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Action research on the integration of panoramic VR interactive teaching materials into emergency nursing for Vocational School Students

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Abstract

Background: Employer surveys of graduates suggest that areas for improvement in our school's graduates include communication skills and critical thinking abilities. Additionally, it was recommended that the emergency nursing course at our school could be further enhanced. The panoramic VR interactive teaching materials combine 360° real-life panoramic videos with a virtual environment and inc ive

Feedback

elements into the virtual simulation materials. These materials allow users to have an immersive experience and receive real-time interactive feedback through screens, projectors, mobile phones, computers, and other devices. Purpose: This study aims to develop six units of panoramic VR interactive teaching materials and incorporate action research methods to measure the learning outcomes of fourth-year junior college students before and one week after completing the course. Methods: A quasi-experimental pretest-posttest design with two groups was adopted, using purposive sampling at a nursing college in southern Taiwan. Students from two classes taking the emergency nursing course were divided into a control group and an experimental group. The control group received team-oriented scenario-based teaching plans and traditional PPT presentations. In addition to the control group's content, the experimental group was integrated with six units of panoramic VR interactive teaching materials. Through the action research phases of problem identification, planning, action, observation, and reflection, iterative adjustments were made before, during, and after the course. The evaluation of effectiveness included quantitative data such as scores from the "Communication Ability Scale," "Critical Thinking Scale," "Emergency Nursing Knowledge," and "Team Emergency OSCE." Independent samples t-tests and paired t-tests were used to analyze within-group and between-group differences for the experimental and control groups. Results: After the intervention, the experimental group's communication and critical thinking scores improved significantly compared to the pretest. Additionally, the experimental group's team emergency skills were significantly higher than those of the control group. Conclusion: The results of this project can serve as a reference for education, research, and practice.
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Indexing

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Virtual reality

Uncontrolled terms:

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1 Citations

5 Authors

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1 Citations

24 Captures

84 Social Media

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