Oxford Medical Simulation

Implementation Guide

Creating success through a considered pilot program

UNE UNIVERSITY OF NEW ENGLAND

Overview

Repeated simulation enhances students' self-confidence, competence, and critical thinking[1], all essential components of professional nursing practice. The University of New England (UNE) recognized the crucial role of high-fidelity simulation in developing these core competencies. They sought a solution that would significantly increase simulation time for their nursing students and, crucially, focus on developing cognitive skills.

UNE is the leading provider of healthcare professionals in Maine, delivering pioneering experiential learning opportunities to students through their Interprofessional Simulation and Innovation Center (ISIC). Through considered planning and staged implementation, they ensured VR simulation success for their students.

The Problem

Clinical judgment and decision-making are fundamental components of nursing. In a dynamic environment with multiple variables, nursing professionals must prioritize outcomes, react to urgent situations, and make informed decisions often while a patient's life is on the line. The challenge facing every educator is developing clinical decision-making skills and clinical confidence, preparing their students for care.

Dawne-Marie Dunbar, M.S.N./ED., RN, CNE, CHSE, Director of the Clinical Simulation Center, consistently identified clinical judgment and decision-making where nursing students at UNE required additional support. "The thing we really wanted to address was not psychomotor skills. The feedback from our clinical partners was around decision-making and clinical reasoning—that is what we want to focus on, that is what we wanted to enhance."

Repeated simulation allows learners to make mistakes safely until they feel confident, a crucial bridge between nursing theory and real-life clinical experience. This means prioritizing simulation time and providing a flexible platform to increase the amount of simulation provided and authentically replicating real-life clinical situations.

UNE recognized Oxford Medical Simulation (OMS) as the right fit solution to positively impact student outcomes and help address their needs. "Within 30 seconds, I forgot I had the headset on," says Dawne-Marie, "I immediately knew where we could integrate this into the curriculum."

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The Solution

Collaborating with OMS Educational Specialists and Support, UNE organized the right solution for their needs. With the portability of virtual reality hardware, UNE students could use OMS wherever needed, including debriefing rooms, simulation rooms, or even the library, opening up the possibility of practicing in high-fidelity simulation in much smaller spaces than traditionally required. The scalability allowed UNE to provide second-, third-, and fourth-year nursing students access to OMS scenarios, as well as students studying at the equivalent level for UNE's Accelerated B.S. in Nursing.

The end result—a self-service VR simulation lab. Lecturers could assign OMS VR as an out-of-class activity, allowing students to register and participate in simulation as their schedules permitted. With just one member of simulation staff needed for set-up and ad hoc technical support, students could run VR simulation sessions nearly independently.

UNE saw a considerable increase in nursing students' practicing high-fidelity simulation. Before implementation, only six students could practice a single manikin-based scenario each day. Leveraging VR simulation meant those same six students could now participate in not only a physical scenario but also at least three VR scenarios as well, increasing each student's simulation by 300%!

Unsurprisingly, the increase in simulation has made a considerable difference in students' abilities. Nearly every student scored above 85% within only two attempts of an OMS scenario. "You should see how excited the students are when they go in for the second time, and they see just how much their score improved in only 90 minutes," Dawne-Marie adds.

300%

increase in simulation per student

Most lecturers choose not to set a benchmark score, relieving external pressures and encouraging students to be more present in a scenario. Reviewing scenario analytics, faculty can objectively track performance, follow up with struggling students, and offer additional support precisely when and where needed.

Nursing students can also examine their performance with blended learning providing additional explanations for how they can improve. Students can then go straight back into the same scenario to immediately apply their newfound understanding. For the UNE team, having the opportunity to instantly put student learnings into practice by repeating a scenario—something they could never do before—is the major success of OMS.

"The key to high-fidelity simulation isn't really the simulation itself; it's the debrief time and the opportunity to process the scenario. I think the beauty with OMS is students can see what they did wrong, or what they did right, and immediately be able to take that information and go back in and apply it."

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Understanding the importance of faculty and student buy-in for new learning technologies, UNE intentionally created an integration plan to help ensure success.

Pilot Program

The UNE team began with a piloting project, which took place over the summer. UNE ISIC invited a handful of participants - including administration, faculty, and students - to gain initial feedback on the platform.

Participants started with a pre-simulation questionnaire, providing leadership insight into their previous virtual reality experience. Participants then participate in a guided scenario. Sim Techs demonstrated how to navigate the environment and invited users to repeat the scenario unaided. After completion, the participant's exit questionnaires provided feedback on their experience in the headset. This feedback confirmed their initial thoughts on the viability of OMS as a teaching tool.

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The team also prioritized the buy-in of the UNE faculty to increase the likelihood of successful integration into the curriculum. Dawne-Marie worked one-on-one with faculty members to understand where to integrate OMS into their course and how its use could inform their course's learning objectives. Together, they explored the scenarios most suitable for their syllabus and the best timing to use the platform.

While determining where VR simulation could fit into the course, the team also evaluated whether existing learning resources could be replaced with OMS. "This doesn't have to be an add-on," says Dawne-Marie, "This is where you look at what you already do, what isn't giving you the best value for your money, and you let that stuff go."

Student Roll-out

UNE formally rolled out OMS after a successful pilot and faculty onboarding at the beginning of the new semester. Junior courses were the first participants in the roll-out plan, and as students became comfortable, implementation continued through to the senior courses. Throughout the entire journey, the simulation staff was on hand to support students and faculty with any technical issues.

Continuous Refinement

Testing and feedback are crucial for understanding what works best in VR simulation throughout the integration. Student focus groups provided valuable insights that helped UNE ISIC refine the process, allowing for orientation refinement for future students. Student feedback also informed the decision to exclude benchmarking allowing students to practice without additional external pressures.

A considered implementation plan, collaboration with faculty and students, and ongoing testing built the foundation allowing UNE to integrate OMS successfully into the curriculum.

Making it Work for You

Create an integration plan

It is vital to make an integration plan on day one. Outlining the steps for onboarding can make it easier to identify key implementation goals and ensure implementation remains within scope. An integration plan also helps you consider the unknowns and prepare accordingly, making you less likely to encounter unexpected obstacles.

OMS Educational Specialists are highly experienced in curriculum development and will collaborate with you to understand and facilitate your vision, making the planning process that much easier.

Collaborate with your faculty

As with any new learning tool, the commitment level of your faculty is fundamental to the successful integration of VR simulation. As their VR simulation expert, you can help guide faculty in selecting from over 200 virtual scenarios to find the ideal fit for their learning objectives. Leveraging your OMS Educational Specialists' in-depth knowledge of the scenarios, you can facilitate a discovery session with your team to understand how VR can integrate into their current curriculum.

With answers to crucial questions, you can work collaboratively with faculty to recommend scenarios, review the course syllabus to select the best virtual cases aligned with learning objectives, and suggest the ideal timing for course integration.

Recommended discovery questions:

- What learning objectives would you like simulation to meet?
- What types of scenarios are appropriate for your level of learners?
- Where could you see this integrated into your course?
- What concerns do you have with VR integration?

Collaborate with your faculty; let them experience the benefits, listen to their concerns, and consider how to make VR simulation work for them.

Listen to your learners

As your institution's core users of VR simulation, your students are a wealth of knowledge. They can help you understand what works, what needs improvement, and other ways to use VR simulation to enhance learning experiences.

Create a survey or, even better, organize focus groups to give students a dedicated forum for sharing their experiences. Letting your students know that their voice matters creates an environment where they will readily volunteer ideas to make onboarding a real success.

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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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