

Developing a Clinical Learning Model to Improve Nursing Students' Learning Outcomes

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ABSTRACT

Introduction: The utilization rate of the clinical learning model in Indonesia comprises the following: conferences (54.5%), bedside teaching (54.5%), clinic-tutorials (45.4%), journal percentage (45.4%), and case presentations (45.5%). As a result, this study aimed to improve nursing students' clinical learning outcomes in their ability to effectively address and resolve problems, make informed decisions pertaining to patient cases, and interact with patients and their families. **Methods:** This study employed an explanatory methodology with a quantitative approach as it elucidated the cause-and-effect relationship between variables. The study sample consisted of 45 nursing students who met the research criteria and conducted clinical practice at the Padang Pariaman Regional Hospital. The study employed total sampling as its sampling technique. **Results:** After the clinical learning model was implemented, the mean student clinical competency score increased from 24.51 to 26.33, according to the research findings. Similarly, the average student knowledge score also improved from 74.69 to 77.42 following the implementation of the clinical learning model. The study found a significant difference between the level of clinical proficiency students attained before and after the implementation of the clinical learning model ($p = 0.001$). Additionally, there was a substantial disparity in students' knowledge scores before and after the application of the clinical learning model ($p = 0.000$). **Conclusion:** The clinical learning models can improve student learning outcomes and the quality of education.

Keywords: *Clinical Learning Model; Learning Achievements; Nursing Department*

INTRODUCTION

Nursing clinical learning refers to the combined academic and professional education processes involved in nursing. The aim of clinical learning is to foster suitable attitudes and skills that are in line with the nursing profession's scope of practice (Cant, Ryan & Cooper, 2021). The utilization rates of the clinical learning model in Indonesia are as follows: conferences (54.5%), bedside teaching (54.5%), clinic-tutorials (45.4%), journal percentage (45.4%), and case presentations (45.5%).

The purpose of clinical learning is to provide students with the opportunity to apply the theoretical information they have gained in the classroom to practical settings in the medical world (Ama Amoo & Enyan, 2022; Chan *et al.*, 2021; Kurt & Eskimez, 2022; Ying *et al.*, 2023), to enable them to acquire genuine experience and develop professional competencies (Ezzeddine *et al.*, 2023; Fitzgerald *et al.*, 2023; Inocian *et al.*, 2022; Lee *et al.*, 2023), including intellectual (Heaton-Shrestha *et al.*, 2023; Kurt & Eskimez, 2022), technical (Liu *et al.*, 2023; Löfgren *et al.*, 2023; Ying *et al.*, 2023), and interpersonal skills (Chan *et al.*, 2021; Jaganath, Bimerew & Mthimunya, 2022). The aim of nursing clinical learning is to enhance the capacity and competence of nursing students as educators (Mathisen *et al.*, 2022), practitioners, administrators, and

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researchers (Fitzgerald *et al.*, 2023) in the nursing field. The objective is to cultivate proficient professionals who can remain informed of innovations and information, particularly in the field of medicine.

Learning techniques are crucial in the acquisition of information. Selecting the suitable learning method helps foster students' enthusiasm to participate in educational attempts. Learning methods serve as a mechanism for imparting educational content to students, facilitating their acquisition of the necessary skills and information. Effective learning methods have the potential to acquire these skills (Ama Amoo & Enyan, 2022; Löfgren *et al.*, 2023). This learning method is an educational strategy that includes theoretical instruction, practical application, and real-world clinical practice.

Common obstacles faced by nursing students in the clinical nursing learning process sometimes include a lack of practical experience owing to a shortage of cases, as well as students' hesitancy to directly perform nursing actions on patients, resulting in a constant need for guidance (Al-Osaimi & Fawaz, 2022; Ama Amoo & Enyan, 2022). Improving the experiential clinical learning model is crucial for enhancing student clinical learning outcomes, since it may have both beneficial and detrimental impacts. Ensuring precise clinical assessment of nursing students' performance is crucial for maintaining patient safety. Yet, evaluating nursing students in clinical settings is intricate due to the learning environment's complexity and the various domains of learning being evaluated (Hojat, 2024).

This study aims to enhance the clinical learning results of nursing students by employing a clinical learning model to address and resolve issues that arise with patients or their families, thereby improving nursing clinical learning outcomes.

METHODOLOGY

This study employed an explanatory methodology with a quantitative approach as it elucidated the cause-and-effect relationship between variables (Sugiyono, 2018). The research sample consisted of a subset of nursing students who fulfilled the research criteria and conducted clinical practice at the Padang Pariaman Regional Hospital. A total of 45 students were selected using a complete sampling technique. The variables examined in this study include student characteristics, observations, cognitive processes, learning behaviour, clinical learning models, and nursing clinical learning outcomes. The data collection process involved completing questionnaires and applying clinical learning methods to the students. Computerization was the method used to perform data processing.

The researchers employed data collection tools, specifically demographic data and questionnaires. Following the acquisition of a research permit letter, the researcher proceeded to handle the necessary paperwork at the hospital. Initially, researchers determined the learning outcomes and clinical learning achievements of students in the field through interviews and questionnaires. Subsequently, the researcher explained the advantages and overarching clinical learning model to the students, emphasizing its efficacy in improving learning outcomes within the clinic. During their practical training at hospitals, students implement this clinical learning model. After the students completed their clinical practice, we conducted a subsequent assessment to evaluate the learning outcomes they had gained from the learning model's implementation. For the duration of one month, the students participated in clinical practice at the hospital and conducted a study. After data collection was completed, the researchers conducted computerized data processing using SPSS.

Ethical Consideration

This research was approved by the Committee of Research Ethics of Universitas Negeri Padang, Indonesia with reference number No.44.01/KEPK-UNP/IV/2023 dated 28th August, 2023.

RESULTS

Respondent Characteristics

The characteristics of respondents in this study include the respondent's initials, gender, practice stage, and semester obtained from the questionnaire that was filled out by the respondent.

*Distribution of Respondents by Age***Table 1: Frequency Distribution of Nursing Students Based on Age at Padang Pariaman Regional Hospital (n=45)**

Age	Frequency	Percentage
19 years old	18	40
20 years old	4	9
21 years old	17	38
22 years old	6	13
Total	45	100

Based on the table above, students undergoing clinical practice at Padang Pariaman Regional Hospital in July–September 2023 have ages spread across all age limits, from 19 to 22 years. Nursing students aged 19 years have the largest number, namely 40%.

*Distribution of Respondents by Gender***Table 2: Frequency Distribution of Nursing Students Based on Gender at Padang Pariaman Regional Hospital (N=45)**

Gender	Frequency	Percentage
Female	38	84
Male	7	16
Total	45	100

Based on the table above, the majority of students undergoing clinical practice at Padang Pariaman Regional Hospital in July – September 2023 is female, namely 84%.

*Distribution of Respondents Based on Practice Stage***Table 3: Frequency Distribution of Nursing Students Based on Practice Stage at Padang Pariaman Regional Hospital (N=45)**

Type of Practice	Frequency	Percentage
Medical Surgical Nursing 1	22	49
Emergency Nursing	23	51
Total	45	100

Based on the table above, students who undergo nursing clinical practice at Padang Pariaman Hospital are spread over two practice stages. Practice stages include medical-surgical nursing 1 and emergency nursing. The highest number of students undergoing nursing clinical practice at the emergency nursing stage was 51%.

*Distribution of Respondents by Semester***Table 4: Frequency Distribution of Nursing Students Based on Semester Level at Padang Pariaman Regional Hospital (N=45)**

Semester	Frequency	Percentage
Semester 3	22	49
Semester 5	23	51
Total	45	100

Based on the table above, students who undergo nursing clinical practice at Padang Pariaman Regional Hospital only consist of two semesters spread into two practice stages. The highest number of students undergoing nursing clinical practice in semester 5 is 51%.

Clinical Learning Methods

The clinical learning methods studied were divided into conference methods, bedside teaching, and assignments in the form of case reports. The results of research regarding clinical learning methods for nursing

clinical practice students from July to September 2023 are as follows:

Table 5: Frequency Distribution of Applying the Conference method at Padang Pariaman Regional Hospital (n=45)

Category	Frequency	Percentage
Good	25	56
Less good	20	44
Total	45	100

Based on the table above, the experiences of students who underwent the conference method in clinical nursing practice activities at Padang Pariaman Regional Hospital can be classified into two categories. Students who did the conference well were 56%.

Table 6: Frequency Distribution of the Application of the Bedside Teaching Method at Padang Pariaman Regional Hospital (N=45)

Category	Frequency	Percentage
Good	24	53
Less good	21	47
Total	45	100

The table above categorizes the experiences of students who used the bedside teaching method in surgical clinical practice activities at Padang Pariaman Hospital into two groups. Students who apply the bedside teaching method well are 53%.

Table 7: Distribution of application of the Case Report Confirmation Method at Padang Pariaman Regional Hospital (n=45)

Category	Frequency	Percentage
Good	26	58
Less good	19	42
Total	45	100

Based on the table above, the experiences of students who undergo the case report assignment method in nursing clinical practice activities at Padang Pariaman Regional Hospital can be classified into two categories. Students who applied the case report assignment method well were 58%.

Clinical Learning Outcomes

Assessment of clinical learning outcomes for each student shows different results. Researchers used the Paired sample *t*-test statistical test to compare clinical learning outcomes before and after implementing the clinical learning model for nursing students at Padang Pariaman Regional Hospital.

Table 8: Average Clinical Competency of Students Before and After Implementing the Clinical Learning Model (N=45)

Variable	Average	N	Standard Deviation	P Value
Clinical competency before implementing the clinical learning model	24.51	45	2.34	0.001
Clinical competency after implementing the clinical learning model	26.33	45	2.66	

Based on the table above, it can be concluded that the average clinical competency of students before implementing the clinical learning model was 24.51 and after implementing the clinical learning model was 26.33. Based on statistical tests using the paired sample test, the *p* value is 0.001 (more than 0.05), which means that there is a significant difference in clinical competency achieved by students before and after the clinical learning model is applied.

Table 9: Average Student Knowledge Scores before and after Implementing the Clinical Learning Model (n=45)

Variable	Average	N	Standard Deviation	P Value
Knowledge score before applying the clinical learning model	74.69	45	1.92	0.000
Knowledge value before applying the clinical learning model	77.42	45	2.49	

The table above indicates that the average student knowledge score before and after the clinical learning model implementation was 74.69 and 77.42, respectively. Based on statistical tests using the paired sample test, a p value of 0.000 (< 0.05) was obtained, which means that there was a significant difference in students' knowledge scores before and after the clinical learning model was applied.

DISCUSSION

The role of clinical supervisors is very important to student learning achievement (Cant, Ryan & Cooper, 2021; Löfgren *et al.*, 2023; Mathisen *et al.*, 2022). A role is a set of behaviours expected of an individual in relation to his or her status in society. Clinical learning requires high motivation from a clinical supervisor to carry out his role according to the learning method (Akça & Berşe, 2023; Aljohani *et al.*, 2023). The learning method is a method for educating students in the clinic that allows educators to choose and apply educational methods that suit the goals and characteristics of students based on the learning concept framework (Cant, Ryan & Cooper, 2021). Padang Pariaman Regional Hospital frequently implements clinical learning methods such as conferences, bedside teaching, and case report assignments.

The study found that most participants were 19 years old, comprising 18 students (40%). This suggests that the students have advanced ages. The lowest percentage was 20 years old, with 4 students (9%). The age group 21–25 is the development phase of early adulthood, whose duties and developments include finding a suitable and enjoyable social group as well as taking responsibility for citizenship in accordance with the laws and social demands that apply in society (Splitgerber, Davies & Laker, 2021). This could imply that they are consistent with their decisions by making various efforts to achieve the best results, such as completing the questionnaire that the researchers gave them. Most of the students who undergo nursing clinical practice at Padang Pariaman Regional Hospital are female, namely 84%, spread across two practice stages, which include Medical surgical nursing 1 and Emergency nursing. Students who are undergoing emergency nursing clinical practice have the largest number, 51%. Students who undergo nursing clinical practice at Padang Pariaman Regional Hospital only consist of two levels: semester III and semester V. Additionally, there was a significant difference in students' knowledge scores before and after the application of the clinical learning model ($p = 0.000$).

The researchers of this study identified discrepancies in students' clinical practice scores (including attitude, knowledge, and competence ratings) before and after the introduction of the clinical learning model. The proactive strategy of implementing the clinical learning model aims to enhance the clinical learning outcomes of students engaged in clinical practice. However, this study differs from past literature and research as it takes into account differences in characteristics such as environment, culture, and language, as well as the learning experiences students have in the classroom and laboratory before they start clinical practice. Consequently, the results achieved are likewise divergent. Clinical learning is an essential element of health professional education (Chen *et al.*, 2023; Lee *et al.*, 2023; Splitgerber, Davies & Laker, 2021). The clinical setting significantly influences students' learning and professional growth; when they care for patients requiring extensive nursing interventions, they actively engage in learning through providing nursing care (Ab Latif, 2017). A comprehensive assessment is carried out to determine the extent to which the clinical learning process has been executed in accordance with the established plan (Chen *et al.*, 2021; Chen *et al.*, 2023; Löfgren *et al.*, 2023). Reporting serves as a means of conveying the assessment outcomes, while follow-up is a program that should be formulated according to the implications derived from the evaluation findings.

The research findings (Al-Osaimi & Fawaz, 2022; Jaganath, Bimerew & Mthimunye, 2022; Koldestam *et al.*, 2021; Kurt & Eskimez, 2022) indicate that the implementation of an integrated nursing clinical learning model with a clinical design, incorporating multiple learning methods, received highly favorable evaluations from students. The methods mentioned are as follows: conference (54.5%), BST (54.5%), second session clinical tutorial (45.4%), client care (36.4%), resume (72.7%), journal presentation (45.4%), and presentation cases

(45.5%). The *t* test results indicated a significant impact of the integrated clinical learning model on the quality of learning methods ($p = 0.006$; correlation = 43.2%).

The results of a preliminary study (Setiawan, Nurjannah & Astuti, 2019), from 10 respondents who had practiced, showed that the average results were structured clinical guidance by academic supervisors 1x/week and clinical supervisors 1.6 times/week. Nursing practice competency achievement was <80%. The low competency achievement resulted from a mismatch between the competency targets and the cases in the room, the absence of competency targets during practice, limitations in patient interactions, and the patient's refusal to receive student care.

The extent of support in the learning process can be demonstrated by analyzing the response rate of participants. The majority of respondents reported that clinical supervisors frequently implemented certain aspects of the conference clinical learning process. This statement encompasses the following elements: analyzing student readiness, addressing client challenges, facilitating student expression of viewpoints, examining client progress, formulating action plans for clients, outlining implementation strategies to be provided to clients, resolving client issues encountered by students, providing clarification, and posing inquiries. Students conduct the presentation, which concentrates on the challenges they face during their practical training. It addresses strategies for overcoming these obstacles and highlights unexpected events that may arise. The main focus is on understanding and addressing the core issues faced by the client. Additionally, alternative cases are prepared in cases where direct intervention is not feasible due to the client's circumstances. Indicators of bedside teaching include providing nursing care, discussing the learning process, evaluating students' comprehension, and conducting repeated demonstrations. The assignment methods encompass clinical assignments, written assignments, simulations, and games. In a clinical assignment, students practice their psychomotor abilities and develop their decision-making skills while adhering to moral and ethical standards. Written assignments in the nursing field involve a range of tasks (Jaganath, Bimerew & Mthimunye, 2022), including creating nursing plans (Cant, Ryan & Cooper, 2021; Demirelli & Karacay, 2024; Inocian *et al.*, 2022; Liu *et al.*, 2023; Mathisen *et al.*, 2022; Splitgerber, Davies & Laker, 2021), conducting case studies (Chen *et al.*, 2023), developing health education plans (Kurt & Eskimez, 2022), documenting processes (Akça & Berşe, 2023; Koldestam *et al.*, 2021; Löfgren *et al.*, 2023; Ordu & Çalışkan, 2023), generating visit reports (Cant, Ryan & Cooper, 2021; Chen *et al.*, 2023; Fitzgerald *et al.*, 2023), writing academic papers (Mathisen *et al.*, 2022), and recording student work notes based on field observations and practical experiences (Akça & Berşe, 2023; Ama Amoo & Enyan, 2022; Heaton-Shrestha *et al.*, 2023; Inocian *et al.*, 2022; Jaganath, Bimerew & Mthimunye, 2022; Kurt & Eskimez, 2022).

Simulations and games may use some models to facilitate the practice of certain tasks, such as conducting breast inspections, performing urine catheterization, and administering injections in a nursing context (Cant, Ryan & Cooper, 2021; Chen *et al.*, 2023; Löfgren *et al.*, 2023). An optimistic educational approach is expected to successfully accomplish the objectives of clinical learning. The objectives of clinical learning are to improve students' understanding of nursing science and concerns, promote the development and improvement of professional attitudes and abilities as nurses, and support the acquisition of professional adaptations or modifications in their future work settings.

The initial step in assessing the quality of clinical practice involves evaluating student satisfaction with the clinical experience. Subsequently, debriefing activities are carried out to elucidate the clinical learning goals and abilities that students must attain before participating in clinical practice. To improve the abilities of academic staff, we will provide training to clinical supervisors on nursing care and clinical guidance models. These models may be used to evaluate nursing students at the end of each practice session and provide them with helpful comments.

CONCLUSION

This study shows that there are significant differences in knowledge and clinical competence in students before and after implementing the clinical learning model. The results of this research can be a recommendation for supervisors in hospitals and educational institutions to improve the clinical competence of nursing students. The development of a structured Clinical Learning Model has shown promising results in enhancing nursing students' clinical learning outcomes. This model provides a framework for educators to optimize clinical teaching strategies and promote students' competency and confidence in clinical practice.

Conflict of Interest

The authors declare that they have no competing interests.

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REFERENCES

- Ab Latif, R., Dahlan, A., Ab Mulud, Z., & Nor, M. Z. M. (2017). The Comparison Between Concept Mapping Care Plan and Nursing Care Plan (Nursing Process). *Malaysian Journal of Medical Research (MJMR)*, 1(4), 45-50. <https://ejournal.lucp.net/index.php/mjmr/article/view/288>
- Akça, K., & Berşe, S. (2023). Nursing students' self-efficacy and clinical decision-making in the context of medication administration to children: A descriptive-correlational study. *Nurse Education in Practice*, 72, 103775.0020 <https://doi.org/10.1016/j.nepr.2023.103775>
- Al-Osaimi, D. N., & Fawaz, M. (2022). Nursing students' perceptions on motivation strategies to enhance academic achievement through blended learning: A qualitative study. *Heliyon*, 8(7). <https://doi.org/10.1016/j.heliyon.2022.e09818>
- Aljohani, K. A., Almarwani, A. M., Tubaishat, A., Awadh, A. A., & Aljohani, M. S. (2023). Nurse interns' experiences with the clinical learning environment and supervision. *Teaching and Learning in Nursing*, 18(4), e123-e128. <http://doi.org/10.1016/j.teln.2023.04.011>
- Amoo, S. A., & Enyan, N. I. E. (2022). Clinical learning experiences of nursing and midwifery students; a descriptive cross-sectional study. *International Journal of Africa Nursing Sciences*, 17, 100457. <https://doi.org/10.1016/j.ijans.2022.100457>
- Cant, R., Ryan, C., & Cooper, S. (2021). Nursing students' evaluation of clinical practice placements using the Clinical Learning Environment, Supervision and Nurse Teacher scale—A systematic review. *Nurse Education Today*, 104, 104983. <https://doi.org/10.1016/j.nedt.2021.104983>
- Chan, S. L., Lin, C. C., Chau, P. H., Takemura, N., & Fung, J. T. C. (2021). Evaluating online learning engagement of nursing students. *Nurse Education Today*, 104, 104985. <https://doi.org/10.1016/j.nedt.2021.104985>
- Chen, H. M., Liu, H. Y., & Chao, S. Y. (2021). The effects of web-based situational learning on nursing students' transfer of learning in clinical practice. *Nurse Education Today*, 105, 105052. <https://doi.org/10.1016/j.nedt.2021.105052>
- Chen, Y., Li, X., Zhao, J., Li, S., Dai, Y., & Zhou, Z. (2023). Effects of the mini-clinical evaluation exercise teaching mode based on nurse-faculty cooperation in Fundamentals of Nursing course: A quasi-experimental study. *International Journal of Nursing Sciences*, 10(3), 359-366. <https://doi.org/10.1016/j.ijnss.2023.06.013>
- Demirelli, E. G., & Karaçay, P. (2024). Factors associated with nursing students' online learning self-efficacy: A descriptive cross-sectional study. *Nurse Education Today*, 132, 106029. <https://doi.org/10.1016/j.nedt.2023.106029>
- Ezzeddine, N., Hughes, J., Kaulback, S., Houk, S., Mikhael, J., & Vickery, A. (2023). Implications of understanding the undergraduate nursing students' learning styles: A discussion paper. *Journal of Professional Nursing*, 49, 95-101. <https://doi.org/10.1016/j.profnurs.2023.09.006>
- Fitzgerald, C., Pagnucci, N., Kearns, T., Hallissy, M., Walsh, N., Kelly, C., ... & Aleo, G. (2023). The experience and attitudes of long-term care workers with teaching and learning modalities for the delivery of continuing professional development activities: a mixed-methods study. *Nurse Education in Practice*, 72, 103774. <https://doi.org/10.1016/j.nepr.2023.103774>
- Heaton-Shrestha, C., Ooms, A., Brady, M., Pedley, G., Bacon, I., Strong, S., & Dundas, J. (2023). Interventions to enhance the research productivity of academic staff in Higher Education Schools of Nursing: A systematic review.

Nurse Education in Practice, 103741. <https://doi.org/10.1016/j.nepr.2023.103741>

- Hojat, M. (2024). Improving clinical nursing education in, South of Iran 2016-2021: a cooperative action research study. *South African Journal of Higher Education*, 38(2), 141-156. <http://dx.doi.org/10.20853/38-2-5951>
- Inocian, E. P., Hill, M. B., Felicilda-Reynaldo, R. F. D., Kelly, S. H., Paragas, E. D., & Turk, M. T. (2022). Factors in the clinical learning environment that influence caring behaviors of undergraduate nursing students: An integrative review. *Nurse Education in Practice*, 63, 103391. <https://doi.org/10.1016/j.nepr.2022.103391>
- Jaganath, C., Bimerew, M., & Mthimunye, K. D. T. (2022). Nursing students' perceptions of the clinical learning environment at a university in South Africa. *International Journal of Africa Nursing Sciences*, 17, 100467. <https://doi.org/10.1016/j.ijans.2022.100467>
- Koldestam, M., Broström, A., Petersson, C., & Knutsson, S. (2021). Model for Improvements in Learning Outcomes (MILO): Development of a conceptual model grounded in caritative caring aimed to facilitate undergraduate nursing students' learning during clinical practice (Part 1). *Nurse Education in Practice*, 55, 103144. <https://doi.org/10.1016/j.nepr.2021.103144>
- Kurt, E., & Eskimez, Z. (2022). Examining self-regulated learning of nursing students in clinical practice: a descriptive and cross-sectional study. *Nurse Education Today*, 109, 105242. <https://doi.org/10.1016/j.nedt.2021.105242>
- Lee, T., Lee, S. J., Yoon, Y. S., Ji, H., Yoon, S., Lee, S., & Ji, Y. (2023). Personal Factors and Clinical Learning Environment as Predictors of Nursing Students' Readiness for Practice: A Structural Equation Modeling Analysis. *Asian Nursing Research*, 17(1), 44-52. <https://doi.org/10.1016/j.anr.2023.01.003>
- Liu, Y., Hu, H., Wang, L., Mao, Y., Yang, K., Ma, L., & Li, H. (2023). Medical education environment perception and learning engagement in undergraduate nursing students: The mediating effect of self-regulated learning ability. *Nurse Education in Practice*, 72, 103793. <https://doi.org/10.1016/j.nepr.2023.103793>
- Löfgren, U., Wälivaara, B. M., Strömbäck, U., & Lindberg, B. (2023). The nursing process: A supportive model for nursing students' learning during clinical education-A qualitative study. *Nurse Education in Practice*, 72, 103747. <https://doi.org/10.1016/j.nepr.2023.103747>
- Mathisen, C., Heyn, L. G., Jacobsen, T. I., Bjørk, I. T., & Hansen, E. H. (2022). The use of practice education facilitators to strengthen the clinical learning environment for nursing students: A realist review. *International Journal of Nursing Studies*, 134, 104258. <https://doi.org/10.1016/j.ijnurstu.2022.104258>
- Ordu, Y., & Çalişkan, N. (2023). The effects of virtual gaming simulation on nursing students' diagnosis, goal setting, and diagnosis prioritization: A randomized controlled trial. *Nurse Education in Practice*, 68, 103593. <https://doi.org/10.1016/j.nepr.2023.103593>
- Setiawan, A. H., Nurjannah, S., & Astuti, N. M. (2019). The Effectiveness of Clinical Learning Module on Competency Achievement of Nursing Students. *Indonesian Nursing Journal of Education and Clinic (Injec)*, 3(2), 84-89. <http://dx.doi.org/10.24990/injec.v3i2.200>
- Splitgerber, H., Davies, S., & Laker, S. (2021). Improving clinical experiences for nursing students in nursing homes: An integrative literature review. *Nurse Education in Practice*, 52, 103008. <https://doi.org/10.1016/j.nepr.2021.103008>
- Sugiyono. (2018). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta. <https://inlislite.uin-suska.ac.id/opac/detail-opac?id=22862>. Accessed on 22nd August, 2022
- Ying, W., Mingxuan, L., Qian, Z., Shuxian, Z., Yufang, G., & Kefang, W. (2023). The mediating role of professional commitment between the clinical learning environment and learning engagement of nursing students in clinical practice: A cross-sectional study. *Nurse Education Today*, 121, 105677. <https://doi.org/10.1016/j.nedt.2022.105677>