

IMPACT OF A SINGLE EDTECH TRAINING SESSION ON NURSING FACULTY AWARENESS, KNOWLEDGE, AND CONFIDENCE: A PRE-TEST/POST-TEST STUDY

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ABSTRACT

Background

The integration of Educational Technology (EdTech) in nursing education has become increasingly important for enhancing student engagement and facilitating innovative teaching-learning practices. However, many nursing faculty require training to effectively utilize these digital tools.

Aim

To evaluate the impact of a single EdTech training session on nursing faculty awareness, knowledge, confidence, and intention to use educational technology tools.

Method

A pre-test/post-test study was conducted among 30 nursing faculty members. Data were collected using a structured questionnaire assessing awareness, knowledge, confidence, and intention to use EdTech tools. A four-hour hands-on training session covering Canva, Kahoot!, Google Classroom, and Blooket was conducted. Data were analyzed using descriptive and inferential statistics.

Results

Post-test scores demonstrated improvement in knowledge (86.3%) and confidence (85.3%) following the training. Blooket (Mean Gain = 1.37) and Kahoot! (Mean Gain = 1.13) showed the greatest improvement in familiarity and confidence. Faculty reported a high intention to use EdTech tools in future teaching. No significant association was found between post-test scores and demographic variables ($p > 0.05$).

Conclusion

A single EdTech training session effectively enhanced nursing faculty knowledge, confidence, and readiness to integrate educational technologies into teaching. Regular faculty development initiatives can support the adoption of innovative and technology-enabled nursing education practices.

Keywords

EdTech, Nursing Faculty, Faculty Development Programme, Educational Technology, Digital Learning, Technology-Enhanced Teaching, Nursing Education.

INTRODUCTION

"I know the subject well, but which digital tool should I use to make my class more engaging?" This is a common question among educators today.

Nursing educators are increasingly expected to integrate digital technologies into teaching; however, many remain uncertain about selecting and effectively using appropriate educational technology (EdTech) tools. Educational Technology (EdTech) has rapidly become an integral part of teaching and learning. Tools such as Google Classroom, Canva, Kahoot!, and Blooket enable educators to create interactive lessons, share learning resources, conduct assessments, and enhance student engagement. The COVID-19 pandemic accelerated the adoption of digital learning worldwide, with UNESCO reporting that more than 1.6 billion learners were affected by educational disruptions.

In nursing education, where active learning and student participation are essential, EdTech offers opportunities to make teaching more interactive and learner-centered. However, the successful integration of these tools depends on educators' awareness, knowledge, and confidence in using them effectively.

Faculty development programs can help bridge this gap by familiarizing educators with innovative digital teaching tools and their practical applications. Evaluating the impact of such training initiatives is important to understand their effectiveness and guide future faculty development efforts.

Therefore, the present study was undertaken to assess the impact of a single EdTech training session on nursing faculty awareness, knowledge, and confidence using a pre-test/post-test design.

METHODOLOGY

A quantitative pre-experimental one-group pre-test/post-test design was adopted to evaluate the impact of a structured EdTech training session on nursing faculty awareness, knowledge, confidence, and perceived usefulness of educational technology.

The study was conducted among 30 nursing faculty members working in a selected nursing institution. Participants were recruited using convenience sampling. Faculty members willing to participate and available during the training program were included in the study.

Following the pre-test assessment, participants attended a four-hour EdTech training session. The training included interactive demonstrations and hands-on activities related to four educational technology applications:

- Google Classroom
- Canva
- Kahoot!
- Blooket

The session focused on creating learning resources, conducting interactive quizzes, managing assignments, providing feedback, and implementing gamified learning strategies in nursing education.

DATA COLLECTION TOOL

Data were collected using a structured questionnaire consisting of:

Part I: Demographic characteristics (age, qualification, teaching experience, designation, and prior use of EdTech applications).

Part II: A 20-item Likert scale questionnaire covering four domains:

- Awareness/Familiarity (6 items)

- Knowledge/Feature Understanding (6 items)
- Confidence/Skills (5 items)
- Intent/Perceived Usefulness (3 items)

Responses ranged from 1 to 5, with higher scores indicating greater EdTech preparedness.

A post-test using the same instrument was administered immediately after completion of the training session.

ETHICAL CONSIDERATIONS

- Ethical permission obtained from the institutional research committee.
- Informed consent was taken from participants.
- Anonymity and confidentiality were maintained throughout the study.

DATA ANALYSIS AND FINDINGS

Data were analyzed using IBM SPSS Statistics Version 26. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize participant characteristics and domain scores.

To compare pre-test and post-test scores for awareness, knowledge, confidence, and intention to use EdTech tools, appropriate descriptive and inferential statistics were employed. Mean gain scores were calculated to determine improvement across domains and individual EdTech tools. The association between selected demographic variables and post-test scores was examined using One-Way Analysis of Variance (ANOVA). A p-value of less than 0.05 was considered statistically significant.

DEMOGRAPHIC CHARACTERISTICS

A total of 30 nursing faculty members participated in the study. Most participants belonged to the 25–35 years age group and held either a B.Sc. Nursing or M.Sc. Nursing qualification. The majority were Tutors or Assistant Professors with varying years of teaching experience. Most participants reported prior use of at least one EdTech application in their teaching.

Objective 1: To compare pre-test and post-test scores for awareness, knowledge, and confidence

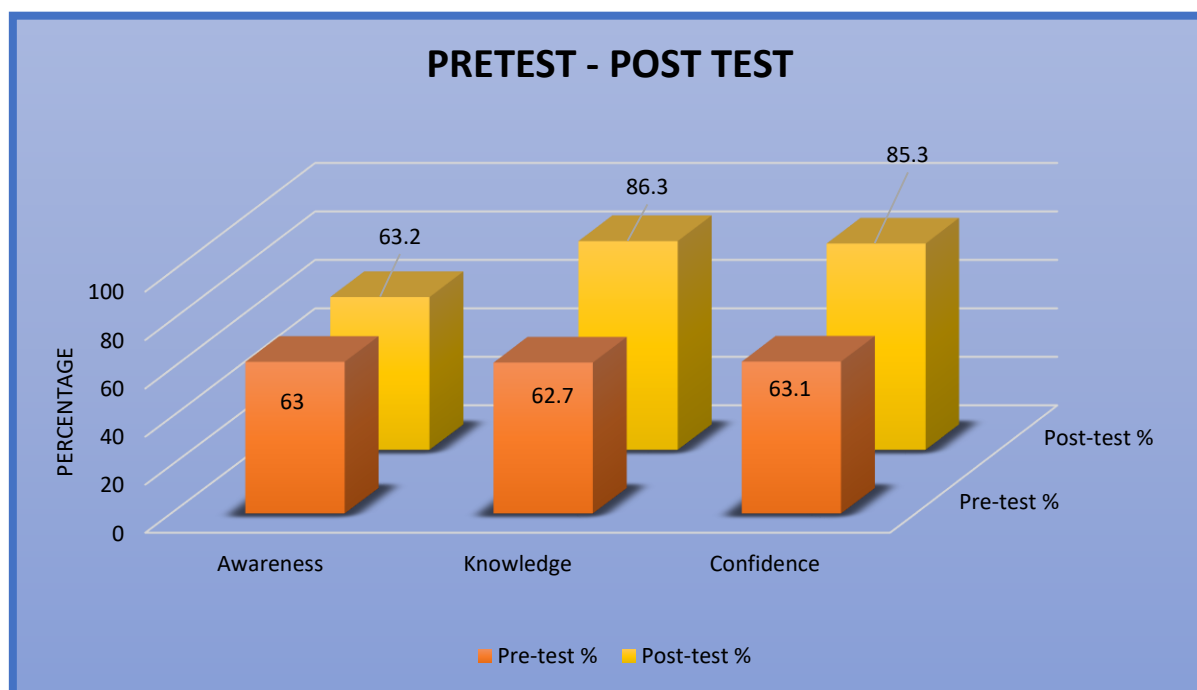


Fig. 1. Comparison of Domain Scores

The pre-test scores across all domains were comparable, ranging from 62.7% to 63.1%. Following the EdTech training, substantial improvements were observed in knowledge (86.3%) and confidence (85.3%), whereas awareness remained relatively unchanged (63.2%). These findings indicate that the training primarily enhanced faculty knowledge and confidence in using educational technology tools.

Objective 2: To determine which EdTech tools showed the largest improvement in familiarity and confidence

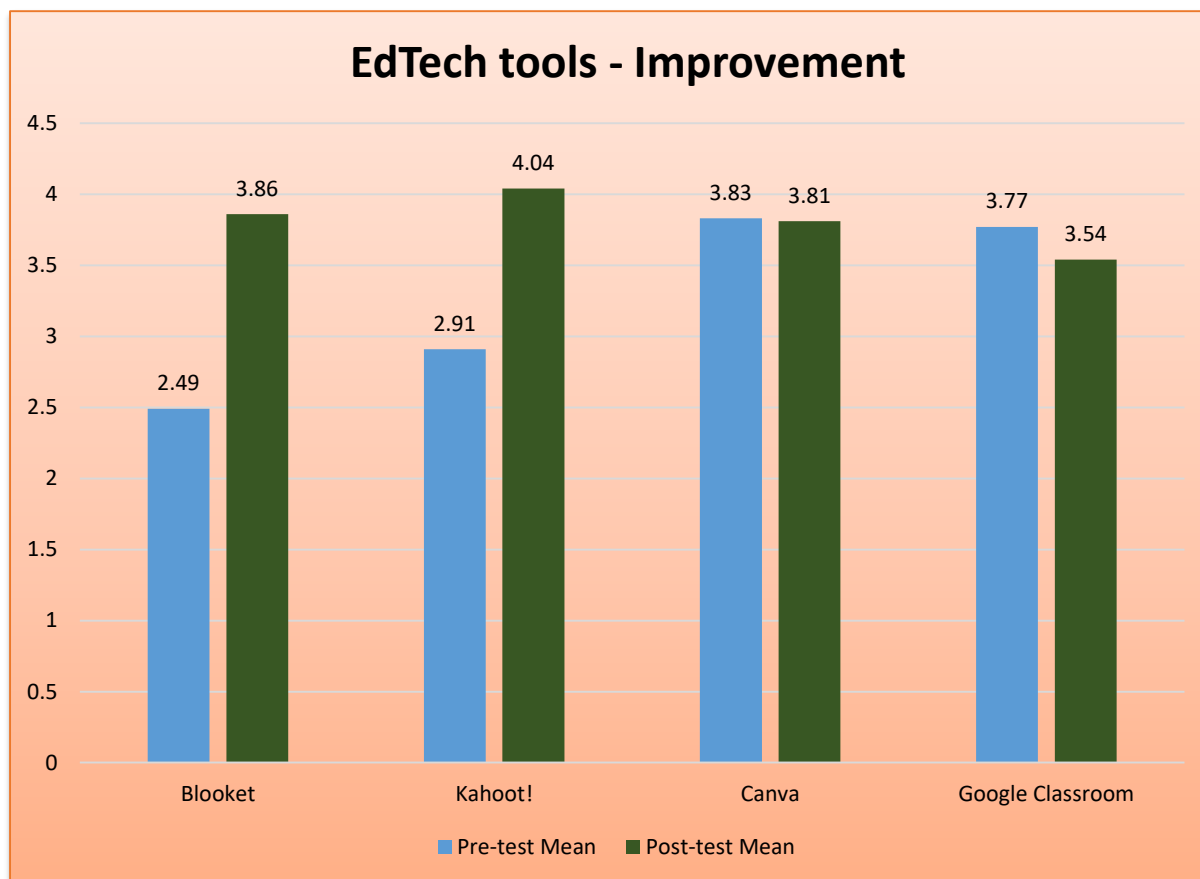


Fig 2. Areas of Highest Improvement

Item-wise analysis revealed that the greatest improvement was observed for **Blooket (Mean Gain = 1.37)**, followed by **Kahoot! (Mean Gain = 1.13)**. These findings suggest that the EdTech training was particularly effective in enhancing familiarity and confidence with gamified learning platforms. Minimal change was observed for Canva, while Google Classroom showed a slight decline in mean score, possibly due to participants having relatively higher baseline familiarity with these tools before the training. Overall, the largest gains were associated with interactive and game-based educational technologies.

Objective 3: To assess faculty intention to use EdTech in their next nursing class after the training

The Intent/Perceived Usefulness domain assessed participants' willingness to adopt EdTech applications in future teaching.

Measure	Mean Score
Pre-test Intention	13.43
Post-test Intention	14.27

Table 1. Intention to Use EdTech

Faculty members demonstrated a high intention to use EdTech applications in their upcoming classes. Participants strongly agreed that educational technologies improve student engagement and expressed willingness to attend further training programs to enhance their digital teaching competencies.

Objective 4: To determine the difference in post-test scores across selected demographic variables among nursing faculty.

Demographic Variable	p-value	Interpretation
Age	0.614	Not significant
Academic Qualification	0.691	Not significant
Years of Teaching Experience	0.927	Not significant
Current Designation	0.691	Not significant
Current Use of EdTech Apps	0.952	Not significant

Table 2. Association of Demographic Variables with Post-Test Scores

There was no statistically significant difference in post-test scores across age groups ($p = 0.614$), academic qualifications ($p = 0.691$), teaching experience categories ($p = 0.927$), and designation ($p = 0.691$), current use of EdTech applications ($p = 0.952$). Since all p-values were greater than 0.05, the findings indicate that the EdTech training programme was equally effective across different demographic groups

DISCUSSION

The present study demonstrated that a single EdTech training session significantly improved nursing faculty awareness, knowledge, and confidence regarding educational technology tools. The greatest improvement was observed in the knowledge domain, indicating that structured hands-on training effectively enhanced faculty understanding of digital teaching platforms. Similar findings were reported by Shon et al., who found that digital competency training improved nursing faculty proficiency, confidence, and preparedness for technology-enhanced teaching.

The findings further revealed that Kahoot! and Blooket showed the highest improvement in familiarity and confidence among the EdTech tools introduced. This is consistent with studies by Wang and Tahir, who reported that Kahoot! increased engagement, motivation, and active participation among learners and

educators. Likewise, research on game-based learning platforms has demonstrated that interactive technologies promote greater involvement and facilitate the adoption of innovative teaching strategies.

A high intention to use EdTech tools in future teaching was observed among participants following the training. Similar findings were reported by Salloum et al. and other technology acceptance studies, which found that increased knowledge and confidence in digital tools positively influence educators' willingness to integrate technology into teaching. Faculty members who perceive educational technologies as useful and easy to use are more likely to adopt them in classroom practice.

No significant association was found between demographic variables and post-test scores, suggesting that the training was beneficial irrespective of age, qualification, designation, or teaching experience. This finding indicates that well-designed EdTech training programmes can support digital competence across diverse groups of nursing faculty. Overall, the results highlight the value of regular faculty development programmes in promoting technology-enhanced nursing education.

CONCLUSION

The study demonstrated that a structured EdTech training session was effective in enhancing nursing faculty awareness, knowledge, confidence, and perceived usefulness of educational technology tools. Faculty members showed high levels of preparedness to integrate Google Classroom, Canva, Kahoot! and Blooket into their teaching practices following the training.

The findings emphasize the value of faculty development programs in promoting technology-enabled teaching and learning. Regular training opportunities may further strengthen digital competence among nursing educators and contribute to more engaging, interactive, and learner-centered educational experiences.

RECOMMENDATIONS

- Regular EdTech training programs should be organized for nursing faculty.
- Hands-on workshops should be incorporated into faculty development initiatives.
- Institutions should encourage the use of digital teaching tools in the classroom and clinical education.
- Future studies may include larger samples and long-term follow-up assessments to evaluate sustained adoption of EdTech applications.

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