ASCILITE 2026

The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

From readiness to rehearsal: Designing AI-supported interprofessional learning at scale

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Preparing students for collaborative professional practice at scale requires structured opportunities to rehearse judgement, disagreement, and complex decision-making before higher-stakes experiences. Yet in large-cohort higher education settings, creating repeated, authentic rehearsal opportunities before placement has often been costly, difficult to scale, and hard to personalise to the questions and needs each student group brings.

In this study, we report on an evaluation-informed redesign of a three-week health interprofessional education (IPE) challenge, in which AI-supported rehearsal activities were embedded to prepare students for upcoming authentic practice. This design was informed by emerging literature on AI-driven virtual patients and communication-skill development in healthcare education (Bowers et al., 2024).

The redesign responded to an earlier evaluation of the challenge before AI-supported rehearsal was introduced. In that iteration of the IPE program, involving approximately 450 students from medicine, nursing, pharmacy, dietetics, and paramedicine, findings showed strong student gains in perceived role clarity, teamwork, and interprofessional valuing on the Interprofessional Socialization and Valuing Scale (ISVS-21) (King et al., 2016). And yet results also indicated that the existing team-based case design offered too few repeated opportunities to make collaborative clinical judgement visible. These findings suggested a need for additional opportunities to rehearse collaborative clinical judgement before higher-stakes experiences.

AI-supported rehearsal now enters at two points to address this issue. In Week 1, an AI coach supports team formation, role clarification, and communication planning. In Weeks 2 and 3, AI-supported patient interactions aligned with selected IPE cases support an initial consultation and the later refinement of care plans as new concerns emerge. Facilitators remain central to guidance, debriefing, and feedback, while the AI serves as low-stakes formative rehearsal rather than assessment automation or a substitute for professional judgement.

We present the evaluation of the AI-supported rehearsal intervention using a convergent mixed-methods design. Matched pre- and post-intervention ISVS-21 surveys will examine change in the overall ISVS-21 score as the primary quantitative outcome across the redesigned IPE experience, reflecting interprofessional socialisation and readiness to work in interprofessional teams. The six AI Patient Review questions and approved SimChat-derived measures will provide more direct evidence of students' experience of and engagement with the AI-supported rehearsal component, complemented by Guided Feedback data. Consistent with emerging evidence that feasibility, acceptability, and learner experience are critical considerations in technology-enhanced health professions education (Neher et al., 2024), the redesign offers a transferable example of human-centred learning design in action. We also discuss our experiences as "humans in the loop" deciding when and how to use AI in educational design, and how to build tools that are fit for purpose for a specific educational context.

Keywords: human-centred learning design, interprofessional education, AI-supported rehearsal, clinical judgement, virtual patient simulation, health professions education, convergent mixed-methods design

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Sheikhi, A., & Ciccarelli, M. (2026, Nov 29 – Dec 2). From readiness to rehearsal: Designing AI-supported interprofessional learning at scale. [Poster]. In Cochrane, T., Narayan, V., Poole, T., Lai, P., Lake, P., Moore, O., & Li, L. (Eds.), *The Future is Connection: Collaboration, Creativity and Compassion in a Digital Society*. Proceedings ASCILITE 2026. Brisbane (pp. 62–63). https://doi.org/10.65106/apubs.2026.3145

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