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Experiential learning:
lessons learned from the Covid-19 pandemic

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Introduction

This paper describes some innovative online and simulated solutions that were developed at Royal College of Surgeons in Ireland (RCSI) to enable continued provision of experiential learning opportunities for healthcare students during the Covid-19 pandemic. It shows how elements of experiential learning practice are amenable to virtual modes of delivery and considers the possible implications of this for experiential learning practice beyond the realm of health professions education.

Background

The Royal College of Surgeons in Ireland (RCSI) is both the national training body for surgeons in Ireland and a single faculty health professions and health sciences university, delivering programmes in medicine, pharmacy, physiotherapy, physician associate, nursing, and clinical leadership.

Healthcare students require clinical placements to learn about the clinical role, and to ensure that they are fully prepared for practice (Billett, 2016; Cooke, Irby & O'Brien, 2010). A key factor involved in the transition from student to practitioner involves students learning from authentic practice and taking on the responsibilities of the junior practitioner while supervised to ensure patient safety. This process involves reflecting on their experiences, identifying the salient aspects and integrating them with their existing knowledge and skills in advance of employment (Kolb, 1984; Mezirow, 2000; Schön, 1983; Norman, 2005; Norman et al., 2007).

Over the past twenty years there has been increased awareness of the benefits of learning from simulation across all spheres of health education. Based on the concept of learning by doing (Gibbs, 1988) and underpinned by experiential learning theory (Yardley et al., 2012), simulation education supports skills development and helps ensure a commitment to patient safety. In RCSI, advanced clinical simulation facilities enable rehearsal of clinical and non-clinical skills, including communication and team working. Simulated practice also facilitates higher order learning, such as clinical decision-making, managing uncertainty, and managing patients with different levels of complexity.

For RSCI, one of the major challenges posed by the Covid-19 pandemic was the exclusion of students from clinical sites. In response, clinical placements were redesigned to include new virtual and simulated learning opportunities, including virtual patients, simulated ward rounds and online consultations with simulated patients.

Virtual patients

Virtual patients (VPs) are "interactive computer simulations of real-life clinical scenarios" (Ellaway et al., 2006). They were developed at RCSI to support students to become more patient centred in their communication skills and gain more exposure to a range of clinical scenarios. The VP platform integrates videos of patient cases with a decision path structure. It enables students to develop their communication skills through self-assessment and practice, providing automated personalised feedback for each engagement.

The VPs proved an invaluable resource during the pandemic. Feedback from students was positive regarding their usefulness, quality and support for pedagogical objectives through automated feedback and interactivity. The number of repeat student engagements with the VPs was high and the pass rate improved with repeated practice.

Online case work with simulated patients

Simulated patients – actors playing the patient role – are widely engaged in health professions education to afford learners an opportunity to practise taking a history, conduct a physical examination and rehearse a range of key skills and behaviours (Kaplonyi et al., 2017). They are also extensively involved in clinical assessments, such as Objective Structured Clinical Examinations (OSCEs).

With the advent of the pandemic, in-person simulated patient sessions were not possible and it was necessary to redesign both the teaching and assessment encounters. A range of approaches was taken to the development of online simulated patient sessions with a general focus on communication, procedural skills and clinical reasoning.

Virtual ward rounds and remote bedside teaching

Ward rounds present students with an opportunity to develop technical skills as well as key transversal skills (Bell et al., 2021). Bedside teaching has been described as "one of the ideal clinical teaching modalities" affording opportunities "to provide a holistic approach in the diagnostic process and in patient care" (Peters & ten Cate, 2014, p77).

To facilitate exposure to a ward round, a simulated ward was developed in line with physical distancing guidelines. This involved the development of stations within the simulation suite featuring five simulated patients. Students were given a fixed period of time to review the patients and present their findings to a senior clinician who then provided feedback. The intervention provided a supportive environment in which students could rehearse the skills and behaviours that are required in the clinical environment and helped bridge the gap between medical student and junior doctor.

Another innovation involved students interacting with patients through the use of RealWear assisted reality headsets. The headsets, which were worn by the clinicians on their ward rounds, delivered a live stream, which enabled students to connect virtually to the clinical setting, allowing them to hear patient histories, ask questions and observe clinical signs and symptoms.

Virtual bedside consultations were facilitated by giving selected students clearance to conduct one-on-one consultations with

patients in a Covid-19 safe tutorial room within the hospital. These consultations were recorded using basic iPhone technology to be presented the following day to the wider class as part of a facilitated peer feedback session, providing all students with a diversity of cases on a daily basis.

Discussion

End of module feedback and focus groups with staff and students suggest a generally high level of satisfaction with the measures that were put in place to mitigate against the reduction of in-person experiential learning opportunities. It was generally felt that virtual platforms were capable of providing good opportunities for students to rehearse key clinical competencies. It was also suggested that the necessary exclusion of the physical examination component from the virtual consultations afforded a greater opportunity to focus on other aspects of the consultation.

Moreover, some students reported that the virtual environment was less daunting than hospital sites or simulation facilities and offered opportunities to develop their skills in what they perceived as a less stressful environment. Virtual opportunities may best be suited to the earlier stages of training or to hone a new skill by focusing only on that skill, without the distraction of the busy clinic and where rehearsal can follow the student's needs. They are limited in their ability to facilitate the development of hands-on skills in the context of the busy clinical environment.

The use of virtual platforms has the potential to be time efficient, enabling clinicians to participate remotely from clinical sites, while the ability to record virtual sessions opens opportunities for providing feedback at a time that fits better with clinicians' busy schedules. Moreover, as telemedicine becomes increasingly embedded in the routine practice of medicine, the use of virtual platforms offers students an opportunity to develop and hone their consultation skills in advance of taking online consultations in real practice (Iancu et al., 2020).

The reduction in clinical exposure was a source of anxiety for clinical years' students. The simulated and virtual approaches described above went some way to alleviate concerns. This is not to suggest that virtual approaches can replace in-person engagement and activity. Simulated experiences cannot adequately capture the real-world clinical environment and ultimately it is this exposure that has the greatest value in enabling students to be better prepared when they enter the actual clinical environment (Illing et al., 2013).

Conclusion

Implications for health professions education

Finding sufficient clinical placements to support health professionals' learning can be a challenge. Simulated and virtual approaches provide a safe environment in which students may encounter and appropriately respond to complex clinical scenarios. Innovations may provide opportunities to open up hitherto inaccessible clinical learning opportunities, to observe a greater range of cases and to benefit from subsequent facilitated discussions.

However, the use of technologies needs to be navigated carefully and sensitively for patients, and educators need to act in accordance with ethics and data protection laws and guidelines. Moreover, the use of some technologies may be seen as intrusive by patients and have a negative impact on the patient-clinician relationship. For example, feedback from clinicians suggests that there was considerable cognitive load associated with using the RealWear headset while interacting with patients. Nevertheless, in a context where real-world experiences may be limited by a range of factors, virtual approaches may offer opportunities.

Implications for experiential learning

Experiential learning, by definition, requires learners to engage in real-world practices and real-life settings. Our experience has revealed that a judicious approach to instructional design, and the use of technology, can unlock a range of alternative approaches to the construction of the scaffolds that support student reflection and effective learning. To create the conditions for this, educators need to be supported to develop a greater understanding of the affordances of digital technologies and enhance their knowledge of instructional design theories and processes.

Beyond health professions education, the experiences discussed above underscore the extent to which virtual platforms may be used to simulate elements of an immersive learning experience and thus may offer a range of affordances, including opportunities for early and repeated practice, access to otherwise inaccessible locations and expertise, and opportunities for guided decision-making and feedback.

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