

# An Experimental Study on Usefulness of Virtual Reality 360° in Undergraduate Medical Education [Letter]

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## Dear editor

We read with considerable interest the recent article by Sultan et al<sup>1</sup> and commend the authors for their thought-provoking work. However, we endeavoured to appraise this study in an objective and sensible manner, and as such there are several ambiguities we were hoping to clarify.

First, there are ambiguities in the student demographics in each participant group. Some were in their 4th year of a 6-year undergraduate medicine course, whilst others were in their 4th and final year of graduate medicine. The distribution of each across the two groups is not shown, yet presumably these two participant groups will have very different levels of pre-existing clinical communication skills and thus we caution the interpretation of the results of the OSCEs examination, particularly since they are not compared pre and post intervention.

Similarly, there is a lack of clarity in the execution of the procedure. The conventional group received 45 mins of teaching, and it is unclear whether this included the opportunity to practice active learning through simulated patient actors with feedback. The virtual reality (VR) group had sessions that composed of 3 videos, each 15 mins long, with an additional 30 mins teaching to “fill the knowledge gap”. This would produce discrepancies across the two groups in total teaching time, as well as inconsistencies in the style of learning (active or passive), and decreases validity of the VR environment in improving knowledge for the user.

On a more fundamental level, the authors did not define the authenticity of the “standardised patient”, used in their VR videos. If the VR patient was pre-recorded with only a fixed repertoire of responses available, perhaps the skill practiced is much more a recall of the correct questions inserted into a rigid Cambridge Calgary model, rather than the ability to collect diagnostic information through an organic conversation flow. Conversely, automated dialogue allows the use of natural language processing systems but may instead lack prosody important for emotional cues. It also disrupts “presence”, the psychological perception of “existing” in the virtual space, which is important for adequate transfer of skills since otherwise users become cognisant of the product rather than the process that is meant to be learnt.<sup>2</sup>

Finally, empathy is conveyed not only through verbal statements but also through non-verbal cues and touch. The former may seem particularly constructed

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or insincere in the absence of the latter, which cannot be interpreted by a simulated VR patient. We recognise the value of providing students with a tool which they can utilise at individual pace and frequency. However, a VR programme must also consider these higher-level communication skills, which are critically important in addressing a patient's complex biopsychosocial needs and must be imparted to students so that they are eventually able to foster meaningful patient–doctor relationships.

## Disclosure

The authors report no conflicts of interest in this communication.

## References

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