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HEA Teaching and Learning Conference December 2025

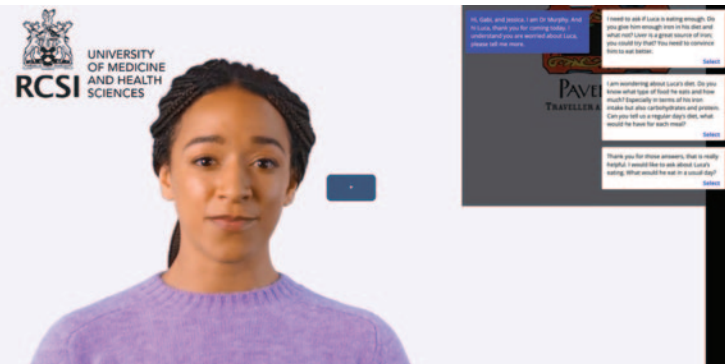Leading Change Together: Building the Future of Teaching and Learning in Higher Education

Digital transformation of communication skills in health professional education: Virtual Patients

ROYAL COLLEGE OF SURGEONS IN IRELAND

Institution(s) and Partner Organisations Involved

Health Professions Education Centre, Royal College of Surgeons in Ireland.

Contributor(s)

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What level(s) of your institution does this work affect?

- Module level
- Across multiple modules
- Programme level
- Across multiple programmes
- Academic unit/school/faculty level
- Across multiple units/schools/faculties Institutional level
- Across multiple institutions
- Outreach / Community / Industry engagement

Date and Timeframe

Development phase September 2024- April 2025 Pilot phase May-August 2025 Roll out Academic Year 2025–2026

Alignment and Focus

Focus

- Digital Transformation in the Tertiary Sector

Frameworks, Policies, or Strategies Aligned

- Potential gaps in communication skills practice were identified through blueprinting the medical curriculum against a best practice in communication skills framework
- This initiative aligns to the RCSI Teaching and Learning Strategy 2023-2027 under two pillars, Education for lifelong learning and Digitally enabled Education.

Discipline

- Education
- Information and Communication Technologies
- Teaching and Learning

Impact, Lessons Learned and Future Directions

Impact and Evidence of Success
In order to evaluate this technology supported education programme we undertook a qualitative research project to evaluate student perspectives of learners under the Technology, Pedagogy, Content, Knowledge (TPCK) framework [1]. Interview and focus groups are now complete and preliminary analysis underway. Students have indicated that the scenarios are authentic, useful, and provide practise opportunities for difficult scenarios in preparation for real-world communication challenges. Engagement analytics in Moodle for the entire cohort of 400 students in Year 4 will now be collected.

1. Koehler MJ, Mishra P *What is technological pedagogical content knowledge?* Contemporary Issues in Technology and Teacher Education, 2009 9(1)p60-70

Future Plans and Sustainability

The next phases for development include expansion across curricula given the relevance of the communication learning outcomes beyond medical students to all healthcare professional students. Furthermore, the co-designed media content for the VP scenarios will also be used at Masters level to deliver a session entitled *"From consultation to partnership: Empowering patients as partners in care"* modelling the strategies used to empower patients to participate in shared decision making, and form supportive partnerships in health professional education. Sustainability is therefore ensured by use of the educational content in multiple modalities, in multiple programmes and for a wide variety of sessions.

Top Tips

- Ensure early engagement of all key stakeholders, to include patient partners and advocacy groups in curriculum design Facilitate co-design, with a flattened hierarchy, such that the patient voice is kept at the centre of every interaction, all healthcare professionals are equally represented and education content is authentic and culturally sensitive.
- Early evaluation with student partners ensures content aligned to student level, that learning outcomes are achieved and helps improve student engagement with the educational tool thereby facilitating a process of continuous improvement

Initiative Description

Aims and Objectives

- Digitally transform communication skills training through the development of virtual patient scenarios for embedding in the undergraduate medical curriculum
- Address gaps in practice opportunities for challenging communication scenarios, aligned to learner level, that may not otherwise be available to students
- Integrate personalised feedback through an AI coach, with opportunities provided for correction of errors and reflection
- Establish scalable evidence-based model for communication learning and practice opportunities across a range of healthcare professional curricula

Outline or Description

This initiative forms part of the digital transformation of communication skills training in the undergraduate medical curriculum at the Royal College of Surgeons in Ireland. Communication skills are prerequisite to effective clinical practice so a carefully scaffolded curriculum and opportunities for students to practice and receive feedback are required [1]. Virtual Patient (VP) scenarios offer an innovative digital solution to address the challenge of student access to practicing challenging communication scenarios. VPs are simulated health professional-patient interactions, utilising specialised computer software affording experiential learning through practice and have been used successfully in medical education that may provide an innovative digital solution [2].

Communication learning outcomes were identified through blueprinting against existing communication frameworks [2] [3] to identify practice gaps across four domains: knowledge, content skills, process skills, and perceptual skills [2]. Identified gaps informed the development of a suite of VP scenarios which address particular communication challenges that students may not otherwise encounter prior to entering real-world clinical practise. Scenarios developed address communication with members of a marginalised community, patients requiring use of interpreter, counselling after miscarriage, communication with an older person with cognitive impairment and conducting a risk assessment following an episode of self-harm while in the presence of children.

Each VP was developed through a process of co-design with multiple stakeholders, including members of the marginalised community, patient advocacy group, clinical content experts and education technology experts. This process of co-design ensured authenticity of cases, to enhance interest. The communication learning outcomes addressed existing curricula gaps and the clinical learning outcomes aligned with student level of learning to avoid cognitive overload [4]. Scripts were developed for each VP over a series of meetings with all stakeholders, both in person and through videoconferencing, over several months. The VP design offered students three options at each communication decision point: optimal, suboptimal and critical. Coach feedback followed for all three options. A combination of members of the marginalised community, members of the patient advocacy group, actors and doctors played the roles of patients and their families, and interpreters in each scenario. After student selection, they could see and hear responses from the virtual patients and their families. Coaching feedback was then read by an AI avatar.

Each scenario has now been embedded into the RCSI Moodle virtual learning environment for Year 4 medical students in the current academic year, 2025/2026.

References:

1. Gilligan, C., et al., Interventions for improving medical students' interpersonal communication in medical consultations. Cochrane Database of Systematic Reviews 2021(2. Art. No.: CD012418).
2. Denniston, C., et al, Learning outcomes for communication skills across the health professions: a systematic literature review and qualitative synthesis. BMJ Open 2017. 7: p. e014570. doi.
3. Noble, L., M, et al. Consensus statement on an updated core communication curriculum for UK undergraduate medical education. Patient Educ Couns, 2018. 101(9): p. 1712-1719.
4. Kelly, S., et al. A scoping review: virtual patients for communication skills in medical undergraduates. BMC Med Educ, 2022. 22(1): p. 429.

Funding & Acknowledgements Details