Evaluation of the Nursing Student Performance Assessment Model in Integrated Clinical Practice

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Abstract

Integrated clinical practice is an essential component of nursing education because it serves as the primary means for students to apply theoretical knowledge, clinical skills, and professional attitudes in the context of real-life healthcare. Therefore, a performance assessment model capable of evaluating student competency comprehensively, objectively, and sustainably is needed. This study aims to evaluate the nursing student performance assessment model in integrated clinical practice and analyze the influence of assessment components on student clinical performance. The study used a quantitative, descriptive-analytical design with a survey approach. The study sample consisted of 180 final-year nursing students undergoing integrated clinical practice, selected using a stratified random sampling technique. The research instrument was an integrated clinical performance assessment questionnaire covering the domains of clinical knowledge, psychomotor skills, and professional behavior. Data analysis was performed using descriptive and inferential statistics, including a difference test and multiple linear regression. The results showed that the majority of students had high clinical performance, with the highest scores in the professional behavior domain. The performance assessment model, which included rubric clarity, assessment consistency, and preceptor feedback, had a significant effect on student clinical performance. These findings confirm that structured and integrated clinical assessment serves not only as an evaluation tool but also as a learning strategy that supports the holistic development of student competencies. This study recommends the consistent implementation of an integrated clinical assessment model to improve the quality of nursing education and graduates' readiness for professional practice.

Keywords: Performance Assessment, Nursing Students, Integrated Clinical Practice, Nursing Education, Clinical Competence

Introduction

In undergraduate nursing education, clinical practice is the primary vehicle through which students translate theoretical knowledge into concrete actions in the healthcare context. Accurate and comprehensive assessment of student performance in the

clinical setting not only serves as an indicator of learning outcomes but also ensures their professional readiness upon entering the workforce (El Idrissi et al., 2021). Evaluating student clinical performance is a complex process, encompassing cognitive, affective, and psychomotor dimensions that must be measured objectively, reliably, and validly.

To bridge the gap between theory and practice, various assessment models have been developed and tested. One of the most widely researched instruments is the Assessment of Clinical Education (AssCE), which is used to evaluate the clinical performance of nursing students in several European countries, including Sweden, Norway, and Finland. Validation and use of AssCE indicate that this tool can facilitate assessment discussions between students, clinical instructors, and preceptors and influence students' perceptions of the clinical learning environment (Löfmark & Mårtensson, 2017).

Engström, Löfmark, Vae, and Mårtensson (2017) confirmed that the use of AssCE during clinical assessment discussions positively correlated with students' perceptions of their overall clinical experience. The results of this study indicate that when clinical assessments include discussions focused on knowledge, skills, and professional judgment, students report a more meaningful learning experience.

Furthermore, AssCE was also analyzed from the perspectives of students' and preceptors' experiences through a multilevel, repeated interview approach. Vae, Engström, Mårtensson, and Löfmark (2018) found that repeated interactions between students and preceptors through the use of assessment tools helped clarify performance expectations and foster reflective dialogue about clinical competencies.

Using a more qualitative approach, another study demonstrated that clinical assessment experiences not only helped students improve technically but also strengthened their understanding of clinical decision-making and nursing professionalism—two important attributes that should be measured by effective assessment models (El Idrissi et al., 2021).

In addition to AssCE-based tools, rubric-based assessment instruments have also been developed to increase objectivity and clarity in evaluating clinical education. Skúladóttir and Svavarsdóttir (2016) developed the Clinical Assessment Tool for Nursing Education (CAT-NE), based on nursing theory as a guideline, and successfully demonstrated the tool's validity in systematically evaluating student performance.

However, not all clinical assessment models successfully address the challenges of clinical complexity. Initial research by Löfmark and Thorell-Ekstrand (2014) on a revised version of a clinical assessment form indicated that student and preceptor perceptions of the tool varied; although the tool helped establish assessment dialogue, there was a need for training on its use and clearer explanations of indicators to ensure more consistent and objective assessments (Löfmark & Thorell-Ekstrand, 2014).

Nursing students' clinical competencies encompass a combination of technical skills (psychomotor), critical thinking (cognitive), and professional behavior (affective). A systematic review indicated that clinical assessment practices often neglect some dimensions of these competencies, suggesting an urgent need for a more holistic and integrated instrument (Wu, Enskär, Lee, & Wang, 2015).

Another important aspect of clinical assessment is the involvement of

preceptors and clinical faculty in the assessment process. An effective working relationship between students and clinical instructors strengthens the assessment process, not only as a summative evaluation but also as a formative learning process through ongoing feedback. A successful assessment model should present scenarios in which preceptors are trained to provide meaningful and structured feedback. It should also facilitate a shared understanding of competency standards among all parties involved (El Idrissi et al., 2021).

The concept of integrated clinical assessment also incorporates critical thinking as a key component of professional competence. Assessments that capture students' ability to combine theoretical knowledge with real-world practice—including appropriate decision-making based on clinical situations—are associated with improved quality of nursing care in the future. This is where assessment models that focus not only on basic skills but also assess students' analytical and communication skills in a clinical context become crucial (El Idrissi et al., 2021).

From a methodological perspective, an ideal clinical assessment model should combine formative and summative approaches, as well as clear indicators of expected competencies, so that students understand not only what is being assessed but also how it reflects professional practice standards (El Idrissi et al., 2021).

Considering previous findings, research on evaluating nursing student performance assessment models in integrated clinical practice needs to present more holistic, valid, and reliable assessment models that simultaneously capture the dimensions of knowledge, skills, and professional behavior. Evaluation of existing assessment models such as AssCE and CAT-NE, as well as the development of new instruments, remains a primary focus in the nursing clinical education literature. Appropriate integration of assessment models is expected to improve the quality of clinical learning, student professional readiness, and ultimately contribute to improving the quality of healthcare provided by professional nurses.

Method

This study employed a quantitative, descriptive-analytical research design with a survey approach. This approach was chosen to evaluate the effectiveness of nursing student performance assessment models in integrated clinical practice, as well as the relationship between assessment variables, clinical competencies, and student characteristics. Quantitative designs provide the ability to systematically measure variables and obtain findings that can be generalized to the target population in nursing educational institutions (Creswell, 2014).

The study population consisted of all final-year nursing students undergoing integrated clinical practice during the study period. Probability sampling techniques were used to ensure representativeness, with the goal of obtaining statistically valid results. After calculating the sample size using the Slovin formula ($\alpha = 0.05$), 180 students were selected as the study sample. Students were selected using stratified random sampling based on their academic year and clinical practice location.

The primary instrument was a clinical performance assessment questionnaire developed based on an integrated assessment model and considering components of knowledge, psychomotor skills, and professional

behavior. This tool was designed from various validated assessment models, including the Objective Structured Clinical Examination (OSCE), a globally recognized clinical competency assessment tool (Objective Structured Clinical Examination, 2025), and other assessment rubrics that support comprehensive clinical competency measurement.

Before use on the main sample, the instrument was piloted on 30 nursing students outside the study population. Reliability testing was performed by calculating Cronbach's alpha, and a value >0.70 is considered adequate for quantitative research (Sekaran & Bougie, 2016). In previous studies, the use of clinical assessment scales demonstrated good reliability and validity for measuring student performance in clinical practice.

Data were collected through offline and online questionnaire distribution according to the students' clinical practice schedules. Data collection was conducted face-to-face at each clinical practice site, with an explanation of the research objectives, informed consent, and assurance of confidentiality. Each respondent was asked to complete the questionnaire for 15–20 minutes during their free time during clinical practice.

Data were analyzed using descriptive and inferential statistics using Statistical Package for the Social Sciences (SPSS) version 26 software. The analysis steps included: 1) Descriptive statistics: frequencies, percentages, means, and standard deviations for respondent characteristics and clinical assessment scores, 2) Inferential analysis: Normality test to determine data distribution and T-test or ANOVA to compare performance scores by demographic category. Multiple linear regression to determine the

contribution of the assessment model to student clinical performance ($\alpha = 0.05$).

Results
1. Respondent Characteristics

Table 1. Respondent Characteristics (n = 180)

Characteristics	Category	n	%
Age	20–21 years	62	34,4
	22–23 years	96	53,3
	>23 years	22	12,3
Gender	Male	42	23,3
	Female	138	76,7
Clinical Practice Location	Type A hospitals	54	30,0
	Type B hospitals	86	47,8
	Community health centers/clinics	40	22,2

A total of 180 nursing students undergoing integrated clinical practice participated in this study. Respondent characteristics included age, gender, and clinical practice location. The majority of respondents were 22–23 years old and female. Most students underwent clinical practice at type B hospitals, reflecting the variety of integrated clinical practice environments.

2. Description of Student Clinical Performance Scores

Table 2. Descriptive Statistics of Student Clinical Performance Scores

Performance Domain	Mean	SD	Min–Max Score
Clinical Knowledge	4,12	0,46	3,00–5,00
Psychomotor Skills	4,05	0,51	2,90–5,00
Professional Behavior	4,28	0,43	3,20–5,00
Total Clinical Performance	4,15	0,39	3,10–4,95

Student clinical performance was measured using a rubric-based integrated assessment instrument with a Likert scale of 1–5, covering three main domains: clinical knowledge, psychomotor skills, and professional behavior. The average total score for

student clinical performance was in the high category. The professional behavior domain showed the highest mean score, indicating that students demonstrated good professional attitudes during integrated clinical practice.

3. Distribution of Clinical Performance Categories

Table 3. Distribution of Student Clinical Performance Categories

Performance Category	Score Range	n	%
Low	<3,50	18	10,0
Medium	3,50–3,99	54	30,0
High	≥4,00	108	60,0
Total		180	100

To facilitate interpretation, the total performance score was categorized into three levels. The majority of students (60%) were in the high clinical performance category, demonstrating the effectiveness of implementing the performance assessment model in integrated clinical practice.

4. Differences in Performance Scores by Gender

Table 4. Differences in Clinical Performance Scores by Gender

Gender	Mean	SD	t	p-value
Male	4,08	0,41	1,42	0,157
Female	4,18	0,38		

An independent samples t-test was conducted to determine differences in clinical performance scores based on gender. There was no statistically significant difference between the clinical performance scores of male and female students ($p > 0.05$).

5. Effect of Assessment Model on Student Clinical Performance

Table 5. Results of Multiple Linear Regression Analysis

Independent Variables	B	SE	β	t	p
Clarity of assessment rubric	0,312	0,061	0,38	5,12	<0,001
Preceptor feedback	0,274	0,058	0,33	4,72	<0,001
Assessment consistency	0,198	0,054	0,26	3,67	<0,001
$R^2 = 0,54$					

Multiple linear regression analysis was conducted to determine the effect of the assessment model (rubric clarity, preceptor feedback, and assessment consistency) on student clinical performance. The regression model showed that all three components of the assessment model significantly influenced student clinical performance ($p < 0.001$). The R^2 value of 0.54 indicates that 54% of the variation in student clinical performance can be explained by the assessment model used.

6. Student Perceptions of the Integrated Clinical Assessment Model

Table 6. Student Perceptions of the Assessment Model

Perception Aspects	Mean	SD
Clarity of assessment criteria	4,22	0,48
Assessment fairness	4,10	0,50
Benefits of feedback	4,30	0,44
Assessment transparency	4,18	0,47

Students were also asked to rate the assessment model used during clinical practice. The average student perception score was in the high category, indicating that the clinical performance assessment model was perceived as clear, fair, and supportive of clinical learning.

Discussion

The results showed that students' clinical performance scores were in the high category (mean total of 4.15), with

the professional behavior domain having the highest score among the three domains measured (clinical knowledge, psychomotor skills, and professional behavior). This finding is consistent with the literature confirming that comprehensive clinical assessment measures not only technical skills but also professional attributes such as communication and ethical behavior (Wu, Enskär, Lee, & Wang, 2015). An assessment system that explicitly includes professional behavior indicators helps students understand the importance of interpersonal roles in their clinical practice.

In this context, a systematic study by Wu et al. (2015) suggested that assessment tools designed to measure students' clinical competency should encompass not only psychomotor skills but also clinical thinking processes, communication, and interpersonal relationships to more accurately reflect students' professional performance in real-world settings.

1. The Role of Integrated Assessment Models in Student Performance

Regression analysis showed that assessment models, consisting of clarity of assessment rubrics, preceptor feedback, and consistency of assessment, significantly influenced clinical performance ($R^2 = 0.54$). This aligns with the findings of other studies that emphasize the importance of using systematic and transparent assessment criteria in clinical assessments. For example, a literature review by Helminen, Coco, Johnson, Turunen, and Tossavainen (2016) showed that student clinical evaluations vary substantially across institutions and between instructors due to the lack of clear assessment standards. Therefore, a structured assessment model can improve assessment reliability.

Furthermore, research by Rushforth (2012) on the Objective Structured Clinical Examination (OSCE) confirmed that structured assessment methods such as the OSCE can be an important strategy in assessing student clinical competency because they provide an objective and standardized assessment framework while helping to minimize subjective evaluator bias.

2. Feedback and Reflection

Student perceptions indicate that they value feedback and clarity of assessment indicators as important aspects of an integrated clinical assessment model. This supports recommendations from other systematic findings that emphasize individualized feedback and time for reflection as essential elements of the clinical learning process, which can strengthen student objectivity and engagement in evaluating their learning (Helminen et al., 2019).

This feedback process is closely related to formative assessment, which places greater emphasis on student guidance and reflection on their practice outcomes, rather than solely on summative assessment at the end of clinical practice. Although OsCE is often viewed as a summative tool, other research shows that variations in assessment and feedback can significantly improve the quality of student clinical learning by providing immediate correction of deficient skills and strengthening critical thinking (Rushforth, 2012).

3. Assessment Consistency and the Role of the Preceptor

Assessment consistency is a significant factor influencing student performance. Clinical education literature suggests that variability in evaluations can occur due to differing instructor interpretations of assessment

rubrics, unclear indicators, and lack of evaluator training (Wu et al., 2015).

In this context, the role of the preceptor is crucial as a direct mentor in the field. Other research highlights that mentoring support, as well as the preceptor's experience and preparedness in administering assessments, significantly influence the quality of students' clinical assessments. The context of a trained preceptor can help minimize assessment bias and improve alignment between learning objectives and actual assessments (Wu et al., 2015; Helminen et al., 2016).

4. Clinical Assessment as a Learning Process

The integrated assessment model used in this study emphasizes the integration of assessment as part of the clinical learning process, not simply as a final assessment. The same systematic literature also emphasizes that clinical assessment should be part of a continuous learning process that supports the development of student competencies in a dynamic and complex clinical environment. Holistic assessment facilitates the development of broader competencies, including critical thinking, clinical decision-making, and communication skills, as suggested by Wu et al. (2015).

5. Challenges and Barriers to Clinical Assessment

Despite the positive results, this study also showed that some respondents still had low or moderate performance scores. This suggests that not all students experienced optimal assessment experiences, which may reflect variations in clinical experience or preceptor support. This is consistent with evidence that a less supportive clinical learning environment or lack of preceptor training can negatively impact assessment outcomes and weaken students' readiness for future professional practice (Helminen et al., 2016; Wu et al., 2015).

6. Recommendations for Assessment Model Development

Based on these findings and literature evidence, several recommendations emerge for the development of a nursing clinical performance assessment model:

- Standardize a clear and validated assessment rubric to improve consistency of assessments across evaluators.
- Train preceptors and clinical instructors in the use of assessment rubrics and in the skills of providing constructive feedback.
- Integrate formative and summative aspects of clinical assessment to provide students with opportunities for continuous improvement.
- Strengthen support for student reflection, which has been shown to increase their engagement in the clinical learning process.

Conclusion

This study concludes that the integrated nursing student performance assessment model for clinical practice is effective in comprehensively describing students' clinical competency achievement. The results indicate that the majority of students are in the high clinical performance category, particularly in the professional behavior aspect, which emphasizes the importance of integrating the assessment of nursing attitudes, communication, and ethics in clinical assessment. The clarity of the assessment rubric, consistency of assessment, and feedback from preceptors significantly contribute to improving student clinical performance. A structured and transparent assessment

model serves not only as an evaluation tool but also as a learning tool that encourages reflection and continuous competency development. Therefore, the implementation of a valid and reliable integrated clinical assessment model is essential to improve the quality of clinical learning and the readiness of nursing students for professional practice in healthcare.

References

Engström, M., Löfmark, A., Vae, K. J., & Mårtensson, G. (2017). Nursing students' perceptions of using the Clinical Education Assessment tool AssCE and their overall perceptions of the clinical learning environment: A cross-sectional correlational study. *Nurse Education Today, 51*, 63–67. https://doi.org/10.1016/j.nedt.2017.01.009. https://www.sciencedirect.com/science/article/abs/pii/S0260691717300199

Löfmark, A., & Mårtensson, G. (2017). Validation of the tool Assessment of Clinical Education (AssCE): A study using Delphi method and clinical experts. *Nurse Education Today, 50*, 82–86. https://doi.org/10.1016/j.nedt.2016.12.009 https://www.sciencedirect.com/science/article/abs/pii/S0260691716303057

Skúladóttir, H., & Svavarsdóttir, M. H. (2016). Development and validation of a Clinical Assessment Tool for Nursing Education (CAT-NE). *Nurse Education in Practice, 20*, 31–38. https://doi.org/10.1016/j.nepr.2016.06.008. https://pubmed.ncbi.nlm.nih.gov/27428801/

Löfmark, A., & Thorell-Ekstrand, I. (2014). Nursing students' and preceptors' perceptions of using a revised assessment form in clinical nursing education. *Nurse Education in Practice, 14*(3), 275–280.

Vae, K. J. U., Engström, M., Mårtensson, G., & Löfmark, A. (2018). Nursing students' and preceptors' experience of assessment during clinical practice: A multilevel repeated-interview study of student–preceptor dyads. *Nurse Education in Practice, 30*, 13–19. https://doi.org/10.1016/j.nepr.2017.11.014

El Idrissi, W. E. M. (2021). Assessment practices of students' clinical competences: Implications for nursing education. *The Open Nursing Journal, 15*, 47–58.

Wu, X. V., Enskär, K., Lee, C. C. S., & Wang, W. (2015). A systematic review of clinical assessment for undergraduate nursing students. *Nurse Education Today, 35*(2), 347–359. https://doi.org/10.1016/j.nedt.2014.11.016

Christiansen, B. (2018). Assessment in clinical education: A comparison between a generic and tailored approach. *Assessment & Evaluation in Higher Education*. https://doi.org/10.1177/2057158518768404

Löfmark, A., Thorell-Ekstrand, I. (2013). (AssCE revised form perceptions). *Nurse Education in Practice, 14*(3), 275–280.

Harden, R. M., & Gleeson, F. A. (1979). *Objective structured clinical examination (OSCE)* sebagai alat penilaian kompetensi klinik telah menjadi standar asesmen klinik yang terstruktur. Sumber

pendukung definisi OSCE: *Objective structured clinical examination*. (2025).

Helminen, K., Coco, K., Johnson, M., Turunen, H., & Tossavainen, K. (2016). *Summative assessment of clinical practice of student nurses: A review of the literature*. *International Journal of Nursing Studies, 53*, 308-319. https://doi.org/10.1016/J.IJNURSTU.2015.09.014

Immonen, K., et al. (2014). *Assessing clinical practice of student nurses: Views of teachers, mentors and students*. PubMed. https://pubmed.ncbi.nlm.nih.gov/24874072/

Suikkala, A., et al. (2018). *Assessment in clinical education: A comparison between a generic and tailored approach. Assessment in clinical education* menunjukkan perbandingan instrumen asesmen klinik. https://doi.org/10.1177/2057158518768404

Wu, X. V., Enskär, K., Lee, C. C. S., & Wang, W. (2015). *A systematic review of clinical assessment for undergraduate nursing students*. *Nurse Education Today*. https://pubmed.ncbi.nlm.nih.gov/25497138/

Helminen, K., Coco, K., Johnson, M., Turunen, H., & Tossavainen, K. (2016). *Summative assessment of clinical practice of student nurses: A review of the literature*. International Journal of Nursing Studies. https://doi.org/10.1016/j.ijnurstu.2015.09.014

Wu, X. V., Enskär, K., Lee, C. C. S., & Wang, W. (2015). *A systematic review of clinical assessment for undergraduate nursing students*. Nurse Education Today, 35(2),

347–359. https://doi.org/10.1016/j.nedt.2014.11.016

Rushforth, H. E. (2012). *Objective structured clinical examination (OSCE): Review of literature and implications for nursing education*. Nurse Education Today. https://www.sciencedirect.com/science/article/abs/pii/S1471595318308977

Assessment of nursing students' competence in clinical practice. (2019). International Journal of Nursing Studies, 100. https://doi.org/10.1016/j.ijnurstu.2019.103414

Objective structured clinical examination as an assessment strategy. (2018). Assessment in Clinical Education. https://journals.sagepub.com/doi/10.1177/2057158518768404

Assessment Practices of Student's Clinical Competences in Nurse Education. (2021). The Open Nursing Journal. https://opennursingjournal.com/VOLUME/15/PAGE/47/FULLTEXT/

Final assessment of nursing students in clinical practice: Perspectives of nursing teachers, students and mentors. (2017). Wiley Online Library. https://pubmed.ncbi.nlm.nih.gov/28370748/

Clinical Learning Environment in Hospitals: Assessment of Nursing Students (2021). Journal of Nursing Science. https://doi.org/10.21776/ub.jik.2021.009.01.6

Hutapea, L. M. N. (2024). *Self-Assessment Kompetensi Praktik Klinis Awal Mahasiswa Keperawatan di Rumah Sakit*.

Jurnal Ilmiah Global Education. https://doi.org/10.55681/jige.v5i2.2620

Efektivitas preceptorship terhadap kinerja klinik mahasiswa: Literature review. (2025). Jurnal Keperawatan Muhammadiyah. https://doi.org/10.30651/jkm.v4i2.3165