HEA | An tÚdarás um Ard-Oideachas
The Higher Education Authority

Find Out More

HEA Teaching and Learning Conference December 2025

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

Technology Assisted Interdisciplinary Learning and Simulation (TAILS)

Institution(s) and Partner Organisations Involved

University College Dublin, School of Nursing, Midwifery and Health Systems (SNMHS) and School of Public Health, Physiotherapy and Sports Science (SPHPSS)

Contributor(s)

Siobhan Brereton, SNMHS (Director of Simulation Based Education and Clinical Skills) – Co-Principal Investigator
Associate Professor Tara Cusack, SPHPS (Physiotherapist)- Co-Principal Investigator
Associate Professor Rita Smith, Dr Lisa Rogers, SNMHS (Nurse)
Dr Aoife MacCormack, SNMHS (Educational Technologist)
Ruth Charles, Professor Clare Corish, Annelie Shaw, SPHPSS (Dietician)
Deirdre Phelan, Frank Kenny, SPHPSS (Physiotherapist)
Ruth Fitzmaurice, Jane Coyle, Patient
Randy Butler, Shayanne Tozer, Isha Sant Beth Mulholland, Paraic Reville, Hannah Fitzgerald, Student

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

- Module level
- Across multiple modules
- Programme level
- Across multiple programmes
- Across multiple units/schools/faculties
- Outreach / Community / Industry engagement

Date and Timeframe

Ongoing

Alignment and Focus

Focus

- Digital Transformation in the Tertiary Sector

Frameworks, Policies, or Strategies Aligned

- UCD Strategy to 2030 Breaking Boundaries, Ireland's National Digital Strategy (NDS) 'Harnessing Digital' (2022-2030), EU DigComp Framework, Universal Design for Learning Principles

Discipline

- Health and Welfare
- Teaching and Learning

Impact, Lessons Learned and Future Directions

Impact and Evidence of Success

Key Findings (students)

SET (n=55):

89% strongly agreed they were better prepared to respond to changes in patients' conditions 82% strongly agreed they felt more confident in communicating ICCA Survey (n=50):

84% strongly agreed they were able to actively listen to the perspectives of interprofessional (IP) team

70% felt very confident using IP team approach to assess patient's health situation

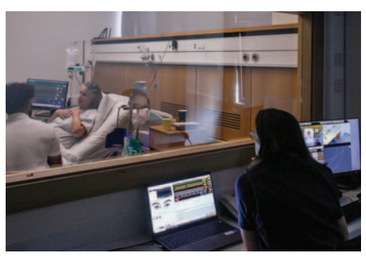
25 physiotherapists, 24 dieticians & 21 Cardiac Nurses participated. They achieved the learning outcomes: gaining better understanding of colleagues' roles & responsibilities; navigating the clinical setting while working effectively to improve patient care. Facilitators reported increased confidence in interdisciplinary learning.

Future Plans and Sustainability

The TAILS digital resources and interdisciplinary simulation have been incorporated into core modules across postgraduate Cardiac Nursing, Physiotherapy, and Dietetics. This ensures continuity and ongoing benefit for successive student cohorts. TAILS has established a foundation for further cross-institutional collaborations with health education partners including shared resource development. Future plans include expanding this work in undergraduate healthcare programmes and a follow up project has received funding from College of Health and Agricultural Sciences. These developments reinforce the project's long-term sustainability and alignment with institutional priorities around innovation, interdisciplinarity and digital transformation.

Top Tips

- Interdisciplinary education initiatives can support a cultural shift within institutions, enabling students and staff to work collaboratively across disciplinary boundaries and building new communities of educational practice.
- Engaging educators, clinical partners, students and patients in the co-design of interdisciplinary simulation scenarios and the development of digital resources proved a powerful approach to building pedagogical knowledge and digital literacy of staff.
- Combining digital pre-learning resources with interdisciplinary simulation is effective in preparing healthcare students for collaborative practice.



Initiative Description

Aims and Objectives

- To co-design a technology-assisted interdisciplinary simulation, with key stakeholders, to strengthen preparation for clinical education.
- To implement and evaluate the simulation across three postgraduate programmes: Cardiovascular Nursing, Physiotherapy, and Dietetics.

Outline or Description

Ireland's clinical education capacity for health and social care faces pressure, exacerbated by a 33% vacancy rate across healthcare profession posts. These challenges highlight the need for innovative, scalable approaches to preparing students for practice.

The Technology Assisted Interdisciplinary Learning Simulation (TAILS) project was developed to address this gap by enhancing students' preparedness for clinical practice through technology-enhanced, simulation-based interdisciplinary education. Simulation offers an authentic environment in which learners apply knowledge, develop skills, and refine professional behaviours through realistic clinical scenarios without real-world risk. Interdisciplinary education brings together learners from different professional backgrounds to learn with, from, and about one another.

TAILS aimed to design, implement, and evaluate a sustainable, technology-assisted model of interdisciplinary simulation that could be integrated across healthcare disciplines to improve readiness for clinical education. The project was delivered through five work packages (WPs)

WP1: Needs Analysis

This phase involved a literature review on interdisciplinary simulated learning and healthcare education. Competencies for interdisciplinary education were identified and validated evaluation instruments were selected. Ethical approval was obtained.

WP2: Co-Design

The co-design phase engaged academics, clinicians, postgraduate students, patients, and educational technologists through a World Café participatory workshop. Participants co-designed:

Technology enhanced preparatory learning (pre-simulation) using the H5P authoring tool to provide background knowledge and introduce interdisciplinary concepts.

Simulation scenarios, informed by the International Nursing Association for Clinical Simulation & Learning framework.

1. Importance of effective communication.
2. Straightforward, transparent information sharing.
3. Patient centred approach.

Thematic analysis identified 3 key themes: Facilitators were trained in the PEARLS (Promoting Excellence and Reflective Learning in Simulation) debriefing model to ensure consistent, high-quality reflection. All materials followed UDL principles.

WP3: Pilot Implementation

The simulation was piloted with 70 postgrad students, 25 physiotherapists, 21 cardiac nurses and 24 dietitians. Students completed the online preparatory learning before participating in in-person simulations using standardised participants (actors) portraying patients. Each session involved interdisciplinary groups supported by academic and clinical facilitators. Scenarios replicated realistic clinical challenges requiring collaboration and communication. Structured debriefing enabled reflective learning.

WP4: Evaluation

Evaluation combined quantitative and qualitative methods. Students completed two validated instruments:

1. The Simulation Effectiveness Tool (SET) post-intervention, assessing perceived learning and confidence.
2. The Interprofessional Collaborative Competencies Attainment Survey (ICCAS) pre- and post-intervention, measuring collaborative competencies.

Facilitators participated in focus groups, and standardised participants were interviewed.

WP5: Dissemination

Findings were disseminated within UCD, at local and institutional T&L events, and externally at national and international conferences.

Conclusion

The TAILS project achieved its aim of enhancing clinical readiness through technology-assisted interdisciplinary simulation. The co-design process fostered strong stakeholder ownership; the evidence-based framework ensured pedagogical quality; and embedding the initiative in curricula secured sustainability. TAILS demonstrates that interdisciplinary simulation is both feasible and effective in preparing healthcare students for collaborative practice, contributing meaningfully to Ireland's national strategy to strengthen clinical education capacity.

Funding & Acknowledgements Details

SATLE funding