INVESTIGATING THE USE OF VIRTUAL REALITY IN TEACHING CHEMISTRY TO UNDERGRADUATE STUDENTS

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Virtual Reality (VR) has become a much more common household commodity thanks to the proliferation of more affordable VR devices. Whilst its use in the gaming industry is becoming widespread, its application in pedagogical environments has only just started, particularly in chemistry. As such, whether VR will aid or hinder the teaching and learning of chemistry is currently a topic of research and debate (Won, Mocerino, Tang, Treagust & Tasker, 2019).

This project seeks to generate a range of VR materials designed to support students learning undergraduate chemistry, with the specific topics decided in consultation with undergraduate student researchers and various academic members of staff. This work is being undertaken in the X-reality (i.e. VR and other forms of augmented realities) laboratories of the Faculty of Science at the University of Sydney.

Preliminary materials are being generated and will pilot tested with both students and teaching staff, with all data being audio recorded using a think-aloud protocol. Follow up interviews will also be conducted with all participants. Student understanding will then be tested with common theoretical questions and concept inventories. The results of these trails will be discussed and their implications on the use of VR in the teaching and learning of chemistry considered.

REFERENCE

Won M., Mocerino M., Tang KS., Treagust D.F., Tasker R. (2019) Interactive Immersive Virtual Reality to Enhance Students' Visualisation of Complex Molecules. In: Schultz M., Schmid S., Lawrie G. (eds) Research and Practice in Chemistry Education. Springer, Singapore

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