were analysed using NVivo to generate hierarchical coding structures and thematic integration.

Main Findings: Four interrelated themes emerged: (1) transformative experiential learning through embodied simulation, repetition, and instructor feedback; (2) multidimensional construction of emergency competence characterised by confidence, situational awareness, and readiness to act; (3) emotional and contextual barriers including performance anxiety and fear of clinical error; and (4) emerging professional identity grounded in ethical responsibility and teamwork. Competence development was constructed not merely as technical mastery but as embodied readiness moderated by emotional regulation and supported by structured experiential exposure..

Novelty/Originality of this study: BLS training functions not only as a technical instructional strategy but as a formative process shaping cognitive preparedness, emotional regulation, and early professional identity. Integrating structured simulation, reflective debriefing, and role clarification into vocational nursing curricula may enhance emergency care competence development.

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1. INTRODUCTION

Out hospital cardiac arrest (OHCA) remains one of the leading causes of mortality worldwide, with survival rates remaining critically low despite advances in emergency medical systems [1]. According to the world health organization (WHO), cardiovascular diseases account for approximately 20.5 million deaths annually, representing nearly one-third of global mortality [2]-[4]. Sudden cardiac arrest contributes substantially to this burden, and immediate intervention within the first few minutes is crucial to prevent irreversible brain damage and death [5]-[7]. Evidence indicates early cardiopulmonary resuscitation (CPR) and defibrillation can double or even triple survival rates [8]-[10]. However, delays in recognition and inadequate response skills among first responders, including healthcare trainees, continue to compromise patient outcomes.

Basic life support (BLS) training is internationally recognized as a foundational competency in nursing education [11]-[13]. The american heart association (AHA) emphasizes that healthcare providers must demonstrate competence in early recognition of cardiac arrest, high-quality chest compressions, effective ventilation, and timely activation of emergency response systems [14]-[16]. For nursing students, research Martinez et al. [17] says especially those in vocational health programs, BLS proficiency is not only theoretical knowledge but also important clinical skills that determine readiness for emergency care practice. Strengthening these competencies during training is essential to ensure patient safety and professional accountability.

While numerous studies evaluate BLS knowledge and skill performance outcomes, little is known about how vocational nursing students internalise BLS training as a multidimensional construct encompassing emotional regulation and emerging professional identity. In Indonesia, the burden of cardiovascular disease continues to rise [18]-[20]. National health data indicate that heart disease remains one of the top causes of mortality, with increasing prevalence among younger populations [21]-[23]. Despite this trend, disparities in emergency preparedness and resuscitation skills persist across educational institutions [24]. Vocational nursing students, such as those enrolled at Sukawati State Vocational High School 2 are expected to assist in clinical settings and community health services. However, empirical evidence regarding how BLS training shapes their perceived competence in managing cardiac arrest emergencies remains limited.

Previous quantitative studies by Priftanji [25], primarily measured increases in knowledge or skill performance following basic life support (BLS) interventions. While such studies demonstrate statistically significant gains, they often overlook the experiential dimension of learning how students internalize training, develop confidence, and perceive their readiness to act in real-life emergencies [26], [27]. In nursing assisting research, understanding lived experiences provides deeper insights into competence formation, professional identity development, and clinical preparedness [28]-[30].

Experiential learning theory suggests that competency development is influenced not only by technical instruction but also by reflective engagement, exposure to simulations, and emotional processing of emergency scenarios. For vocational nursing students, particularly those transitioning from classroom learning to clinical practice, the subjective experience of BLS training may shape their willingness to respond effectively during cardiac arrest situations. Therefore, this novelty study exploring students' experiences offers a contextual understanding of how training contributes to emergency care competency beyond measurable skill acquisition. To date, no qualitative study has specifically explored how vocational nursing students in Indonesian secondary healthcare institutions experience BLS training and how these experiences shape their perceptions of competency in real-world cardiac arrest emergencies. Most existing studies remain outcome-oriented, primarily focusing on knowledge acquisition and psychomotor performance rather than the experiential and contextual dimensions of competency development.

Despite the recognized importance of basic life support training in nursing curricula, limited qualitative evidence exists regarding how vocational nursing students in Indonesia experience BLS training and how these experiences influence their perceived competence in cardiac arrest emergency care. Without such understanding, educational strategies may fail to address psychological readiness, confidence, and contextual challenges faced by students in real clinical environments. The objectives of the study were to explore nursing students' experiences in Basic Life Support training and to examine how these experiences shape their perceived role in developing emergency care competence for cardiac arrest management. The aim of this study was to gain an in-depth understanding of nursing students' lived experiences in Basic Life Support training and to elucidate the role of these experiences in enhancing their competence in responding to cardiac arrest emergencies at SMK N 2 Sukawati, Indonesia.

2. RESEARCH METHOD

2.1 Study design

This qualitative, exploratory, descriptive and contextual research study was guided by a semi-structured interview guide, which was developed to explore nursing students' experiences in Basic Life Support (BLS) training and their perceived role in developing emergency care competence in cardiac arrest management. A qualitative research method was utilised because it allowed researchers to gain an in-depth understanding of students' lived experiences and perceptions regarding BLS training, particularly in a vocational nursing education context where limited qualitative evidence exists [31]-[33]. Such a design qualitative researchers to explore how individuals construct meaning from their experiences and interpret their readiness to respond to clinical emergencies [34].

The purpose of an exploratory design is to investigate phenomena that have not been extensively studied in a specific context, while a descriptive design seeks to document and describe participants' experiences in detail [35]. In this study, the phenomena of interest were students' reflections on BLS training, their perceived confidence, preparedness, and their understanding of their professional role in cardiac arrest emergency

situations. The contextual nature of the study refers to the specific educational and institutional environment in which the research was conducted, namely Sukawati State Vocational High School 2, Indonesia. Consolidated criteria for reporting qualitative research were used to guide the preparation of this manuscript to ensure transparency and rigour in reporting.

This study was conducted at Sukawati State Vocational High School 2, a public vocational secondary school located in Bali, Indonesia, which offers a nursing assistant programme. The school prepares students to provide basic nursing care and assist healthcare professionals in clinical and community settings. As part of their curriculum, students receive theoretical and practical instruction in Basic Life Support, including cardiopulmonary resuscitation (CPR), airway management, and initial emergency response procedures. The school collaborates with local healthcare facilities to provide clinical exposure for students. Given the increasing burden of cardiovascular disease in Indonesia and importance of early response in cardiac arrest cases, it is essential for nursing students at this institution to be adequately prepared in terms of knowledge, practical skills, and professional responsibility in emergency care situations.

2.2 Study population and sample

The targeted population for this study comprised nursing students enrolled in the nursing assistant programme at Sukawati State Vocational High School 2 who had completed Basic Life Support training. Purposive sampling was used to recruit participants who could provide rich and relevant information regarding their experiences of BLS training [36]. The inclusion criteria were as follows: (1) being an active nursing student at Sukawati State Vocational High School 2, (2) having completed formal BLS training within the academic year, (3) being willing to participate voluntarily, and (4) providing written informed consent. Students who had not completed BLS training or who were absent during the data collection period were excluded from the study.

2.3 Data collection

Semi-structured individual interviews were conducted from august-october at Sukawati State Vocational High School 2. Prior to the main data collection, pilot interviews were conducted with two students to assess the clarity and relevance of the interview guide. Data obtained from pilot interviews were not included in the main study but were used to refine the interview questions.

Participants were contacted through the school administration and were allowed to select a time and location within the school premises that ensured privacy and minimal interruption. Interviews were conducted in a quiet room to maintain confidentiality and create a comfortable environment for open discussion. Before each interview, participants were provided with an information sheet explaining purpose of the study, their rights, and voluntary nature of participation.

After obtaining written informed consent, in-depth interviews were conducted using interview guide until data saturation was reached, when no new themes emerged. Each interview lasted approximately 40–60 minutes. Interviews were conducted in Bahasa Indonesia to ensure that participants could express their experiences clearly and comfortably. With participants' permission, all interviews were audio-recorded. Field notes were taken during and immediately after each interview to capture non-verbal cues and contextual observations. The interview guide included the following guiding questions:

- How did you experience the Basic Life Support training provided at your school?
- How has BLS training influenced your confidence in managing cardiac arrest emergencies?
- What aspects of the training helped you develop emergency care competence?
- What challenges did you encounter during BLS training?
- How do you perceive your role in responding to cardiac arrest situations after receiving BLS training?

2.4 Data analysis

Following data collection, all audio recordings were transcribed verbatim in Indonesia. The researchers listened repeatedly to each recording to ensure transcription accuracy and to immerse themselves in the data prior to formal analysis. The transcribed data were analysed using a reflexive thematic analysis approach [37], [38]. To enhance systematic data management and analytical rigour, qualitative data analysis software NVivo (QSR International) was utilised. All transcripts were imported into NVivo to facilitate structured coding, organisation of data segments, retrieval of coded excerpts, and comparison across participants. The use of NVivo supported transparency in the coding process and allowed for systematic tracking of analytic decisions through an audit trail.

Data analysis followed a constant comparative approach [39], [40]. Initially, open coding was conducted line-by-line to identify meaningful units related to students' experiences of Basic Life Support (BLS) training, perceived confidence, and emergency care competence. Codes were generated inductively from the data rather than imposed a priori. During the focused coding phase, related codes were clustered into broader categories using NVivo's node classification features. These categories were then iteratively reviewed, refined,

and synthesised into overarching themes that captured the central patterns and meanings emerging from participants' narratives.

The analytic process was iterative and reflexive, involving repeated movement between raw data, codes, and developing themes. To enhance credibility and analytical consistency, an independent qualitative research expert reviewed a subset of coded transcripts and the emerging thematic structure. Any discrepancies were discussed until consensus was achieved. The final themes were defined and named to reflect both the contextual realities of vocational nursing education and the perceived development of emergency care competence following BLS training.

2.5 Study quality criteria

Trustworthiness was ensured by addressing credibility, dependability, transferability, and confirmability. Credibility was enhanced through prolonged engagement with participants, member checking, and triangulation of interview data and field notes. Participants were given the opportunity to verify the accuracy of their statements and the interpretation of findings. Transferability was achieved by providing a detailed description of the study context, participants, and research process to enable readers to determine applicability to other settings. Dependability was ensured through maintaining an audit trail documenting all stages of data collection and analysis. Confirmability was strengthened through peer debriefing and consultation with an independent qualitative researcher experienced in nursing education research.

2.6 Ethical considerations

Ethical approval study obtained from relevant institutional ethics committee prior to data collection. Permission to conduct research was granted by the school administration of Sukawati State Vocational High School 2. The study was conducted in accordance with ethical principles for research involving human participants. Participants were informed that their participation was voluntary and that they could withdraw from the study at any time without any academic consequences. Written informed consent was obtained from all participants prior to the interviews. To ensure confidentiality, participants were assigned identification codes instead of their names. Audio recordings and transcripts were stored securely in password-protected files accessible only to the research team.

3.   RESULTS AND DISCUSSION

3.1 Participant demographics

Fourteen nursing students from SMK N 2 Sukawati participated voluntarily in the individual interviews. The higher number of female participants reflects the demographic composition of the nursing assistant programme, where female students predominate. All participants had completed formal Basic Life Support (BLS) training within the academic year prior to data collection. The demographic characteristics 14 participants are presented in table 1.

Table 1. Demographic characteristics of participants

Variable	Category	n
Age	16–17 years	6
	18–19 years	8
Gender	Male	4
	Female	10
Year of Study	Year 2	7
	Year 3	7
Clinical Exposure	< 6 months	5
	≥ 6 months	9

3.2 Presentation of findings

Four themes emerged from data analysis: (1) experiential learning and skill acquisition in BLS training, (2) perceived development of emergency care competence, (3) challenges encountered during BLS training, and (4) perceived professional role in cardiac arrest response. Table 2 summarises themes and sub-themes identified from the analysis.

Table 2. Themes and sub-themes

Theme	Sub-themes

Theme 1: Transformative Experiential Learning	Embodied simulation; Repetition and procedural reinforcement; Instructor feedback calibration
Theme 2: Construction of Emergency Care Competence	Increased confidence; Situational awareness; Readiness to act
Theme 3: Emotional and Contextual Barriers	Performance anxiety; Limited practice exposure; Fear of clinical error
Theme 4: Emerging Professional Identity	Professional responsibility; Team collaboration; Ethical accountability

This theme reflects how students experienced the BLS training process and how practical exposure contributed to their understanding and skill development. Participants emphasised that hands-on simulation and repeated practice were essential in transforming theoretical knowledge into practical competence.

3.3 Theme 1: Transformative experiential learning in basic life support training

This theme captures how BLS training was experienced as a transformative learning process rather than a procedural skills session. Participants described a transition from abstract theoretical knowledge to embodied clinical enactment. Competence emerged through iterative engagement, not passive reception.
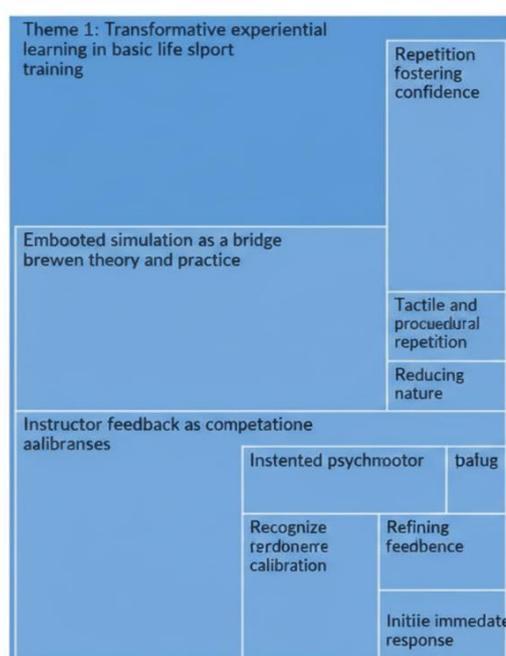
Figure 1. NVivo hierarchy chart illustrating the structural composition of Theme

The hierarchy chart demonstrates three dominant sub-themes: embodied simulation, procedural repetition, and instructor feedback. The largest cluster of references was concentrated in embodied simulation, indicating that hands-on enactment constituted the primary mechanism bridging theoretical knowledge with clinical action. Procedural repetition functioned as a reinforcing structure, fostering automaticity and reducing cognitive hesitation. Instructor feedback operated as a competence calibration mechanism, refining psychomotor accuracy and validating procedural sequencing. Collectively, the hierarchical structure suggests that competence development was constructed through cyclical experiential engagement, rather than linear knowledge acquisition.

Sub tema 1: Embodied simulation as a bridge between theory and practice
Participants consistently emphasised that simulation enabled them to internalise the procedural rhythm of cardiopulmonary resuscitation (CPR). Rather than memorising algorithmic steps, students described "feeling" the sequence through tactile engagement.

> *"When I practiced chest compressions repeatedly, I began to understand the rhythm naturally, not just from memorising it." (P3, 18 years, female).*

Simulation reduced the abstraction of cardiac arrest management and translated theoretical constructs into embodied clarity. The psychomotor dimension of learning appeared central in transforming cognitive understanding into procedural fluency.

Sub tema 2: Repetition fostering procedural confidence

Repeated demonstrations and return demonstrations contributed to automaticity in performing CPR sequences. Students reported that repetition reduced hesitation and strengthened recall under pressure.

"At first, I had to think about every step. After practicing several times, it became more natural." (P10, 19 years, female)

Sub tema 3: Instructor feedback as competence calibration

Instructor correction and structured feedback were perceived as essential in refining psychomotor precision and reinforcing correct sequencing. Feedback was described not merely as correction but as professional validation.

"When the instructor corrected my hand position, I felt more sure that I was doing it correctly." (P5, 18 years, female)

Feedback served as a calibration mechanism, aligning students' embodied performance with professional standards. It also contributed to confidence formation, suggesting that competence development was relational as well as experiential.

Taken together, the sub-themes illustrate that BLS training functioned as a transformative experiential pedagogy. Competence was constructed through embodied practice, reinforced through repetition, and validated through expert feedback. The findings suggest that experiential engagement operates as the core mechanism linking theoretical instruction to clinical readiness in vocational nursing education.

2.2 Theme 2: Construction of emergency care competence

This theme reflects how students conceptualised their evolving competence following BLS training. Competence was described as multidimensional, encompassing cognitive understanding, emotional regulation, situational awareness, and readiness for action.
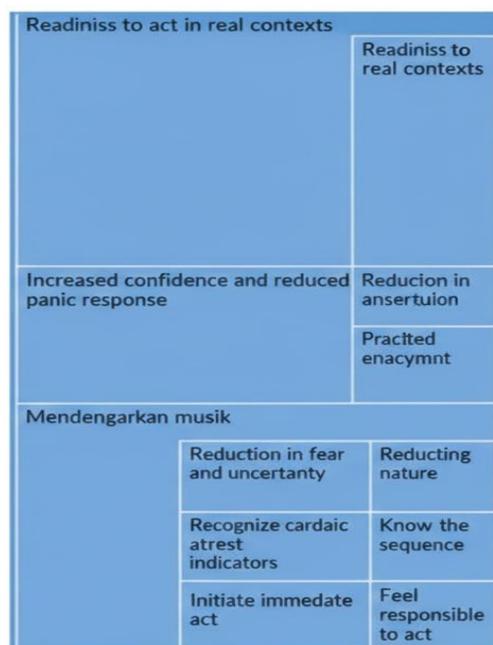

Figure 2. NVivo hierarchy chart illustrating the multidimensional construction of emergency care competence

The hierarchy chart reveals that the largest node was readiness to act in real contexts, indicating that students framed competence primarily as practical preparedness for real-life emergencies. Substantial references also clustered around increased confidence and reduced panic response, demonstrating that emotional regulation was integral to competence formation. Supporting nodes including recognition of cardiac arrest indicators, knowledge of procedural sequence, reduction in fear and uncertainty, and initiation of immediate action—

collectively illustrate that competence was constructed as an integration of cognitive, psychological, and behavioural dimensions.

Sub-theme 1: Increased confidence and reduced panic response
Participants reported a marked reduction in fear when imagining real cardiac arrest scenarios.

> *"Before training, I thought I would panic. Now I feel more composed and know what to do first." (P1, 17 years, female)*

Confidence emerged not solely from knowledge acquisition but from enacted practice. Emotional regulation appeared to be strengthened through experiential mastery, suggesting that simulation training mitigates anticipatory anxiety.

Sub-theme 2: Development of situational awareness
Participants described improved ability to recognise cardiac arrest indicators and initiate immediate response sequences, suggesting cognitive restructuring.

> *"Now I understand that checking responsiveness and calling for help must be done immediately before starting CPR." (P9, 18 years, male)*

This reflects cognitive restructuring: theoretical algorithms were reorganised into actionable mental models. Students demonstrated enhanced capacity to identify, prioritise, and initiate appropriate responses under pressure.

Sub-theme 3: Readiness to act in real contexts
Students framed competence as preparedness for real-life emergencies in clinical or community environments.

> *"If someone collapses, I won't hesitate. I know the sequence and I feel responsible to act." (P12, 19 years, female)*

Competence, therefore, was not perceived as static knowledge but as actionable readiness.

2.3 Theme 3: Emotional and contextual barriers in skill internalization
Despite overall positive transformation, students identified emotional and structural barriers that complicated skill consolidation.

Figure 3. NVivo hierarchy chart illustrating emotional and contextual barriers influencing BLS skill internalisation.

The hierarchy chart demonstrates a dual structure: acquisition of technical skills alongside intrusive psychological barriers. The dominant nodes performance anxiety and fear of clinical error indicate that emotional responses significantly shaped the learning trajectory. Performance anxiety emerged particularly during observed simulations, where peer and instructor presence intensified evaluative pressure. Fear of committing clinical errors extended beyond the simulation laboratory into imagined real-world emergencies, suggesting anticipatory anxiety about patient harm.

Additionally, the node representing limited practice opportunities highlights structural constraints within the training environment. Students perceived insufficient repetition as a potential risk factor for skill decay and reduced long-term retention. Collectively, the hierarchical structure suggests that competence development is not solely a cognitive-technical process but is mediated by emotional regulation and environmental adequacy.

Sub-theme 1: Performance Anxiety During Simulation
Being observed by instructors and peers generated acute stress, particularly during initial practice sessions.

"I felt nervous because everyone was watching me perform CPR." (P4, 17 years, female)

Participants described heightened self-consciousness and fear of public mistakes. However, anxiety was reported to diminish with repeated exposure, indicating adaptive emotional recalibration over time. This suggests that experiential repetition not only refines psychomotor skill but also moderates evaluative stress.

Sub-theme 2: Limited Practice Opportunities
Several students expressed concern that restricted simulation time could compromise skill consolidation.

"I think more practice sessions would make us even more confident." (P8, 18 years, male)

This perception reflects awareness of skill decay in resuscitation training. Students implicitly recognised that competence requires sustained repetition to maintain procedural fluency.

Sub-theme 3: Fear of Clinical Error
Beyond simulation anxiety, participants articulated apprehension regarding real-life application, particularly concerning chest compression depth, airway management, and sequencing errors.

"I am still afraid of making mistakes in a real emergency." (P6, 18 years, female)

This fear reflects moral and professional awareness of potential patient harm. While such apprehension indicates emerging professional responsibility, it may also inhibit decisive action if not addressed through continued supervised exposure and psychological reinforcement.

Theme 3 underscores that competence development is emotionally situated. Technical mastery alone does not guarantee readiness; rather, internalisation requires mitigation of anxiety, sufficient repetitive exposure, and psychologically safe learning environments.

2.4 Theme 4: Emerging professional identity in cardiac arrest response

Theme 4 reflects a fundamental shift in students' self-perception from passive learners to accountable healthcare contributors. BLS training catalysed early professional identity formation by embedding ethical responsibility within procedural competence.

Figure 4. NVivo hierarchy chart illustrating the emergence of professional identity in cardiac arrest response.

The hierarchy chart reveals that sense of professional responsibility constitutes the dominant node, suggesting that students conceptualised BLS competence as a moral obligation rather than a technical achievement. Substantial clustering around teamwork recognition and ethical commitment to patient safety indicates that students situated their competence within a broader healthcare ecosystem. BLS training thus extended beyond psychomotor acquisition to socialisation into professional norms, interdependence, and accountability. The hierarchical configuration illustrates that procedural readiness was intertwined with identity construction and ethical internalisation.

Sub-theme 1: Sense of Professional Responsibility
Participants articulated a moral imperative to intervene in cardiac arrest situations.

"As nursing students, we cannot ignore someone in cardiac arrest because we have been trained." (P11, 19 years, female)

This statement reflects internalised accountability. Training transformed knowledge into obligation, reinforcing the ethical dimension of nursing practice

Sub-theme 2: Recognition of Teamwork in Emergency Response
Students acknowledged that effective cardiac arrest management requires coordination, communication, and shared roles.

"BLS is about teamwork. One person compresses, another calls for help." (P2, 18 years, male)

The recognition of collaborative dynamics indicates early integration into professional practice frameworks. Competence was therefore perceived not as individual performance alone, but as interdependent action within a coordinated team.

Sub-theme 3: Ethical Commitment to Patient Safety
Several participants explicitly linked BLS competence with patient safety and ethical duty.
"If we know how to help, we must help. That is part of being a nurse." (P14, 19 years, female)
This articulation demonstrates moral reasoning aligned with nursing values. BLS competence was interpreted as an expression of professional ethics, reinforcing identity consolidation.
Theme 4 suggests that BLS training functions as a catalyst for professional socialisation. Through experiential engagement, students internalised ethical responsibility, collaborative awareness, and patient safety commitment.

Competence thus evolved from technical proficiency into identity-embedded readiness to act. Following is the summary table after all themes:

Table 2. Thematic structure and interpretative meaning

Theme	Core Mechanism	Interpretative Contribution
Transformative experiential learning	Embodied simulation & feedback	Translation of theory into action
Construction of competence	Cognitive-emotional integration	Readiness for emergency response
Emotional/contextual barriers	Anxiety & structural limits	Moderation of skill internalisation
Emerging professional identity	Ethical responsibility	Professional socialisation

This study explored nursing students' experiences in Basic Life Support (BLS) training and examined how these experiences shape their perceived competence in managing cardiac arrest emergencies. The findings reveal that BLS training was experienced not merely as a technical instructional session but as a transformative learning process that integrates psychomotor practice, emotional adaptation, and emerging professional identity. The conceptual model derived from the thematic analysis demonstrates that experiential learning, emotional-contextual factors, and professional role awareness interact dynamically in constructing emergency care competence.

The findings demonstrate that BLS training operated as a transformative experiential process in which procedural knowledge was internalised through embodied simulation, structured repetition, and calibrated instructor feedback. This aligns with international resuscitation education evidence, particularly guidelines from the American Heart Association and European Resuscitation Council, which emphasise deliberate practice and real-time feedback as determinants of CPR quality and skill retention [41]. Studies conducted in the United States, Canada, and Scandinavian nursing programs consistently show that repeated simulation enhances compression depth accuracy and skill performance metrics [42], [43]. However, these investigations predominantly report quantitative outcomes [44],[46]. The present study extends global scholarship by revealing how vocational nursing students cognitively and physically internalise procedural rhythm, translating simulation into embodied readiness. Thus, competence is constructed not merely as psychomotor precision but as integrated sensorimotor familiarity a dimension underexplored in vocational nursing assistant education research.

Emergency competence emerged as a multidimensional construct encompassing confidence, situational awareness, emotional regulation, and readiness to act. International literature increasingly recognises that CPR competence involves more than technical proficiency research global indicates that psychological preparedness significantly predicts performance under simulated cardiac arrest conditions [47], [48]. Consistent with experiential learning theory, participants in this study described reduced panic responses and improved decisional sequencing following simulation exposure [49], [50]. Unlike many cross-sectional competency assessments that rely on knowledge scores or skills checklists, the present findings illuminate how vocational nursing students construct competence as actionable readiness [51], [52]. This reframing is particularly relevant in nursing assisting contexts, where frontline responders must rapidly transition from recognition to intervention in real clinical environments.

Despite observable competence development, emotional and structural barriers significantly shaped skill internalisation. Performance anxiety during observation, fear of clinical error, and limited repetition opportunities were recurrent themes. Comparable qualitative findings have been documented among nursing students in Japan and Australia, where high-fidelity simulation environments initially generated stress responses that influenced procedural fluency [53]. Global simulation literature increasingly underscores the importance of psychologically safe learning climates to mitigate cognitive overload [54], [55]. The present study contributes by situating these emotional moderators within vocational nursing education an educational tier often underrepresented in resuscitation research dominated by bachelor-level nursing cohorts [52], [56]. These findings reinforce that competence acquisition is not solely technical but emotionally mediated, requiring structured repetition and supportive pedagogical environments to ensure durable skill consolidation.

A distinctive contribution of this study is the identification of early professional identity formation as an outcome of BLS training. Participants articulated a developing sense of ethical responsibility and accountability to intervene during cardiac arrest [57], [58]. While international research from North America and Europe frequently reports increased self-efficacy following resuscitation training, limited qualitative scholarship has examined how such training shapes professional identity, particularly among vocational nursing students or nursing assistants [59]. The findings suggest that BLS training functions as an early professional socialisation mechanism, embedding ethical commitment and teamwork recognition within technical competence. For nursing assistants who often serve as first observers in hospital wards or community settings this integration of ethical responsibility and procedural readiness is critical for patient safety outcomes.

This study offers three explicit advances to global nursing education scholarship [60]. First, unlike prior resuscitation studies that predominantly quantify performance metrics such as compression depth and knowledge scores, this research conceptualises competence as an embodied and identity-based construct [61], [62]. Second,

it provides qualitative evidence from vocational nursing education an educational tier largely underrepresented in international BLS research dominated by bachelor-level programs [63], [64]. Third, it integrates cognitive, emotional, and professional identity dimensions into a unified developmental trajectory model of emergency care competence [65]. To our knowledge, few studies have examined BLS training as an early professional socialisation mechanism among nursing assistants. These contributions extend current theoretical frameworks of clinical competence beyond technical proficiency toward a multidimensional model of readiness.

The findings hold significant implications for nursing assistant curricula globally. Structured, repetitive simulation with immediate formative feedback should be prioritised to reinforce embodied competence and reduce procedural hesitation. Incorporating guided reflective debriefing may support emotional regulation and mitigate performance anxiety, thereby enhancing long-term retention. Curriculum developers should explicitly integrate discussions of ethical responsibility, teamwork coordination, and first-responder accountability into BLS modules to strengthen professional identity formation. At a systems level, embedding enhanced BLS training within vocational nursing programs may improve community-level emergency responsiveness, particularly in regions where nursing assistants frequently function as initial responders.

Several limitations warrant consideration. The study was conducted within a single vocational institution, which may limit contextual transferability. Findings were derived from self-reported experiences rather than longitudinal performance assessments, introducing potential perception bias. Additionally, participants were interviewed shortly after training completion; long-term retention and behavioural translation into clinical settings were not evaluated. Future research should employ mixed-methods designs integrating objective CPR performance metrics and longitudinal follow-up to examine competence sustainability across diverse educational and cultural contexts.

4.   CONCLUSION

This study set out to explore nursing students' experiences in Basic Life Support training and to examine how these experiences contribute to emergency care competence in cardiac arrest management. The findings demonstrate that BLS training is experienced as a transformative educational process that integrates experiential skill acquisition, emotional adaptation, and emerging professional responsibility. Simulation-based engagement and structured feedback enhanced students' confidence, situational awareness, and readiness to act, while emotional barriers such as anxiety and fear of error influenced competence internalisation. Overall, BLS training contributes to multidimensional competence development, extending beyond technical proficiency to include ethical awareness and early professional identity formation. Future studies should consider adopting mixed-methods or longitudinal designs to examine the relationship between experiential perceptions and objectively measured resuscitation performance outcomes. Expanding research across multiple vocational institutions would enhance transferability and allow comparative analysis of curriculum models. Additionally, investigating long-term retention of BLS competence and its translation into real clinical or community settings would provide valuable evidence for strengthening emergency preparedness within nursing education frameworks.

USE OF ARTIFICIAL INTELLIGENCE (AI)-ASSISTED TECHNOLOGY

The authors confirm that no artificial intelligence (AI)-assisted technologies were utilized in the preparation, analysis, or writing of this manuscript. All stages of the research process, including data collection, data interpretation, and the development of the manuscript, were conducted solely by the authors without any support from AI-based tools.

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