

Original Article



Theory-Practice Gap During Clinical Learning: A Descriptive Qualitative Study of Nursing Students' Experiences and Perceptions

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***Corresponding Author:**Evelyn Hemme Tambunan,
Email: evelyntambunan@unai.edu**Abstract****Introduction:** One of the main areas that contributes to clarifying the significance of nursing students' performance in the clinical context is clinical learning. However, the theory-practice gap has long been an issue for clinical learning for nursing students. This study sought to explore the experiences and perceptions of nursing student when applying theory into practice during their clinical learning.**Methods:** A descriptive qualitative study was conducted with 10 senior nursing students using face-to-face interviews. These interviews were audio-taped and transcribed verbatim and analyzed using a qualitative thematic analysis.**Results:** Three themes emerged upon analysis: academic contribution to the theory-practice gap, clinical environment contribution to the theory-practice gap, and effects of the theory-practice gap. Seven sub-themes emerged including educator contribution to the theory-practice gap, student contribution to the theory-practice gap, supporting facility contribution to the theory-practice gap, clinical instructor contribution to the theory-practice gap, clinical field contribution to the theory-practice gap, effects of the theory-practice gap to the academic field and effect of the theory-practice gap to the clinical field.**Conclusion:** This study provides an overview of experiences and perceptions of nursing students on theory-practice gaps during clinical learning. Further research using in-depth focus group interviews in a wider population may provide more explanatory and useful information for nursing education to better manage learning process.**Introduction**

Clinical learning is one of the key areas that helps elucidate the importance of nursing students' performance in the clinical setting. Nursing instructors, patients, personnel, and clinical wards are all part of the clinical setting.¹ The theory-practice gap, however, has long been an issue for nursing students' clinical learning, as numerous studies have shown.²⁻⁴ A definition of this would be a difference between what student nurses learn about nursing theory and practice in the classroom and what they encounter during their clinical rotation, for instance, and other nursing practice.⁵ Nurse educators now have to deal with a variety of day-to-day issues, including a fast evolving healthcare landscape, changing patient and student demographics, an explosion in technology, and the globalization of health care.⁶

Likewise in Indonesia, the context of bachelor nursing program, both academic and internship stages are expected to be clinical learning. In the academic stage, the classroom theory is combined with practice in laboratories and clinical settings in two semesters. On the other hand,

in the internship, also called the professional stage, students experience a professional adaptation process to be able to accept the gradual delegation of authority in providing nursing care. After attending professional nursing education, students are expected to be able to carry out the functions and roles as nurses by holding a Bachelor of Nursing degree (Skep Ners). A nurse with this degree is expected to be able to provide professional nursing care, provide health education, carry out advocacy functions, make legal and ethical decisions, and use the latest research results to improve nursing care.⁷ Clinical practice areas such as hospitals, health centers, maternity clinics, nursing homes and communities are the means for applying nursing care. The competency achievements that have been determined by the curriculum will be achieved through full learning experiences in the field or practice areas to achieve cognitive, skill and attitude competencies.^{8,9}

For many years, nursing science's largest issue has been acknowledged to be the gap between theory and clinical practice. Nursing educators, professionals, and clinical

nurses have made considerable efforts, yet there is still a large gap between theory and practice.¹⁰ The potential causes of the theory-practice gap have been the subject of numerous investigations. As an example, Ngozika Ugwu et al ascribed this disparity to the theoretical and practical course content as well as the inadequate communication between the educational setting and the clinical setting. Insufficient clinical instructors, insufficient instructional design, and their inefficient interface with the clinic have all been mentioned in other research.^{11,12} Furthermore, insufficient guidance for students and inconsistent instruction in both theory and clinical practice, as well as the primary reasons behind the discrepancy between theory and practice in education being a disregard for problem-solving techniques.¹³

Prior research has indicated that clinical environments have to incorporate clinical support systems that provide students with mentorship and assistance. Senior clinical staff members must supervise the students' work and provide them with clinical facilitators. Such support systems should act as gatekeepers, ensuring that students can perform successfully in the wards and appropriately integrate theory into practice.¹⁴ The maximum amount of time spent with the student as accompaniment is advised in order to reinforce theory integration in the clinical placements. Additionally, this accompaniment will prepare nursing students for a variety of challenges that they may encounter as professionals.^{15,16}

The combination of staff members aiding with clinical learning activities and interacting with students has not been properly utilized in approaches to improve student learning. Some of these approaches use either nurse faculty, link teachers and clinical faculty, or clinicians in such preceptorship, or both lecturer-practitioners. The primary challenge to these strategies seems to be the absence of assistance from other staff members in the clinical learning setting who are not explicitly tasked with promoting student learning.¹⁷ In order to enable theory-practice integration, the creation of a community of learning composed of clinicians, facilitators, and students who are led by explicit learning outcomes was recommended.¹⁸ Furthermore, it might be difficult for nurses to reconcile clinical scenario descriptions from textbooks with the realities of practice. However, a study that involved formative and summative assessments of nursing students by instructors and clinical facilitators noted a discrepancy between theory and practice. The observation made was that during clinical teaching and learning, students do not actively participate. Additionally, they are unable to make the connection between what they learn in the clinical learning environment and what they are taught in the classroom.¹⁹

The clinical reasoning and performance of nursing students in clinical practice are influenced by their experiences and perspectives. Experiences and perceptions of the theory-practice gap may be varied due

to differences in pedagogical approaches and healthcare environments.²⁰ The present study, which is among the first studies conducted in Indonesia, aims to expand the scope of the available information on the topic at hand by contributing results from a different geography and culture. Nevertheless, quantitative research may fall short in this regard because it may not be able to generate rich data, which is frequently the outcome of a thorough comprehension of the phenomenon. Consequently, it is important to have comprehensive understanding through qualitative research of the experiences and perceptions of nursing students on their clinical learning. Conversely, the most thorough and all-encompassing method for investigating experiences and perceptions is a qualitative method where participants discuss both their experiences and perceptions.²¹ Thus this study has aimed to investigate the nursing students experiences and perceptions on the theory-practice gap when applying theory into practice during clinical learning.

Materials and Methods

Design and Setting

This study design was a qualitative exploratory descriptive design that allowed the understanding of students' experiences and perceptions of theory-practice gap in clinical learning during their study and described them. Exploration involving semi-structured interviews from March 5 to April 4, 2023. The aim of this study was to respond to these two inquiries: What are the experiences and perceptions of Indonesian nursing students concerning the theory-practice gap during clinical learning? How does the theory-practice gap influence the clinical learning outcomes?

The results of the study were reported in accordance with the consolidated criteria for reporting qualitative research, or CO-REQ.²¹

Participants

Nursing students were recruited from one nursing school of a private university located in Bandung, Indonesia which offer bachelor nursing program. The students' class level was chosen using a purposive sampling technique. The precise number of individuals who fulfilled the inclusion criteria was chosen using the snowball sampling method as well. Nursing students who completed an 8-week clinical practicum during the second semester of the 2021/2022 academic year and the odd semester of the 2022/2023 academic year, as well as senior levels in a bachelor's program in nursing, were eligible to participate in the study provided they could communicate and understood its purpose. Excluded from consideration were nursing students who completed less than eight weeks of clinical practice in either of the two semesters they were allotted, or who did not engage in all assigned nursing departments. The clinical training was experienced at one of the private Teaching hospitals in Bandung, West Java. This hospital

is one of the largest tertiary health institutions which is the major clinical placement site for baccalaureate nursing programs which implement both primary and functional nursing systems. The roles and responsibilities of nursing staff as a preceptor have been determined based on agreements between the fields of education and clinical. This is in accordance with the accreditation demands of each institution, such as for basic clinical practice, the ratio is one to five and for advanced clinical practice is one to ten. In addition, clinical instructors both from educational and practical fields must have preceptorship certification, and in collaboration be responsible as a preceptor in clinical learning. Data were collected from March 21 to April 21, 2023.

Data Collection

Participants were recruited through the use of the purposeful sampling approach. Nursing students that underwent clinical learning as part of their academic program participated in this study. Once no more themes were emerging, data collection was discontinued. The interview guide was used to conduct interviews with ten participants. These participants were encouraged to talk about their experience and perceptions of theory-practice gap during clinical learning. Interview with general questions like “What is your perception of the theory-practice gap during clinical learning?” “How do you experience about this situation?” and “What do you think the environment of your clinical learning is like, what are its effects?” The exploratory questions like “What do you mean by that?” and “Can you explain this more?” were posed by the interviewer, or further interviews with certain participants were carried out, if required. Each interview lasted between 50 and 60 minutes and was audio recorded, which was based on how much experience they had about the theory-practice gap and what kind of perceptions they would have about the theory-practice gap during clinical learning. Face-to-face interaction were used for all semi-structured interviews by one well-trained researcher depending on participants convenience in a relaxed setting conversation. The data collection and analysis were conducted simultaneously. Each session concluded with the participants receiving a recap of the information that needed further explanation.

Data Analysis

Thematic analysis was used to analyze the data, and it got underway right after each discussion. The manual interpretation of the data followed the six procedures outlined by Braun and Clarke for theme analysis.²² The investigator began the process by familiarizing herself with the data by verbatim transcription of the recorded interviews, and continued with read the transcripts multiple times while paying close attention to the recorded data to comprehend the contexts, identify any mistranscribed passages, and make corrections using

field notes. Extracting meaning units from the transcripts was the next stage. By cutting the original text short while keeping the essential idea, the meaning units were reduced. Codes for the shortened versions were assigned later. A collection of codes was created to characterize sets of related categories. Themes started to emerge when the category groupings were refined. Every code found in the transcripts was examined by the research team. The researchers discussed any disagreements about the data analysis and used the majority rule to come to a consensus. During the last stage, the investigators wrote an elaborate summary of the results from the theme analysis. The results were described in narrative summaries, with English translations of the quotes. To make sure the meaning units, codes, and themes in the two languages were consistent, the investigator cross-referenced between Indonesian and English at all times. Member checking was carried out, whereby data or results are returned to participants to check for accuracy and resonance with their experiences and perceptions. Transcripts and audio recordings were reviewed to make sure the report appropriately captured the informant's comments, and any inconsistencies or subjectivity were communicated.²²

Trustworthiness

Throughout the investigation, the reliability, consistency, transferability, and credibility of the data were used to evaluate its trustworthiness.²³ Member checking throughout data collection helped to ensure the study's legitimacy by confirming that the concept was grasped and highlighting any areas that were overlooked or misunderstood. The Adventist University of Indonesia's experts in qualitative research and nursing education modified, tested, and evaluated the data collection method. This was done to achieve dependability, which is the degree to which similar results will be obtained if the study is repeated in the same context using the same population and methods. The comprehensive account of the research participants and the methodology employed were provided to guarantee the generalizability of the results, which includes the findings' transferability to different contexts. Additionally, the confirmability, which measures how well the researcher's motivation, prejudice, or interest are managed. Consequently, the study's results accurately reflect the participants' responses and are free of the researcher's conscious or unconscious bias. That was accomplished by providing a thorough explanation of the data analysis process, which began with a synopsis of the information contained in each interview question, followed by the extraction and condensing of meaning units and the assignment and combination of codes to produce categories and themes.

Results

In this study, ten nursing students from the Bachelor of Nursing program participated. The participants consisted

of two males and eight females where the mean age of participants was 21.7 years. They are all from the junior level of Bachelor Nursing program who have completed all requirements for both clinical practice 1 and 2.

Three themes and seven sub-themes concerning experiences and perceptions of bachelor nursing students regarding theory-practice gap during clinical learning were identified, which were shown in Table 1.

Academic Contribution

This theme addressed participants' experiences and perceptions to the theory-practice gap during their clinical learning. Through the detailed analysis of the interview data, it was found that the academic contribution to the theory-practice gap could be classified into three sub-themes: (1) educator contribution; (2) heavy workload clinical setting; (3) lack of equipment or procedural gap.

Educator Contribution

In carrying out clinical nursing practice, students witnessed that the theory taught by lecturers in the classroom sometimes couldn't be applied in practice. There are also expressions that the material taught refers to books or is bookish in nature. There are also students who feel that educators are less aware of current practices in clinical settings. The following excerpts were made regarding the matter:

"I feel that the theories taught by lecturers in class are sometimes different from what I find in the field. for example, how to bathe a patient... heee." (Participant No. 3)

"According to the book, as taught by our lecturers, it must be in accordance with what is written in the book. But when in practice, the graduate nurse said it wasn't like that." (Participant No. 6)

"There are also lecturers who in my opinion don't want to find out what the current practices are in hospitals. So what is taught is, well... just theory from books." (Participant No. 8)

Heavy Workload in Clinical Setting

Participants in this study reported a lack of communication between students and clinical instructors during clinical nursing practice. Students feel there is not enough time to ask questions or discuss with the clinical instructor about

procedures taught in the laboratory or classroom.

"I also noticed that friends were less willing to ask clinical instructors, perhaps because they were busy." (Participant No. 1)

"One time, when I wanted to ask a question, the graduate nurse who also served as a clinical instructor that morning, said that later when we're not busy, we'll discuss..." (Participant No. 2)

Lack of Equipment or Procedural Gap

A number of nursing students expressed differences between the instrumental equipment found in nursing schools and in the wards. Students are instructed in using sophisticated devices and equipment in the ward, however they are not available in the laboratory. Student expressed inadequate equipment in nursing laboratories prevents students from honing their skills in using sophisticated equipment in clinical settings. This misalignment caused students' difficult to integrate theory into practice as expressed by the following quotes:

"I once experienced that when I was about to install an IV pump for the first time, the graduate nurse asked me to help do it. I have never practiced it in a laboratory, there is such a tool, but it can't be used...heee" (Participant No. 9)

"The procedures that I have done in the laboratory cannot be applied in the practice area, yes, I hope that in the practice area I will do as taught by the nurses there." (Participant No. 8)

Clinical Environment

This theme explains the reasons that arise from the conditions of the clinical learning environment that contribute to the theory-practice gap. Through in-depth analysis, there are two things that contribute to the theory-practice gap which include: (1) clinical instructor contribution to the theory-practice gap; and (2) clinical field contribution to the theory-practice gap.

Clinical Instructor Contribution to the Theory-Practice Gap

The current study participants noticed that clinical instructors do not have enough time to supervise each student in integrating theory into practice. In addition, they require students to follow their routines when performing nursing practice. The quotations below reflect some of the observations regarding this matter.

"In my opinion, one of the reasons the theory-practice gap occurs is that clinical instructors are busy, they also work while being clinical instructors." (Participant No. 3)

"Yes...I just followed what was instructed by the nurse in the field, even though it wasn't what was taught in class by the lecturer." (Participant No. 5)

Clinical Field Contribution to the Theory-Practice Gap

According to the participants, students were not able to practice what they have studied in the classroom or lab because the clinical field did not allow them to

Table 1. Results: three themes and seven sub-theme

Theme	Sub-theme
Academic contribution	Educator contribution
	Heavy workload clinical setting
	Lack of equipment or procedural gap
Clinical environment	Clinical instructor contribution
	Clinical field contribution
Effects of the theory-practice gap	Effects to the academic field
	Effect to the clinical field

perform specific procedures unimpeded. Likewise, there are standard operating procedures in the clinical area that differ from the theory presented in the classroom. This contributes to the theory-practice gap as stated by participants.

“Yes indeed, we as nursing students feel less free to apply theory in practice. Only allowed to observe occasionally.” (Participant No. 6)

“I see there is a difference between the standard operating procedures here and the theory in the book, there are slight differences, such as the procedural steps.” (Participant No. 10)

Effects of the Theory-Practice Gap

Based on participants' perceptions, there are several effects due to the theory-practice gap during clinical nursing practice. The two fields, academic and clinical, are affected as covered by 2 sub-themes including: (1) effects of the theory-practice gap to the academic field; and (2) effects of the theory-practice gap to the clinical field.

Effects to the Academic Field

In the current study, participants reported that they are less competent to meet learning outcomes. Students are more likely to follow the habits carried out in clinical settings. In addition, participants consider the task of educators to be more difficult to improve the learning process which expects students to practice according to theory. The participant's expressions are as follow:

“I think, if I can't practice what has been taught in class, I might become less skilled after graduating.” (Participant No. 9)

“Yes, indeed...we have become accustomed to what graduate nurses do in the clinical field.” (Participant No. 1)

“In my opinion, it will be more difficult for lecturers to improve the habits they make when practicing in the clinical field.” (Participant No. 6)

Effects to the Clinical Field

The effects of the theory-practice gap to the clinical field noted by the participants is that the clinical instructors become overwhelmed in serving students to achieve learning demands according to the theory taught in the classroom. Statements regarding this matter were conveyed by participants as follows.

“Yes...sometimes instructors in the clinical field are overwhelmed with serving us students, especially if they want to explain why it's different from what the lecturer teaches.” (Participant No. 3)

Discussion

The study's findings revealed that there is a gap between theory and practice during clinical learning experienced by nursing students. In fact, there are two parts to nursing education: the theoretical side and the clinical side. On the one hand, theoretical components address the

knowledge and understanding imparted in the classroom. These elements give nursing students a foundation for understanding nursing history, ethics, diseases, and nursing procedures. Conversely, clinical learning seeks to enhance nursing's clinical competencies and qualities. Nursing students can put theory into practice in a clinical learning environment.²⁴ Studies have found that the significance of a nursing student's performance in a clinical setting is explained by clinical learning, which also gives students a chance to hone their professional identities, expand their knowledge, and apply their theoretical and practical knowledge in a clinical setting. As a result, clinical learning is essential in understanding new graduate nurses' preparedness for professional practice, particularly in light of the growing need for qualified nurses in the healthcare industries.^{25,26}

There seem to be several reasons influencing the theory-practice gap. The fact that theory is viewed as idealistic and decontextualized by students and that they only recognize its relevance after the fact is cause for concern, which the participants also encountered in this study.²⁷ On the other hand, one may argue that the theory-practice gap is just a product of time, something that students must accept until they have acquired enough knowledge and expertise to make the necessary connections.²⁸ Adults must be able to apply what they learn in the here and now, so that they may see the relevance of what they are being taught if they are to learn effectively.²⁹ Previous studies argue the theory-practice gap will never close since there are various kinds of knowledge at play. This is referred to a theoretical, or “know that,” information that is acquired from reading, and practical, or “know how,” knowledge that is acquired by firsthand experience with a problem.³⁰ This contradiction as it is made worse by theoretical ideas that are out of date where nursing theory can be rethought so that theory and practice can benefit from and enlighten one another. In addition, teachers and practitioners employ two distinct theoretical viewpoints on nursing, which causes a theory-theory divide rather than a theory-practice gap. In order to reconcile these two points of view, experiential knowledge is necessary, where the experiential knowledge is defined as the ability to reflect on events in order to obtain fresh perspective and comprehension of the experience.³¹

The current study's participants also reported clinical environment contribution to the theory-practice gap. Instructors can use the real-world experiences of their students as teaching points to help students make the connections between theory and practice.¹⁹ The interviewees' comments seem to indicate that there is clinical environment contribution in connection with the gap occurring. In this regard, instructors must be involved. While they possess clinical expertise, their ability to assist students in properly reflecting on their experiences is contingent upon their knowledge of the theory that students have been taught or their ability to impart it to them. On the other hand, in nursing education,

the availability of resources, such as the facilities and medical equipment required for practice is crucial.³² Many variables contribute to the acceleration of the gap between theory and practice, such as the absence of equipment in lab or clinical settings which makes it challenging for registered nurses and clinical mentors to instruct student nurses.¹⁵ Furthermore, research demonstrates that financial limitations on both education and healthcare settings compound the issue by making staff members feel hopeless and despondent about not having enough money, which leaves them with little time and energy to properly cater to the requirements of student nurses.³³

In line to the perception of participants in this study, where they saw that there was an effect of this theory-practice gap on both academic and clinical fields. Consequently, a number of studies have documented the detrimental effects that theory-practice gaps have on patients, nursing students, nursing practice, nursing education, and other healthcare professionals. Theory-practice gap affects the patients physically, psychologically and economically.³⁴ Another study reported that theory-practice gap reduces nursing students' confidence that leads to poor delivery of care. They also reported a nursing students' production of non-proficient and incompetent students and nurses.²⁸ Therefore, teachers play a crucial role in this process by giving students context, assisting them in applying theory to real-world scenarios, and building a bridge between the ideal and the real.³⁵ Techniques like problem-based learning, experiential learning, and reflection can be employed to promote this. But since these abilities require time to develop, regular, systematic facilitation of this process is necessary, ideally in a clinical setting.³⁶ Moreover, Length of placements and improved order of theory and practice were found to be critical components in closing the gap. Nevertheless, there is little empirical data to support the claim that these variables have an impact on the theory-practice gap. Before developing a strategy to better integrate nursing theory and practice, conclusive proof is required. The following phase of the research is adjusting four of the identified components and executing a four-way analysis of variance to determine which factors have a substantial impact on the theory-practice gap.³⁷ The following characteristics were chosen for investigation: length of placement; theory and practice sequencing; theoretical components delivered to students by a preceptor; and collaboration between preceptors and teachers regarding student instruction.³⁵

Conclusion

This study provides an overview of experiences and perceptions of nursing students on theory-practice gaps during clinical learning. This study findings support the idea that both academic and clinical environments have a contribution to the theory-practice gap. The experiences and perceptions on the academic and clinical contribution to the theory-practice gap is related to educator, student,

supporting facility, clinical instructor and clinical field contribution to the theory-practice gap. Expressed concerns have shown that the effects of theory-practice gap are related to both academic and clinical fields.

No study is without limitations, and the current study is no exception. The first limitation is the cross-sectional nature of the study, limiting the investigation into causal relationships. There is also a limitation of this qualitative research that may be the inability of the findings to be generalized. However, the results of this study can highlight the need to provide necessary support to nursing students in reducing the theory-practice gap that may be encountered in clinical learning. Further research using in-depth focus group interviews in a wider population may provide more explanatory and useful information for nursing education to better manage learning process.

Acknowledgments

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Competing Interests

There was no conflict of interest in this study.

Data Availability Statement

The datasets are available from the corresponding author on reasonable request.

Ethical Approval

This study was approved by the Ethics Committee Faculty of Nursing Science Universitas Advent Indonesia, Bandung Indonesia (code: ((No. 22/KEPK-FIK.UNAI/EC/III/23). Administrative permission was obtained from the head department of nursing school. Every participant provided written, voluntarily informed consent. The freedom to leave the research at any moment was guaranteed to the participants. The students' vulnerable positions were known to the researchers, particularly since their status as students might have deterred them from leaving. In order to give the students more chances to consent to or withdraw from the study, they were informed

Research Highlights

What is the current knowledge?

- The theory-practice gap experienced by nursing students' during clinical learning.
- Experiences and perceptions of the theory-practice gap may be varied.
- Pedagogical approaches and healthcare environments influence the experiences and perceptions.

What is new here?

- The academic environment contributes to the theory practice gap.
- The clinical learning environment contributes to the theory practice gap.
- Theory-practice gap affected on both academic and clinical learning.

before each interview that they would be questioned about their individual experiences and opinions regarding the theory-practice gap throughout their clinical learning. The identities of the students were kept private. The investigator kept the completed data forms securely. During the interview, none of the students expressed any uneasiness, and none of them made the decision to leave.

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References

1. Monaghan T. A critical analysis of the literature and theoretical perspectives on theory-practice gap amongst newly qualified nurses within the United Kingdom. *Nurse Educ Today*. 2015; 35(8): e1-7. doi: [10.1016/j.nedt.2015.03.006](https://doi.org/10.1016/j.nedt.2015.03.006)
2. Lee JE, Sim IO. Gap between college education and clinical practice: experience of newly graduated nurses. *Nurs Open*. 2020; 7(1): 449-56. doi: [10.1002/nop2.409](https://doi.org/10.1002/nop2.409)
3. Rantung J, Hemme Tambunan E. A phenomenological study of nursing students' experience in clinical practice when the post COVID-19 era. *Jurnal Gema Keperawatan*. 2023; 16(1): 137-49. doi: [10.33992/jgk.v16i1](https://doi.org/10.33992/jgk.v16i1)
4. Greenway K, Butt G, Walthall H. What is a theory-practice gap? An exploration of the concept. *Nurse Educ Pract*. 2019; 34: 1-6. doi: [10.1016/j.nepr.2018.10.005](https://doi.org/10.1016/j.nepr.2018.10.005)
5. Hemme Tambunan E. Technological challenges in online learning during COVID-19 pandemic: a focus group discussion exploring nursing students' perspectives. *Jurnal Ners*. 2023; 7(1): 399-407. doi: [10.31004/jn.v7i1.13489](https://doi.org/10.31004/jn.v7i1.13489)
6. Taskin Yilmaz F, Sabanciogullari S, Aldemir K. The opinions of nursing students regarding the nursing process and their levels of proficiency in Turkey. *J Caring Sci*. 2015; 4(4): 265-75. doi: [10.15171/jcs.2015.027](https://doi.org/10.15171/jcs.2015.027)
7. Asosiasi Institusi Pendidikan Ners Indonesia (AIPNI). Kurikulum Pendidikan Ners Indonesia Tahun. Jakarta: AIPNI; 2021.
8. McKenna L, Sommers CL, Rachmawaty R, Efendi F, Malik G, Davis J, et al. Postgraduate nurse education in Indonesia and Australia: a comparative analysis. *Nurse Educ Today*. 2023; 131: 105954. doi: [10.1016/j.nedt.2023.105954](https://doi.org/10.1016/j.nedt.2023.105954)
9. Feti JK. Perception of Nursing Students in the Gap Between Theory-Practice in Nursing Education [dissertation]. Nicosia: Turkish Republic of North Cyprus, Near East University Health Sciences Institute; 2019. p. 92. Available from: <http://docs.neu.edu.tr/library/6818596308.pdf>.
10. Ashktorab T, Hasanvand S, Seyedfatemi N, Salmani N, Hosseini SV. Factors affecting the belongingness sense of undergraduate nursing students towards clinical setting: a qualitative study. *J Caring Sci*. 2017; 6(3): 221-35. doi: [10.15171/jcs.2017.022](https://doi.org/10.15171/jcs.2017.022)
11. Bazrafkan L, Najafi Kalyani M. Nursing students' experiences of clinical education: a qualitative study. *Invest Educ Enferm*. 2018; 36(3): e04. doi: [10.17533/udea.iee.v36n3e04](https://doi.org/10.17533/udea.iee.v36n3e04)
12. Ngozika Ugwu S, Ogbonnaya NP, Chijioko VC, Esievo JN. Causes and effects of theory-practice gap during clinical practice: the lived experiences of baccalaureate nursing students. *Int J Qual Stud Health Well-being*. 2023; 18(1): 2164949. doi: [10.1080/17482631.2023.2164949](https://doi.org/10.1080/17482631.2023.2164949)
13. Nematollahi M, Bagherian B, Mehdipour-Rabori R, Farokhzadian J, Khoshnood Z, Navidi Z. Implementing the internship educational method, a step to reduce the gap between theory and practice, experience of undergraduate nursing students: a qualitative content analysis study. *J Qual Res Health Sci*. 2022; 11(4): 253-9. doi: [10.34172/jqr.2022.14](https://doi.org/10.34172/jqr.2022.14)
14. Zyoud RA. Theory-practice gap in nursing education at Arab American University. *Int J Res Educ Sci*. 2023; 9(2): 461-72. doi: [10.46328/ijres.3086](https://doi.org/10.46328/ijres.3086)
15. Saifan A, Devadas B, Daradkeh F, Abdel-Fattah H, Aljabery M, Michael LM. Solutions to bridge the theory-practice gap in nursing education in the UAE: a qualitative study. *BMC Med Educ*. 2021; 21(1): 490. doi: [10.1186/s12909-021-02919-x](https://doi.org/10.1186/s12909-021-02919-x)
16. Adha YS, Thomas C. 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*. 2023; 24(1): 55-62. doi: [10.4103/ijcn.ijcn_32_22](https://doi.org/10.4103/ijcn.ijcn_32_22)
17. Ferraz OL, Vidoni C, Boas MV. Bridging the gap between theory and practice: the impact of school-university partnership in a PETE program. *Sport Educ Soc*. 2021; 26(7): 788-99. doi: [10.1080/13573322.2020.1851182](https://doi.org/10.1080/13573322.2020.1851182)
18. Lindsay B. The gap between theory and practice. *Nurs Stand*. 1990; 5(4): 34-5. doi: [10.7748/ns.5.4.34.s41](https://doi.org/10.7748/ns.5.4.34.s41)
19. Jones A, Johnstone MJ. Managing gaps in the continuity of nursing care to enhance patient safety. *Collegian*. 2019; 26(1): 151-7. doi: [10.1016/j.colegn.2018.06.006](https://doi.org/10.1016/j.colegn.2018.06.006)
20. Mathisen C, Bjørk IT, Heyn LG, Jacobsen TI, Hansen EH. Practice education facilitators perceptions and experiences of their role in the clinical learning environment for nursing students: a qualitative study. *BMC Nurs*. 2023; 22(1): 165. doi: [10.1186/s12912-023-01328-3](https://doi.org/10.1186/s12912-023-01328-3)
21. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007; 19(6): 349-57. doi: [10.1093/intqhc/mzm042](https://doi.org/10.1093/intqhc/mzm042)
22. Clarke V, Braun V. Using thematic analysis in counselling and psychotherapy research: a critical reflection. *Couns Psychother Res*. 2018; 18(2): 107-10. doi: [10.1002/capr.12165](https://doi.org/10.1002/capr.12165)
23. Lincoln YS, Guba EG. *Naturalistic Inquiry*. 1st ed. Newbury Park, CA: SAGE Publications; 2018.
24. Drasiku A, Gross JL, Jones C, Nyoni CN. Clinical teaching of university-degree nursing students: are the nurses in practice in Uganda ready? *BMC Nurs*. 2021; 20(1): 4. doi: [10.1186/s12912-020-00528-5](https://doi.org/10.1186/s12912-020-00528-5)
25. Ziba FA, Yakong VN, Ali Z. Clinical learning environment of nursing and midwifery students in Ghana. *BMC Nurs*. 2021; 20(1): 14. doi: [10.1186/s12912-020-00533-8](https://doi.org/10.1186/s12912-020-00533-8)
26. Aven T. On the gap between theory and practice in defining and understanding risk. *Saf Sci*. 2023; 168: 106325. doi: [10.1016/j.ssci.2023.106325](https://doi.org/10.1016/j.ssci.2023.106325)
27. Arteaga E, Nalau J, Biesbroek R, Howes M. Unpacking the theory-practice gap in climate adaptation. *Clim Risk Manag*. 2023; 42: 100567. doi: [10.1016/j.crm.2023.100567](https://doi.org/10.1016/j.crm.2023.100567)
28. Bhatra M, Kaur S, Devnani M, Dhaliwal N, Ghai S, Kumar A. Perception and attitude of health care personnel regarding integration of nursing education and nursing services for patient care at a tertiary care center of northern India. *Hosp Top*. 2023; 101(3): 175-83. doi: [10.1080/00185868.2021.2002219](https://doi.org/10.1080/00185868.2021.2002219)
29. Shoghi M, Sajadi M, Oskuie F, Dehnad A, Borimnejad L. Strategies for bridging the theory-practice gap from the perspective of nursing experts. *Heliyon*. 2019; 5(9): e02503. doi: [10.1016/j.heliyon.2019.e02503](https://doi.org/10.1016/j.heliyon.2019.e02503)
30. Hemme Tambunan E, Kristiana D. Exploring nursing students' experiences on faculty caring behaviors in learning. *J Keperawatan Soedirman*. 2022; 17(2): 43-9. doi: [10.20884/1.jks.2022.17.2.5711](https://doi.org/10.20884/1.jks.2022.17.2.5711)
31. Salifu DA, Gross J, Salifu MA, Ninnoni JP. Experiences and perceptions of the theory-practice gap in nursing in a resource-constrained setting: a qualitative description study. *Nurs Open*. 2019; 6(1): 72-83. doi: [10.1002/nop2.188](https://doi.org/10.1002/nop2.188)
32. Abdullahi KO, Ghiyasvandian S, Hasanpour M. Theory-practice gap: the knowledge and perception of Nigerian nurses. *Iran J Nurs Midwifery Res*. 2022; 27(1): 30-4. doi: [10.4103/ijnmr.IJNMR_294_19](https://doi.org/10.4103/ijnmr.IJNMR_294_19)
33. Hemme Tambunan E, Renolita Sinaga R. Stress levels and coping strategy of nursing students in online learning during

- COVID-19 Pandemic. A mixed-methods study. *Invest Educ Enferm.* 2023; 41(2): 111-24. doi: [10.17533/udea.iev.v41n2e09](https://doi.org/10.17533/udea.iev.v41n2e09)
34. Kerthu HS, Nuuyoma V. Theory-Practice Gap: Challenges Experienced by Nursing Students at the Satellite Campus of a Higher Education Institution in Namibia. *Int J High Educ.* 2019; 8(5): 21-8. doi: [10.5430/ijhe.v8n5p21](https://doi.org/10.5430/ijhe.v8n5p21)
35. Parvan K, Shahbazi S, Ebrahimi H, Valizadeh S, Rahmani A, Jabbarzadeh Tabrizi F, et al. Nurses' lived experience of working with nursing students in clinical wards: a phenomenological study. *J Caring Sci.* 2018; 7(1): 41-5. doi: [10.15171/jcs.2018.007](https://doi.org/10.15171/jcs.2018.007)
36. Aliafsari Mamaghani E, Rahmani A, Hassankhani H, Saunders C, Dean S, Ferguson C, et al. Effective characteristics of Iranian nursing students in their relationship with clinical nurses. *J Caring Sci.* 2019; 8(3): 173-9. doi: [10.15171/jcs.2019.025](https://doi.org/10.15171/jcs.2019.025)
37. Bifttu BB, Dachew BA, Tiruneh BT, Ashenafie TD, Tegegne ET, Worku WZ. Effective clinical teaching behaviors views of nursing students and nurse educators at University of Gondar, Northwest Ethiopia: cross-sectional institution-based study. *J Caring Sci.* 2018; 7(3): 119-23. doi: [10.15171/jcs.2018.019](https://doi.org/10.15171/jcs.2018.019)