## **IN PRACTICE**

A51

ENHANCING ENGAGEMENT AND SKILL
DEVELOPMENT THROUGH VIRTUAL REALITY
IN PHYSIOTHERAPY SIMULATION-BASED
EDUCATION (PLACEMENT): A PILOT
EVALUATION USING THE KIRKPATRICK
MODEL

**Anurag Bhatnagar**<sup>1</sup>, Chris Simcox<sup>1</sup>, Lok Chau<sup>1</sup>, Katie Davies<sup>1</sup>; <sup>1</sup>Sheffield Hallam University, Sheffield, United Kingdom

Correspondence: anurag.bhatnagar1986@gmail.com

10.54531/HDFI9581

**Introduction:** Virtual Reality (VR) has emerged as a promising tool in healthcare education, offering immersive

experiences to support learning and professional development. At Sheffield Hallam University, VR was integrated into the BSc Physiotherapy curriculum to enrich simulated placement experiences. The initiative targeted key educational domains such as Equality, Diversity, and Inclusion (EDI), human anatomy, and soft skills. This study investigates the impact of VR on student engagement, learning, and skill application using the Kirkpatrick Evaluation Model [1].

Methods: The study employed a mixed-methods evaluation of VR integration across three modules—Anatomy VR, Travelling While Black, and BodySwaps. Data were collected through student feedback surveys and reflections, focusing on the four levels of the Kirkpatrick Model: Reaction, Learning, Behaviour, and Results. Additional insights were gathered from the VR facilitation team and reviewed alongside supporting literature to inform improvements [2,3].

Results: Reaction: 36% of students responded positively to the VR sessions, while another 36% remained neutral, and 28% reported dissatisfaction. Technical issues and discomfort, particularly with BodySwaps, were common concerns.

Learning: Travelling While Black and Anatomy VR sessions were effective in promoting EDI awareness and anatomical understanding, respectively. BodySwaps yielded limited success in enhancing communication and active listening.

Behaviour and Results: While 48% of students reported confidence in applying VR-acquired skills to clinical placements, 36% did not, highlighting inconsistencies in perceived transferability of learning.

Preliminary Recommendations: Pre-briefings, content alignment with real-world scenarios, and improved accessibility are expected to enhance future VR effectiveness. Discussion: VR holds significant potential to augment physiotherapy education by fostering experiential learning and addressing EDI and communication competencies. However, to maximise impact, sessions must be better tailored to learners' needs and technological limitations addressed. The mixed reception to BodySwaps indicates the importance of context and clarity in simulation design. Future work will assess the impact of the proposed recommendations on student outcomes and engagement.

Ethics Statement: As the submitting author, I can confirm that all relevant ethical standards of research and dissemination have been met. Additionally, I can confirm that the necessary ethical approval has been obtained, where applicable

## **REFERENCES**

- Kirkpatrick JD, Kirkpatrick WK. Kirkpatrick's Four Levels of Training Evaluation. ATD Press; 2016.
- Radianti J, Majchrzak TA, Fromm J, Wohlgenannt I. A systematic review of immersive virtual reality applications for higher education: Design elements, lessons learned, and research agenda. Comput Educ. 2020;147:103778.
- Smith S, Hamilton A. The role of virtual reality in enhancing learning and engagement in health professional education: A review. Med Teach. 2021;43(3):300–307.

Acknowledgements/Funding Declaration: Sheffield Hallam Tech team (TORS)