Live-streaming patient consultations to pre-registration Orthoptic students for clinical education

Orthoptics and Ophthalmology,

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Background: Live-streaming patient consultations is a novel approach in facilitating clinical education [1]. Clinical Orthoptists can now live-stream real-life patient consultations from NHS sites using the Microsoft Hololens2 [2].

Simulation-based learning (SBL) has been shown to improve assessment performance in the preclinical stages of undergraduate medical education [3]. Simulation also supports students as they learn and grow in an environment free from error and ambient anxiety [4].

The importance of meaningful interactive learning activities (ILA) for learners to improve their comprehension and retention should not be overlooked in the context of simulation [5].

Purpose: To date, research has primarily focused on students from nursing and medical backgrounds on the use of simulation in education. Understanding the impact on other professions such as Allied Health Professionals (AHPs) is required.

Methods: University ethics was granted for this study (050186). A student-led focus group was conducted with second year Orthoptic students at the University of Sheffield. The focus group was facilitated by a student representative. Participants were asked a set of pre-prepared questions. Verbal and written responses were collected then analysed.

1. Please describe your ideal learning environment and learning experience for clinical-based practice as part of your course?

2. What are your thoughts about using novel technologies, like the HoloLens 2.0 to deliver clinical-based practice as a learning experience?

3. What is your preferred way of experiencing technologies, like the Microsoft HoloLens 2.0 as a learning resource for clinical-based practice?

4. What are the benefits and challenges of using technologies, like the Microsoft HoloLens 2.0 in your education and learning for clinical-based practice?

5. Is there anything else that you would like to share about using these technologies, that would help improve your learning experience

Figure 1: The set of five, pre-prepared questions asked to students as part of the focus group.

Results: Eight students participated in the focus group. Thematic analysis of the responses revealed 5 themes:

Learning Environment; Learning Materials; Curriculum; Clinical-Based Experience; and Technology *(Figure 2).*

Students reported enhanced learning benefits when the HoloLens sessions were conducted synchronously with an academic member of staff in the classroom. Simulated-based learning promoted accessibility and exposure to a variety of patients and clinician-patient interactions.

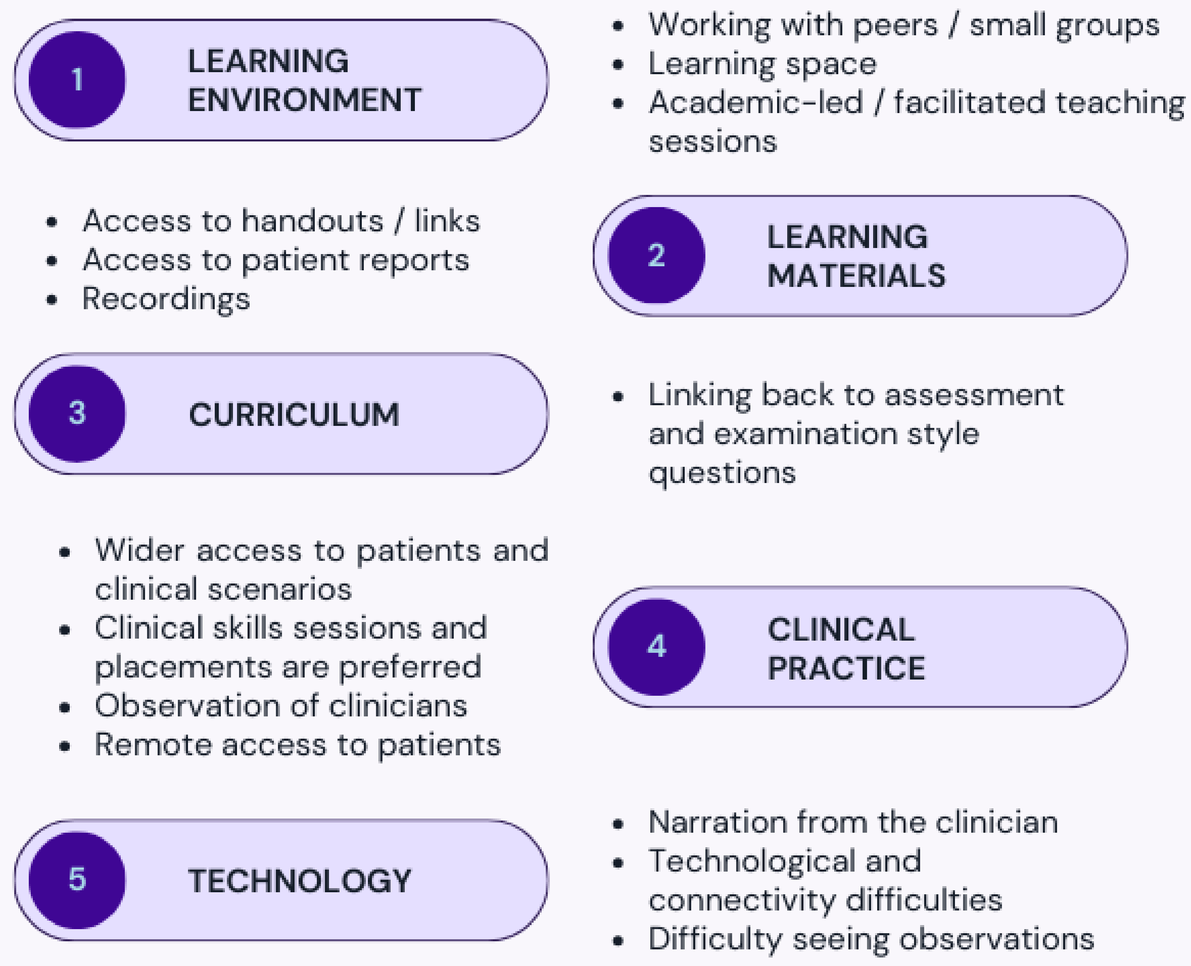

Figure 2: Thematic analysis of simulated-based learning using the HoloLens with Year 2 students

Discussion: Student feedback contained a mixture of positive and negative comments. Positive comments, included the ability to widening access to patient cases, assessment preparation, and working alongside peers. Negative perceptions around connectivity and audio-visual quality were reported. Students also expressed concerns that simulation was not as beneficial as traditional in-person clinical activity. Student perceptions in this study are reflective of those by Connolly [1].

References:

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Conclusion: Live-streaming patient consultations is a useful tool for supporting clinical-based education. The live-stream HoloLens sessions were viewed favourably by Year 2 pre-registration Orthoptic students when these are delivered in the classroom synchronously. Improvements to enhance the viewing experience and connectivity are warranted. Further evaluation of the use of simulated-based learning is required to fully understand the impact this has on student learning experiences.

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