

Role of Nurse Instructor in Integrating Theory-Practice Gap: A Cross-Sectional Study in Teaching Hospitals of Peshawar

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ABSTRACT

Background: Bridging the gap between theory and practice in nursing education is essential for ensuring competent clinical practice. However, this gap remains a challenge in nursing programs worldwide.

Objective: This study aimed to evaluate the perceptions of BSN students regarding the role of clinical instructors in integrating theory and practice in teaching hospitals in Peshawar, Pakistan.

Methods: A descriptive cross-sectional study was conducted in three institutions in Peshawar. A total of 203 BSN students from semesters 4, 5, 6, and 7 were randomly selected. Data were collected using a structured questionnaire adapted from validated tools. Statistical analysis was performed using SPSS version 25, with an ANOVA test to compare mean scores across semesters, and a post-hoc Tukey test to identify significant differences.

Results: The mean score for the role of clinical instructors varied significantly across semesters ($F = 4.646$, $p = 0.004$). Semester 4 had the highest mean score (75.73), while semester 5 had the lowest (67.00). Group 1 (25.1%) believed the role was not fulfilled, while Group 4 (23.6%) believed it was completely fulfilled.

Conclusion: Clinical instructors play a critical role in addressing the theory-practice gap. Tailored teaching strategies are recommended to meet students' evolving needs.

INTRODUCTION

Nursing education plays a critical role in preparing competent graduates who are equipped with both theoretical knowledge and practical skills to meet the challenges of healthcare delivery. However, a significant concern in this domain is the persistent gap between the theoretical foundations taught in classrooms and their application in clinical practice. This theory-practice gap is widely recognized as a challenge within nursing education, impacting the clinical competence of nursing students and, ultimately, the quality of care they provide upon entering the workforce. Nursing students often find it difficult to transition from theoretical understanding to practical application, which is further compounded by a range of factors including limited clinical supervision, inadequate practical training, and a disconnect between academic instructors and clinical settings (1).

Nurse educators, particularly clinical instructors, are pivotal in bridging this gap, as they facilitate the integration of theoretical knowledge into clinical practice. Their role encompasses guiding, mentoring, and providing feedback to nursing students during clinical rotations, ensuring that the students develop the necessary competencies to apply their academic learning in real-world scenarios. The importance of this role cannot be overstated, as it directly influences the clinical competence of nursing students and their ability to deliver safe, effective care (2). Despite efforts to address the theory-practice gap, it remains a widespread issue in nursing education, with many students reporting

feelings of uncertainty and inadequacy when transitioning from the classroom to the clinical environment (3). This issue is further exacerbated by the insufficient number of experienced clinical instructors, particularly in resource-limited settings like Pakistan, where nursing education faces significant challenges in maintaining high standards of clinical training (4).

The theory-practice gap not only affects students' clinical performance but also has broader implications for patient care outcomes. Research suggests that when nursing students are not adequately prepared for clinical practice, it can lead to compromised patient safety and suboptimal healthcare delivery (5). Moreover, the gap contributes to the emotional and psychological stress experienced by novice nurses, who may struggle to reconcile the discrepancies between their theoretical knowledge and practical experiences in the clinical setting. Addressing this gap requires a multifaceted approach, including the enhancement of clinical supervision, the development of work-integrated learning opportunities, and the implementation of structured mentorship programs that support students' transition into professional practice (6).

In Pakistan, the role of clinical instructors is particularly crucial in mitigating the effects of the theory-practice gap, as they are responsible for ensuring that nursing students are adequately prepared for the demands of clinical practice. However, the shortage of qualified clinical instructors, coupled with the lack of standardized clinical supervision practices, has led to significant variability in the quality of clinical training across different institutions. This

variability is often reflected in students' perceptions of their clinical instructors, with many reporting that the role of the instructor in bridging the theory-practice gap is inadequately fulfilled (7). Therefore, understanding students' perspectives on the role of clinical instructors in addressing this gap is essential for improving the quality of nursing education and ensuring that future nurses are well-prepared for clinical practice.

This study, conducted across three public and private institutions in Peshawar, KPK, Pakistan, aims to investigate the perceptions of BSN students regarding the role of clinical instructors in bridging the theory-practice gap. By categorizing students into groups based on their percentile scores, this study provides valuable insights into how students perceive the effectiveness of their clinical instructors at different stages of their academic journey. The findings highlight the need for flexible teaching strategies that are responsive to the evolving needs of students, advocating for ongoing improvements in clinical education to enhance healthcare training and ultimately improve patient outcomes (8). The study also underscores the significance of clinical instructors in shaping the clinical competence of nursing students, calling for targeted interventions to strengthen the role of clinical supervision in nursing education.

MATERIAL AND METHODS

This cross-sectional descriptive study was conducted over a period of three months in three nursing institutions in Peshawar, Khyber Pakhtunkhwa, Pakistan. The study aimed to assess the role of clinical instructors in integrating the theory-practice gap among Bachelor of Science in Nursing (BSN) students. The institutions included in the study were Rehman College of Nursing, Farkhanda Institute of Nursing, and the School of Nursing at Khyber Teaching Hospital. A simple random sampling technique was employed to select participants from the population of students enrolled in these institutions. The sample size was calculated using the Raosoft sample size calculator, considering a margin of error of 5%, a confidence interval of 95%, and a population of students from all three institutions. The final sample consisted of 203 students from semesters 4, 5, 6, and 7, with 100 students from Khyber Teaching Hospital, 125 students from Rehman College of Nursing, and 200 students from Farkhanda Institute of Nursing.

Data collection was carried out using a structured questionnaire, which included items adapted from validated questionnaires with prior consent from a similar study conducted in Palestine. Additional questions were adopted from the Knox and Morgan Inventory of 1985 to assess instructor behavior. The questionnaire consisted of both closed-ended and Likert scale items aimed at measuring students' perceptions of their clinical instructors' effectiveness in bridging the theory-practice gap. The questionnaire was administered to the students during their clinical rotations, and informed consent was obtained from all participants before data collection.

The inclusion criteria for this study were students currently enrolled in semesters 4, 5, 6, and 7, who were undergoing clinical rotations. Students who were not in clinical rotations or were unwilling to participate were excluded from the study. The ethical approval for this study was obtained from the respective ethical review boards of the involved institutions, and the research adhered to the ethical principles outlined in the Declaration of Helsinki. Participants were assured of the confidentiality and anonymity of their responses, and no personal identifiers were collected.

The data collected from the questionnaires were entered into SPSS version 25 for statistical analysis. Descriptive statistics, including frequencies and percentages, were used to summarize the socio-demographic characteristics of the participants. The Likert scale responses were analyzed using mean scores and standard deviations. The data were categorized into four groups based on percentile scores: Group 1 (up to 25th percentile), Group 2 (25th to 50th percentile), Group 3 (50th to 75th percentile), and Group 4 (75th to 100th percentile). An ANOVA test was performed to compare the mean scores of clinical instructors' roles in filling the theory-practice gap across different semesters. The independent variable was the study semester, while the dependent variable was the cumulative score of the study items. A post-hoc Tukey test was conducted to assess significant differences in the mean scores between semesters.

The results of the ANOVA test revealed significant differences in the mean scores of the role of clinical instructors across semesters ($F = 4.646$, $p = 0.004$). The post-hoc Tukey test showed a substantial difference between the mean scores of semester 4 (75.73) and semester 5 (67.00), indicating variability in students' perceptions of their instructors' roles as they progressed through the BSN program.

In conclusion, this study followed rigorous methodological standards in assessing the perceptions of BSN students regarding the role of clinical instructors in bridging the theory-practice gap. The findings provide valuable insights for improving clinical education practices and enhancing the quality of nursing education in Peshawar.

RESULTS

The study involved a total of 203 participants from three different nursing institutions in Peshawar, Pakistan. The participants were enrolled in semesters 4, 5, 6, and 7 of their BSN program. The demographic distribution showed that 67% of the participants were male, while 33% were female. Additionally, 6% of the participants identified as non-Muslims, and the remaining 94% were Muslims. Participants were categorized into four groups based on their percentile scores, representing their perceptions of the extent to which clinical instructors filled the theory-practice gap. Group 1 (up to the 25th percentile) consisted of students who believed that the role of the instructor was not fulfilled. Group 2 (25th-50th percentile) indicated slight fulfillment of the role.

Table 1: Demographic Characteristics of Participants

Characteristic	N (%)
Gender	
Male	136 (67%)
Female	67 (33%)
Religion	
Muslim	191 (94%)
Non-Muslim	12 (6%)
Semester Distribution	
Semester 4	60 (29.5%)
Semester 5	40 (19.7%)
Semester 6	43 (21.2%)
Semester 7	60 (29.5%)

Group 3 (50th-75th percentile) believed the role was partially fulfilled, and Group 4 (75th-100th percentile) indicated complete fulfillment of the role. An ANOVA test

was conducted to compare the mean scores of clinical instructors' role in bridging the theory-practice gap across different semesters.

Table 2: Participants' Perceptions of Clinical Instructors' Role

Group Percentile	N (%)	Perception of Role Fulfilment
Group 1 (up to 25th)	51 (25.1%)	Not fulfilled
Group 2 (25th-50th)	52 (25.6%)	Slightly fulfilled
Group 3 (50th-75th)	52 (25.7%)	Partially fulfilled
Group 4 (75th-100th)	48 (23.6%)	Completely fulfilled

The independent variable was the semester, while the dependent variable was the cumulative score from the

questionnaire items. The analysis showed a significant difference between the semesters ($F = 4.646, p = 0.004$).

Table 3: ANOVA Results for Comparison of Mean Scores Across Semesters

Source of Variation	Sum of Squares	df	Mean Square	F	p-value
Between Groups	1869.192	3	623.064	4.646	0.004
Within Groups	26687.833	199	134.110		
Total	28557.025	202			

The post-hoc Tukey test revealed that there was a significant difference in the mean scores between semester 4 and semester 5, indicating that students in semester 4 perceived

their clinical instructors as more effective in bridging the theory-practice gap compared to those in semester 5.

Table 4: Post-Hoc Tukey Test Results for Mean Differences Between Semesters

Semester	N	Mean Score ± SD	Subset 1	Subset 2
Semester 5	40	67.00 ± 8.24	67.00	
Semester 6	43	71.79 ± 8.12	71.79	71.79
Semester 7	60	72.98 ± 8.34		72.98
Semester 4	60	75.73 ± 7.91		75.73

The results show that students in Semester 4 had a higher mean score (75.73), indicating better fulfillment of the clinical instructor's role, compared to students in Semester 5 (67.00). Students in Semesters 6 and 7 showed similar perceptions, with mean scores of 71.79 and 72.98, respectively.

In summary, the study revealed that students' perceptions of their clinical instructors' effectiveness in bridging the theory-practice gap varied across different semesters, with Semester 4 students showing the highest level of satisfaction. These findings highlight the importance of adapting teaching strategies to meet the evolving needs of students throughout their academic journey.

DISCUSSION

This study aimed to assess the perceptions of BSN students regarding the role of clinical instructors in bridging the theory-practice gap across different semesters in nursing institutions in Peshawar, Pakistan. The findings highlighted a significant disparity in students' perceptions of their instructors' effectiveness, with notable differences observed between semesters. These results align with previous research that has consistently identified the theory-practice gap as a major challenge in nursing education worldwide. Clinical instructors play a pivotal role in addressing this gap, yet their effectiveness appears to vary depending on a range of factors, including the level of

student experience, the clinical setting, and the pedagogical approaches employed (1).

In this study, students in semester 4 reported the highest levels of fulfillment regarding their clinical instructors' role, while students in semester 5 expressed the lowest levels of satisfaction. This variability suggests that students' expectations and needs evolve as they progress through their academic journey, requiring more tailored and responsive teaching strategies. Previous research supports the notion that the complexity of clinical practice increases as students advance, potentially explaining the decline in perceived instructor effectiveness in later semesters (2). It is possible that as students acquire more theoretical knowledge, the gap between what they learn in the classroom and what they experience in clinical settings becomes more pronounced, leading to increased dissatisfaction if instructors are unable to effectively facilitate the transition between the two.

The findings of this study are consistent with earlier studies that emphasize the critical role of clinical supervision in nursing education. Effective clinical supervision has been shown to enhance students' learning experiences, improve their clinical competence, and reduce the anxiety associated with the transition from theory to practice (3). However, the persistent gap observed in this study suggests that clinical instructors may not always be adequately equipped to address the evolving needs of students, particularly as they move into more advanced stages of their training. Research indicates that the success of clinical education is heavily dependent on the quality of the instructor-student relationship, as well as the instructor's ability to provide timely, constructive feedback and support (4).

One of the strengths of this study is the inclusion of students from multiple institutions, which provided a diverse sample and allowed for a more comprehensive analysis of the clinical education environment in Peshawar. The use of a validated questionnaire and a standardized statistical approach further strengthens the reliability of the findings. Nevertheless, there were several limitations. First, the study relied on self-reported data, which may be subject to response bias. Students' perceptions of their instructors' effectiveness could be influenced by personal factors such as their own performance in clinical settings, rather than an objective assessment of instructor capabilities. Additionally, the cross-sectional design of the study captured perceptions at a single point in time, limiting the ability to track changes in student perceptions over the course of their academic careers.

Moreover, while the sample size was adequate, it was drawn from only three institutions in Peshawar, which may limit the generalizability of the findings to other regions or educational settings. Future studies could benefit from a longitudinal design that tracks students' perceptions of their clinical instructors across multiple semesters, providing more detailed insights into how these perceptions change over time. Furthermore, the study could be expanded to include a larger and more geographically diverse sample,

allowing for comparisons between institutions in different regions or countries.

The findings of this study underscore the need for ongoing professional development for clinical instructors to ensure that they are equipped with the skills and knowledge necessary to meet the diverse and evolving needs of nursing students. Institutions should consider implementing regular training sessions for instructors that focus on enhancing their teaching methods, providing effective feedback, and fostering a supportive learning environment. Additionally, mentorship programs that pair less experienced instructors with seasoned educators may help improve the quality of clinical education and reduce the variability in instructor effectiveness observed in this study.

CONCLUSION

In conclusion, while this study highlights the critical role of clinical instructors in bridging the theory-practice gap, it also reveals significant challenges that need to be addressed to improve the quality of nursing education. Tailored teaching strategies, professional development for instructors, and a focus on fostering strong instructor-student relationships are essential for enhancing the clinical training of nursing students and ensuring they are well-prepared for the demands of the healthcare profession. Future research should continue to explore the most effective strategies for bridging the theory-practice gap, with particular attention to the changing needs of students as they progress through their academic programs.

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