

Innovation and Technology in Nursing Education: Challenges and Opportunities

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Commentary

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ABSTRACT

This comment responds to the recently published article on online learning methods during the COVID-19 pandemic. The article describes the challenges, methods, and opportunities of online learning. The authors consider this topic to be very current, interesting, and highly relevant, as the impact that technology will have on the future of nursing education will be significant. However, the challenge posed by the implementation of advanced technologies such as virtual reality (VR) or e-learning requires special attention. These technologies not only enrich students' educational experiences but can be important in adequately and comprehensively preparing students to meet real-world clinical challenges.

Keywords: Nursing training, technological integration, professional development, nursing education innovation, digital tools.

INTRODUCTION

The authors read with interest the article by Husna et al. (2024) addressing the topic of online learning during the COVID-19 pandemic. With the accelerated adoption of digital tools, nursing education is adapting its educational programs to the new technological realities. While it is clear that online learning played an essential role in ensuring the continuity of education during the pandemic, it is necessary to highlight how advanced technologies can further enhance learning. Among these, virtual reality (VR), with its immersive and realistic simulations, could represent an effective future resource to bridge the gap between theory and practice, making nursing education more attractive and engaging.

Through its immersive interactivity, VR effectively eliminates the boredom of conventional teaching and rigid teaching methodologies, triggering greater academic enthusiasm among nursing students and significantly improving their operational skills [1]. The 'digital natives,' as young students are often called, have always been accustomed to technology, so they have no difficulty adapting to change. However, their challenge does not lie in using these technologies but in maintaining focus and management in an online environment, where the negative variable could be represented by reduced attention and direct interaction with peers and faculty. Obviously, things are different for the more experienced generations of nurses, who had no contact with technology during their training. For them, the main challenge is not only managing the new equipment but also adapting work methods consolidated over the years. This generational diversity does not require a one-size-fits-all approach, but rather a differentiated approach to introducing technology into the nursing profession.

DISCUSSION

Research work on online learning methods developed during the Covid-19 pandemic (Husna et al., 2023), highlights the many benefits of technology in nursing education. The authors highlight the

numerous advantages of technology in nursing education. During the COVID-19 pandemic, online training proved to be a tool capable of ensuring continuity. However, the exclusive use of online platforms is not suitable for nursing education and is not sufficient to adequately prepare students for the clinical complexity of nursing work. We all know that the nursing profession is going through a period of crisis [2] and that it is essential to deploy all available forces and strategies to renew it, making it attractive and satisfying again. The digitalization of care processes requires ever greater digital skills to ensure high-level care adapted to current knowledge [3].

Virtual reality offers innovative approaches by providing students with phases and moments of clinical experiences in a safe and controlled virtual environment. A significant goal of nursing education is the transfer of theoretical knowledge to clinical practice. In addition to virtual reality, other emerging technologies are significantly contributing to nursing education. For example, e-learning platforms provide a wide range of educational resources such as quizzes, videos, and scenarios. Apps and real-time feedback systems can support learning, making education more inclusive and accessible. A crucial aspect is balancing theoretical and practical training.

Today, innovative tools that simulate realistic cardiac arrest scenarios are used to bridge the gap between theory and practice. The integration of simulations into training ensures the ability to manage multiple cases with unlimited practice, without jeopardizing patient safety. The possibilities offered by virtual reality allow the recreation of immersive, interactive, and realistic scenarios in which the student can practice repeatedly without the need for additional materials or people [5].

In a photorealistic VR scenario, the patient in cardiac arrest is reproduced with high fidelity, providing key clinical signs and patient reactions. During the event, the subject can monitor the patient's condition and initiate the resuscitation procedure. The learner performs CPR maneuvers from a perspective that projects him into a completely immersive situation [6]. In everyday practice, nurses can use photorealistic VR scenarios to train in the management of complex

situations, especially in emergency-urgency operating units. These tools allow them to train in an environment very similar to reality and controlled, without putting the patient's health at risk. Another positive feature of VR training is the improvement of accessibility, as there is no need to organize a physical training session [7]. Initially, the costs of training using these technologies can be high compared to traditional training methods. This can represent a disadvantage and a risk of not being able to guarantee equal access, generating inequalities among students [7]. In conclusion, technology offers several ideas for improvement in training and clinical practice, but it is important to emphasize that this should never completely replace the direct clinical experience of the professional. The main future challenge will be to find a real balance between technologically competent healthcare professionals and professionals willing to guarantee quality care, also based on practical skills and human relationships. It is essential to combine practical experience with new technologies to guarantee complete training.

Conflict of interest

The authors declare no competing interests

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Author contributions

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