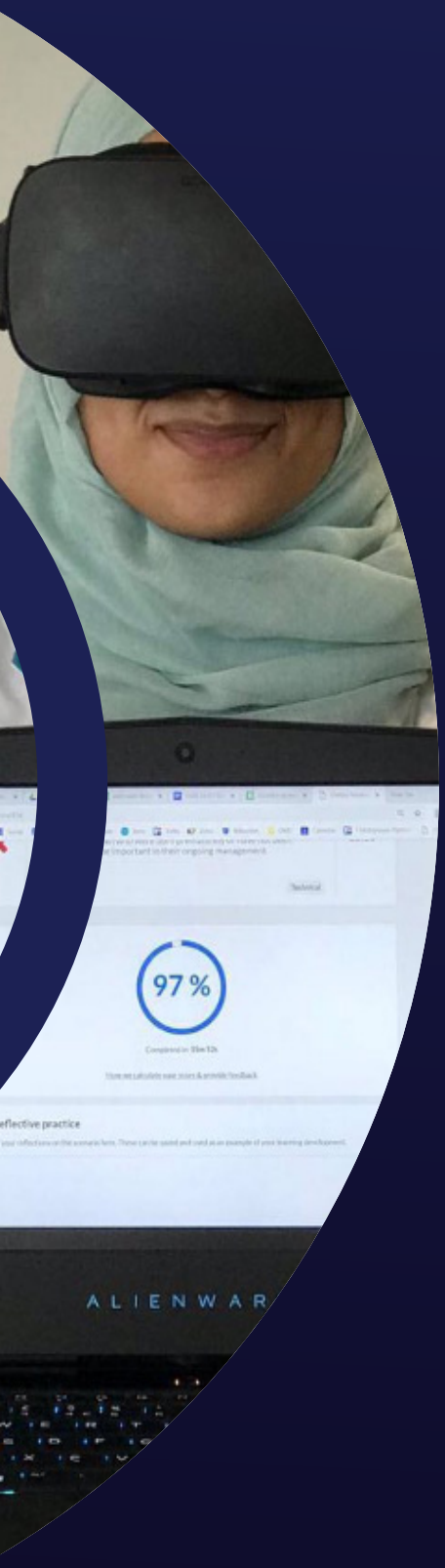

Oxford Medical Simulation

Use Case

In the digital age, how do you standardize simulated assessments?

SIMULATION AS A LEARNING TOOL

Simulation has long been a part of healthcare education, challenging students in environments that replicate situations occurring in clinical practice.

While physical simulation is undoubtedly a valuable tool in healthcare education and training, it also requires significant planning, coordination, and scheduling to achieve, often culminating in one or two days spent in a simulation lab.

It can be limited by capacity restrictions or budgetary constraints, and it requires both substantial focus and, often, multitasking by the faculty running it.

University College Birmingham is a career-focused university, featuring simulation centers across domains - from teaching to aviation to healthcare - they've utilized simulation-based education to bolster their students' competence and confidence.

Their cutting-edge Health Skills and Simulation Suite houses a six-bed hospital ward complete with manikins, clinical equipment, and a separate area dedicated to the use of virtual reality simulations.

Not only has the university leveraged VR for simulation, but they have also paved a path for the use of VR in another capacity - assessment.

ISSUES FACING THE ASSESSMENT OF CLINICAL COMPETENCE

Often, clinical competence is tested through the use of nuanced multiple-choice questions, which require considerable time to plan and construct effective question stems along with plausible correct and incorrect answer choices.

Another option for the assessment of clinical competence is through physical simulation. However, that poses challenges of its own.

Actors who take on the role of the patient can demonstrate variability throughout the day, making it more difficult to assess students in an objective and standardized manner.

Additionally, faculty may be required to multitask - they may be responsible for ensuring equipment functions properly and standardized patients are presenting in line with the case, all while they are monitoring students' performance for grading and for providing feedback.

With regard to these issues, University College Birmingham saw an opportunity to leverage VR in a way that allows for standardized assessment, particularly around hard-to-test areas like clinical judgment and reasoning.

FROM EDUCATION TO ASSESSMENT

Initially, University College Birmingham began using OMS as an educational tool for their existing curriculum. With it, students practice skills in a psychologically safe environment, free to make mistakes without risk to patients.

For the university, VR offers the ability for students to observe and act on emergency situations that may not be encountered often in practice, giving them a chance to use their skills, refresh their memories, and take action in real time during an acute episode.

As Lydia Gilbert, Lecturer in Nursing at University College Birmingham put it, “While the scenario is virtual, the care is real.”

Students remain engaged and excited by the use of VR as a part of their training, building confidence in standardized scenarios with automated feedback they can always return to as they continue on in their learning.

With such positive feedback and findings from their use of OMS in education, the university took another step into the integration of virtual reality into their curriculum by utilizing scenarios for assessment.

OMS scenarios are based in best practices and current evidence, creating environments that are true to life. They’re standardized and objective in nature, reducing bias and making them a great candidate for assessment.

Each scenario comes with its own case summary and learning objectives, alleviating faculty of the work required with case authoring and creating a matching rubric.

In order to use OMS as an assessment tool, the faculty at the university first collaborated to map their learning outcomes and chose the scenario that aligned with those objectives. Next, they collectively decided on a benchmark pass rate for students based on the automated score produced immediately following completion of the simulation.

On assessment day, faculty experienced a reduced cognitive load, as they were freed up to place their focus on observing the learner in-scenario and were able to use their expertise in providing pointed feedback following testing.

The benchmarks and feedback from the scenarios were used to help students prepare for the upcoming OSCEs, and because feedback is all available via the online portal, faculty were able to see a comprehensive view of how the cohort overall was progressing.

> ***“While the scenario is virtual, the care is real.”***

Students were also able to view and reflect on their automated feedback prior to debriefing with a larger group.

In part due to the positive feedback from students and faculty, University College Birmingham has expanded their use of OMS with plans to continue its implementation into their curriculum moving forward, for both educational and assessment purposes.

PAVING THE PATH FORWARD

University College Birmingham was one of the first to take OMS VR simulation in a new direction by using it for simulation-based education and for assessment.

With standardized scenarios and automated feedback, OMS can be used to reduce the cognitive load of faculty by providing timely feedback with rationale, as well as a grade - this frees up faculty to observe students and focus on debriefing following completion of scenarios.

The OMS platform tracks actions throughout the scenario and provides evidence-based feedback with rationale, giving learners an opportunity to self-reflect following simulation and prepare for a debrief with their peers and instructor.

Additionally, with Competency Mapping & Tracking, actions taken in-scenario can be aligned to existing competency frameworks like the NMC Test of Competence or the NCLEX, providing clear indicators of which actions match up to core principles of various competencies.

Looking ahead, OMS Create can be used to establish benchmarks, weight feedback or action, or make scenarios more or less complex, giving the freedom to assess just about any clinical situation - common or rare.

The work undertaken by University College of Birmingham paves the way for others to use OMS as both an educational and an assessment tool, helping learners build confidence and clinical skills as they progress towards their career goals.

Oxford Medical Simulation

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At Oxford Medical Simulation, we deliver immersive virtual reality clinical experiences on-demand. Our clinically-led approach creates rich, complex clinical scenarios where you can investigate, interpret, and practice your clinical skills, training in world-class patient care without risking lives.

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