

Assessment of Student Satisfaction with E-Learning Platforms in Nursing Education: A Descriptive Study

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Abstract

Background: The integration of technology into higher education has transformed teaching–learning processes, particularly in nursing education. The COVID-19 pandemic accelerated the adoption of e-learning platforms and encouraged nursing institutions to continue academic activities through online and blended learning approaches. Tools such as Google Classroom and Google Forms have been widely used for sharing pre-recorded lectures, learning materials, assignments, quizzes and feedback. However, there is limited evidence from Indian settings, especially Maharashtra, regarding nursing students’ satisfaction with e-learning platforms.

Aim: The aim of the study was to assess nursing students’ satisfaction with e-learning platforms in nursing education.

Methods: A quantitative descriptive research design was used. Fifty nursing students were selected through purposive sampling from a nursing college in Maharashtra, India. Students engaged with pre-recorded lectures and interactive quizzes through Google Classroom and Google Forms. A structured satisfaction survey was administered using Google Forms. Data were analyzed using descriptive statistics including frequency, percentage, mean, median, mode, standard deviation and confidence interval.

Results: The mean satisfaction score was 36.5, with a median of 37.5 and mode of 40, indicating moderate to high satisfaction with e-learning platforms. The standard deviation was 8.18, reflecting moderate variability in student responses. The estimated 95% confidence interval for the mean satisfaction score was approximately 34.18 to 38.82. Students reported positive perceptions regarding content accessibility, flexibility, timely feedback, self-paced learning and ease of participation in quizzes. Variation in satisfaction scores highlighted differences in digital access, internet connectivity, device availability and individual learning preferences.

Conclusion: Nursing students reported moderate to high satisfaction with e-learning platforms. The findings suggest that e-learning can serve as a valuable supportive component of nursing education. However, individual differences and infrastructural challenges need to be addressed for effective implementation. Future studies with larger and more diverse samples are recommended to explore long-term effectiveness, blended learning outcomes and student performance.

Keywords: Student satisfaction, e-learning, nursing education, descriptive study, Google Classroom.

Introduction

Nursing education is a professional and practice-oriented discipline that prepares students to provide safe, competent and compassionate care to individuals, families and communities. Traditionally, nursing education has depended on classroom lectures, demonstration, laboratory practice, clinical posting, seminars and group discussion. However, rapid technological development has changed the way teaching and learning are planned and delivered. Digital platforms are increasingly being used to support education through online classes, video lectures, digital assignments, quizzes and learning management systems.

E-learning refers to the use of electronic technologies and internet-based platforms for teaching, learning, assessment and communication. It may include online lectures, pre-recorded videos, digital notes, discussion forums, virtual classrooms, online quizzes, assignments and feedback systems. E-learning is not limited to distance education; it can also be used as a supportive tool in regular classroom education.

In nursing education, e-learning has gained importance because it provides flexibility and continuity of learning. Nursing students often have busy schedules due to clinical postings, laboratory practice, assignments and examinations. E-learning platforms allow students to access study material at their convenience. They can watch recorded lectures repeatedly, revise difficult topics and participate in online quizzes for self-assessment.

The COVID-19 pandemic created an urgent need for digital education. During lockdowns and institutional closures, nursing colleges adopted online platforms to continue academic activities.

Tools such as Google Classroom, Google Meet, Zoom, Microsoft Teams, Google Forms and learning management systems became commonly used. Even after the pandemic, many institutions continued to use e-learning as part of blended learning.

Google Classroom is a commonly used educational platform that allows teachers to share learning materials, assignments, announcements, links and feedback. Google Forms is used for online quizzes, surveys, tests and feedback collection. These tools are simple, accessible and cost-effective, making them useful in nursing colleges with limited resources.

Student satisfaction is an important indicator of the quality and acceptability of e-learning. Satisfaction reflects students' perception of the learning experience, including ease of use, accessibility, usefulness, clarity of content, interaction, feedback and overall comfort. If students are satisfied with e-learning, they are more likely to participate actively and benefit from digital learning activities.

However, student satisfaction may vary based on several factors. These include internet availability, device access, digital literacy, learning style, home environment, teacher support, quality of content and clarity of instructions. Some students may find e-learning flexible and convenient, while others may face difficulty due to poor connectivity, lack of personal devices or preference for face-to-face teaching.

In nursing education, satisfaction with e-learning is especially important because nursing requires both theoretical knowledge and clinical skill development. E-learning can support theoretical learning, revision and assessment, but it cannot completely replace clinical exposure and hands-on practice. Therefore, it is important to understand how nursing students perceive e-learning platforms and whether they are satisfied with their use.

The present descriptive study was conducted to assess student satisfaction with e-learning platforms in nursing education among nursing students from a college in Maharashtra, India.

Need and Significance of the Study

The need for this study arises from the increasing use of technology in nursing education. E-learning has become an important part of the teaching–learning process. Nursing faculty use

online platforms to share notes, lectures, presentations, assignments and quizzes. Students use these platforms for learning, revision and submission of academic work.

Although e-learning has several benefits, its effectiveness depends partly on student satisfaction. If students find the platform difficult to use or inaccessible, their learning experience may be affected. On the other hand, if students find e-learning flexible, useful and engaging, it can improve participation and self-directed learning.

In India, especially in Maharashtra, nursing colleges have adopted e-learning platforms at different levels. Some colleges use e-learning only for sharing notes and assignments, while others use it for lectures, quizzes, attendance, feedback and assessment. However, evidence regarding nursing students' satisfaction with these platforms is still limited.

The study is significant because it focuses on nursing students' direct experiences with Google Classroom and Google Forms. These platforms are widely used because they are simple and familiar to many teachers and students. Google Classroom helps organize learning materials, while Google Forms allows quick assessment through quizzes and surveys. Understanding student satisfaction with these platforms can help faculty improve teaching strategies.

E-learning supports self-paced learning. Students can access pre-recorded lectures at a convenient time. They can pause, replay and revise content. This is useful for students who need more time to understand difficult topics. It also helps students who miss a live class due to clinical postings, health issues or internet problems.

Interactive quizzes through Google Forms can improve student participation. Quizzes help students assess their understanding immediately after learning. They also help teachers identify topics that require further explanation. Timely feedback through online tools can motivate students and support continuous learning.

However, e-learning also has challenges. Some students may not have stable internet access. Some may use shared mobile phones or limited data packs. Others may lack confidence in using digital tools. Prolonged screen time may cause fatigue. Lack of face-to-face interaction may reduce emotional connection with teachers and peers. These challenges can affect satisfaction.

In nursing education, blended learning may be more suitable than fully online learning. E-learning can be used for theory, revision, quizzes and assignment submission, while laboratory and clinical teaching can be conducted face-to-face. Therefore, assessment of student satisfaction can help faculty design better blended learning approaches.

The present study provides useful information for nursing teachers, administrators and curriculum planners. It helps identify strengths and limitations of e-learning platforms from the student perspective. It also provides baseline evidence for further research in nursing education technology.

Objectives and Methodology

Statement of the Problem

A descriptive study to assess student satisfaction with e-learning platforms in nursing education among nursing students from a selected nursing college in Maharashtra, India.

Aim of the Study

To assess nursing students' satisfaction with e-learning platforms in nursing education.

Objectives of the Study

1. To assess the level of satisfaction among nursing students regarding e-learning platforms.
2. To determine the mean, median, mode and standard deviation of student satisfaction scores.
3. To identify students' perceptions regarding accessibility, flexibility, feedback and self-paced learning.
4. To describe the variability in satisfaction scores among nursing students.
5. To provide recommendations for improving e-learning practices in nursing education.

Operational Definitions

Student Satisfaction: In this study, student satisfaction refers to the level of positive perception and acceptance of e-learning platforms among nursing students, measured through a structured satisfaction survey.

E-learning Platforms: E-learning platforms refer to online tools used for teaching, learning and assessment. In this study, Google Classroom and Google Forms were used.

Nursing Education: Nursing education refers to formal academic and clinical education provided to students enrolled in a nursing programme.

Google Classroom: It refers to an online platform used by teachers to share learning materials, lectures, assignments and announcements.

Google Forms: It refers to an online tool used for creating quizzes, surveys and feedback forms.

Research Approach

A quantitative research approach was adopted because the study aimed to measure student satisfaction using numerical scores.

Research Design

A descriptive research design was used. This design was appropriate because the study aimed to describe the satisfaction level of nursing students with e-learning platforms without manipulating any variable.

Setting of the Study

The study was conducted in a selected nursing college in Maharashtra, India.

Population

The population consisted of nursing students studying in the selected nursing college.

Sample and Sample Size

The sample included 50 nursing students who participated in e-learning activities through Google Classroom and Google Forms.

Sampling Technique

Purposive sampling technique was used to select students who had experience using the e-learning platforms included in the study.

Inclusion Criteria

Students were included if they were enrolled in the nursing college, had participated in e-learning activities, used Google Classroom and Google Forms, and were willing to participate in the study.

Exclusion Criteria

Students who were not available during data collection, students who did not use the selected e-learning platforms, and students who were not willing to participate were excluded.

Tool for Data Collection

A structured satisfaction survey was used for data collection. The survey was administered through Google Forms. The tool included items related to content accessibility, ease of use, flexibility, feedback, self-paced learning, interaction, quiz participation and overall satisfaction.

Data Collection Procedure

Students were provided with pre-recorded lectures and interactive quizzes through Google Classroom and Google Forms. After exposure to these e-learning activities, the structured satisfaction survey was shared with the students. Responses were collected online through Google Forms. The collected data were organized and analyzed using descriptive statistics.

Ethical Considerations

The purpose of the study was explained to the students. Participation was voluntary. Confidentiality of responses was maintained. Students were assured that their responses would be used only for academic and research purposes.

Results**Description of Satisfaction Scores**

The study assessed satisfaction among 50 nursing students who used Google Classroom and Google Forms for e-learning. The satisfaction scores showed moderate to high satisfaction among the participants.

The mean satisfaction score was 36.5. The median score was 37.5 and the mode was 40. The standard deviation was 8.18. The estimated 95% confidence interval for the mean was approximately 34.18 to 38.82.

Table 1: Descriptive Statistics of Student Satisfaction Scores

Statistical Measure	Value
Sample size	50
Mean	36.5
Median	37.5
Mode	40
Standard deviation	8.18
Estimated 95% confidence interval	34.18–38.82

Interpretation of Mean Score

The mean satisfaction score of 36.5 indicates that students had a generally positive perception of e-learning platforms. This suggests that most students were satisfied with the use of Google Classroom and Google Forms in nursing education.

Students reported that e-learning helped them access study materials easily. Pre-recorded lectures allowed them to learn at their own pace. Interactive quizzes helped them revise topics and evaluate their understanding. These findings indicate that e-learning platforms can support flexible and student-centered learning.

Interpretation of Median and Mode

The median score of 37.5 indicates that half of the students scored above this value and half scored below it. Since the median was close to the mean, the distribution of satisfaction scores was reasonably balanced.

The mode score of 40 indicates that 40 was the most frequently occurring satisfaction score. This suggests that a considerable number of students reported high satisfaction with the e-learning experience.

Interpretation of Standard Deviation

The standard deviation of 8.18 indicates moderate variability in satisfaction scores. This means that while many students were satisfied, some students had lower satisfaction levels. This variation may be due to differences in internet connectivity, availability of smartphones or laptops, digital literacy, home learning environment and personal learning preferences.

Positive Perceptions Reported by Students

Students expressed positive perceptions in the following areas:

1. Accessibility of learning materials.
2. Flexibility in learning time.
3. Ability to replay pre-recorded lectures.
4. Timely feedback through quizzes.
5. Ease of submitting responses through Google Forms.
6. Opportunity for self-paced learning.
7. Better revision before examinations.
8. Convenience of accessing content from home or hostel.

Challenges Reported by Students

Although satisfaction was moderate to high, some challenges were identified. These included internet connectivity issues, limited data availability, lack of personal devices, reduced face-to-face interaction, distractions at home and difficulty in learning practical nursing skills through online platforms.

Overall Findings

The findings suggest that e-learning platforms were accepted positively by nursing students. Google Classroom and Google Forms were useful for sharing learning content, conducting quizzes and collecting feedback. However, e-learning should be supported with proper orientation, teacher guidance and infrastructure.

Discussion

The present study assessed student satisfaction with e-learning platforms in nursing education. The findings showed that nursing students had moderate to high satisfaction with the use of Google Classroom and Google Forms. The mean satisfaction score was 36.5, with a median of 37.5 and mode of 40. These findings indicate that students generally accepted e-learning as a useful component of nursing education.

The positive satisfaction may be due to the flexibility offered by e-learning platforms. Students could access pre-recorded lectures according to their convenience. This helped them revise difficult topics and learn at their own pace. In nursing education, where students often balance theory classes, clinical duties and assignments, such flexibility is highly valuable.

Google Classroom may have contributed to satisfaction by organizing learning materials in one place. Students could access lecture videos, notes, assignments and announcements easily. This reduced confusion and helped students follow academic activities systematically.

Google Forms may have improved satisfaction by providing interactive quizzes and feedback. Quizzes encourage active learning and self-assessment. They also help students identify areas where further study is needed. For teachers, quiz responses provide information about student understanding.

The moderate variability in scores indicates that satisfaction was not equal among all students. This is an important finding. E-learning benefits students who have good internet access, personal devices and digital confidence. However, students with poor connectivity, shared devices or low digital literacy may face difficulties. Therefore, digital equity is an important concern in nursing education.

The findings also suggest that e-learning should not be considered a complete replacement for traditional nursing education. Nursing is a skill-based profession that requires laboratory practice, clinical exposure, patient interaction and supervised procedures. E-learning can support theory learning, revision, assessment and feedback, but it cannot fully replace hands-on clinical learning.

The study supports the use of blended learning in nursing education. Blended learning combines online and face-to-face methods. Theory content, recorded lectures, quizzes and assignments can be delivered online, while demonstrations, return demonstrations, simulation and clinical practice can be conducted in person. This approach may provide the benefits of both flexibility and practical learning.

Student satisfaction is closely related to teacher involvement. Even in online learning, students need guidance, clarification and encouragement. Faculty should provide clear instructions, timely feedback and regular communication. E-learning becomes more effective when teachers remain actively involved.

The study also has implications for student mental well-being. Online learning may reduce travel burden and provide flexibility, but excessive screen time and isolation may affect motivation. Therefore, online learning should be interactive and balanced. Teachers should encourage discussion, peer learning and feedback.

In the context of Maharashtra and other Indian settings, e-learning can be a valuable supplement to nursing education. However, institutions must address infrastructure issues such as internet access, device availability, technical support and digital training. Students should also receive orientation on how to use e-learning platforms effectively.

Implications, Limitations, Recommendations and Conclusion

Implications for Nursing Education

The findings suggest that e-learning platforms can be effectively used in nursing education for sharing lectures, notes, assignments, quizzes and feedback. Faculty can use Google Classroom to organize course materials and Google Forms to conduct quizzes and collect student responses.

E-learning should be integrated as a supportive strategy rather than a replacement for clinical education. It can be used for pre-class preparation, revision, formative assessment, remedial teaching and feedback.

Implications for Nursing Practice

Students who are exposed to e-learning may develop better digital literacy. This is important because modern nursing practice increasingly uses electronic health records, telehealth, digital documentation and online health information systems. E-learning can indirectly prepare students for technology-enabled healthcare environments.

Implications for Nursing Administration

Nursing administrators should provide institutional support for e-learning. This includes internet facilities, digital classrooms, faculty training, technical assistance and student orientation. Colleges should also consider the needs of students with limited access to devices or internet.

Implications for Nursing Research

Further research should be conducted with larger sample sizes and different nursing institutions. Comparative studies can be conducted between traditional teaching, e-learning and blended learning. Studies may also examine the relationship between student satisfaction and academic performance.

Limitations of the Study

The study was limited to 50 nursing students from one nursing college in Maharashtra. Purposive sampling was used, so generalization is limited. The study assessed satisfaction but did not measure academic achievement or clinical skill performance. Self-reported responses may be influenced by personal perception and response bias.

Recommendations

1. E-learning should be used as a supplementary component of nursing education.
2. Nursing students should receive orientation on using Google Classroom and Google Forms.
3. Faculty should provide clear instructions and timely feedback.
4. E-learning content should be simple, organized and accessible.
5. Recorded lectures should be supported with interactive discussion.
6. Online quizzes should be used for formative assessment.

7. Colleges should address internet and device-related barriers.
8. Blended learning should be encouraged in nursing education.
9. Larger studies should be conducted in different regions of Maharashtra and India.
10. Future studies should assess academic performance along with satisfaction.

Conclusion

The present descriptive study assessed student satisfaction with e-learning platforms in nursing education among 50 nursing students from a selected nursing college in Maharashtra, India. The findings revealed moderate to high satisfaction with the use of Google Classroom and Google Forms.

The mean satisfaction score was 36.5, median was 37.5 and mode was 40. The standard deviation was 8.18, indicating moderate variability in responses. Students expressed positive perceptions regarding accessibility of content, flexibility, self-paced learning, timely feedback and interactive quizzes. However, differences in digital access, internet connectivity and learning preferences influenced satisfaction levels.

The study concluded that e-learning can serve as a valuable component of nursing education. It supports flexible learning, revision and formative assessment. However, it should be used along with face-to-face teaching, laboratory practice and clinical learning. For effective implementation, institutions must address infrastructural challenges and provide training to both faculty and students.

E-learning is not a substitute for the human and clinical components of nursing education, but it is a useful educational support system. When integrated thoughtfully into a blended learning model, it can improve student engagement, satisfaction and readiness for modern technology-enabled healthcare practice.

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