

Impact of Digital Storytelling on Nursing Students' Perception

Ms. Tejasvini Kalekar

Assistant Professor, Dept of Medical Surgical Nursing MES College of Nursing.

Abstract

Background: In the context of nursing education, fostering empathy, engagement, critical thinking and clinical understanding is essential for preparing competent and compassionate healthcare professionals. Digital Storytelling (DST) has emerged as an innovative multimedia-based pedagogical tool that promotes emotional and cognitive learning by contextualizing theoretical knowledge within real-life clinical scenarios. In Medical-Surgical Nursing, where students are required to understand complex disease conditions, patient experiences, clinical decision-making and holistic care, DST can help bridge the gap between classroom learning and clinical practice.

Objectives: The study aimed to assess the impact of Digital Storytelling on undergraduate nursing students' perception.

Methods: A quantitative one-group post-test-only design was employed. The study was conducted among 92 third-year B.Sc. Nursing students at a nursing college in Maharashtra, India. Participants were exposed to a DST-based session as part of their Medical-Surgical Nursing curriculum. The digital story included clinical content supported by narration, images, audio, patient-care context and reflective elements. Data were collected using a structured 10-item Likert scale immediately after the intervention. Descriptive and inferential statistics, including mean, standard deviation, one-sample t-test and Cohen's d, were used for data analysis.

Results: The mean perception score was 44.26 with a standard deviation of 4.20 out of a maximum score of 50, indicating a highly positive response toward Digital Storytelling. The one-sample t-test showed a statistically significant difference between the sample mean and the hypothesized neutral mean of 30, with $t = 32.58$ and $p < 0.001$. The calculated effect size was

very large, with Cohen's $d = 3.40$. These findings indicate that DST was perceived as a highly effective, engaging and meaningful instructional strategy by nursing students.

Conclusion: The findings suggest that Digital Storytelling is a highly effective and engaging instructional strategy in nursing education. It enhances learning by improving student perception, promoting emotional connection, strengthening attention and facilitating deeper understanding of clinical content. Incorporating DST into Medical-Surgical Nursing curricula may bridge the gap between theory and practice and enrich the educational experience. Future research using experimental designs, qualitative interviews and long-term follow-up is recommended to further explore its impact on knowledge, empathy, communication and clinical performance.

Keywords: Digital storytelling, nursing education, student perception, empathy, multimedia learning, post-test-only design.

Introduction

Nursing education is a professional and practice-oriented discipline that aims to prepare students for safe, competent and compassionate patient care. In the present healthcare environment, nursing students are expected to develop not only theoretical knowledge but also clinical judgment, empathy, communication skills, ethical sensitivity and confidence in patient care. Medical-Surgical Nursing is one of the core areas of nursing education because it deals with adult patients suffering from acute and chronic medical and surgical conditions. Students must understand disease processes, clinical manifestations, investigations, treatment modalities, nursing management and patient education.

Traditional teaching methods such as lectures, demonstrations, textbooks and PowerPoint presentations remain important in nursing education. However, these methods may not always create emotional connection with patient experiences. Students may remember definitions and procedures but may fail to fully understand the human experience of illness, hospitalization, pain, fear, dependency and recovery. Therefore, innovative teaching strategies are needed to make learning more meaningful, reflective and patient-centered.

Digital Storytelling is one such innovative educational approach. It combines the art of storytelling with digital media. A digital story may include narration, images, music, text, video

clips, animation and real-life scenarios. In education, Digital Storytelling helps present information in a structured and emotionally engaging manner. It allows learners to see clinical content not as isolated facts but as part of a human story.

In nursing education, Digital Storytelling can be used to present patient journeys, clinical case scenarios, ethical dilemmas, family experiences, chronic illness adaptation, rehabilitation stories, medication adherence challenges and end-of-life care situations. It helps students connect theoretical concepts with real-life clinical practice. For example, instead of teaching only the pathophysiology of chronic kidney disease, a digital story can show the life of a patient undergoing dialysis, emotional struggles, dietary restrictions, family support and nursing responsibilities.

The importance of Digital Storytelling is especially relevant in Medical-Surgical Nursing. Many medical-surgical conditions such as cancer, stroke, chronic obstructive pulmonary disease, diabetes mellitus, renal failure, cardiac disease and postoperative recovery require long-term care and emotional support. Students must understand not only the disease but also the patient's lived experience. DST can help students appreciate the psychosocial dimensions of illness.

Digital Storytelling supports both cognitive and affective learning. Cognitive learning includes understanding, retention, clinical reasoning and application of knowledge. Affective learning includes empathy, attitude, sensitivity, motivation and emotional engagement. Nursing education requires both these domains because nursing is a science as well as a humanistic profession.

The present study was conducted to assess the impact of Digital Storytelling on nursing students' perception. The study focused on third-year B.Sc. Nursing students who were exposed to a DST-based session as part of the Medical-Surgical Nursing curriculum. The aim was to understand whether students perceived DST as an effective, engaging and meaningful teaching-learning method.

Need and Significance of the Study

The need for this study arises from the changing demands of nursing education. Today's nursing students are digital learners who are familiar with mobile phones, videos, online platforms, animations and multimedia learning. Traditional classroom teaching alone may not fully address

their learning preferences. Therefore, faculty members need to adopt teaching strategies that promote active participation, emotional connection and reflective thinking.

Medical-Surgical Nursing contains vast and complex content. Students often find it difficult to remember disease conditions, nursing interventions, diagnostic procedures, medication management and patient education. Digital Storytelling can simplify complex concepts by presenting them through a patient-centered narrative. When students listen to and observe a clinical story, they may understand the sequence of illness, treatment and nursing care more clearly.

Digital Storytelling is also significant because it promotes empathy. Empathy is an essential quality in nursing practice. Nurses must understand the patient's feelings, fears, needs and concerns. When students are exposed to patient stories, they may become more sensitive toward suffering, dignity, communication and emotional support. This can help prepare students for compassionate care.

Another important aspect is student engagement. Passive learning may reduce attention and interest. Digital Storytelling uses visual and auditory elements that can capture attention and maintain curiosity. When the learning experience is emotionally meaningful, students may remember the content better. DST can also encourage discussion, reflection and critical thinking after the session.

In clinical practice, nurses are required to make decisions based on patient assessment and changing conditions. A digital story can present a clinical situation step by step, allowing students to think about assessment findings, nursing priorities and expected outcomes. Thus, DST can support clinical reasoning and decision-making.

The study is also significant because it was conducted among third-year B.Sc. Nursing students. At this stage, students are actively learning Medical-Surgical Nursing and participating in clinical postings. They are expected to connect theory with patient care. A DST-based teaching session can help them understand the practical relevance of classroom content.

From the faculty perspective, DST is a flexible teaching method. It can be used in classroom teaching, online learning, blended learning, simulation pre-briefing and reflective learning

sessions. Teachers can create digital stories using simple tools such as PowerPoint, video editing applications, voice narration and images. Therefore, it is feasible even in institutions with limited resources.

The present study contributes to nursing education by providing evidence regarding student perception toward DST. Since perception influences acceptance and participation, understanding student perception is important before integrating DST widely into the curriculum. Positive perception indicates that students are likely to accept DST as a valuable learning method.

Objectives and Methodology

Statement of the Problem

A study to assess the impact of Digital Storytelling on nursing students' perception in a selected nursing college of Maharashtra, India.

Objective of the Study

To assess the impact of Digital Storytelling on undergraduate nursing students' perception.

Operational Definitions

Digital Storytelling: In this study, Digital Storytelling refers to a multimedia-based teaching strategy that uses narration, images, audio, text and clinical scenarios to present Medical-Surgical Nursing content in a story format.

Nursing Students: Nursing students refer to third-year B.Sc. Nursing students studying in a selected nursing college in Maharashtra.

Perception: Perception refers to the students' views, opinions and acceptance of Digital Storytelling as a teaching-learning strategy, measured through a structured 10-item Likert scale.

Impact: Impact refers to the positive influence of Digital Storytelling on students' perception, engagement and perceived learning experience.

Research Approach

A quantitative research approach was used because the study aimed to measure nursing students' perception using numerical scores.

Research Design

A one-group post-test-only design was employed. This design was suitable because the students were exposed to a Digital Storytelling-based teaching session and their perception was assessed immediately after the intervention. As there was no control group and no pre-test, the design is best described as a one-group post-test-only or pre-experimental design.

Setting of the Study

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

Population

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

Sample and Sample Size

The sample consisted of 92 third-year B.Sc. Nursing students who were exposed to the Digital Storytelling-based session as part of their Medical-Surgical Nursing curriculum.

Sampling Technique

A suitable non-probability sampling technique was used to select students who were available and willing to participate in the study.

Inclusion Criteria

Students were included if they were enrolled in third-year B.Sc. Nursing, attended the DST-based session, were willing to participate and completed the perception scale.

Exclusion Criteria

Students who were absent during the DST session, unwilling to participate or submitted incomplete responses were excluded.

Description of the Intervention

The Digital Storytelling-based session was developed around a Medical-Surgical Nursing topic. The story presented a patient-centered clinical situation using narration, images, text, emotional elements and nursing care components. The session focused on connecting theoretical content with clinical practice. It included disease-related information, patient symptoms, nursing assessment, intervention priorities, communication and reflective learning.

Tool for Data Collection

Data were collected using a structured 10-item Likert scale. The tool assessed student perception regarding clarity, interest, emotional connection, clinical relevance, understanding, engagement, motivation, reflection, usefulness and overall acceptance of Digital Storytelling. The maximum possible score was 50.

Data Collection Procedure

After obtaining permission from the institution, the students were oriented to the purpose of the study. The DST-based session was conducted as part of Medical-Surgical Nursing teaching. Immediately after the session, the structured perception scale was administered. Students completed the tool and submitted their responses. Data were organized and analyzed using descriptive and inferential statistics.

Ethical Considerations

Permission was obtained from the concerned institutional authority. Participation was voluntary. The purpose of the study was explained to students. Confidentiality of responses was maintained. Students were assured that their academic evaluation would not be affected by their participation or responses.

Results

Description of Study Participants

The study was conducted among 92 third-year B.Sc. Nursing students from a selected nursing college in Maharashtra. All participants were exposed to a Digital Storytelling-based session in Medical-Surgical Nursing and completed the structured perception scale.

Perception Score of Nursing Students

The mean perception score was 44.26 with a standard deviation of 4.20 out of a maximum score of 50. This indicates that students had a highly positive perception toward Digital Storytelling as a teaching-learning strategy.

The high mean score suggests that most students found DST interesting, understandable, clinically relevant and engaging. Students perceived that DST helped them connect theoretical knowledge with real-life clinical situations.

Statistical Analysis

A one-sample t-test was used to compare the sample mean perception score with the hypothesized neutral mean of 30. The obtained t-value was 32.58, which was statistically significant at $p < 0.001$. This indicates that the students' perception score was significantly higher than the neutral level.

The effect size was calculated using Cohen's d. The obtained Cohen's d value was 3.40, which indicates a very large effect size. This means that the impact of Digital Storytelling on students' perception was not only statistically significant but also educationally meaningful.

Table 1: Perception Score Regarding Digital Storytelling

Variable	Mean	SD	Maximum Score	Interpretation
Nursing students' perception regarding	44.26	4.20	50	Highly positive perception

Variable	Mean	SD	Maximum Score	Interpretation
DST				

Table 2: One-Sample t-Test of Perception Score

Mean Score	Hypothesized Mean	t-value	p-value	Interpretation
44.26	30	32.58	<0.001	Statistically significant

Table 3: Effect Size

Statistical Measure	Value	Interpretation
Cohen's d	3.40	Very large effect size

Interpretation of Findings

The findings clearly indicate that Digital Storytelling had a strong positive impact on nursing students' perception. Students responded positively to the use of multimedia storytelling in Medical-Surgical Nursing education.

The high perception score may be due to several reasons. First, DST presents content in a visually attractive and emotionally meaningful way. Second, it connects disease conditions with patient experiences. Third, it encourages students to think beyond textbook content. Fourth, it may reduce monotony and increase classroom interest.

The statistically significant t-value confirms that the perception score was much higher than the neutral level. The very large effect size further strengthens the finding that DST was highly accepted by students.

These results suggest that Digital Storytelling can be used as an effective teaching-learning method in nursing education, especially for topics that require empathy, clinical understanding and patient-centered thinking.

Discussion

The present study assessed the impact of Digital Storytelling on nursing students' perception. The findings revealed that third-year B.Sc. Nursing students had a highly positive perception of

DST after attending a Medical-Surgical Nursing session. The mean perception score was 44.26 ± 4.20 out of 50. The one-sample t-test showed a statistically significant difference from the neutral mean, and the effect size was very large.

These findings indicate that DST is an effective and engaging instructional strategy. Nursing students perceived it as useful for understanding clinical content and connecting theoretical learning with patient care. This is important because one of the major challenges in nursing education is bridging the gap between classroom knowledge and clinical practice.

The positive perception may be explained by the multimedia nature of DST. Visual images, voice narration, patient scenarios and emotional content can improve attention and interest. Students may find it easier to understand a clinical concept when it is presented through a story rather than only through lecture notes. Stories create context, and context helps learners remember.

Digital Storytelling also promotes emotional learning. Nursing is not only a technical profession; it is also a caring profession. Students must understand patient suffering, fear, hope and recovery. DST can present the human side of illness and help students develop empathy. In Medical-Surgical Nursing, patients often experience pain, disability, anxiety, lifestyle changes and long-term treatment. DST can help students appreciate these experiences.

The study also supports the use of DST for reflective learning. After watching a digital story, students can be encouraged to discuss questions such as: What was the patient's main problem? What nursing care was needed? How did the patient feel? What could the nurse do to support the patient emotionally? Such reflection improves critical thinking and patient-centered care.

The very large effect size indicates that DST had a strong educational influence on student perception. However, it is important to note that this study measured perception only. It did not directly measure knowledge gain, clinical skill performance, empathy score or long-term retention. Therefore, while the findings are promising, further research is required to measure broader educational outcomes.

The design of the study was one-group post-test-only. This design is useful for assessing immediate perception after an educational intervention. However, without a pre-test or control

group, it is not possible to compare changes over time or determine whether DST is superior to traditional teaching. Future studies can use experimental or quasi-experimental designs for stronger evidence.

In the Indian nursing education context, DST is highly relevant. Many nursing colleges have access to basic digital tools such as projectors, smartphones, laptops and internet. Faculty can create simple digital stories using available resources. DST can be used before clinical posting, during case discussions, in simulation laboratories and during reflective sessions.

However, faculty training is necessary. A digital story should not be merely a video. It should be planned with clear learning objectives, accurate clinical content, ethical sensitivity and structured reflection. Patient confidentiality must be maintained if real patient stories are used. Fictionalized or anonymized stories are safer for educational purposes.

Overall, the study findings support DST as a meaningful and student-friendly pedagogical approach in Medical-Surgical Nursing education.

Implications, Limitations, Recommendations and Conclusion

Implications for Nursing Education

Digital Storytelling can be incorporated into nursing curricula as a supportive teaching-learning strategy. It can be used to teach complex Medical-Surgical Nursing topics such as chronic illness, cancer care, cardiac disorders, respiratory disease, renal failure, stroke, postoperative care, pain management and palliative care.

DST can also be used for case-based learning and reflective learning. After presenting a digital story, faculty can conduct group discussion, ask clinical reasoning questions and encourage students to identify nursing diagnoses and interventions.

Implications for Medical-Surgical Nursing

In Medical-Surgical Nursing, students must understand both disease management and patient experience. DST can help students visualize patient problems, understand emotional responses and plan holistic nursing care. It supports the development of empathy, communication and patient-centered thinking.

Implications for Nursing Practice

Students exposed to patient-centered digital stories may become more sensitive toward patient needs. This can improve communication, compassion and quality of care in clinical areas. DST may also help students understand the importance of health education, family support and continuity of care.

Implications for Nursing Administration

Nursing administrators should encourage faculty to use innovative teaching methods such as DST. Institutions can provide training in digital content creation, educational technology and multimedia teaching. Basic facilities such as projectors, audio systems, internet access and digital classrooms should be made available.

Implications for Nursing Research

Further research should be conducted to assess the impact of DST on knowledge, empathy, clinical reasoning, communication and long-term retention. Qualitative studies can explore students' experiences in depth. Comparative studies can assess DST against lecture method, simulation or case-based learning.

Limitations of the Study

The study was conducted among 92 third-year B.Sc. Nursing students from one nursing college in Maharashtra. The design was one-group post-test-only, without a control group or pre-test. The study assessed perception immediately after the intervention and did not measure long-term outcomes. Responses were self-reported and may be influenced by social desirability.

Recommendations

1. Digital Storytelling should be used as a supplementary teaching method in nursing education.
2. Faculty should develop DST sessions with clear learning objectives.
3. DST should be integrated with discussion and reflection.
4. Patient confidentiality must be maintained while using clinical stories.

5. Experimental studies should be conducted to assess effectiveness on knowledge and skill outcomes.
6. Qualitative research should explore students' emotional and reflective experiences.
7. DST can be used before clinical posting to prepare students for patient care.
8. Nursing colleges should provide faculty development programmes on multimedia-based teaching.
9. DST should be used especially for topics requiring empathy and holistic care.
10. Future studies should include larger samples and multiple nursing colleges.

Conclusion

The present study concluded that Digital Storytelling had a highly positive impact on nursing students' perception. The mean perception score of 44.26 ± 4.20 out of 50 indicated strong acceptance of DST as a teaching-learning strategy. The one-sample t-test showed statistically significant findings, and Cohen's d value of 3.40 indicated a very large effect size.

Digital Storytelling was perceived as interesting, engaging, clinically relevant and emotionally meaningful. It helped students connect Medical-Surgical Nursing theory with patient-centered clinical situations. It also promoted attention, reflection and deeper understanding of patient care.

DST is a promising educational strategy that can enrich nursing education by combining knowledge, emotion and clinical context. It should be used as a supplementary method along with lectures, demonstrations, simulation and clinical practice. When planned properly, DST can help prepare nursing students to become knowledgeable, empathetic and compassionate healthcare professionals.

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