World Academy of Science, Engineering and Technology
International Journal of Educational and Pedagogical Sciences
Vol:18, No:07, 2024

Application of Metaverse Service to Construct Nursing Education Theory and Platform in the Post-pandemic Era

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Abstract : While traditional virtual reality and augmented reality only allow for small movement learning and cannot provide a truly immersive teaching experience to give it the illusion of movement, the new technology of both content creation and immersive interactive simulation of the metaverse can just reach infinite close to the natural teaching situation. However, the mixed reality virtual classroom of metaverse has not yet explored its theory, and it is rarely implemented in the situational simulation teaching of nursing education. Therefore, in the first year, the study will intend to use grounded theory and case study methods and in-depth interviews with nursing education and information experts. Analyze the interview data to investigate the uniqueness of metaverse development. The proposed analysis will lead to alternative theories and methods for the development of nursing education. In the second year, it will plan to integrate the metaverse virtual situation simulation technology into the alternate teaching strategy in the pediatric nursing technology course and explore the nursing students' use of this teaching method as the construction of personal technology and experience. By leveraging the unique features of distinct teaching platforms and developing processes to deliver alternative teaching strategies in a nursing technology teaching environment. The aim is to increase learning achievements without compromising teaching quality and teacher-student relationships in the post-pandemic era. A descriptive and convergent mixed methods design will be employed. Sixty third-grade nursing students will be recruited to participate in the research and complete the pre-test. The students in the experimental group (N=30) agreed to participate in 4 real-time mixed virtual situation simulation courses in self-practice after class and conducted qualitative interviews after each 2 virtual situation courses; the control group (N=30) adopted traditional practice methods of self-learning after class. Both groups of students took a post-test after the course. Data analysis will adopt descriptive statistics, paired t-tests, one-way analysis of variance, and qualitative content analysis. This study addresses key issues in the virtual reality environment for teaching and learning within the metaverse, providing valuable lessons and insights for enhancing the quality of education. The findings of this study are expected to contribute useful information for the future development of digital teaching and learning in nursing and other practice-based disciplines.

Keywords : metaverse, post-pandemic era, online virtual classroom, immersive teaching
Conference Title : ICHE 2024 : International Conference on Healthcare Education
Conference Location : Singapore, Singapore
Conference Dates : July 04-05, 2024