CASE STUDY

PALM BEACH ATLANTIC UNIVERSITY ENGAGEMENT, SCALE AND PREPARING FOR THE NCLEX

Palm Beach Atlantic (PBA) University is a leading institution in West Palm Beach, Florida, with nine colleges and five centers of excellence.

The PBA School of Nursing delivers a proportion of their clinical training using simulation - using manikins and actors to replicate clinical situations in which their learners can practice. Due to the success of this methodology, the faculty were looking to expand simulation delivery, whilst optimizing the engagement of their learners.

In order to scale delivery in a way that was both high-quality and flexible, the team at PBA decided to pioneer the use of a virtual reality (VR) simulation platform. In particular, they focused on the senior nursing students in order to effectively prepare them for the NCLEX examination.

WHY THE OMS SYSTEM?

Faculty chose the OMS VR system as it allows learners to practice managing nursing emergencies an a way that is realistic, on-demand, easy-to-access, and affordable.

To use the virtual scenarios, students put on an Oculus VR headset to be transported into the virtual ward where they are met with an acutely unwell patient. Here they can practice as they would do in real life - taking a history, running investigations, administering medications and working with their team to successfully manage the patient.

At the end of the scenario each student is given detailed, specific feedback about how they performed in the scenario, and analytics to guide improvement.

Implementation & Response

The team made the decision to embed the OMS VR system alongside manikin based simulation in a blended learning setting. This consisted of an hour and a half in VR scenarios as part of a five-hour simulation session, using OMS to expand learner exposure to emergency clinical scenarios. This deliberate method of implementation was highly successful. Over a period of six months PBA SoN students participated in 138 immersive VR simulations.

Being able to manage the virtual patient from the beginning of a scenario through to the final handover has been incredibly valuable in helping leaners engage with patients as they would do in real life, to improve their clinical thinking and prioritization. Enthusiasm and engagement from students has been far beyond what faculty anticipated. One faculty member commented:

"The students always want to do more than I assign them. Any kind of learning platform that has that result is amazing to me! Very grateful for OMS VR sim and how engaged students are with it."

Learning Design & the NCLEX

As the OMS VR platform is specifically focused on application of knowledge and critical thinking, it marries well with preparing nursing students at PBA for the NCLEX.

Because learners are required to use multiple skills sets in the OMS scenarios - technical and non-technical - they need to approach patients holistically rather than implementing one area of their knowledge.

The faculty explained the one of the advantages of this approach:

"In education, the biggest issue is that students don't connect dots - they're just so focused in one area. So it's nice with VR to help them put it all together. That really will help students when they're taking the NCLEX."

Learning Experiences

The use of virtual reality, combined with the breadth and detail of the virtual scenarios serve to make them feel real to learners. This realism, helps translate their learning to practice.

This sense of realism is increased by the features of the OMS platform, including adaptive conversation, artificial intelligence-controlled behavior, and the dynamic physiology of the virtual patients. For example, they will display the visible symptoms - sweating, wheezing, rashes - relevant to their condition, all in real time.

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Learners found that these physiological indicators helped them to determine what was wrong and whether the treatment given was having an effect:

"The scenarios really help with critical thinking because students have to identify the potential diagnoses - like when you have a patient who comes in diaphoretic or pale, there's different presentations that the virtual reality shows which are key indicators of disease processes that the students will have to recognize".

This feature also proved useful to the simulation faculty at PBA who had previously struggled to portray physical findings with enough realism or variety using manikins.

Crucially, OMS's virtual patients will start to look better as their condition is appropriately managed. Such realism cannot be realistically portrayed on a plastic manikin, as noted by the faculty:

"You can't change the physical appearance when you're doing physical simulation. You can change vitals, but you can't really change the appearance. I think that's a strength of VR."

Resource Management

The team at PBA succeed in driving significant operational efficiencies using OMS, alongside the learning benefits.

First, the VR set up takes up significantly less space than manikin-based simulation. It also requires no extra equipment (fluid bags, monitors etc) reducing time and cost. Faculty have subsequently been able to focus their time on facilitation and teaching (rather than set up) and have been able to get more students through simulation than before:

"It's easy to have students use it because they're very self-sufficient - just show them a small orientation and then they're able to do it all on their own. So I'm able to work with other students while I have two doing virtual reality, which is really nice."

Cost Efficiencies

Research into the cost-utility of traditional simulation shows an average of $390 to run a single simulation session for one learner. This consists of costs for coordination; sim operations; debriefing; purchasing, maintenance, and storage of mannikins and consumables; AV and other software subscriptions.

Delivery of OMS VR simulation has been less the 1/10th of this price for PBA. In addition, since expenditure remains the same with more usage, the overall cost of delivering a unique simulation session will continue decrease as PBA increase usage, improving efficiencies further.

The PBA School of Nursing has therefore seen a significant return on investment since rolling out the technology. Moreover, the level of student excitement and engagement has made this investment worthwhile:

"Learning is best done when students are excited about it. I think that's a rare thing. Using that to our advantage is great - when a student is engaged, willing, and wanting it is fantastic."

Based on the positive experiences of senior nursing students, PBA will be continuing to expand delivery of VR simulation to wider groups of learners over the coming semesters.

ABOUT OMS

OMS delivers virtual reality training for doctors, nurses and other healthcare professionals. The focus is on clinical decision-making, crisis resource management, team interaction and patient engagement. This world-leading system allows healthcare professionals to learn through practice, without risking lives, to improve patient care. Please get in touch for further information.

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