Effect of the Neurosurgery Educational Software based on Gamification on the Engagement of Operating Room Technology Students

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ABSTRACT

Introduction: Effective and innovative educational methods are crucial for personal and professional development, as well as engagement with educational content. This study aimed to investigate the level of engagement of operating room technology students with educational software based on the gamification of neurosurgery.

Methods and Materials: This semi-experimental, one-group study was conducted in Iran in 2023. The target sample was 40 surgical technology undergraduate students selected by the census method. The software was designed and developed in two educational and technical departments. After implementation, a researcher-made questionnaire measured students' engagement with the software in three cognitive, emotional, and behavioral domains. The data were descriptively analyzed in SPSS version 26 software.

Results: Fifty-five percent of the participants were girls, and the average age of the samples was 22.30 ± 0.99. Most students of operating room technology were moderate to high in their involvement after training in all three areas: cognitive (90%), emotional (85%), and behavioral (77.5%) domains.

Conclusion and Discussion: Based on the findings of this study, the combination of technology and game elements in the e-learning environment promotes learning pleasure, improves engagement, and positively impacts the personal and professional development of operating room technology students.

Keywords: Gamification, Neurosurgery, Operating Rooms, Software design

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