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Students' Perceptions of Creating Educational Videos as a Teaching and Learning Strategy

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ABSTRACT

Background: The integration of digital technology in nursing education has revolutionized traditional teaching methods. Creating educational videos enhances student engagement and clinical reasoning.

Purpose: This study evaluated nursing students' satisfaction and perceptions of creating educational videos as a teaching and learning strategy.

Methods: A mixed-methods descriptive study was conducted with 150 second-year nursing students enrolled in a Health Education module at San Jorge University (Zaragoza, Spain). Students developed health education videos in groups, and data were collected through a 5-point Likert scale questionnaire and reflective narratives.

Results: Students produced 33 videos. Quantitative findings showed high satisfaction, with the highest ratings for video applicability. Qualitative data revealed enhanced teamwork, creativity, and information technology skills.

Conclusions: Video creation is an effective tool in nursing education, fostering engagement and skill development, aligning with modern educational practices.

Keywords: clinical competence, educational technology, health communication, nursing education, professional competence

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The educational transformation driven by digital innovation and a student-centered approach has redefined teaching and learning paradigms.[1] The convergence of informatics, artificial intelligence, and global connectivity has created an environment conducive to applying technologies that have reshaped the learning process, particularly in terms of effectiveness, accessibility, and customization.[2] Integrating technology into the curriculum requires careful planning, aligning digital resources with learning objectives and the specific needs of students.[3,4]

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The evolution of nursing education reflects a dynamic landscape driven by the integration of technology and innovative methodologies.[5] Faculty must prepare future professionals for a constantly changing health care environment.[6] In this context, digital tools have proven useful in creating learning opportunities that enhance clinical reasoning.[7] Additionally, they are among the most effective methods for fostering academic motivation, satisfaction, knowledge acquisition, and improving learning outcomes.[8]

Specifically, student-produced videos have been increasingly integrated into the pedagogical practices of health educators. Reported experiences vary in context, purpose, and implementation approaches.[9] Their main objectives, though sometimes not clearly defined, include developing clinical skills,[10] promoting reflection,[11] improving communication,[12] and creating educational resources.[13] This activity is typically proposed as a group task, with variations in duration, complexity, and curricular integration. However, few studies explicitly discuss the pedagogical theories underlying these approaches, although elements such as active learning, knowledge construction, and collaborative learning are usually evident.[9]

The impact of this tool on student engagement has been debated. Some studies found active involvement,[14] while others reported a lack of motivation and participation.[9] Results on learning and activity development are also mixed: some experiences show improvements in clinical and communication skills, while others find no significant differences compared to other approaches.[9] Despite

reluctance toward video-based assessment, this tool has proven useful in evaluating transversal competencies in health professionals' training, such as empathy, patient communication, interprofessional communication, and digital literacy, which are difficult to assess using traditional methods.[15]

Promoting the creation of health promotion or education videos for later dissemination can be framed within the theory of learning/engagement, which is based on 3 central ideas: "relate-create-donate."[16] In this context, learning occurs in a social setting (relate), the students' work should be practical and project-based (create), and the project should have a "real-world" focus/use (donate). This underscores the importance of students' active participation in meaningful projects with real societal impact, using technology to facilitate deep and collaborative learning.[17] Recent experiences with educational videos on pharmacotherapy for patients have shown positive results both in the material produced and in student satisfaction.[13] Similarly, when addressing a complex public health issue, this activity has improved students' perceived learning, their preference over other tasks, and the acquisition of new skills during the video creation process.[18] Additionally, creating videos for the media fosters critical thinking, the production of appropriate health information, and knowledge acquisition about the media itself.[17]

In this context and within the framework of the second year of an undergraduate nursing degree, an activity involving the creation of an educational video was proposed, applying the knowledge previously acquired in the classroom.

Aim

The objective of this study was to assess student satisfaction and perceptions regarding the utility of a teaching activity centered on creating health education videos, as well as to evaluate students' subjective learning experiences through reflective questions.

Methodology

Design and Study Population

A mixed-methods, descriptive, cross-sectional study was designed to analyze student satisfaction and perceptions of creating an educational video as a teaching and learning activity. During the 2022 to 2023 academic year, 158 nursing students were enrolled in the Health Education course, and 150 completed the activity and voluntarily agreed to participate in this study. The module was delivered in the spring term, from February to June 2023.

Description of Teaching and Learning Activity

Health Education is taught in the second year of the undergraduate nursing degree at San Jorge University (Zaragoza, Spain). By the end of the course, students should be able to address health issues through interpersonal communication, create educational scenarios, and disseminate health-promoting messages. Students are also introduced to the use of new technologies in health education through the creation and dissemination of educational audiovisuals on social media. In the 2022 to 2023 academic year, students, in groups of 4 to 6, were tasked with developing a health education video of 150 seconds or less, targeting a specific audience: patients, relatives, professionals, or the general public.

The students were provided with the assessment rubric at the beginning of the course and were told to design a video that effectively conveyed a health education message to their intended audience (Supplemental Digital Content, Table 1, available at: http://links.lww.com/NE/B811). The course facilitators were available for individual or group tutorials upon request. The students were offered the possibility of publishing their videos on the social media accounts, namely Facebook® and Instagram®, of the nursing degree at San Jorge University; written permission was sought and obtained from all the authors before uploading the videos on social media. As a framework for the assessment of learning, we used active verbs from Bloom's Taxonomy[19,20] to write learning outcomes for the creation of educational videos: (1) to analyze and synthesize information obtained from various sources; (2) develop the students' teamworking skills; (3) generate health messages and adapt them to specific audiences; and (4) create and edit audiovisual material suitable for dissemination in social media.

Data Collection

Student perception and satisfaction with the teaching and learning activity were assessed through a purpose-built 5-point Likert scale (from 1-strongly disagree to 5-strongly agree) measuring the students' level of agreement with 19 statements divided into 3 dimensions: complexity, didactic utility and satisfaction, and degree of applicability. In addition, we analyzed the students' perception and learning experience qualitatively through the students' reflective learning narratives. The students' narratives were guided by the following reflective questions: (1) How did participating in the creation of the educational video contribute to your understanding of the health education topic? (2) What strengths did you bring to the team, and what areas did you find challenging? (3) Did you encounter any unexpected challenges or obstacles during the video creation process, and how did you overcome them? (4) Did you find the process of storytelling effective in conveying health education messages? (5) Have your perceptions or attitudes toward health education changed? and (6) What lessons or insights will you carry forward from this experience?

Data Analysis

The results from the quantitative questionnaire were described using frequency and percentage, and mean and standard deviation, as appropriate. Additionally,

the internal consistency of the questionnaire was tested using Cronbach's Alpha coefficient, yielding an optimal result (Cronbach's Alpha = 0.910 for the overall questionnaire). All these calculations were performed using the statistical software SPSS version 28.0 (IBM, Armonk, NY).

The iterative reading process was conducted by 2 of the authors, with a third researcher addressing any differences in the interpretation of the results. This collaborative approach ensured a rigorous and well-informed analysis, incorporating diverse perspectives while maintaining consistency and clarity in the interpretation of findings. We used guidelines[21] for the analysis and interpretation of reflective questions. This approach involved systematically coding the responses to identify emerging themes and patterns. Each response was examined for key concepts and categorized accordingly. Through iterative reading and re-reading of the data, we ensured that the coding process was thorough and captured meaning accurately. This method allowed us to delve deeply into the reflective narratives provided by the respondents. Data analysis was conducted using ATLAS.ti software (QSR International Pty Ltd, USA). First, a line-by-line coding of each participant's responses was performed. Next, the responses were grouped into conceptual analytical categories. Finally, the codes were organized by themes, and when the coding tree was considered complete, open coding was concluded, referencing the reflexive questions.

Ethical Considerations

This work is part of the educational innovation project "Learn, create, post: Creation of educational videos for social media," selected in the VIII Call for Educational Innovation Projects of San Jorge University. Authorization was requested from the Research Ethics Committee of San Jorge University prior to data collection. Students signed a consent form before completing the quantitative questionnaire and voluntarily authorized the use of their reflective narratives as part of this investigation. They also granted permission for the dissemination of the videos on the nursing program's official social media accounts, if applicable.

Results

Audiovisual Products

The university provided its facilities and resources for student use, which could be accessed through prior reservation. Nevertheless, students independently used available materials for video production, relying on the resources at their disposal. Notably, many opted to record using their mobile phones and edited their videos with publicly accessible software such as iMovie. Despite these constraints, the quality of the final products ranged from good to very good. This approach not only minimized costs, as no new materials needed to be acquired, but also demonstrated to students that commonly available, everyday tools can be effectively employed for professional purposes. The students produced 33 educational videos, with their characteristics and content summarized in Supplemental Digital Content, Table 2 (available at: http://links.lww.com/NE/B812). The communicative approaches were varied, classified into 2 main groups: (1) dramatized videos, where students played roles within a realistic story that generated emotions and conveyed a health message and (2) pure dissemination videos, narrating health-related topics. The visual content varied, including students' own images, animations, dynamic presentations, press clippings, or repository content, supported by a voice-over. Some videos addressed topics not included in the Health Education course.

Evaluation of the Activity

The students showed a high degree of agreement with the statements included in the questionnaire (Table). The students' responses were positive for the 3 domains, namely complexity, didactic utility and satisfaction with the activity, and applicability (means > 3). Specifically, the highest-rated dimension was applicability of the educational proposal (4.10 ± 0.64) and the lowest-rated was complexity (3.47 ± 0.69). It is worth noting that, in this latter dimension, the score decreased mainly due to the weight of item number 1 ("Before this activity, I thought making videos was easy"), which reflected the students' previous lack of experience with creating videos and handling audiovisual technology.

The open-ended questions reflected a positive perception of the activity, highlighting its usefulness as a learning and communication tool, its ability to engage students and improve their technical and collaborative skills, and its effectiveness in disseminating health information through visual media. The analysis and interpretation of the students' narrative reflections were classified into 5 themes or codes, namely (1) student learning, (2) assessment of the utility of videos as an educational tool, (3) information and digital skills, (4) teamwork and problem-solving skills, and (5) challenges.

Student Learning

The activity was attractive to most students and provided an alternative to traditional learning methods. As the students mentioned, "providing audiovisual tools allows for the rapid consolidation of knowledge and concepts, a great tool for learning." Additionally, they highlighted that "it is a different way of learning and preparing various topics that you would not do on your own," which indicates that the approach used stimulated interest and promoted more autonomous and in-depth learning. Some of the students reflected on how creating the educational videos had helped them to develop criteria to distinguish between reliable and unreliable Internet content and how it encouraged them to be creative, "it also helps us develop our creative and communication skills."

Table. Students' Perceptions of the Activity (n = 150)

	Item	Mean ± SD*
Complexity	Before this activity, I thought making videos was easy	2.95 ± 1.18
	The instructions for making the videos were easy to understand	3.83 ± 0.79
	The prior work done in the course was adequate and sufficient to create our audiovisual material	3.65 ± 0.95
	Total (domain)	3.47 ± 0.69
Didactic utility and satisfaction with activity	Making the videos motivated me to learn about specific topics	3.89 ± 0.92
	I think making the videos was a very positive experience	3.91 ± 0.93
	I would like videos to be used more often in the teaching of clinical skills	3.91 ± 1.05
	Being able to watch the videos at any time is very convenient and useful for improving my knowledge on specific topics	4.16 ± 0.86
	I believe that making the videos improved my knowledge acquisition	3.86 ± 0.79
	I have learned clinical skills through the use of videos	3.76 ± 0.87
	After making the videos, I feel more prepared for clinical practice	3.44 ± 0.94
	This activity has helped me improve my teamwork skills	4.01 ± 0.85
	Total (domain)	3.86 ± 0.68
Applicability	I think I will use videos in the future to review and enhance my clinical skills	3.53 ± 0.98
	I believe that the use of informative videos is a useful strategy to convey health-related content to patients	4.45 ± 0.68
	I believe that the use of informative videos is a useful strategy to educate and convey knowledge to other healthcare professionals	4.37 ± 0.71
	After this experience, I feel more encouraged to create and use informative videos in my professional career	3.77 ± 0.92
	Social media and online technology are powerful channels for conveying health-related messages	4.51 ± 0.71
	Total (domain)	4.12 ± 0.59
Overall		3.87 ± 0.58

*Mean ± SD constructed according to the criteria: strongly disagree (1 point), disagree (2 points), neither agree nor disagree (3 points), agree (4 points), and strongly agree (5 points). Mean ± SD (total domain) and (total scale) constructed according to the formula: ∑(item scores)/number of items.

Assessment of Utility of Videos as Educational Tool

Students found the educational videos useful and valuable as a tool. They thought that the videos had the potential to convey important information in an accessible and understandable manner, promoting both visibility and retention of health-related information. In addition, the students' indicated that social media was an appropriate platform from which to educate the population on healthy habits and lifestyle. Students explained,"it's a good idea to convey necessary information to people who are unaware of it in a simple and quick way." Additionally, students highlighted it as a powerful dissemination tool, stating, "Thanks to social media, health promotion can reach further, as the message reaches more people." Finally, students felt that creating videos had the potential to improve the nurse-patient-community relationship in an innovative manner that resonates with current trends in information consumption.

Information and Digital Skills

Some of the students found the process of filming videos a challenging and time-consuming experience although, overall, they appreciated the opportunity to develop their information and digital skills. One student explained, "In particular, I thought that making an informative video was quite easy, and then you realize that it takes many hours of work." and another, "This type of activity helps us to practice with these kinds of tools such as audiovisual technologies while also focus on the class content."

Teamwork and Problem-solving Skills

The students perceived that this activity helped them to work on key teamworking skills and attitudes, such as mutual respect and shared decision-making. One student highlighted, "It helps to work as a team and adapt to certain adversities that may arise." Another noted, "Both teamwork and coordinating to meet together, as well as the brainstorming we do among all of us… These are very positive aspects for a career like nursing."

Challenges

The students' comments also reflected that they experienced challenges with creating the videos, specifically, in relation to teamwork, technological skills, effective communication, time management, content quality and relevance, and the accuracy and impact of the information. One student noted, "It takes a lot of time to make the video, match it with the audio, and edit it," and another commented "Learning to convey the message we want to reach the patient."

Discussion

This study analyzed undergraduate nursing students' learning experience and perception of creating educational videos as part of a Health Education course.

The students' evaluation of the activity overall was positive. While their experiences of generating videos as a learning activity were not always satisfactory,[22] previous studies have reported similar results.[13,23] Although students mostly enjoyed the experience, many underestimated the complexity of producing a health education video. These findings are not unique; previous studies have reported challenges for both students[13,18,23] and teachers.[24] Specifically, our participants faced difficulties working in groups, updating technical skills, effectively communicating the health message, managing time and workload, and finding reliable content. These results suggest that audiovisual production can be used not only for learning and developing digital competencies but also for acquiring essential professional skills.[24] Furthermore, it encourages critical reflection on how to effectively and clearly communicate health information, a critical competency in clinical practice.[25]

Shafirova and Cassany[26] noted that teachers find introducing this type of activity in the classroom time-consuming and report a lack of training and technological resources. Our findings are significant and should be considered when planning these activities. Producing a health education video requires not only clinical knowledge but also professional skills such as communication, teamwork, problem-solving, flexibility, critical thinking,[27] and technical skills.[11] Teachers should assess students' competence levels and provide necessary support to prevent failure.[28] Transferable skills are often addressed during undergraduate nursing education.[29] However, it is critical that teachers consider students' competence levels and plan tasks so that learning of cross-curricular content is progressive[30] or taught through specific courses.[31]

In the current digital health context, developing digital competencies should be a priority in nursing curricula as a key transferable skill. However, there is a significant gap in acquiring these competencies due to the lack of systematic integration into the curriculum,[32] which affects students' preparedness to meet the demands of modern clinical practice and communication needs of health care system users.[33] Providing access to technology is not enough; it is essential to design pedagogical activities that guide its use in real-world contexts, with the creation of educational videos being a viable and effective strategy.[34]

This approach not only equips future professionals with technical skills but also fosters a deeper understanding of how technology can optimize health care delivery. Additionally, it highlights the importance of effective communication through digital media, a key tool for patient education and empowerment.[35] In our study, students expressed interest in using videos to review and enhance their knowledge, as well as to communicate health information to patients and professionals. These findings align with previous studies, where students were encouraged to create and use informative videos in their careers, recognizing social media and online technology as powerful tools for conveying health messages.[36]

Moreover, the findings regarding nursing students' ability to "differentiate reliable from unreliable information" and evaluate the "accuracy and impact of the information provided" highlight important skills in clinical practice. The literature underscores that information literacy enhances the capacity to critically assess the quality of online information and apply evaluation tools, which are essential for evidence-based practice and patient education.[37] These skills are fundamental for nurses and constitute a key component of health literacy, as they often need to help patients sort through the vast amount of information available on the internet and social media.

Limitations

Several limitations of this study need to be highlighted. The Likert-type questionnaire used was a purpose-built instrument without formal validation processes, although it demonstrated excellent internal consistency. Due to time constraints in the classroom, reflective questions were used instead of other qualitative methods, such as interviews. The lack of direct interaction precludes follow-up questions and real-time exploration of emerging topics, potentially reducing the depth and accuracy in understanding participants' experiences and perceptions.

Conclusions

This study highlights the potential of audiovisual production as an educational tool in nursing programs, promoting the development of both digital competencies and professional skills. While students provided positive feedback, the findings emphasize the need for structured pedagogical support to overcome the technical and collaborative challenges. Additionally, they stress the importance of integrating these competencies into nursing curricula, ensuring students are better prepared for the demands of modern health care.

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