8th International Conference on New Trends in

Teaching and Education

NEW TRENDS IN TEACHING AND EDUCATION

20 - 22 September 2024

Prague, Czech Republic

A Beneficial Impact of Metaverse Technology on Student Engagement and Education in Medical Sciences

Molly Pui Man Wong[1], Jaemin Lee[2], Daniel Shen[3], Amina Kudabayeva[3]

[1] *School of Biomedical Sciences, Faculty of Medicine, The Chinese University of Hong Kong*

[2] *Department of Sociology, The Chinese University of Hong Kong*

[3] *Soqqle Hong Kong Limited, The Hong Kong Science and Technology Parks Corporation*

ABSTRACT

In this presentation, a blended and interactive metaverse learning app that our team developed will be introduced, and our team's experiences on how implementing this metaverse learning app in a flipped classroom approach can benefit student learning and engagement in medical sciences education will be shared. Integrating metaverse environments with Generative Pre-trained Transformers (GPT), our learning app harnesses GPT-powered avatars within the metaverse to create immersive educational simulations with selected clinical case scenarios. Leveraging GPT's dynamic content generation, we aim to provide adaptive, immersive and engaging learning experiences for students. This melding of metaverse and GPT transcends traditional learning into a scalable and interactive platform that enhances student engagement and comprehension through realistic simulations including decompression sickness and doctor-patient role play scenarios. Survey questionnaires on the practicality, effectiveness and usefulness of the metaverse learning app were conducted, and students' feedback and comments were analyzed both qualitatively and quantitatively. Our results suggested a positive perception of the metaverse learning app and its beneficial impact on both course performance and understanding of the subject matter. Taken together, our metaverse learning app can strengthen student learning in medical sciences, significantly enhance student engagement and their understanding of the subject matter, and provide a useful learning tool in medical sciences education. This initiative promises to redefine experiential learning, offering a novel approach in teaching and learning of medical sciences.

Keywords: immersive, interactive, blended, flipped classroom, generative pre-trained transformers (GPT)