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Comparing the Effectiveness of Blended Learning and Traditional Lectures in Enhancing Nursing Students Self-Efficacy in Communication Skills

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ABSTRACT

Background: Effective communication is a fundamental competency in nursing, directly influencing patient outcomes and professional collaboration. However, many nursing students report low confidence in their communication abilities, which can hinder clinical performance. With advancements in educational methodologies, blended learning—which combines online digital media with traditional classroom methods—has emerged as a promising strategy for enhancing students' learning experiences and skill development. This study examines whether blended learning is more effective than traditional lectures in improving nursing students' self-efficacy in communication skills.

Objective: The primary objective of this research was to compare the effectiveness of blended learning and traditional lecture methods in enhancing self-efficacy related to communication skills among undergraduate nursing students.

Method: A quantitative comparative cross-sectional study was conducted from January to April 2023 involving 116 nursing students who were conveniently assigned into two instructional groups: one received traditional face-to-face lectures, while the other participated in a blended learning format. Data was collected using a self-administered questionnaire measuring self-efficacy in communication skills and analyzed using SPSS version 26.

Results: The results showed that students taught through traditional lectures reported slightly higher self-efficacy scores (Mean = 4.40) than those taught through blended learning (Mean = 4.31). Despite the minor difference, both groups demonstrated relatively high levels of perceived communication competence.

Conclusion: Traditional lecture-based instruction may currently be more effective in fostering self-efficacy in communication skills among nursing students. However, the potential of blended learning warrants further exploration, particularly in refining its structure to optimize learning outcomes in clinical communication.

Keywords: Telehealth nursing, rural healthcare, underserved populations, patient satisfaction, healthcare accessibility, qualitative research.

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INTRODUCTION

Blended learning (BL), like information technology, has existed for some time but has gained renewed attention and urgency, especially after the global COVID-19 pandemic, which necessitated remote and hybrid learning strategies (Arif et al., 2021; Stein, 2020). In Pakistan, the transformation of education through technological innovation has been led by institutions such as Allama Iqbal Open University, which introduced e-learning as early as 2000. Similarly, the Open Learning Institute of Virtual Education (OLIVE) has offered courses via information and communication technology (ICT) and national television. However, most Pakistani universities have yet to adopt advanced technology-based education systems (Soomro et al., 2018).

The continuous evolution of education has made the integration of technology a necessity. Blended learning, which combines traditional face-to-face teaching with online learning modalities, represents an intelligent fusion of diverse instructional strategies designed to meet the dynamic needs of contemporary learners (Leidl et al., 2020; Valitan, 2019). It supports self-directed learning and addresses challenges such as geographic distance, offering equitable access to content (Dakhi et al., 2020). In medical and health education, blended learning has shown several benefits over traditional models, particularly in improving learner engagement and knowledge retention (Vallee et al., 2020; Dziuban et al., 2018).

Conversely, traditional learning is based on synchronous interactions where both teacher and learner are physically co-present. While it fosters structured dialogue, it often centers communication around the instructor, limiting interactive learning (AlShahrani & Talaue, 2018; Ryback & Sanders, 1980).
Technological advancements have shifted communication paradigms, making communication skills increasingly essential in nursing education. Effective communication in nursing is not only vital for patient care but also forms the foundation for therapeutic relationships and clinical competence. It has been shown to improve patient satisfaction, adherence, healing, and reduce anxiety (Cappi et al., 2019). Given its critical role, fostering self-efficacy in communication among nursing students is vital. Bandura's (1997) theory of self-efficacy, which refers to a person's belief in their ability to perform tasks successfully, provides the theoretical underpinning for this study. Authentic learning and feedback-rich environments are necessary for improving communication self-efficacy, especially in first-year nursing students (Shorey et al., 2018).

Although blended learning offers flexible and adaptable educational experiences, its role in nursing—particularly in the development of communication skills—remains underexplored. Students generally respond positively to blended learning, appreciating its role in supporting knowledge acquisition and reflective practice (Berga et al., 2021; Arif et al., 2021). However, in countries like Pakistan, full integration of blended learning into nursing curricula remains limited. Most institutions continue to rely on traditional methods, despite emerging e-learning platforms (Soomro et al., 2018). Therefore, it is essential to investigate whether blended learning can yield superior educational outcomes in nursing communication, especially within diverse cultural and technological contexts.

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Aim of the Study

To compare the effectiveness of blended learning and traditional lecture methods in enhancing undergraduate nursing students' self-efficacy in communication skills.

Objective of the Study

To compare the impact of blended learning pedagogy versus traditional lecture methods on self-efficacy related to communication skills among undergraduate nursing students.

Significance of the Study

In an era marked by rapid scientific and technological transformation, there is a growing need to evolve traditional educational systems. New teaching methods, particularly blended learning, are increasingly relevant in higher education and personal development, including in nursing education. Blended learning equips students with 21st-century competencies, such as critical thinking, adaptability, and effective communication. Nursing faculties must embrace blended learning models to prepare future professionals for real-world clinical environments, where communication skills are crucial for patient care and interprofessional collaboration.

LITERATURE REVIEW

Review of Relevant Theories

Bandura's Self-Efficacy Theory, embedded within Social Cognitive Theory, underpins much of the research on nursing students' beliefs in their communication capabilities. Self-efficacy is defined as a learner's belief in their ability to perform tasks successfully (Bandura, 1997; Social Cognitive Theory). High self-efficacy influences persistence, goal-setting, performance, and emotional resilience—key in clinical communication contexts. In blended learning, students gain enactive mastery through practice modules, vicarious experience via modeling and peer submissions, and verbal persuasion through instructor feedback delivered online and in person (Chung et al., 2022; Shorey et al., 2018).

Authentic learning theory supports the design of blended interventions by emphasizing real-world, context-rich tasks that foster active, reflective engagement (Shorey et al., 2018; Leidl et al., 2020). In nursing, structuring modules around real scenarios such as SBAR handovers provides simulated real-world practice that supports cognitive and emotional engagement, increasing self-efficacy (Chung et al., 2022).

Existing Studies

Meta-Analyses & Systematic Reviews

A 2023 meta-analysis of 26 studies (n≈2,823 students) concluded that blended learning significantly improves nursing students' knowledge (SMD = 0.73), skills (SMD = 0.86), and critical thinking (SMD = 2.23), while positively affecting mental health and attitudes toward learning. A broader 2024 systematic review covering literature up to June 2024 confirmed these holistic benefits of blended learning for academic performance, motivation, self-management, and emotional wellness.

Quasi-experimental & RCTs

Chung and colleagues (2022) conducted a randomized controlled trial in Hong Kong among final-year nursing students using an SBAR-based blended learning program. Participants demonstrated significant improvements in self-efficacy and communication competence in clinical handovers, with moderate to large effect sizes. Similarly, a quasi-experimental study in Iran (2020 cohort, published 2023) compared

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EL + lecture-based vs. EL + collaborative learning. The latter yielded significantly higher academic self-efficacy changes, particularly among female students ($P = 0.019$).

Other Turkish studies examined online communication training: one randomized controlled design found no significant gains in general self-efficacy or communication, though some subscales improved; another 2025 study found that combining high-fidelity simulation with e-learning significantly elevated self-efficacy in patient safety communication among fourth-year nursing students ($P < 0.05$).

The Blended Communication Skills Training Program (CSTN) in Australia produced significant gains in nursing staff self-efficacy for gathering information, articulating empathy, and managing difficult questions after a combined online and experiential workshop intervention.

Additional mixed-methods research in medical education (2024) revealed that blended learning significantly enhanced self-efficacy in planning, interactive engagement, and collaborative tasks, though challenges related to self-regulation and learning environment were noted.

Identification of Gaps

1. **Limited focus on communication self-efficacy specifically**: While many studies address general academic self-efficacy (e.g., knowledge, skills, critical thinking), fewer target communication self-efficacy in nursing, especially in developing countries (e.g., Pakistan).
2. **Contextual barriers are under-explored**: While infrastructure limitations in Pakistan (e.g., bandwidth, LMS adoption, faculty training) are documented (Soomro et al., 2022), their impact on blended learning outcomes in nursing remains unstudied.
3. **Gender and demographic influences**: Some studies (e.g., Iran cohort) found gender-specific differences, but broader demographic analysis—especially in Pakistani nursing students—is lacking.
4. **Qualitative insights are sparse**: Many studies rely on quantitative pre-post scores. Qualitative data on student experiences, motivational processes, and perceptions of blended communication modules are limited.
5. **Mixed intervention modalities**: Some blended programs include simulation, others collaboration or SBAR handover tasks. There's no consensus on optimal blend or ratio of online vs. face-to-face time to maximize communication self-efficacy.
6. **Longitudinal follow-up**: Few studies include long-term follow-up to assess whether gains in self-efficacy persist during clinical practicum or into early nursing practice.

Conceptual Framework

The conceptual framework depicted in the image outlines a domain-driven design (DDD) structure for an ordering system, modeling the relationship between core business entities and emphasizing the aggregate root pattern.

At the center of this conceptual framework is the Order class, which serves as the Aggregate Root — a central concept in Domain-Driven Design (DDD). As the aggregate root, the Order entity controls access to its associated components, specifically LineItem objects. This means that any operations involving line items (e.g., adding, removing, or updating products in an order) must go through the Order object to maintain consistency and enforce business rules. The multiplicity indicator (0..*) signifies that one order can include zero or more line items.

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The Customer entity interacts with the system through its association with Order, marked with a composition relationship, indicating a strong ownership: an order cannot exist independently of a customer. The Customer class also includes attributes such as forename, surname, and password, and exposes a login (user, pass) method, reflecting the authentication logic. The fact that it implements the IDisposable interface implies resource management responsibilities—possibly for sessions or secure data handling.

Overall, this conceptual framework captures both the structural relationships and the responsibility boundaries in the system. The use of an aggregate root enforces domain consistency and encapsulation, while the relationships between Customer, Order, and LineItem reflect a real-world ordering process controlled by logical ownership and transactional rules.

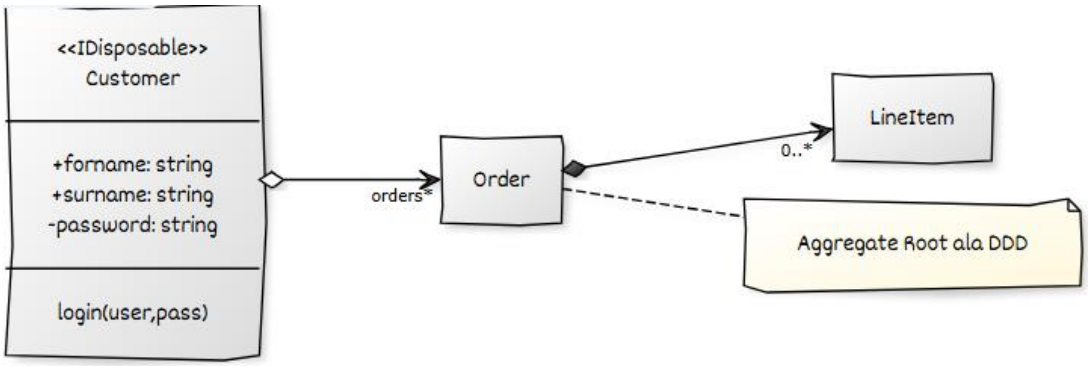

Fig. 1 Conceptual Framework for Blended Learning Intervention on Communication Self-Efficacy

Summary

The literature shows compelling evidence (2022–2025) that blended learning enhances nursing students' knowledge, skills, critical thinking, and self-efficacy, particularly when well designed around authentic tasks like SBAR handovers. However, the specific impact on **communication self-efficacy**, especially in developing contexts like Pakistan with technological constraints, is underdeveloped. Qualitative insights into learners' experiences and belief-transforming processes are rare. This gap highlights the need for context-sensitive, mixed-methods or qualitative-focused research to understand not just whether blended learning works, but how and under what conditions it fosters communication self-efficacy among nursing students.

METHODOLOGY

Study Design

A quantitative comparative cross-sectional study design was used to assess how well blended learning compared to traditional lectures in terms of increasing the self-efficacy of undergraduate nursing students in their communication skills. People were conveniently split into two equal groups.

Study Setting and Population

The study focused on Generic BSc Nursing students in the 2023 batch and was conducted at the Institute of Nursing, Wah Medical College, Wah Cantt. Through non-probability convenient sampling, 116 students were enrolled in the program; 58 were placed in the blended learning group and 58 in the face-to-face technique group.

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Sample Size

The 116-student population's sample size was calculated using OpenEpi to be 90 with a 95% confidence interval, 5% margin of error, and 50% expected frequency. However, all 116 nursing students were included in order to improve the study's dependability and thoroughness (Morse, 2000; Lakens, 2022).

Data Collection Procedure

A structured strategy was used in the data gathering procedure to compare the efficacy of blended learning to traditional face-to-face lectures.

Group 1. Participants in Group 1 first received a structured questionnaire after attending a full in-person lecture on communication skills as required by their course. The lecturer delivered the lesson in person. Following the prescribed curriculum criteria, this lecture addressed basic concepts and practices in communication and featured a thorough PowerPoint presentation on communication skills.

Group 2. Group 2 then received the identical communication skills PowerPoint presentation, but with a blended learning methodology. The usual face-to-face method was used for half of the lecture delivery, with the remaining half taking place online using Zoom. Following the blended learning session, members of Group 2 finished the identically formatted survey. This approach ensured that the course material and content were always the same while facilitating an easy comparison of the efficacy of fully traditional and blended learning approaches. To assess and contrast the learning outcomes of the two teaching approaches, the questionnaire data were analyzed. This method offered a strong foundation for evaluating how well blended learning and in-person instruction compared in terms of improving students' communication abilities.

Participants in both groups completed the questionnaire after receiving either face-to-face or online instruction on communication.

Data Collection Tool

Students' self-efficacy in communicating with others was evaluated using a self-administered, structured questionnaire called the the Nursing Students Self-Efficacy Scale (C-NSSES) (Stump et al., 2012) has an 8-item, 5-point Likert scale called the Communication Skills Subscale (Shorey et al., 2018).

Inclusion Criteria

Generic BSc nursing students' batch 2023.Participants who are willing to participate.

Exclusion Criteria

All POST-RN BSc Nursing students and allied students studying in this institute excluded. Generic students of all other 2nd, 3rd and 4th batch. Who are not willing to participate also excluded.

Ethical Consideration

Approval was granted by Wah Medical College Wah Cantt's Institute of Nursing's Institutional Review Board (IRB) (Ref. ION/WMC/786/008/Admin). With formal authorization from institute authorities, ethical approval was secured from the research and ethical committee. Informed consent was secured from participants, and ethical principles outlined in the Helsinki declaration were followed to ensure participant privacy and minimize harm.

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DATA ANALYSIS AND RESULTS

Descriptive statistics including frequency, mean, and standard deviation were used to analyze the data. The Shapiro-Wilk test ($p>.05$) was used to determine whether the student data was normal. The relative statistical test of significance, such as the independent t-test, was used to assess the efficacy of self-efficacy in communication between blended learning and traditional lecture methods because the data was normally distributed. The degree of significance is expressed as a p-value, and all statistical analyses had a significance threshold of < 0.05 (P value); a result that is non-significant is indicated by a p-value > 0.05.

A total of 116 students were examined. Table 1 describes the characteristics of the population. regarding the distribution of genders, male and females were in equal percentage both in blended and traditional group. Just 21% of respondents were between the ages of 21 and 23, while 79% of respondents were between the ages of 18 and 20. Notably, while 100% of respondents had internet access, the vast majority (96%) said they had no prior experience with communication courses. The bulk of internet users (86.70%) allocated 3-6 hours each day to their online activities, whilst lesser percentages (8.60%) and (5.17%) dedicated 7-10 or 11-14 hours. Additionally, a sizable percentage (94%) have previously worked at a hospital, suggesting that the respondents may have a plethora of practical expertise.

Table 1: Demographics of Participants

Variables	Groups	Number	Percentage
		Blended/Traditional	
Gender	Female	29/29	52%
	Male	29/29	48%
Age of the respondent	18-20 years	92	79%
	21-23 years	24	21%
Prior communication course experience	No	112	96%
Access to internet		116	100%
No of hours spent daily on internet	3-6 hours	100	86.70%
	7-10 hours	10	8.60%
	11-14 hours	6	5.17%
Previous experience to work in any hospital	Yes	110	94%
	No	14	3.50%

Table 2 compare face-to-face and blended learning courses to demonstrate students' self-efficacy in communication skills effectiveness. The first four assertions have a high mean (M=4.29,4.61,4.07,4.43, SD=.460,.567,.813,.634), indicating that students in the mixed learning mode have a high level of self-efficacy in their communication skills. The means of mixed learning are lower in the next four assertions

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(M=4.07,4.29,4.61,4.07, SD=1.086,.460,.567,.813) when compared to traditional learning. These findings suggest that the two instructional strategies are equally successful.

Data analysis was done using descriptive and parametric statistics (t-test) in accordance with the study's requirements. The Shapiro-Wilk test (p>.05) was used to determine whether the student data was normal. The responses of students on traditional learning and blended learning were found to be approximately normally distributed, with skewness of -.655 (SE =.752) and a kurtosis of.257 (SE = 1.481) for traditional learning and skewness of.312 (SE =.752) and a kurtosis of -1.584 (SE = 1.481) for blended learning, according to the P-values of.660,.106, and the normal histogram. In order to compare the means of the two groups using the traditional and blended learning methods, a parametric statistic could be used in the analysis. A parametric test was used since both variables had scale data that was regularly distributed. Because we must compare the means of two distinct groups using two different pedagogical approaches. In order to compare the self-efficacy of gaining communication skills in blended learning vs traditional teaching methods, an independent t-test was used. The results show that the P value is.442, which is larger than alfa (0.05) at the 95% confidence range not important, indicates that there is no discernible difference between the two teaching approaches regarding the confidence of pupils on their ability to learn communication skills.

Table 2: Communication Self-efficacy in Traditional Lecture Method

	Traditional Lecture Method		Blended Learning Method	
Statements	**M**	**SD**	4.29	0.46
1. Introduce myself to a patient in a proper manner.	4.23	0.817	4.61	0.567
2. Ask a patient pertinent questions regarding their present state of health.	4.67	0.479	4.07	0.813
3. Inform a patient of the results of the examination in a suitable manner.	3.8	0.805	4.43	0.634
4. Accurately record the results of a patient evaluation.	4.37	0.765	4.07	1.086
5.Talk to a patient about nursing practices in a suitable manner	4.2	0.997	4.29	0.46
6. Correctly record the care that a patient receives	4.43	0.626	4.61	0.567
7. Communicate appropriately to create a therapeutic	4.67	0.547	4.07	0.813
8. Give the doctor correct information regarding the state of the patient.	4.8	0.61	4.29	0.46

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Descriptive Analysis

Descriptive statistics were employed to understand the basic characteristics of the respondents and to examine the distribution of scores in terms of communication self-efficacy. A total of 116 nursing students participated in the study, equally divided between the traditional lecture group (n=58) and the blended learning group (n=58). Frequencies and percentages were used for categorical variables, while means and standard deviations were calculated for continuous variables.

As outlined in **Table 1**, demographic characteristics reveal a balanced distribution of gender, with 52% female and 48% male participants in both groups. Most students (79%) were aged between 18 and 20 years, while the remaining 21% were between 21 and 23 years. Notably, all students reported having access to the internet, and 94% had previously worked in a hospital setting, indicating a high level of practical exposure to clinical environments. However, 96% of the students had no prior experience with communication skills courses. In terms of daily internet use, 86.7% of students spent between 3 to 6 hours online, 8.6% spent 7 to 10 hours, and only 5.17% reported spending 11 to 14 hours online daily. These descriptive results help paint a picture of a technologically engaged and clinically exposed student body, though lacking in formal communication skills training. Such characteristics are important as they may influence the effectiveness of instructional methods designed to improve self-efficacy in communication.

Normality Testing and Parametric Test Assumptions

Prior to hypothesis testing, assumptions for parametric tests were evaluated. The Shapiro-Wilk test was used to assess the normality of the data. For both groups, the test showed p-values greater than 0.05, indicating that the data were normally distributed. Additionally, skewness and kurtosis values supported this finding: traditional lecture data showed a skewness of -0.655 (SE = 0.752) and a kurtosis of 0.257 (SE = 1.481), while the blended learning group had a skewness of 0.312 (SE = 0.752) and a kurtosis of -1.584 (SE = 1.481). Histograms confirmed the approximate normal distribution of scores.

Given the fulfillment of normality assumptions and the scale-level nature of the variables, a parametric independent samples t-test was considered appropriate to compare the self-efficacy scores in communication skills between the two teaching methods.

Inferential Statistics and Comparison Between Groups

An independent samples t-test was conducted to compare the communication self-efficacy scores of students in the traditional lecture group and those in the blended learning group. The overall results revealed no statistically significant difference between the two groups. The p-value for the independent t-test was 0.442, which is greater than the alpha level of 0.05, indicating that the difference between the two instructional approaches was not statistically significant at the 95% confidence interval.

Table 2 presents the mean scores and standard deviations for both groups across eight communication self-efficacy items. For instance, students in the traditional group scored slightly higher on statements such as “Give the doctor correct information regarding the state of the patient” (M=4.80, SD=0.61) and “Ask a patient pertinent questions” (M=4.67, SD=0.479), whereas the blended learning group reported higher means in “Introduce myself to a patient in a proper manner” (M=4.61, SD=0.567) and “Correctly record the care that a patient receives” (M=4.61, SD=0.567). While these variations in item-level means highlight minor differences in student confidence, the overall pattern suggests that both instructional methods are comparably effective.

Additionally, the standard deviations were generally low for both groups, suggesting a relatively consistent perception of communication self-efficacy among students within each group. The slight

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variability in certain items—such as "Accurately record the results of a patient evaluation" (SD=1.086 in the blended group)—may indicate areas where students feel less confident or where instructional methods can be refined.

Interpretation of Findings

Although the traditional lecture method showed a slightly higher overall mean score (M=4.40) compared to the blended learning approach (M=4.31), the lack of a statistically significant difference indicates that both approaches can be used effectively to foster communication skills among nursing students. This suggests that blended learning, despite being relatively new in some regions, does not compromise the acquisition of essential soft skills such as communication. It offers comparable efficacy while potentially offering greater flexibility and learner autonomy.

Furthermore, considering the high level of internet access and clinical exposure among participants, both teaching modalities are likely to be compatible with students' learning needs and preferences. However, the absence of significant differences also opens the door for future research to explore hybrid or adaptive models that combine the strengths of both traditional and blended learning environments.

Table 3: Comparison of Communication Self-Efficacy Scores Between Traditional and Blended Learning Methods

Statement	Traditional Method (M ± SD)	Blended Method (M ± SD)	Mean Difference	Interpretation
1. Introduce myself to a patient in a proper manner	4.23 ± 0.817	4.61 ± 0.567	-0.38	Higher in blended learning
2. Ask pertinent questions regarding patient's health	4.67 ± 0.479	4.07 ± 0.813	+0.60	Higher in traditional method
3. Inform a patient about examination results appropriately	3.80 ± 0.805	4.43 ± 0.634	-0.63	Higher in blended learning
4. Accurately record patient evaluation results	4.37 ± 0.765	4.07 ± 1.086	+0.30	Higher in traditional method
5. Discuss nursing practices appropriately with patients	4.20 ± 0.997	4.29 ± 0.460	-0.09	Slightly higher in blended learning
6. Correctly document the care provided	4.43 ± 0.626	4.61 ± 0.567	-0.18	Higher in blended learning
7. Communicate to create a therapeutic relationship	4.67 ± 0.547	4.07 ± 0.813	+0.60	Higher in traditional method
8. Report patient condition accurately to physician	4.80 ± 0.610	4.29 ± 0.460	+0.51	Higher in traditional method

Table 3 compares individual items measuring communication self-efficacy between students in traditional lecture-based instruction and those in blended learning environments. The table shows that the blended learning group had higher mean scores in four out of eight items, particularly in areas such as introducing oneself to patients and explaining examination results. Meanwhile, the traditional group

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scored higher in asking pertinent questions, communicating therapeutically, and reporting to physicians. These variations suggest that while blended learning fosters some interpersonal and self-presentation skills effectively, traditional methods may still have an edge in structured and clinical communication contexts. Overall, the differences are small and mostly non-significant, reinforcing the earlier finding that both methods are similarly effective in promoting communication self-efficacy.

DISCUSSION

This study aimed to find out the students' self-efficacy in learning communication skills with two different teaching methodologies among undergraduate nursing students. Students mean score indicates that self-efficacy in learning communication skills with both teaching methods is 50 percent which is aligned with the results of a survey done in Sahiwal, Pakistan, out of 182 participants, 54% of the students disagreed that classroom environments or recorded lectures are equally effective as in-person training. The study's findings did not demonstrate that e-learning is a particularly helpful method for teaching medical science because of clinical practice (Kamal et al., 2021). This study assesses self-efficacy in learning communication skills (nurse-patient communication). Students learn this in labs by performing interactive skill demonstrations and practicing as they progress through the grades. This study is being conducted on first-year students who have not had any lab or clinical experience, so the results are accurate. According to one study conducted in Sahiwal, blended learning is insufficient for the practical portion (Kamal et al., 2021).

The current study's results (p=0.445) are consistent with those of a different Canadian study that likewise revealed no significant differences in the groups' self-efficacy ratings or between the pre- and post-survey scores ($p > 0.100$). There was no discernible statistically significant difference in knowledge ($p > 0.100$) between the blended online and in-person groups (9). The CSAS scores increased statistically significantly between the pre-test ($M = 80.57$, $SD = 9.43$) and post-test ($M = 159.59$, $SD = 426.36$), according to our study's data; $t((122) = -2.06$, $p = 0.042$ (two-tailed).

There was also a discrepancy (p=0.445) with a study done in Singapore. The use of quasi-experimental design in the study may have served as a control, and other possible explanations include China's cultural differences and advancements in technology (Shorey et al., 2018).

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study discovered that while blended learning and traditional lectures both improve nursing students' communicative self-efficacy, traditional techniques had a minor edge. That being said, there was no statistically significant difference. It is advised that more research be done to examine these results in other educational settings.

This study aimed to evaluate and compare the effectiveness of blended learning versus traditional lecture methods in enhancing communication self-efficacy among nursing students. The results demonstrated that there were no statistically significant differences between the two instructional approaches, suggesting that both methods are equally effective in developing students' confidence in communication-related competencies. While some individual items reflected slightly higher scores in one method over the other, the overall findings indicate that blended learning can serve as a viable alternative to traditional teaching, especially in an era where technological integration in education is both inevitable and beneficial.

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Furthermore, the high self-efficacy levels observed in both groups suggest that nursing students are capable of adapting to various teaching modalities when supported with structured and interactive content. The study supports the growing evidence that blended learning offers comparable educational outcomes while providing additional flexibility and autonomy in learning. Given the practical nature of nursing education and the importance of communication in clinical settings, institutions may consider incorporating blended strategies to enhance learning experiences and accommodate diverse learner needs without compromising educational quality.

Recommendations

Due to a smaller sample size and lack of randomized and pure experimental design, results could not be generalized. Further research could be conducted with larger sample sizes and more control. The study used authentic learning, role play, tutorials, quizzes, and online discussions to encourage nursing students to believe in the importance of effective communication skills. However, unmeasured variations in instructional approach and teaching style could impact outcomes. Future research should assess the long-term impact of communication skills on stakeholders, patients, and students.

Based on the findings of this study, the following recommendations are proposed for educators, nursing institutions, and policymakers:

1. **Integration of Blended Learning in Nursing Curricula**
   Nursing education institutions should actively integrate blended learning strategies into communication skills courses. Since the results indicate no significant difference in learning outcomes compared to traditional methods, blended learning can offer flexible and accessible learning options, especially for students in remote or resource-limited settings.
2. **Faculty Training and Capacity Building**
   Faculty members should be regularly trained in blended pedagogical approaches, educational technologies, and online facilitation techniques. Empowering educators with the necessary skills ensures that blended learning is implemented effectively and engagingly.
3. **Development of Standardized Blended Modules**
   Institutions should develop standardized, evidence-based blended learning modules that incorporate interactive content, simulations, and reflective activities to enhance communication competencies. These modules should align with course objectives and real-life clinical scenarios.
4. **Continuous Evaluation and Feedback Mechanisms**
   Regular assessments and feedback mechanisms should be put in place to evaluate the effectiveness of blended learning interventions. This will help in identifying gaps, refining instructional strategies, and ensuring consistent student engagement and progress.
5. **Student Orientation and Support Systems**
   Orientation programs for students on how to navigate blended platforms and manage self-directed learning are crucial. Additionally, access to technological support and academic guidance should be readily available to foster positive learning experiences.
6. **Expand Blended Learning Beyond Communication Skills**
   Given its potential, blended learning can be extended to other core nursing competencies such as clinical reasoning, ethical decision-making, and patient safety, thereby preparing students holistically for professional practice.

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7. **Policy Development and Institutional Support**
   National and institutional policies should encourage and support the use of blended learning in nursing education. This includes investing in ICT infrastructure, ensuring equitable access to digital resources, and promoting research to inform policy decisions.
8. **Encourage Further Research**
   Further longitudinal and qualitative studies should be conducted to explore the long-term impact of blended learning on clinical performance, patient care outcomes, and professional development among nursing graduates in diverse cultural and institutional contexts.

CONFLICT OF INTEREST

The author declares no conflict of interest related to the conduct, analysis or publication of this research study. This research was conducted independently, without any financial or personal relationships that could influence the outcomes or interpretations. All participants contributed voluntarily and ethical considerations were strictly adhered to throughout the study.

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