

FACTORS AND STRATEGIES TO BRIDGE THEORY-PRACTICE GAP IN NURSING EDUCATION AT TERTIARY HEALTHCARE INSTITUTIONS OF KARACHI: A QUALITATIVE STUDY

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Abstract

The theory-practice gap remains a persistent challenge in nursing education, limiting nursing students' ability to effectively translate theoretical knowledge into competent and evidence-based clinical practice. The disconnect between classroom instruction and clinical practice compromises students' clinical competence, confidence, and preparedness for professional nursing roles. Understanding the factors contributing to this gap and identifying effective educational strategies are essential for improving nursing education and ensuring high-quality patient care. This study aimed to identify the factors contributing to the theory-practice gap between classroom teaching and clinical practice and to identify effective teaching and learning strategies that facilitate the integration of theory and practice in nursing education. A qualitative descriptive research design was employed to obtain an in-depth understanding of participants' experiences and perspectives. Purposive sampling was used to recruit seven nursing educators and clinical instructors with extensive experience in nursing education and clinical supervision from tertiary healthcare institutions in Karachi, Pakistan. Data were collected through semi-structured, in-depth interviews using a researcher-developed interview guide comprising ten open-ended questions. Ethical approval was obtained from the relevant institutional review committee, and written informed consent was obtained from all participants prior to data collection. Participants' confidentiality, anonymity, and voluntary participation were ensured throughout the study. Interviews were audio-recorded, transcribed verbatim, and analyzed inductively using Braun and Clarke's six-phase thematic analysis. Two major themes emerged from the analysis. The first theme, Factors Contributing to the Theory-Practice Gap, comprised curriculum limitations, resource-constrained clinical environments, inadequate supervision, heavy workloads, weak academic-clinical collaboration, and inconsistencies between evidence-based teaching and routine clinical practice. The second theme, Teaching and Learning Strategies for Bridging the Theory-

Practice Gap, included simulation-based learning, case-based and problem-based learning, bedside teaching, reflective practice, structured mentorship, competency-based assessment, enhanced clinical placements, and strengthened academic-clinical partnerships as key strategies for improving the integration of theory and practice. The findings demonstrated that minimizing the theory-practice gap requires educational and organizational reforms that strengthen the alignment between classroom instruction and clinical practice. Nursing institutions should adopt competency-based curricula, expand simulation and experiential learning opportunities, strengthen mentorship and clinical preceptorship programs, promote continuous faculty development, and establish sustainable academic-clinical partnerships to enhance students' clinical competence and readiness for professional nursing practice.

INTRODUCTION:

Nursing education is a vital component in the preparation of health care professionals with the knowledge, clinical competency and professional judgment to provide safe, evidence-based care to patients (Baker, 2021; Wang, 2025; Mohebi, 2025). Nursing student learns by combining the theoretical instruction with supervised clinical practice, so that they develop cognitive and psychomotor skills (Karabacak, 2025; Sezer, 2026). Theoretical learning provides students with scientific principles, nursing concepts, ethical values and critical thinking skills, while clinical practice allows students to apply these principles to actual healthcare settings (Xie, 2025; Lashari & Umrani, 2023). Therefore, the effective combination of theory and practice is believed to be a basis for quality nursing education and professional competence (Afaneh et al., 2023; Lashari, Umrani & Buriro, 2021). Nursing curricula and teaching methods are constantly being refined, but the gap between classroom learning and clinical application is still a major challenge for nursing educators worldwide (Daneshfar, 2025; Mani, 2025).

The theory-practice gap is defined as the gap between the knowledge and skills that students learn at university (Balouch et al., 2023; Siddiqui, Lashari & Dahani, 2024) and the reality that they experience in the clinical area (Daneshfar, 2025). Nursing courses stress evidence-based practice and standard clinical procedures, but students often feel there is a disconnect between theory and practice in the healthcare setting (Kane, 2025).

These inconsistencies often lead to confusion, undermine students' confidence and prevent the development of clinical reasoning and decision making skills (Yaghmour, 2025). Consequently, many recently graduated nurses express challenges in translating theoretical knowledge into patient care, leading to a lack of readiness during their transition into professional practice (Rafferty et al., 2023; Thomas & Merrill, 2023). The theory-practice gap has received considerable attention from nursing scholars due to its implications for educational quality and patient safety (Tang, 2026). Studies suggest the gap is a function of a number of interconnected factors including limitations of the curriculum, inadequate clinical supervision, insufficient opportunities for simulation-based learning, overcrowded clinical placements and inconsistencies between educational institutions and healthcare organizations (Grosman, 2025). Additionally, clinical preceptors and nursing faculty often do not communicate well with one another, and students may be receiving conflicting information about clinical procedures and standards of professionalism (Abou Hashish, 2026; Fayaz et al., 2023). These inconsistencies do not only affect the students' competence but also reduce their confidence in delivering safe and effective nursing care (Afaneh et al., 2023; Buriro et al., 2023; Naryati, 2025).

Clinical learning environments play a very important role in the ability of students to connect theoretical knowledge with practical skills (Pu, 2025). Supportive learning environments,

including effective mentorship, constructive criticism, and opportunities for reflective practice, enhance students' confidence and foster professional growth (Li, 2025; Peña, 2025). In contrast, lack of supervision, excessive clinical instructor workloads, lack of learning resources, and inconsistent evidence-based practices contribute to student anxiety and reduce opportunities for meaningful learning (Alcasoda, 2025). In a recent qualitative study, nursing students reported that academic and clinical environments were important contributors to the theory-practice gap, highlighting the need for improved collaboration between educational institutions and healthcare facilities (Tambunan et al., 2024; Balouch et al. 2023; Lashari & Umrani, 2023). Recently, education reforms have focused more on learner-centered approaches to encourage the integration of theory and practice (Mir, 2025; Lashari et al., 2023). Simulation-based education, problem-based learning, case-based discussions (Buriro et al., 2023; Lashari & Umrani, 2023), reflective practice, competency-based assessment, and structured mentorship have all been shown to positively affect students' clinical competence and confidence (Adams, 2026). These approaches provide students with opportunities to apply theoretical concepts in safe and controlled settings before encountering real clinical situations. Nevertheless, isolated educational interventions are inadequate without institutional support and long-term academic-clinical collaboration to ensure a seamless transition between classroom teaching and clinical practice (Afaneh et al., 2023; Lashari et al., 2023).

Innovative teaching strategies are essential in bridging the gap between theory and practice in nursing education (Lashari & Umrani, 2026; Makhmudov, 2026). Recent research has shown that simulation-based education creates a safe learning environment where learners are able to develop clinical reasoning, psychomotor skills, teamwork, and communication skills before they interact with real patients (Dzhumatovich, 2025). High-fidelity simulation, virtual simulation, and structured debriefing sessions provide learners with the opportunity to apply theory to realistic

clinical scenarios, enhancing self-confidence, clinical judgment, and readiness for practice. Similarly, problem-based and case-based learning promote critical evaluation of complex patient scenarios, foster the application of evidence in decision-making, and stimulate reflective thinking, thus addressing the gap between theoretical teaching and clinical practice (Daneshfar & Moonaghi, 2025; Komuhangi et al., 2025). Another crucial element in bridging the theory-practice gap is the creation of robust academic-clinical partnerships. Collaborations between nursing schools and healthcare institutions promote uniformity in teaching, supervision, and assessment, and offer students consistent guidance during clinical placements (McCamey, 2025). Clinical preceptors and nursing faculty complement one another in experiential learning by mentorship, constructive criticism, and role modelling of evidence-based practice (Zhu, 2025). Well-established academic-clinical partnerships have been shown to provide students with richer learning experiences and greater opportunities to integrate classroom knowledge with clinical practice (Thomas & Adha, 2023; Singh et al., 2025).

Faculty development also contributes significantly to the quality of nursing education (Amin, 2025; Lashari, Umrani & Buriro, 2023; Fayaz et al., 2023). Nursing educators and clinical instructors should be equipped with pedagogical knowledge and clinical skills to ensure that educational practices are in line with the modern healthcare standards (Amin, 2025). Professional development opportunities such as training in simulation pedagogy, competency-based education, evidence-based teaching strategies, and digital learning technologies allow faculty to provide more effective learning experiences for nursing students (Mani, 2025; Lashari & Umrani, 2023). Similarly, healthcare organizations ought to invest in ongoing education programs for clinical preceptors to ensure consistency between academic expectations and clinical practice (Sawalha et al., 2026; Fayaz et al, 2023). Although there is a growing scholarly interest in this issue, the theory-practice gap remains in various

healthcare systems and educational contexts (Daneshfar M. &, 2025). The majority of the existing literature has concentrated on enumerating barriers or assessing stand-alone educational interventions, with a scarcity of qualitative studies that take a more broad approach to investigating the views of nursing educators and clinical instructors about sustainable strategies to bridge this gap in particular institutional settings (Ahangama, 2026). Educational systems, clinical settings and availability of resources differ considerably between countries and institutions and therefore findings in one context cannot easily be transferred to different contexts (Parvin, 2025). Thus, context-specific qualitative evidence is needed to inform educational practices and institutional policies that effectively support the integration of theoretical knowledge with clinical competence (Ugwu et al., 2023; Lashari et al., 2023; Daneshfar & Moonaghi, 2025).

Problem Statement:

Theory-practice gap remains a major and ongoing problem in nursing education (Daneshfar M. &, 2025). It affects nursing students' ability to translate classroom knowledge into competent clinical practice (Wang, 2025). Nursing curricula are intended to combine scientific knowledge and practical skills (Mani, 2025). Students often face a discrepancy between the evidence-based concepts taught in the academic environment and the reality of clinical practice (Craig, 2025). These inconsistencies lead to poor clinical competency, low confidence, impaired clinical decision-making and high anxiety in nursing students when they are involved in patient care (Han, 2025). Recent evidence has shown that poor integration of theoretical instruction with clinical learning may negatively impact patient safety, quality of care and graduates' preparedness for professional practice (Daneshfar & Moonaghi, 2025). Moreover, despite ongoing educational reforms, barriers such as inadequate simulation facilities, lack of faculty preparation, inconsistent clinical supervision, limited opportunities for experiential learning, and weak collaboration between nursing

education institutions and healthcare organizations continue to widen the theory-practice gap (Komuhangi et al., 2025; Sawalha et al., 2026; Praxmarer-Fernandes, 2025).

There is increasing awareness of this issue, but the theory-practice gap still exists in different healthcare and educational contexts, indicating that current educational interventions have not fully addressed the underlying issues (Tang, 2026). Recent systematic reviews have demonstrated the effectiveness of simulation-based education, problem-based learning, and competency-based teaching in improving students' clinical competence (Daneshfar & Moonaghi, 2025); however, there is a lack of qualitative evidence on nursing educators' and clinical instructors' perspectives on practical and sustainable strategies to minimize this gap in specific institutional contexts (Roussi, 2026). Understanding the experiences of those directly involved in nursing education is important in developing contextually appropriate strategies to strengthen the implementation of the curriculum, improve academic-clinical partnerships, enhance mentorship and promote evidence-based clinical teaching (Sawalha et al., 2026). Consequently, this study was conducted to explore strategies to bridge the theory-practice gap in nursing education from the perspectives of nursing educators and clinical instructors. It is expected that the results will contribute to curriculum improvement, faculty development, institutional policy making and the preparation of clinically competent and practice ready nursing graduates.

Research Objectives:

1. To identify the factors contributing to the theory-practice gap between classroom teaching and clinical practice in nursing education.
2. To identify effective teaching and learning strategies that facilitate the integration of theory and practice in nursing education from the perspectives of nursing educators and clinical instructors.

Research Questions:

Q1: What are the factors contributing to the theory-practice gap between classroom teaching and clinical practice in nursing education.

Q2: What are the effective teaching and learning strategies that facilitate the integration of theory and practice in nursing education from the perspectives of nursing educators and clinical instructors.

Literature Review:

Theoretical Framework:

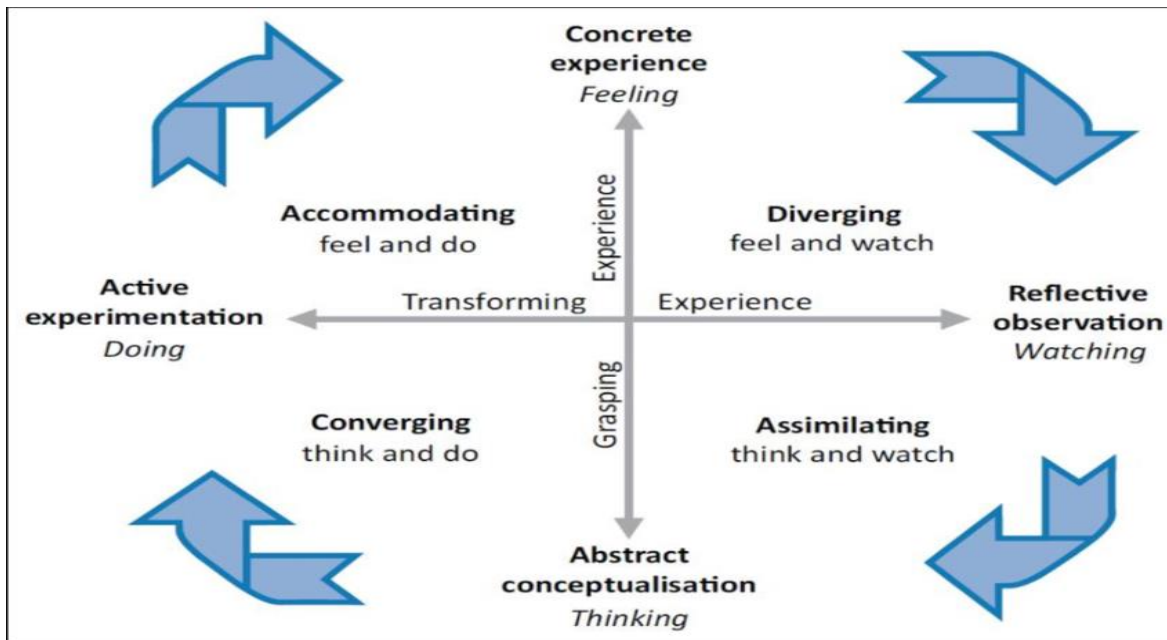


Fig1: Kolb's Experiential Learning Theory (1984)

The study is theoretically grounded in Kolb's Experiential Learning Theory (ELT) developed by David A. Kolb (1984). Experiential Learning Theory suggests that learning is a continuous process of creating knowledge through the transformation of experience (Pham Thi, 2025). As Kolb stated, "meaningful learning does not depend on the acquisition of theoretical knowledge but on the integration of concrete experiences, reflection, conceptual understanding and active application" (Javahery, 2026). The theory has been widely embraced in the education of nursing and health professions as it offers a comprehensive framework for understanding the development of clinical competence in students by linking classroom teaching and authentic clinical experiences (Kolb, 1984; Yardley et al., 2012).

Kolb's Experiential Learning Theory consists of four interrelated stages: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. Concrete Experience is students' real-life involvement in clinical situations, simulation laboratories, and patient care activities. Reflective Observation is the critical reflection on these experiences, to identify strengths, weaknesses and learning opportunities (Cheng, 2025). Abstract Conceptualization allows the learner to connect personal experience with theoretical concepts (Cheng, 2025), evidence-based guidelines, and professional nursing principles taught in the classroom. Finally, Active Experimentation is about applying new knowledge and skills in future clinical situations, thus completing the learning

cycle and encouraging continuous professional development (Kolb, 1984).

The theory is especially relevant to the present study as it provides a conceptual explanation for the theory-practice gap in nursing education. If one or more stages of the Kolb learning cycle are not supported, it can be difficult for students to translate theory into clinical practice. For instance, the experiential learning process can be impeded by a lack of clinical exposure, poor supervision, limited opportunities for reflection, or resource-poor clinical environments, which can result in decreased confidence and difficulty in applying evidence-based nursing care (Sumera, 2026). Conversely, educational strategies including simulation-based learning, case-based learning, bedside teaching, structured mentorship, reflective practice, and competency-based clinical experiences reinforce each stage of the learning cycle and promote the effective integration of theory and practice. Therefore, the Kolb's Experiential Learning Theory is an appropriate theoretical framework to interpret the factors that contribute to the theory-practice gap and to understand the teaching and learning strategies needed to promote the integration of theory and practice in nursing education.

Research Methodology:

Research Design:

This study employed a qualitative phenomenological research design to explore the contributing factors to the theory-practice gap and teaching and learning strategies that facilitate the integration of theory and practice in nursing education. A qualitative descriptive approach was considered appropriate as it offers a detailed and straightforward description of the participants' experiences, perceptions and recommendations in their natural context. The design of the study allowed the researcher to gain an in-depth understanding of the views of the nursing educators and clinical instructors regarding the challenges that they face in translating theory into practice and the strategies that are required to bridge the gap. The qualitative descriptive design also allowed participants to describe their

experiences in their own way and thus generated rich data that accurately described current practices in nursing education.

Sampling Technique:

Participants were recruited using a purposive sampling technique to recruit those with rich knowledge and experience in nursing education and clinical supervision. The study sample included nine nursing educators and clinical instructors in tertiary health care institutions and nursing education settings. Participants were selected according to predetermined inclusion criteria which included a minimum of three years' experience in teaching or clinical supervision and direct involvement in the undergraduate nursing education. Purposive sampling was conducted to ensure that the selected participants were able to provide in-depth insights on factors contributing to the theory-practice gap and recommend effective teaching strategies that can enhance the integration of theory and practice. Data collection continued until saturation point was achieved.

Research Instrument:

Data were collected using a researcher-developed semi-structured interview guide that was comprised of ten open-ended questions. The interview guide was developed based on a comprehensive review of the nursing education literature and was consistent with the study objectives. The questions included the participants' perception of the theory-practice gap, factors influencing the theory-practice gap between classroom teaching and clinical practice, challenges faced in clinical education, and suggestions for improving theory-practice integration. The semi-structured format allowed the researcher to maintain consistency across interviews while also allowing flexibility to ask probing questions and to explore emerging issues in more depth. Interviews were collected via online meeting and some of the participants also provided the answers of open ended questions while online google form.so the data was collected via online meeting to provide time flexibility to the participants.

Ethical Consideration:

Prior to data collection, all the participants gave written informed consent after being told about the purpose of the study, the interview process and their rights as research participants. Participation was voluntary and participants were informed of their right to refuse to participate or withdraw from the study at any stage without any consequences. To maintain confidentiality and anonymity, each participant was assigned a unique code P1-P9 rather than any personally identifiable information. All interview transcripts and research documents were securely stored in password-protected electronic files accessible only to the researcher. The results were disseminated in an open and objective way so that the responses of participants were presented accurately without amendment and all the BERA ethical framework conditions were followed.

Data Analysis:

The data were analyzed using Braun and Clarke's (2006) six-phase thematic analysis. This inductive approach allows for the systematic identification,

analysis and interpretation of patterns within qualitative data. Once the interviews were done, the audio recordings were transcribed word-for-word, and the data were read several times to become acquainted with the data. Manual derivation of initial codes from meaningful statements pertinent to study objectives. Similar codes were then clustered into possible subthemes and themes, which were continually reviewed, refined and defined to ensure internal coherence and meaningful representation of the participants' experiences. The final analysis yielded two major themes (1) Factors Contributing to the Theory-Practice Gap and (2) Teaching and Learning Strategies for Bridging the Theory-Practice Gap and their subthemes. The themes were then analyzed within existing nursing education literature and Kolb's Experiential Learning Theory to gain an in-depth understanding of the factors affecting the theory-practice gap and the educational strategies required to enhance the integration of theory and practice within nursing education.



Theme 1: Factors Contributing to the Theory-Practice Gap

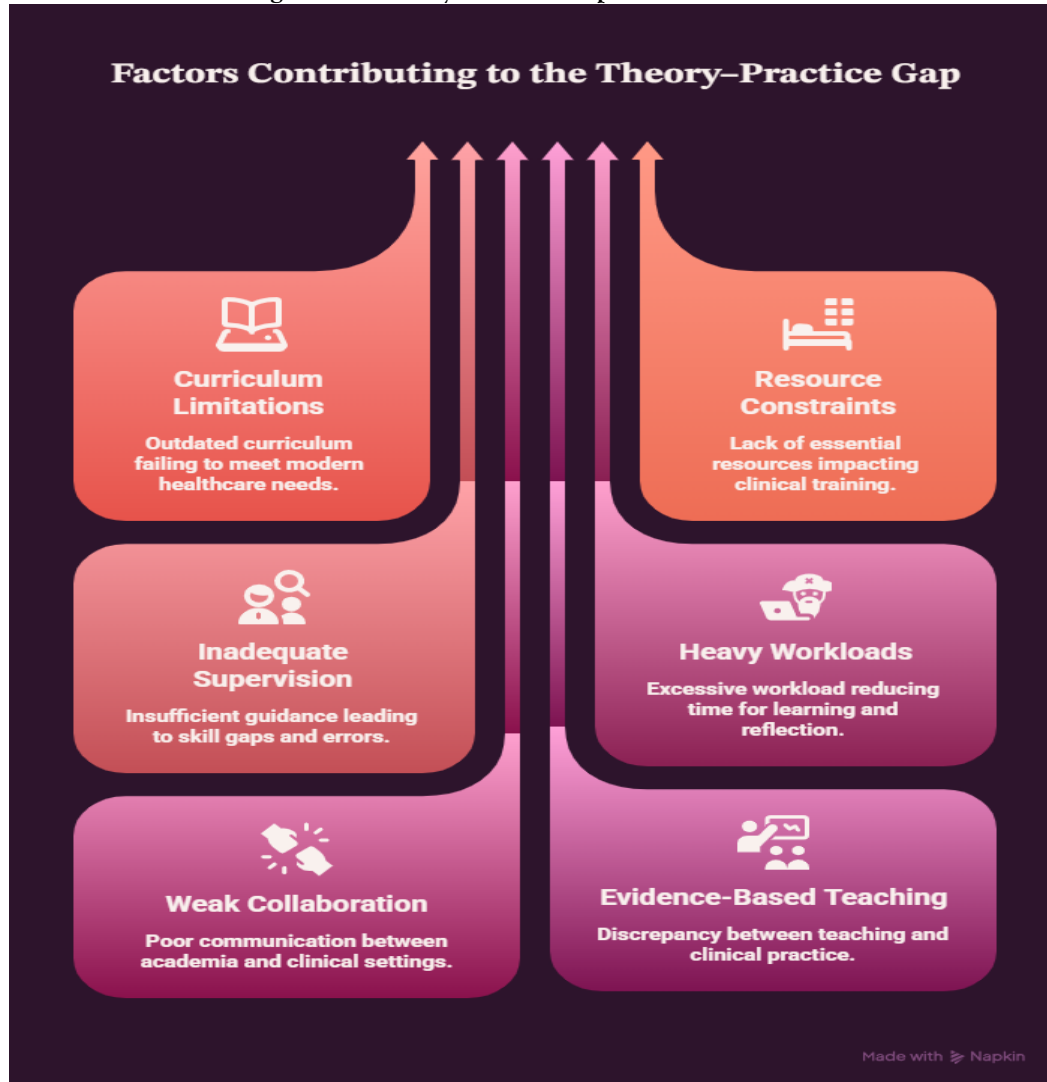


Fig 2: Graphical Representation of Theme 1

Subtheme 1.1: Curriculum Limitations

Curriculum limitations was one of the most significant factors leading to the theory-practice gap in nursing education. Participants reported that the existing curriculum was largely theoretical, with few opportunities for experiential learning and simulation-based education and integration of contemporary clinical realities. They pointed out that while nursing students get a good theoretical education in the classroom, they often graduate without adequate preparation to deal with the intricacies of today's healthcare settings. Participants also indicated that the delay in curriculum updates, a strong emphasis on rote

learning, and lack of exposure to real-life clinical experiences hinder students from applying theoretical knowledge to safe and competent clinical practice.

P1: They get a lot of theory in the curriculum, but they need more exposure to simulation and clinicals before they go into the hospital to have more opportunity to practice what they learn.

P7: The nursing curriculum still teaches the ideal evidence-based procedures but rarely prepares students for the realities of overcrowded tertiary care hospitals where staffing shortages, limited resources and heavy patient loads necessitate rapid clinical decision making.

Participants' opinions suggested that the curriculum content should not only be theoretical, but also include practical experiences reflecting real clinical practice. The disconnect between a curriculum and the realities of healthcare may hinder students' preparedness and confidence in clinical settings (Hepburn, 2025). Recent findings in nursing education research have also shown that traditional curricula that focus on theoretical instruction without providing sufficient experiential learning are a major contributor to the persistence of the theory-practice gap (Thin, 2025; Carreiro, 2026). Research recommends implementing competency-based education, simulation through scenarios, and continual revision of the curriculum to ensure that graduates are equipped with both theoretical knowledge and practical skills (Daneshfar & Moonaghi, 2025; Komuhangi et al., 2025). The results support participants' perceptions that curriculum modernization is necessary to bridge the gap between academic preparation and practical expectations (Bukhari, 2025).

P5: The curriculum needs to be more hands-on with case discussions and simulation sessions so that students feel confident in applying what they learn in the classrooms to actual patient care.

Generally, participants agreed that limitations of the curriculum continue to be a significant barrier to effective integration of theory and practice. Theoretical knowledge is the backbone of nursing education but its effect is trivialized when students are not provided with sufficient opportunities to apply that knowledge in realistic learning environments. Curriculum design that includes competency-based teaching, simulation and regular review, in partnership with healthcare institutions, can go a long way in bridging the theory-practice gap and preparing future nurses better for professional practice.

Subtheme 1.2: Resource-Constrained Clinical Environment

The resource-poor clinical environment was consistently identified as another major

contributing factor to the theory-practice gap. Participants described tertiary care hospitals as high-pressure environments with equipment shortages, insufficient staffing, crowded wards, and excessive patient loads. In such circumstances, healthcare professionals are often obliged to modify or abbreviate routine nursing procedures to meet immediate clinical needs. As a result, students may observe practices that differ from those taught in the classroom, leading to confusion regarding evidence-based care and professional standards. They felt that students' exposure to such environments reduces their ability to consistently apply theoretical knowledge in clinical placements.

P1: Students can't always do the procedures the way they learned them because hospitals don't always have enough equipment or staff.

P7: In tertiary care hospitals, severe nurse-to-patient ratios, shortages of essential equipment, and constant workflow pressures force nurses to adapt procedures, making it difficult for students to reconcile textbook standards with everyday clinical realities.

The participants' experiences illustrate how organizational resource limitations directly influence students' clinical learning. When evidence-based procedures cannot be consistently implemented because of inadequate resources, students may struggle to distinguish between ideal nursing practice and necessary clinical adaptations (Alsadaan, 2025; balona, 2025). Recent evidence indicates that resource-constrained learning environments reduce opportunities for skill acquisition, increase clinical uncertainty, and hinder the development of professional confidence among nursing students (Sawalha et al., 2026; Daneshfar & Moonaghi, 2025). The literature further emphasizes that investments in clinical infrastructure, simulation laboratories, and adequate staffing are essential to provide learning environments that support the application of theoretical knowledge in practice.

P5: Limited resources and busy clinical settings sometimes prevent students from following every step they learned in theory, which makes learning more difficult.

Resource limitations therefore represent not only an organizational challenge but also an educational concern that affects the quality of clinical learning. Participants emphasized that improving clinical infrastructure, ensuring the availability of essential equipment, and creating supportive learning environments would enable students to translate theoretical knowledge into competent, evidence-based nursing practice more effectively.

Subtheme 1.3: Inadequate Supervision

A major factor contributing to the theory–practice gap was inadequate clinical supervision. Participants commented that good supervision allows students to combine their classroom learning with clinical skills through observation, guided practice and constructive feedback. However, due to the scarcity of clinical instructors and the competing duties of ward nurses, students frequently carried out procedures without adequate supervision. Participants felt that lack of supervision reduced the possibility of immediate feedback, reduced students' confidence and had a negative effect on clinical competence. Hence, good supervision was regarded as a prerequisite for transforming evidence-based nursing knowledge to safe patient care.

P1: Supervision is important in understanding the use of theoretical knowledge in the care of real patients and students require guidance in the performance of procedures.

P7: When teachers have too many students at the same time, clinical learning is not effective. There is less individual supervision, limited feedback, and students struggle to make connections between theory and practice.

Participants consistently pointed out that supervision is not about checking students' work, but a space for reflection, clarification and

confidence building. Similarly, recent studies have indicated that supportive clinical supervision enhances students' competence, professional confidence, and evidence-based decision-making, whereas inadequate supervision contributes to clinical uncertainty and undermines theory–practice integration (Nalubega et al., 2026; Daneshfar & Moonaghi, 2025). Hence, continuous supervision by trained clinical instructors is fundamental to improve the quality of nursing education.

P5: Students' clinical duties are under the supervision of clinical instructors who are available to teach and support their learning.

In general, students' confidence in applying theoretical knowledge in clinical settings is limited by lack of supervision. Participants broadly agreed that increasing instructor availability, decreasing student-to-instructor ratios, and strengthening structured supervision are important for improving clinical learning and closing the theory–practice gap.

Subtheme 1.4 Heavy Workload

Heavy workloads were also cited as a major factor to the theory–practice gap. Participants reported that tertiary healthcare institutions are busy places with high patient numbers, staff shortages and administrative duties that often make it difficult for nurses and clinical instructors to spend adequate time teaching the students. Consequently students are given little explanation, demonstration and feedback during clinical placements which makes it difficult to consolidate the theoretical knowledge through practical experience. Clinical staff are also more likely to concentrate on immediate patient care over their educational duties due to heavy workloads.

P1: Heavy workloads reduce the time available for teaching students during clinical practice.

"The high patient turnover, staff shortages, and busy ward routine mean nurses have little time to

mentor students in line with evidence-based standards."

Participants' experiences suggest that workload pressures directly impact the quality of supervision and students' opportunities to learn. Similar findings have been reported in recent nursing education research, which shows that high workloads restrict clinical teaching, limit opportunities for reflective learning, and add to students' anxiety and poor clinical preparedness (Sawalha et al., 2026; Nalubega et al., 2026; Oshodi, 2025). Increasing the number of staff and providing clinical instructors with protected teaching time have been suggested as effective ways of improving clinical education.

P5: Sometimes the crowded clinical environment hinders the instructors from providing individual guidance to each student.

In conclusion, participants agreed that heavy workload reduces the effectiveness of clinical teaching and supervision. Addressing staff shortages and ensuring protected educational time for clinical instructors can greatly improve students' ability to integrate theory and clinical practice.

Subtheme 1.5: Weak Academic-Clinical Collaboration

Poor collaboration between nursing schools and health care institutions was consistently identified as a key contributor to the theory-practice gap by participants. They described the working in isolation of nursing educators and clinical staff which results in discrepancies between classroom teaching and ward expectations. Poor communication of curriculum aims, learning outcomes and clinical competencies may result in student confusion and impede the translation of theoretical knowledge to practice. Participants therefore considered academic-clinical collaboration to be vital for providing consistent educational experiences.

P1: There is a need for regular contact between schools of nursing and hospitals to help bridge the theory-practice gap.

Joint appointments between academic faculty and hospital staff would keep classroom teaching in touch with current clinical realities.

The participants' suggestions strongly back the need for integrated partnerships between educational institutions and health care organizations. There is recent evidence that collaborative curriculum planning, shared supervision, standardized clinical guidelines, and regular communication between faculty and clinical preceptors improve teaching consistency and enhance students' clinical competence (Daneshfar & Moonaghi, 2025; Komuhangi et al., 2025). Strong academic-clinical partnerships are also needed to enable implementation of competency-based education and evidence-based clinical practice (Sharpnack, 2025).

P5: A continuous collaboration among nursing schools and clinical institutions is needed to bridge the theory-practice gap.

To summarize, participants perceived collaboration as one of the most effective ways of bridging theory and practice. Better communication and partnership between educational institutions and health care facilities would ensure consistent teaching, better supervision and improved preparedness of students for professional nursing practice.

Subtheme 1.6. Gap between Evidence-Based Teaching and Clinical Routine Practice

One of the biggest challenges for nursing students is to see the differences between evidence-based procedures taught in classrooms and routine practices in clinical settings, participants said. Although classroom teaching is about perfect standards of care, nurses in busy hospitals often do change procedures due to resource limits, staffing shortages and organizational needs, they said. These inconsistencies can confuse students about

professional standards and lower their confidence when applying theoretical knowledge.

P5: Sometimes students see practices in hospitals that are different from what they learned in the theory classes.

P7: They teach students the ideal evidence-based procedures, but the reality of the tertiary hospitals often requires nurses to modify those procedures due to limited resources and overwhelming workloads.

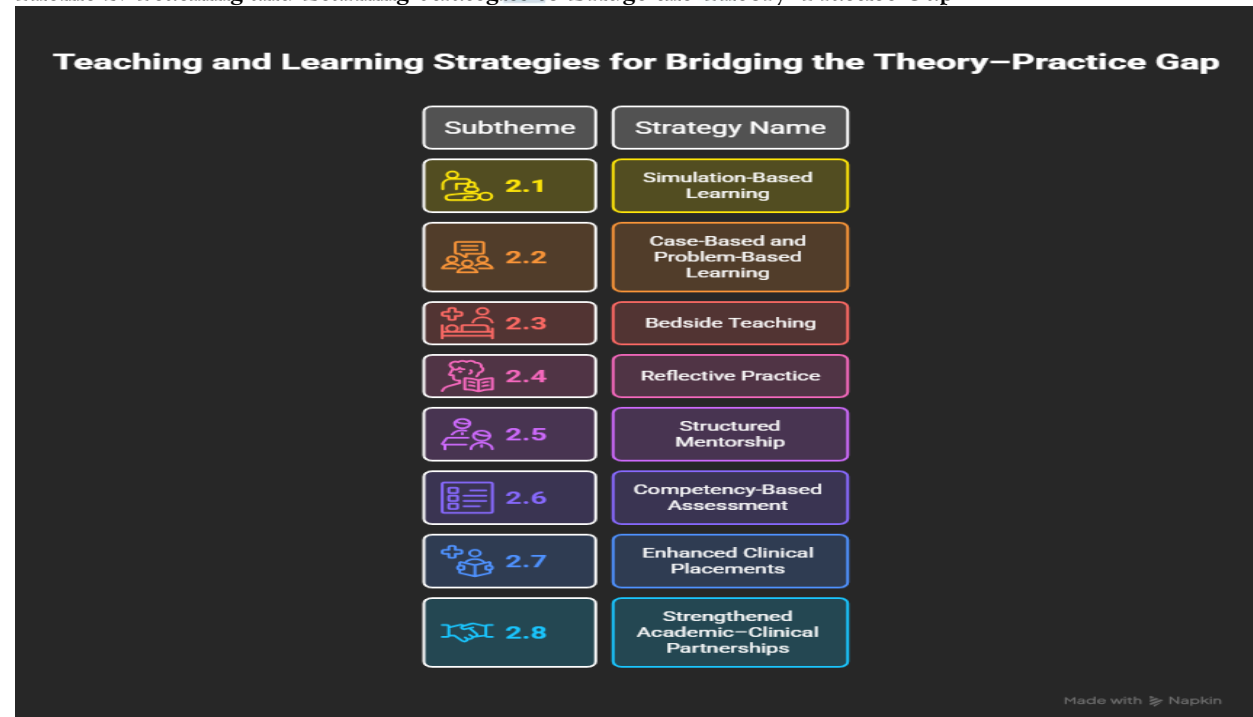
The experiences of the participants showed that the gap between theory and practice is still mainly caused by inconsistencies between education and practice. Current nursing education research also indicates that students experience uncertainty when clinical practice deviates from classroom instruction, leading to decreased confidence and difficulty implementing evidence-based care (Nalubega et al., 2026; Sawalha et al., 2026).

Researchers recommend regular curriculum updates, evidence-based clinical guidelines and collaborative educational partnerships to reduce inconsistencies and enhance integration of theory and practice (Luzipo, 2026).

P9: Students feel more confident when clinical practice is being carried out under the same evidence-based standards that they are taught in the classroom.

Finally, participants pointed to inconsistencies between the theoretical instruction and the routine clinical practice as a central reason for the theory–practice gap. An effective way of improving students' confidence, clinical competence and transition into professional nursing practice would be aligning classroom teaching with contemporary clinical realities and standards that are evidence-based.

Theme 2: Teaching and Learning Strategies to Bridge the Theory–Practice Gap



Subtheme 2.1: Simulation Based Learning

Simulation-based learning has been developed as one of the most effective educational strategies to combine theoretical knowledge and clinical

practice. The participants repeatedly emphasized that simulation labs provide a safe and controlled environment for nursing students to practice

clinical procedures before working with real patients. By repeated practice in simulated settings, psychomotor skills, clinical reasoning, confidence, and decision-making are enhanced, and students experience less anxiety during clinical placements.” Participants also noted that simulation provides students with the opportunity to make mistakes without jeopardizing patient safety and that it prepares students for complex clinical situations faced in the healthcare environment.

P6: Effective strategies for bridging the theory-practice gap include clinical simulations, case studies, skills demonstrations, supervised clinical practice and regular feedback from educators and clinical instructors.

P7: Simulation, high-fidelity simulation, skills lab scenarios, are important for practicing complex procedures safely before going into crowded wards; They teach students how to deal with high stress situations, while giving them confidence in their clinical skills.

In the participants’ view, simulation-based education was an essential link between classroom learning and bedside practice. Their experiences support recent evidence that high fidelity simulation improves clinical competence, critical thinking, confidence and patient safety by providing learners with the opportunity to practice realistic scenarios in a risk-free environment (Daneshfar & Moonaghi, 2025; Sawalha et al., 2026 ; Dzhumatovich, 2025). Structured debriefing after simulation exercises also provides students an opportunity to reflect on their performance, identify knowledge gaps, and enhance evidence-based clinical decision making.

P5: Simulation laboratories provide students with practical experience prior to clinical experiences and allows them to apply theoretical knowledge with confidence in patient care situations.

Simulation-based learning is thus a cornerstone of contemporary nursing education. They concluded that the increased use of simulation facilities, along with the integration of scenario-based training throughout the curriculum, would

significantly narrow the theory-practice gap and enhance students’ readiness for professional practice.

Sub-theme 2.2: Case-based learning and Problem-based

The participants identified case-based and problem-based learning as effective ways to improve students’ ability to apply theoretical concepts to real clinical situations. They said that discussing real patient cases helps students think critically, reason clinically, and make collaborative decisions while they are able to relate theoretical principles to real nursing interventions. Participants believed that learning in real patient situations fosters students’ understanding of complex health problems and prepares them for evidence-based clinical practice.

P5: Students learn how to apply theoretical knowledge in patient care through case studies and skills demonstrations.

P9: We use real patient files from local wards for case-based learning, which teaches clinical reasoning and prioritized decision-making and helps students to adapt textbook knowledge to real clinical situations.

The participants appreciated case-based and problem-based learning, as these strategies promote active participation and reflective thinking rather than memorization. Likewise, recent systematic reviews have demonstrated that problem-based learning enhances students’ critical thinking, evidence-based decision making and long-term knowledge retention, thus supporting the integration of theory and practice (Andayani, 2025; Komuhangi et al., 2025; Daneshfar & Moonaghi, 2025; Martinez, 2025). These learner-centred approaches also build teamwork and communication skills required in multidisciplinary healthcare settings.

P5: Case studies with reflection assist students in analyzing the clinical situations and developing appropriate nursing care plans based on theoretical knowledge.

In general, participants considered case-based and problem-based learning as very effective teaching strategies that enhance active learning and students' ability to apply nursing knowledge in complicated clinical situations.

Subtheme 2.3. Bedside teaching

Bedside teaching was identified as an important strategy to assist students to translate classroom learning to safe clinical practice. Participants also noted that students can learn about professional practice, develop psychomotor skills and obtain immediate feedback through direct patient care under the supervision of experienced nurses. They also pointed out that bedside teaching builds confidence and clinical judgment, as students learn in real healthcare settings under the tutelage of clinical experts.

P3: Students are able to apply theory to clinical practice in supervised clinical practice."

P5: The bedside teaching with the step-by-step guidance of the preceptor helps students to adapt the standard nursing protocols to the real-world resource constraints, while maintaining patient safety.

Participants' views suggest that bedside teaching closes the gap between theoretical teaching and clinical practice through experiential learning. Likewise, recent studies have reported that structured bedside teaching improves students' clinical reasoning, communication skills and professionalism by providing them with immediate opportunities to apply classroom learning to patient care (Nalubega et al., 2026; Sawalha et al., 2026 ; Mathew, 2026).

P5: Students get real-world exposure through clinical placements to understand how theoretical concepts are used in patient care.

It was agreed by the participants that bedside teaching is still a part of nursing education, as it provides a platform for experiential learning and helps students in making the incremental transfer from theory to independent clinical practice.

Subtheme 2.4 Reflective practice

Another significant strategy in closing the gap between theory and practice was reflective practice. Participants believed that encouraging students to reflect on their clinical experiences enabled them to recognize their strengths, pinpoint their errors, and connect patient care experiences to theoretical concepts. Reflection was viewed as an opportunity for ongoing learning that enhances critical thinking and professional growth.

P1: Students' clinical performance is enhanced by continuous feedback from faculty and clinical instructors.

P3: During clinical debriefings after rotations, students reflect on what they see on the wards, discuss mistakes, and connect what they see at the bedside with what they learned in their textbooks.

The participants' responses showed that reflective learning enhances self-awareness and lifelong learning. Current literature supports reflective practice as an effective educational strategy to improve clinical judgment, critical thinking, and evidence-based decision-making, and to reduce the theory - practice gap (Craddock, 2025; Daneshfar & Moonaghi, 2025; Komuhangi et al., 2025).

P1: Students learn better if they discuss their clinical experiences and receive constructive feedback after practice.

Thus, the participants regarded reflective practice as an integral part of clinical education that contributes to the ability of students to synthesize theoretical knowledge with professional nursing practice.

Subtheme 2.5 Structured Mentorship

Structured mentorship was identified as a key strategy to address the theory-practice gap in nursing education. The participants consistently described mentorship as a supportive relationship, where experienced nurses and clinical instructors help the students to apply the theoretical

knowledge in the real clinical setting. Mentors, they explained, not only teach students clinical procedures, but also provide constructive feedback and emotional support and professional role modelling that help students make the transition from classroom learning to bedside nursing. Structured mentorship was said to build confidence, enhance critical thinking, and improve students' clinical competence through opportunities for ongoing learning and thoughtful reflection, participants reported.

P4: Simulation labs build confidence, clinical placements give real-world exposure and mentorship provides guidance to help students safely apply theoretical knowledge in practice.

P7: Mentorship is the glue that holds it all together, an experienced nurse or preceptor who guides the student and models real-world clinical judgment, helping them make sense of the gap between the classroom and the bedside. These three components enable abstract, theoretical knowledge to be confidently and safely used at the bedside.

Mentorship was viewed by the participants as more than supervision, but rather as an educational partnership supporting the professional and personal development of students (Jacobsen, 2025; Wong, 2025). Similarly, recent research in nursing education has found that structured mentorship is an effective way to improve clinical competence, communication skills, and professional confidence, as well as helping to integrate theory into practice (Nalubega et al., 2026; Daneshfar & Moonaghi, 2025). Mentors also give timely feedback and facilitate reflection to help students understand the rationale for clinical decisions and deal with the complexities of healthcare settings.

P5: Students need good quality clinical placements and supportive mentorship to enable them to apply theory in practice effectively. Participants generally agreed that a structured mentorship model is required to bridge the gap between theory and practice. Thus, formal

mentorship and preceptorship programs should be incorporated in nursing education to ensure students receive consistent guidance, support and opportunities for experiential learning throughout their clinical placements.

Subtheme 2.6: Competency Based Assessment

Participants stressed that competency-based assessment offers a more accurate evaluation of students' ability to translate theoretical knowledge into clinical practice than traditional knowledge-based exams. They argued that assessments should focus on measuring clinical reasoning, psychomotor skills, communication and decision making, rather than the more traditional emphasis on memorization. Participants felt that assessment of students in realistic clinical scenarios better reflects the competencies needed in professional nursing practice and promotes deeper learning.

P1: Students must be assessed on their practical competence and ability to work safely in clinical areas.

P7: Examination boards should move away from rote-memorization written tests to continuous, scenario-based clinical judgment assessments so students are assessed on their ability to make safe decisions in real clinical situations.

The participants' recommendations support a move towards competency-based education, where the assessment is directly linked to professional nursing standards and clinical performance. Recent studies show that competency-based assessment enhances the students' preparedness for clinical practice by developing critical thinking, clinical judgment, and evidence-based decision making (Khan, 2025; Sawalha et al., 2026; Komuhangi et al., 2025). Good methods to test students' competence in real healthcare settings are OSCEs, simulation-based assessment and workplace-based assessments (Yeates, 2025).

P5: Scenario based assessments allow students to show application of theoretical knowledge rather than just recall.

In conclusion, competency-based assessment is considered an important part of the nursing

education by the participants as it evaluates the students' ability to integrate the theoretical knowledge with safe and effective clinical practice. Changing assessment strategies to assess competence rather than rote learning could have a significant impact in reducing the theory-practice gap.

Subtheme 2.7 Enhanced clinical placements

Participants consistently identified clinical placements as a critical component of nursing education, providing students with the opportunity to apply classroom knowledge within real-world healthcare environments. They explained that good clinical placements give students the opportunity to develop their psychomotor skills and professional confidence, while exposing them to a variety of patient conditions, team work in interdisciplinary care and real-world decision-making. Participants also stated that an increased supervised clinical exposure during the nursing curriculum would contribute to the students' readiness for independent practice.

P1: Clinical placements give students practical experience, so they can apply their theoretical knowledge to patient care.

P7: Clinical placements expose students to high-volume, real-world healthcare settings, training them to deal with unpredictable patient situations, resource constraints, and interprofessional collaboration, while simultaneously applying theoretical knowledge.

Participants noted that meaningful clinical exposure enables students to incrementally build competence and confidence under the supervision of professionals. Recent evidence suggests that quality clinical placements enhance students' clinical reasoning, communication and patient-care skills, and reinforce the integration of theory and practice (Nalubega et al., 2026; Sawalha et al., 2026). To be effective, placements require nursing schools and healthcare institutions to work together to align learning objectives and clinical experiences (McCamey, 2025; Rudland, 2025).

P5: Additional supervised clinical training opportunities will ensure that students feel confident and competent prior to entering the professional practice.

There was general agreement among participants that better clinical placements are needed to bridge the theory-practice gap. Increasing the quality, length, and supervision of clinical experiences would enhance students' professional competence and preparedness for contemporary nursing practice.

Subtheme 2.8. Strengthened academic-clinical partnerships

The primary approach to maintaining the integration of theory and practice was to enhance academic-clinical partnerships. Participants emphasized the need for close collaboration between nursing schools and healthcare institutions in curriculum development, clinical supervision, faculty development, and student assessment, to ensure that academic teaching is aligned with clinical expectations. They believed that continued dialogue between educators and healthcare professionals would foster learning environments where evidence based knowledge could be more effectively translated into clinical practice.

P1: The coordination between nursing schools and hospitals needs to be improved, and more clinical training and updated teaching methods are needed to connect classroom learning with clinical practice.

P4: Joint meetings between academic faculty and hospital administration are important to align expectations and avoid conflicting routines.

P5: Joint appointments allowing faculty to practice clinically will ground classroom teaching in today's bedside reality.

The participants' recommendations are a strong endorsement of a collaborative education model that combines academic and clinical expertise. Moreover, literature notes academic-clinical partnerships as a prominent contributor to curriculum relevance, mentorship enhancement,

promotion of evidence-based practice, and bridging the gap between classroom teaching and patient care (Daneshfar & Moonaghi, 2025; Nalubega et al., 2026). Partnerships also provide opportunities for faculty to remain engaged in clinical practice and to ensure that educational programs are responsive to changing healthcare needs (Rudland, 2025; Pearson, 2025).
P5: Continuous cooperation should be established between nursing schools and clinical institutions to reduce the theory-practice gap.

P3: Regular curriculum updates, effective mentorship, and more hands-on learning opportunities can equip students to apply theoretical knowledge more confidently in real clinical settings.

Overall, participants perceived that academic-clinical partnerships strengthened to provide a foundation for sustainable improvement in nursing education. Nursing programs can develop collaborative relationships among educators, clinical instructors, health care institutions, and policy makers to create coherent learning experiences that effectively link theory and practice and prepare graduates for safe, competent, and evidence-based professional nursing care.

Conclusion

The study examined the views of nursing educators and clinical instructors on factors contributing to the theory-practice gap and teaching and learning approaches that assist in integrating theory and practice in nursing education. The findings revealed that the theory-practice gap is shaped by several interrelated factors including limitations of the curriculum, resource-constrained clinical settings, inadequate supervision, heavy workloads, poor academic-clinical collaboration, and discrepancies between evidence-based classroom teaching and routine clinical practice. These challenges may prevent nursing students from translating theory into competent clinical performance which in turn affects their confidence, critical thinking and readiness for professional practice. The results also pointed out the need for an integrated educational

approach that bridges the gap between theory and practice by linking classroom teaching with real-world clinical experiences and current healthcare practices.

The study also identified some effective teaching and learning strategies that can improve the integration of theory and practice in nursing education. Participants highlighted the importance of simulation-based education, case-based and problem-based learning, bedside teaching, reflective practice, structured mentorship, competency-based assessment, improved clinical placements, and strong academic-clinical partnerships in facilitating meaningful experiential learning. All these strategies support the development of clinical competence, professional confidence and evidence-based decision making for students of nursing. The study concluded that experiential learning opportunities, ongoing supervision and collaborative partnerships between nursing education institutions and healthcare organizations are essential to minimize the theory-practice gap and guided by Kolb's Experiential Learning Theory. Implementing these strategies will better prepare future nurses to provide safe, competent, high quality patient care that is responsive to the changing demands of modern health care systems.

Recommendations:

1. Revise the nursing curriculum to include simulation-based learning, case-based learning and competency-based teaching methods. This will enhance students' ability to apply theoretical knowledge to real clinical settings.
2. Strengthen clinical supervision and mentorship through increasing the number of trained clinical instructors and decreasing student-instructor ratios. Clinical placements should include regular feedback and guided practice.
3. Enhance collaboration between nursing schools and health care agencies through joint curriculum development, coordinated clinical training, and shared evaluation of students. Such collaborations will bring classroom teaching into closer alignment with clinical practice.

4. Enhance clinical learning environments with adequate resources, well-equipped simulation laboratories, and diverse supervised clinical placements. These measures will improve Abalona, M. D., Trajera, S. M., & Ching, G. S. (2025). Adapting to change: Lived experiences of nursing students in rebuilding clinical confidence with limited face-to-face exposure. *Edelweiss Applied Science and Technology*, 9(2), 1353-1366.

Abou Hashish, E. A., Alsayed, S. A., Aljuhnaï, J. S., & Alshaikh, J. A. (2026). Exploring Nursing Students' Lived Experiences of Clinical Supervisors' Communication During Clinical Rotations: A Phenomenological Study. *Nursing Research and Practice*, 2026(1), 8755313.

Adams, S. N., Kater, K. A., Khan, A., & Sher, J. (2026). Development of a Case-Based Learning Framework for Medical Education: A Scoping Review. *Medical Science Educator*, 1-13.

Afaneh, T., Villamor, M. Y., Opinion, F., Hassan, N., & Mihadawi, M. (2023). *Exploring the gap between school of nursing theoretical foundations and clinical practice*. **Journal of Professional Nursing**, 49, 158-164. <https://doi.org/10.1016/j.profnurs.2023.10.002>

Ahangama, N. (2026). Designing assessments in the generative AI era: A tailored assessment framework for ICT tertiary education. *International Journal of Educational Technology in Higher Education*, 23(1), 9.

Alcasoda, J. J., Cutillas, A. L., & Sabella, R. O. (2025). Supervision strategies in managing stress of instructors due to inevitable academic overloads and pressures. *Environment and Social Psychology*, 10(6), 3824.

Alsadaan, N., & Ramadan, O. M. E. (2025). Barriers and facilitators in implementing evidence-based practice: a parallel cross-sectional mixed methods study among nursing administrators. *BMC nursing*, 24(1), 403.

students' clinical competence and confidence and their readiness to practice as professional nurses.

REFERENCES

Amin, S. M., El-Sayed, A. A. I., Othman, A. A., Ali, A. S., Elfeshawy, N. I., El-Sherbini, H. H., ... & Atta, M. H. R. (2025). Transforming nursing education: the power of educational leadership in optimizing time management and competency. *BMC nursing*, 24(1), 870.

Andayani, A., & Gunawan, P. (2025). Implementation of active learning based on problem-based learning to improve critical thinking ability of junior high school students. *Transformative Education Studies*, 1(2), 38-45.

Balouch, Z. U. L., Lashari, A. A., Pervaiz, A., Jatoi, D. K., & Anjum, S. (2023). Vocational training to empower incarcerated women: Unlocking the potentials behind the bars. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 20(1), 1124-1134.

Baker, C., Cary, A. H., & da Conceicao Bento, M. (2021). Global standards for professional nursing education: The time is now. *Journal of Professional Nursing*, 37(1), 86-92.

Bukhari, S. U. P., Butt, M. N., Ali, I., & Imran, A. (2025). An Inter-Industry Analysis Of English Communication Skills Valued By Employers In Pakistan: A Survey Of HR Managers And Recruiters. *Policy Research Journal*, 3(8), 90-105.

Buriro, S. A., Mirjat, M. A., Pathan, R. L., Chandio, I., Lashari, A. A., & Gul, H. (2023). Eco-Friendly pedagogies for STEM education: A review. *Journal of Namibian Studies: History Politics Culture*, 34(S2), 3018-3044.

Carreiro, E., Maccari, E. A., Scafuto, I. C., & Serra, F. (2026). Bridging theory and practice: an experiential learning framework for project management education and professional development. *Education+ Training*, 68(4), 501-524.

- Cheng, J., Wu, Y., Huang, L., Wu, Y., & Guan, Y. (2025). Integrating Kolb's experiential learning theory into nursing education: a four-stage intervention with case analysis, mind maps, reflective journals, and peer simulations for advanced health assessment. *Frontiers in Medicine*, 12, 1616392.
- Craddock, J., Sawyer-Simmons, P., Erickson, M., Laurent, P. S., & Sillevs, R. (2025). The exercise science practice model: A framework for integrating critical thinking, reflective practice, and professional reasoning in exercise science education. *International journal of higher education*, 14(6), 14.
- Craig, S., McConnell, H., Stark, P., Devlin, N., Claire, M., & Mitchell, G. (2025). A convergent mixed-methods evaluation of a Co-Designed evidence-based practice module underpinned by universal design for learning pedagogy. *Nursing Reports*, 15(7), 236.
- Fayyaz, S., Lashari, A. A., Rafiq, K., & Jabeen, N. (2023). Montessori teachers' communication effects on cognitive development of children. *Journal of Namibian Studies: History Politics Culture*, 33, 115-131.
- Da, K. (1984). Experiential learning. *Experience as the Source of Learning and Development*, 41.
- Daneshfar, M., & Moonaghi, H. K. (2025). The impact of clinical simulation on bridging the theory-practice gap in nursing education: A systematic review. *BMC Medical Education*, 25, 1216. <https://doi.org/10.1186/s12909-025-07790-8>
- Dzhumatovich, A. S., & Salimrouhi, E. (2025). Simulation-based education as a tool for enhancing the quality of medical education. *Journal of Preventive and Complementary Medicine*, 4(1), 45-59.
- Grosman, Y., & Kalichman, L. (2025). The intersection of sarcopenia and musculoskeletal pain: addressing interconnected challenges in aging care. *International Journal of Environmental Research and Public Health*, 22(4), 547.
- Han, S. J., Nagduar, S., & Yu, H. J. (2025). The impact of nursing students' clinical competence, anxiety and resilience on role transition during clinical practice. *BMC nursing*, 24(1), 1490.
- Hepburn, S. J., Fatema, S. R., Jones, R., Rice, K., Usher, K., & Williams, J. (2025). Preparedness for practice, competency and skill development and learning in rural and remote clinical placements: a scoping review of the perspective and experience of health students. *Advances in Health Sciences Education*, 30(3), 935-972.
- Jacobsen, M., Neutzling, N., Lorenzetti, L., Oddone Paolucci, E., Nowell, L., Clancy, T., ... & Lorenzetti, D. L. (2025). Examining graduate student perspectives on supervision and peer mentoring across four professional faculties. *Studies in Graduate and Postdoctoral Education*, 16(3), 356-373.
- Javahery, P., & Bavandi, Z. (2026). Kolb's experiential learning theory in action: fostering empathy and practical skills in language teacher education. *Reflective Practice*, 27(1), 30-44.
- Kane, S. J., Nowell, L., Bouchal, S. R., & Mccaffrey, G. (2025). Making sense of praxis within an evolving clinical context: A grounded theory of nursing student learning transfer. *Nurse education today*, 146, 106561.
- Karabacak, Ü., & Çelik, H. Y. (2025). Improving the psychomotor performance of student nurses using remote clinical skills practice: a mixed-methods study. *BMC nursing*, 24(1), 338.
- Khan, S. B., & Maart, R. (2025). Clinical assessment strategies for competency-based education in prosthetic dentistry. *Journal of dental education*, 89(3), 375-382.

- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.
- Kolb, D. A. (2014). *Experiential learning: Experience as the source of learning and development*. FT press.
- Komuhangi, G., Neuhaan, F., Louis, V. R., Ocan, M., Kinengyere, A. A., et al. (2025). *Efficacy of problem-based learning approach for teaching evidence-based practice in midwifery and nursing education: A systematic review*. BMC Nursing, 24, 1412.
- Komuhangi, G., Neuhaan, F., Louis, V. R., Ocan, M., Kinengyere, A. A., et al. (2025). *Efficacy of problem-based learning approach for teaching evidence-based practice in midwifery and nursing education: A systematic review*. BMC Nursing, 24.
- Lashari, A. A., & Umrani, S. (2023). Reimagining self-directed learning language in the age of Artificial Intelligence: A systematic review. *Grassroots (1726-0396)*, 57(1), 92.
- Lashari, A. A., Umrani, S., & Buriro, G. A. (2021). Learners' self-regulation and autonomy in learning English language. *Pakistan Languages and Humanities Review*, 5(2), 115-130.
- Lashari, A. A., Rizvi, Y., Abbasi, F. N., Kurd, S. A., Solangi, M. A., & Golo, M. A. (2023). Analyzing the impacts of social media use on learning English language. *Al-Qanṭara*, 9(4), 133-146.
- Li, H. (2025). Reflective practice for pre-service teachers' professional development. *SAGE Open*, 15(3), 21582440251363136.
- Luzipo, N. L., Shopo, K. D., & Van Waltsleven, R. (2026). Navigating Curriculum Changes: Evidence-Based Literature for Nurse Educators. *Nursing research and practice*, 1, 7609893.
- Makhmudov, U., & Sakkizboyev, I. (2026). Bridging Theory And Practice In Medical Education: Contemporary Teaching Methods And Practical Challenges. *Journal of Clinical and Biomedical Research*, 1(1), 132-136.
- Mani, Z. A. (2025). Transitioning to competency-based education in nursing: a scoping review of curriculum review and revision strategies. *BMC nursing*, 24(1), 1111.
- Martinez, M. E., & Gomez, V. (2025). Active learning strategies: a mini review of evidence-based approaches. *Acta Pedagogica Asiana*, 4(1), 43-54.
- Mathew, C., Mathew, J. C., & Philip, S. S. (2026). The Essential Role of Bedside Training in Undergraduate Medical Education: A Systematic Review. *The Journal of the Association of Physicians of India*, 74(3), 99-102.
- McCamey, D., Novak, K., Pasquale, C., Blount, T., Smetana, A., Kent, E., ... & D'Aoust, R. (2025). The critical role of clinical placement professionals in academic-practice partnerships for nurse education. *Journal of Professional Nursing*, 60, 67-70.
- Mir, A. H. (2025). Learner-centered pedagogies: Transforming education for the 21st century. *Journal of Accounting Research, Utility Finance and Digital Assets*, 3(4), 383-387.
- Mohebi, Z., Dehghan, A., Taghinezhad, A., Javanmardifard, S., & Bijani, M. (2025). Assessment of knowledge, attitudes, and performance of postgraduate nursing students regarding clinical reasoning and evidence-based nursing: a multicenter cross-sectional study in Iran. *BMC nursing*, 24(1), 288.
- Naryati, N., Hadi, M., Agung, R. N., & Fajarini, M. (2025). Challenges in clinical training for professional nurse students: A qualitative study. *Jurnal Keperawatan Padjadjaran*, 13(3), 281-292.
- Oshodi, T. O., & Sookhoo, D. (2025). Nursing students' perceptions of inadequate nurse staffing in the clinical learning environment—a systematic narrative review. *Nurse education in practice*, 82, 104221.

- Parvin, A. (2025). Comparative analysis of child development approaches across different education systems globally. *Journal of Humanities and Social Sciences Studies*, 7(4), 95-113.
- Pearson, M. C., & Shumway, J. (2025). Exploring the Impact on Faculty of the American Association of Colleges of Nursing's the Essentials: core competencies for professional nursing education. *Journal of Professional Nursing*, 57, 139-147.
- Peña, H. K. V. D., & Galigao, R. P. (2025). Future-proofing educational institutions: The influence of continuous professional development on leadership capacity and management excellence. *Future*, 4(3).
- Pham Thi, K. (2025). The relevance of John Dewey's pragmatism for educational innovation in contemporary Vietnam. *Cogent Education*, 12(1), 2510055.
- Praxmarer-Fernandes, S., Roditi, E., Katsoulas, T., Skela-Savič, B., Langins, M., Triantafyllou, C., & Breda, J. (2025). Strengthening Student Nurses' Clinical Learning in Greece Through Mentorship: Findings from a Narrative Review and a National Stakeholder Focus Group. *Nursing Reports*, 15(12), 445.
- Pu, Y., Xie, H., Fu, L., Zhang, X., Long, T., Su, X., ... & Feng, X. (2025). Self-efficacy as a mediator in the relationship between clinical learning environment and core nursing competence of intern nursing students: a multicentre cross-sectional study. *BMJ open*, 15(5), e094858.
- Rafferty, B., Mthimune, K., & Bimerew, M. (2023). Theory-practice gap: Nursing students' self-reported depth of understanding of bioscience and its relevance to clinical practice. *PLOS ONE*, 18(11), e0294319. <https://doi.org/10.1371/journal.pone.0294319>
- Roussi, E. H., Touzami, S., Aarrad, M., Barkat, A., & Laamiri, F. Z. (2026). Challenges to clinical nursing education in the Middle East and North Africa: a systematic review and meta-synthesis of qualitative studies. *BMC nursing*.
- Rudland, J., Ash, J., Barclay, L., Bloomfield, J., Bogossian, F., Byrne, K., ... & Chróinin, D. N. (2025). Rethinking clinical placements: A response to changing healthcare demands. *Focus on health professional education*, 26(1), 60-77.
- Sawalha, M. A., Alrabab'a, M. H., Elshatarat, R. A., et al. (2026). Systematic review of mapping-based teaching strategies in pediatric nursing education: Effects on learning outcomes among nurses and nursing students. *BMC Medical Education*, 26, 337. <https://doi.org/10.1186/s12909-026-08674-1>
- Sezer, E., Şen Olgay, S., Yıldız Çelik, H., Uğur, E., & Karabacak, Ü. (2026). Transformative experiential learning in psychomotor skill development: a model informed by international nursing students' learning experiences. *Frontiers in Medicine*, 13, 1796125.
- Sharpnack, P. A. (2025). Investing in academic-practice partnerships to improve academic and service outcomes for the complexities of professional practice. *Nursing Education Perspectives*, 46(3), 139-140.
- Siddiqui, A., Lashari, A. A., & Dahani, A. B. (2024). A critical appraisal on perspective relations between modernism and postmodernism: Highlighting the case of ELT pedagogical practices. *Journal of Arts and Linguistics Studies*, 2(1), 325-341.
- Singh, K., Alomari, A. M. A., Al Sayed, H. M., et al. (2025). Barriers and solutions to the gap between theory and practice in nursing services: A systematic review of qualitative evidence. *Nursing Forum*.

- Sumera, A. (2026). Learning Theories and Interprofessional Education. *Interprofessional Education and Collaborative Practice: Effective Clinical Supervision*, 1-28.
- Tambunan, E. H. (2024). Theory-practice gap during clinical learning: A descriptive qualitative study of nursing students' experiences and perceptions. *Journal of Caring Sciences*, 13(2), 74-81.
- Tang, Q., Guo, Y., Huang, R., Liu, G., & Zhang, B. (2026). Theory-practice gaps, factors and strategies in community nursing: A Knowledge-to-Action framework-guided qualitative study of interns' perspectives. *Nurse Education Today*, 166, 107215.
- Thinh, M. P. (2025). Bridging theory and practice: the role of experiential learning and mentorship in enhancing the transition from university to high-school teaching for pre-service English teachers. *Journal of Teaching and Learning*, 19(1), 195-213.
- Thomas, C., & Adha, Y. S. (2023). Strategies for bridging the theory-practice gap in nursing education from the perspective of nursing teachers, clinical nurses, and nursing students: A qualitative study. *Indian Journal of Continuing Nursing Education*, 24(1), 55-62.
- Ugwu, S. N., Ogbonnaya, N. P., Chijioke, V. C., & Esievo, J. N. (2023). Causes and effects of theory-practice gap during clinical practice: The lived experiences of baccalaureate nursing students. *International Journal of Qualitative Studies on Health and Well-being*, 18(1), 2164949. <https://doi.org/10.1080/17482631.2023.2164949>
- Wang, L., He, L. H., & Wan, J. H. (2025). Implementation of a guideline-based clinical practice teaching model to enhance learning and thinking abilities in undergraduate nursing students. *BMC nursing*, 24(1), 572.
- Wang, S., Liang, J., Zhang, X., Xiang, X., Song, L., Wu, X., ... & Zhang, L. (2025). Clinical nurses' evidence-based healthcare competence and associated factors: a regional cross-sectional study. *BMC nursing*, 24(1), 1091.
- Wong, K. K. (2025). Mentoring in higher education in China: A critical survey. *Mentoring & Tutoring: Partnership in Learning*, 33(4), 456-484.
- Xie, Y., Smith, J., & Davies, M. (2025). The evolution of critical thinking in Chinese education context: Policy and curriculum perspectives. *International Studies in Sociology of Education*, 34(4), 481-504.
- Yaghmour, S., Almalki, B., Almaghrabi, F., Alshehri, F., & Alshehri, J. (2025). Theory-Practice Gap Among Saudi Nursing Students and Interns: A Quantitative Study. *Perspectives in Psychiatric Care*, 2025(1), 2999678.
- Yardley, S., Teunissen, P. W., & Dornan, T. (2012). Experiential learning: Transforming theory into practice. *Medical Teacher*, 34(2), e102-e105. <https://doi.org/10.3109/0142159X.2012.643264>
- Yeates, P., Maluf, A., Kinston, R., Cope, N., Cullen, K., Cole, A., ... & Wong, G. (2025). A realist evaluation of how, why and when objective structured clinical exams (OSCEs) are experienced as an authentic assessment of clinical preparedness. *Medical Teacher*, 47(3), 458-466.
- Yousef, A., AbuRuz, M. E., et al. (2025). Bridging the theory-practice gap in nursing education through academic-clinical collaboration: A qualitative evidence synthesis. *BMC Nursing*.
- Zhu, H., Wu, Y., Wang, R., & Wu, L. (2025). Novice nurses' experience with an 'Attending Rounds' clinical case mentoring model: a phenomenological study. *BMJ open*, 15(11), e104101.