

Effects of Objective Structured Clinical Examination on Clinical Competency and Self-Efficacy among Nursing Students

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ABSTRACT

Objective: To compare the effectiveness of Objective Structured Clinical Examination to Traditional Method of Assessment in improving nursing students' clinical competency (clinical judgment and procedural accuracy) and self-efficacy.

Study Design: Comparative study

Place and Duration of Study: This study was conducted at the Rawal College of Nursing and Professional College of Nursing in Islamabad from 1st September 2025 to 31st December 2025.

Methods: 126 bachelors of nursing students were split into two groups of 63 students each. Participants were assessed by Objective Structured Clinical Examination or traditional assessments (written/oral/practical test).

Results: Objective Structured Clinical Examination participants demonstrated clinical competency (68.3% exceeding expectations vs. 20.6%; $p=0.012$) and higher procedural accuracy (3.32 ± 0.569 vs. 2.1 ± 0.871 ; $p=0.003$). Also, both groups showed improvement, but the Objective Structured Clinical Examination group showed a significantly higher increase in self-efficacy ($p=0.000$) than the traditional group. Independent t-tests showed Objective Structured Clinical Examination to be a more effective means for improvement of clinical competence ($p=0.003$) and student confidence.

Conclusion: Objective Structured Clinical Examination method is much more successful than conventional assessment methods in enhancing the clinical performance and confidence of students.

Key Words: Objective Structured Clinical Examination (OSCE), Clinical competency, Self-efficacy, Nursing education, Competency based assessment

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INTRODUCTION

A nurse educator role in assessing practical skills in nursing education is an area of great importance that relates theory and safe and competent care of patients.¹ The nursing student must learn several complex clinical skills for positive outcomes in health and safety to the public.² The status quo of the hands on-tests has been serving as a standard for evaluating these skills for decades. The typical evaluation method is to have the student demonstrate a skill to an evaluator, or ensure that they can do it under evaluation conditions.³ However, in the recent years, the practical exam model has been found to be restrictive in the context of changing demands of healthcare.

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The formats are accused by critics of being subjective and that there is a great variation with regard to how examiners use them.⁴

Furthermore, conventional strategies rarely include soft, but important skills, such as effective communication and spontaneous problem solving.⁵ Traditional exams can set up an artificial exam setting and approach, perhaps resulting in memorization or rote learning instead of the extensive clinical judgment required in practice.⁶ The one size fits all approach may also disadvantage those who perform best in an iterative or project learning environment, as it may provide undue performance pressure for pupils who are not adequately assessed with regard to their actual ability.⁷ Given these limitations, there has been recognition of a need for a more complex alternative, the Objective Structured Clinical Examination.⁸ During an OSCE, students move to different stations that are all time limited and have been carefully set up to assess a particular clinical skill or competency.

The OSCE consistently has been shown to be an objective and more uniform and equitable way to assess performance.⁹ The OSCE emphasizes practical decision making over mere recall, and provides students with a simulation of a variety of clinical scenarios to prepare

them for the complexities of real-world practice.¹⁰ The OSCE can measure a wide range of professional skills, whereas conventional assessments may focus on just one.¹¹ The implementation of OSCE-based assessment is not without its difficulties, however, even with the advantages.¹² Implementing a high-quality OSCE is costly, and requires specific equipment, space for stations, and extensive faculty training. It continues to be a topic of contention as to its cost effectiveness, especially in contexts of limited resources.¹³ Considering these controversies, this study will compare the efficiency of OSCE and conventional practical examinations in assessing the competencies of the nursing students in relative terms.¹⁴ The research uses an interventional design to assess the effect of both methods on student's clinical skills, communication and confidence.¹⁵

METHODS

This quasi-experimental pre-test/post-test was conducted at Rawal College of Nursing and Professional College of Nursing in Islamabad from 1st September 2025 to 31st December vide letter No. UOL/IREB/25/11/0014 dated August 22, 2025 which included 126 students of 2nd, 3rd and 4th year of BSN program with simple random sampling technique. The researcher used a validated Self-Efficacy Scale to monitor students' technical skills and a standardized 10-item Competency Assessment Rubric to monitor students' confidence levels to measure the impact of the OSCE intervention. To avoid learning effect, the participants were randomly allocated to taking both examination formats one week apart. Informed consent and anonymity were maintained in the process,

ensuring adherence to ethical standards. The data was analyzed using SPSS-25 and inferential tests such as paired and independent t-tests to assess whether the structured OSCE had a significant effect on the clinical judgment and procedural accuracy when compared with traditional OSCE.

RESULTS

There were females more than that of males and 26.9% in the 2nd year of their Bachelor of Science in Nursing program, 39.8% in the 3rd year and 42% in the 4th year (Table 1). There was no significant difference between the clinical judgment of the students in the traditional method groups, whereas there was a statistically significant difference between the clinical judgment of the students in the OSCE method groups (11.9±2.245, 18.4±2.374) (p=0.002). The between group analysis (p=0.012) additionally shows that the OSCE intervention is greater than traditional formats (Table 2).

Table No. 1: Demographic data of the study participants (n=126)

Variable	No.	%
What is your age in years?		
18 to 23	83	65.9
24 to 29	43	34.1
What is your gender?		
Male	55	43.7
Female	71	56.3
What year of study are you in?		
2 nd Year	34	26.9
3 rd Year	50	39.8
4 th Year	42	33.3

Table No. 2: Comparative analysis of clinical judgment scores

Assessment Method	Pre-Test	Post-Test	Within-Group (p-value)*	Between-Group (p-value)**
TMOA Method	12.3±2.561	14.1±6.143	0.397	0.012
OSCE Method	11.9±2.245	18.4±2.374	0.002	

Paired t test and independent t test with p<0.05

Table No. 3: Comparative analysis of procedural accuracy scores

Assessment Method	Pre-Test	Post-Test	Within-Group (p-value)*	Between-Group (p-value)**
TMOA Method	1.95±0.771	2.1±0.871	0.110	0.003
OSCE Method	1.91±0.918	3.32±0.569	0.008	

Paired t test and independent t test with p<0.05

Table No. 4: Comparative analysis of self-efficacy scores

Assessment Method	Pre-Test	Post-Test	Within-Group (p-value)*	Between-Group (p-value)**
TMOA Method	22.3±7.081	29.2±7.496	0.041	0.003
OSCE Method	20.6±7.014	39.8±5.700	0.000	

Paired t test and independent t test with p<0.05

The traditional approach yielded a very small and inconsequential improvement in procedural accuracy measures ($p=0.110$). The OSCE method resulted, in contrast, in a substantial increase from 1.91 ± 0.918 to 3.32 ± 0.569 ($p=0.008$), indicating its effectiveness in improving technical skills. The p value of 0.003 between groups is again evidence that OSCE assessment is better at obtaining higher and more consistent procedural competence (Table 3). There was a significant increase in students' confidence using the OSCE method compared with a traditional method ($p=0.000$). The final post test scores for the OSCE group 39.8 ± 5.700 were significantly higher ($P=0.003$) than the traditional group 29.2 ± 7.496 (Table 4).

DISCUSSION

In the present study, female to male ratio was 56.3% indicating that majority of the students were females, consistent with nursing graduates in the region of Pakistan where 62% of graduates were female. The consistency between the regional demographics validates the findings of this study as representative of the young, female dominated workforce that is currently the hallmark of the nursing profession in the region.¹⁶ These results from Pakistan suggest that the shift to nursing for younger students is "volatile" but this may not be true in contexts where older adults make nursing a second career choice. Traditional assessment methods like oral vivas may lack rigor, whereas the structured, time-constrained nature of OSCEs better tests higher-order critical thinking by simulating real-world hospital pressures.¹⁷ The OSCE is superior, as statistical analysis confirmed with a p -value of 0.012 for clinical judgment, and the accuracy rates were significantly higher (66.7% vs 20.6%), with OSCE's standardized checklists more effectively evaluating the technical skills than clinical judgment, and without inter-rater variability.¹⁸ In contrast to conventional examinations that are subject to rater bias, the OSCE requires students to learn all the micro-steps and move from a passive textbook learning mode to an active skill practice mode by Rushforth.¹⁹ This is because the OSCE aims to assess functional and not merely recalled knowledge. The term 'wash back effect' is used to describe OSCE's ability to enhance the pre-exam clinical reasoning, with Scully²⁰ noting that Australian nursing students remembered 30% more clinical protocols than their counterparts on traditional practical tests.

Positional arguments by Jarvis and Harrison²¹ claim the OSCE is "reductionist," as they believe it will focus on technical skills rather than the comprehensive care and stamina needed for a dynamic 8-hour shift in a nursing role. Nursing educators should consider that while the OSCE effectively assesses micro-skills, it is best paired with longitudinal placements to support student self-efficacy and overall professional success.²² Reflecting

Bandura's social cognitive theory, the study found the OSCE approach significantly boosted self-efficacy ($p=0.000$) with 73.0 % of students scoring high versus 25.4% in the traditional group because the simulated "mastery experiences" provide the confidence and proof needed for real-world clinical practice.²³ While abstract exams lack the same impact, the OSCE's high-stress environment can actually diminish self-efficacy for some; therefore, Conde and Clemente²⁴ suggest nursing programs should provide mock OSCEs and ample practice to ensure results reflect clinical ability rather than mere stress management. Lim and colleagues²⁵ suggest that self-efficacy is primarily driven by time spent on hospital wards rather than the assessment method itself. Consequently, while the OSCE is highly effective, it should be viewed as a catalyst that works in conjunction with hands-on clinical experience.

Significant OSCE improvement ($p=0.002$) compared to traditional methods ($p=0.397$) confirms a "wash back effect" where structured assessments actively develop clinical judgment and diagnostic reasoning rather than just measuring them.²⁶ Procedural transparency and the OSCE's structured design act as a scaffold for professional clinical judgment, while standardized checklists as seen in Vincent's research - help "equalize" student skills by narrowing the competency gap and reducing performance variance.²⁷ While traditional observation leads to high variance in technique, the OSCE ensures consistent technical expertise across all students, though Emails and Concannon note that its intense, "unreal" setting can negatively impact cognitive performance for those prone to test anxiety.²⁸ In contrast to the current study, where the OSCE group excelled argue its high-pressure setting may negatively impact cognitive performance ($p < 0.05$), potentially measuring stress resilience rather than pure clinical ability.²⁸

CONCLUSION

The OSCE is more effective in improving nursing students' performance and self-efficacy than traditional teaching. In the area of clinical judgment, all OSCE participants consistently scored in the "Exceeds Expectations" range, whereas the traditional groups were in the basic standard range for the majority. Indeed, students assessed using OSCE scored significantly higher and had a more consistent procedural accuracy, not only this but they also had a greater level of confidence. The OSCE is clearly structured and has a strong focus on feedback, which is an integral part of the development of skills. Thus, OSCE is highly recommended for inclusion in the nursing curriculum since it can develop graduates in clinical practice.

Author's Contribution:

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Drafting or Revising Critically:	Muhammad Jawad Khan, Azeem Kaleem, Muhammad Saifullah
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Agreement to accountable for all aspects of work:	All the above authors

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