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The University Education Model Collection 2024: “A University Way of Being”

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A UNIVERSITY

WAY OF BEING

The University Education Model Collection 2024

OLLSCOIL TEICNEOLAÍOCHTA BHAILE ÁTHA CLIATH

DUBLIN

TECHNOLOGICAL UNIVERSITY DUBLIN

FURTHER INFORMATION

More infomation can can be found at TU Dublin Intranet or by emailing:
education.model@tudublin.ie

The sole responsiblity for the content of this publication lies with its authors.
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FOREWORD



Welcome to the UEM Collection 2024, a comprehensive exploration of the University Education Model (UEM) in practice across TU Dublin. The holistic and learner-centred UEM represents change in TU Dublin leading to change in our collective approach to Learning and Teaching as well as change in our culture, philosophy and practices.

The UEM is grounded in systems thinking, collaboration and, ultimately, transformation. This Collection showcases many examples of how we are already well advanced in the practical realisation of the core themes that underpin the UEM: Learner Choice, Learner Experience, Learner Support and their constituent Fundamental actions. As we continue to navigate the complexities of UEM implementation, we are guided by the seven Fundamentals. These initial actions help translate our strategic intent and learner-centred ethos into our lived reality across TU Dublin. Categorisation of the Collection is based on these seven Fundamentals and I hope that the examples within will serve as a useful reference for all.

The case-studies in this Compendium are drawn from all parts of the University including Academic and Professional Services. They demonstrate our deep commitment to supporting our learners, in all their diversity, to achieving their version of success through our dynamic model of educational. Finally, to all our learners, colleagues and partners, including those whose contributions are noted in this UEM Collection 2024 - a big Thank You for your support and continued engagement with the UEM.

Dr. Mary Meaney
UEM Executive Sponsor
University Registrar & Deputy President

MESSAGE FROM TU DUBLIN STUDENTS' UNION

Hello students of TU Dublin!



As you hopefully already know, TU Dublin Students' Union is an autonomous, representative organisation that actively participates in, and advocates on, student issues at all decision-making levels in the University. Our mission is, and always has been, to act in the best interest of our members (students). It should come as no surprise therefore that the Union has been intrinsically involved in the development of the University Education Model (UEM) since its inception several years ago.

From holistic modes of module delivery (such as providing hyflex lectures), to ensuring widened pathways into TU Dublin (entry routes aside from the dreaded points race), we will continue to fight until TU Dublin is open and accessible to all. The UEM also seeks to offer a unique student experience, where students may soon be able to take classes across each of our major campuses (delivering truly pan-university modules). Ultimately, both the Union and TU Dublin want the same thing: for all students to have an unparalleled experience, with exceptional choice, and exemplary supports.

Best,
Brian Jordan
President of TU Dublin SU

WELCOME

Welcome to the University Education Model Collection 2024, a testament to the collaborative spirit thriving at TU Dublin, where individuals, teams, modules, programmes, disciplines, Schools, Faculties, and Professional Services come together in the pursuit of educational excellence. We extend our gratitude to all contributors who have shared their initiatives and practices, each one showing the path toward our shared vision of transformative learning opportunities and experiences for all. Throughout the Collection, you will see the rich perspectives that collectively shape our understanding of learners as they experience the components of the UEM through **Choice**, **Experience**, and **Support**.

We encourage you to embrace the diversity of insights presented here, for within are the seeds of inspiration and opportunity. Let this Collection be your guide to spark curiosity and ignite a passion for transformative action within your own context. We invite you to explore, question, and reflect upon the practice contained within the Collection through collective engagement and thoughtful consideration that we truly embody the essence of the UEM.

Together, let us forge ahead on our educational journey, united in our commitment to enabling every learner realise their full potential at TU Dublin.

Best wishes and happy reading from the UEM Team,

Barry, Fionnuala & Shaun







OLLSCOIL TEICNEOLAÍOCHTA BHAILE ÁTHA CLIATH

DUBLIN

TECHNOLOGICAL UNIVERSITY DUBLIN

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The University Education Model Collection 2024



01 Introduction
Context

INTRODUCTION

The University Education Model (UEM) revolutionises our approach to education; this approach is grounded in transformative learning opportunities and experiences for all. The UEM is central to the TU Dublin Strategic Intent, which itself is informed by the UN Sustainable Development Goals (SDGs), and in the case of the UEM, SDG 4 Quality Education. Embedding the UEM into our practice, processes and culture will empower TU Dublin to cater for the largest number of diverse learners, producing the most sought after, digitally literate, graduates.

"A *supported landscape* of *choices* and *experiences* through which learners attending TU Dublin can learn and grow, offering them the skills, knowledge, experience and qualifications they require"

The central focus of UEM are our **learners**, grounded in the three components that comprise the University Education Model: ***Learner Support***, ***Learner Choice***, and ***Learner Experience***. By combining these three components it encourages our learners to embrace opportunities for growth, as well as personal and societal development, over their learning journey at TU Dublin. The UEM supports learners to realise their unique potential as individuals and in relationships with others, thereby contributing positively to the well-being and productivity of society, the planet, and its inhabitants. This creates a sustainable, yet progressive, TU Dublin where we all belong, and the experience of all learners, including staff, is meaningful, enriching, and life-enhancing.

Learner Centered
The education model is a learner-centred approach that values the needs, interests, and autonomy of our learner as core to transformative learning.

Learner Support
Make education accessible, inclusive and attainable for as diverse and broad a range of learners as possible.

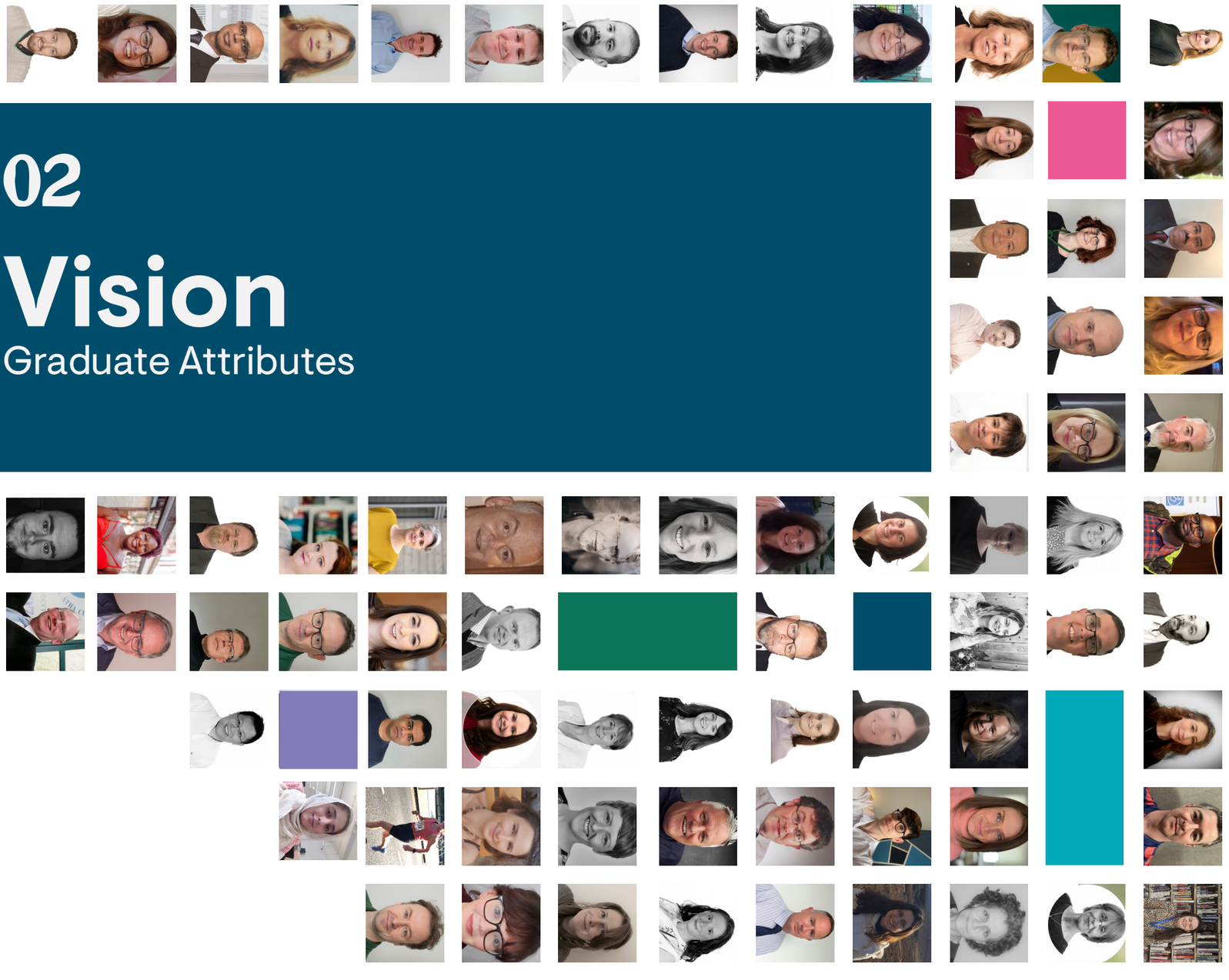
Learner Choice
Enable learners to pursue their interests, passions, and life purpose by offering choice and enabling student agency.

Learner Experience
Empower learners to discover who they are and grow as whole people through tranformational educational experiences that are interdisciplinary, sustainable, digital, inclusive and authentic.

02

Vision

Graduate Attributes



GRADUATE ATTRIBUTES

The TU Dublin Graduate Attributes are:

PEOPLE: DIGITALLY CAPABLE, LIFE-LONG LEARNERS

PLANET: SUSTAINABILITY-FOCUSED, GLOBAL CITIZENS

PARTNERSHIP: COLLABORATIVE, REAL-WORLD PROBLEM SOLVERS

The TU Dublin Graduate Attributes articulate the skills, qualities and capabilities developed and enriched through all our academic programmes and co-curricular activities, learning and work experiences. They also encapsulate what is distinctive about our learners and sets them apart from other graduates.

Integral within the realisation of the TU Dublin strategic intent, the UEM informs how we design our curricula, transformative learning experiences and learner agency to ensure both the attainment of core learner outcomes, and knowledge, independent of subject discipline, by specifying what we want our students to become. Graduate attributes are uniquely defined by each university, but generally include components which relate to the mastery of subject-specific knowledge, attitude or stance towards the world, study skills, literacies and other capabilities. Our graduate attributes comprise three overarching TU Dublin Graduate Attributes, with additional Faculty-focused attributes where required. The three overarching Graduate Attributes align to the UEM with explicit reference to both sustainability and digital capability and skills. Realising the UEM will ensure that each TU Dublin programme develops a graduate profile that explicitly describes the intended capabilities of its graduates and how these align to TU Dublin Graduate Attributes, as well as how they complement discipline and profession-specific qualities.





DIGITALLY CAPABLE, LIFE-LONG LEARNERS

EMPOWERED TO ADAPT AND THRIVE IN AN EVER-CHANGING DIGITALLY CONNECTED WORLD.

Definition: Digitally capable life-long learners are defined at TU Dublin as students who have developed the skills, literacies, competencies and attitudes necessary to live, learn and work in a digital society and who, having graduated, understand the importance of continually engaging in the ongoing self-motivated development of their digital capabilities from both personal and professional perspectives.

Strategic Alignment: Strategic priority PE1: 01 *"producing the most sought-after digitally-literate graduates..."*.

BACKGROUND

Given the rapid digitalisation of our living and working environments, the development of our students' digital capabilities will be key to both their academic success and their employability as graduates of TU Dublin. We are committed, as a university, to providing our students with the opportunities that they will need to develop such capabilities. To this end staff and students co-created the TU Dublin Student Digital Capabilities Framework, which sets out the skills, literacies, competencies and attitudes that we felt were important for our students to develop over their time with us. These capabilities have been listed under six categories: Digital Functional Skills; Critical Use of Digital Information; Creative Digital Production; Digital Participation; Digital Learning and Development; and Digital Wellbeing.



SUSTAINABILITY-FOCUSED, GLOBAL CITIZENS

SOCIALLY ENGAGED AND RESPONSIBLE GRADUATES LEADING THE SUSTAINABILITY AND EQUITY AGENDAS WITH PASSION, PURPOSE AND RESILIENCE.

Definition: Sustainability–focused, global citizens are defined at TU Dublin as students who have developed the key competencies of 'embodying sustainability values', 'embracing complexity in sustainability', 'envisioning sustainable futures' and 'acting for sustainability' to address the SDGs as set out in Green Comp, the European Sustainability Competence Framework.

Strategic Alignment: Strategic priority PL2.01 "*Creating responsible global citizens*" who are described as a new generation of TU Dublin graduates leading the sustainability agenda with passion and purpose.

BACKGROUND

The United Nations have identified 17 Sustainable Development Goals. The SDGs aim to improve health and education, reduce inequality, and spur economic growth all while tackling climate change and working to preserve biodiversity. The TU Dublin Strategic Plan has set out that sustainability learning outcomes will be embedded in each programme. Faculties and schools will be supported in the progressive integration of sustainability learning outcomes through a toolkit, workshops and resources provided by the Sustainability Education Team. TU Dublin students will develop SDG literacy using tools such as the Sulitest combined with reflective pedagogy. TU Dublin graduates will gain the key competencies to address the SDGs as set out in Green Comp, the European Sustainability Competence Framework.



COLLABORATIVE, REAL-WORLD PROBLEM SOLVERS

EQUIPPED WITH THE SKILLS AND ABILITIES TO RESPOND PROACTIVELY AND EFFECTIVELY TO FUTURE CHALLENGES

Definition: Collaborative, real-world problem solvers are defined at TU Dublin as students who have the ability to frame and solve problems in a logical manner, by interpreting and evaluating evidence presented in a variety of media, identify relevant assumptions, arguments and perspectives, make judgements and implement potential solutions.

Strategic Alignment: Strategic priority PE1: 03 "*preparing people to confidently tackle the challenges ….of tomorrow's world, today.*"

BACKGROUND

Education faces a challenge of preparing students for futures as yet unknown, in a world where uncertainty and change are the only constants. Our graduates will require higher order cognitive, social and emotional skills as well as the technological capacity to frame and innovatively solve emergent challenges in authentic ways. The ability for our students to manage oneself, work effectively and efficaciously with others as well as demonstrating critical thinking skills, will be key to their future success both personally and professionally.

Programme teams will progressively integrate and support collaborative problem solving across a programme within authentic activities that enable the development of capabilities that transfer effectively from university to their world.

03

Realisation

UEM Guiding Principles



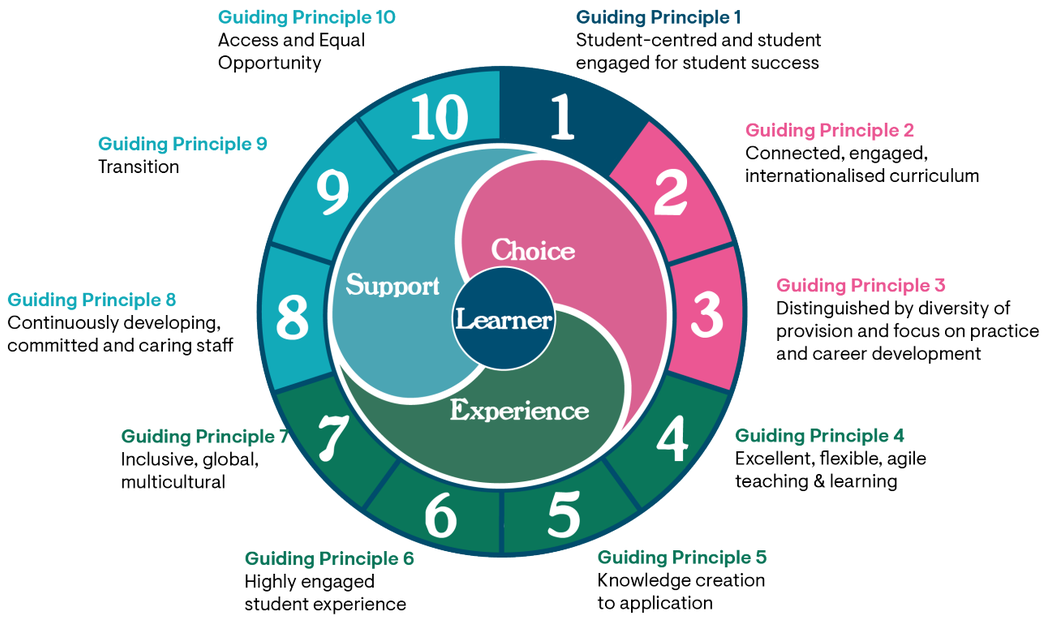


REALISATION

For progress to be made in realising the UEM, 10 Guiding Principles approved by Academic Council, and Univeristy Executive Team (UET) approved 7 Fundamentals, are available and provide context, assisstance and direction for us all.

10 GUIDING PRINCIPLES FOR A TU DUBLIN EDUCATION MODEL

The concept of a new educational model for our learners is grounded in the original vision for a technological university for the Dublin region. Part of our vision for TU Dublin was that we would offer a new and different educational experience to meet the needs of the learners for the next generation. The principles of the curriculum framework proposed at that time included guidance on our University Education Model. These 10 Guiding Principles approved by Academic Council June 2020 characterise the TU Dublin educational experience for all learners. The following pages provide a description of each of the Guiding Principles.





01 STUDENT CENTRED & STUDENT ENGAGED FOR STUDENT SUCCESS

RELEVANCE TO THE UEM

This guiding principle places an emphasis on student engagement; embodied through meaningful connectedness throughout the entire university community. Student engagement should be pervasive across TU Dublin; at the governance level; with staff and with administrative and welfare supports; with clubs and societies and with fellow students; and with industry, community and international partners.

Central to this guiding principle are enriching learning experiences, such as developing active citizenship, team working, leadership, entrepreneurship, work preparedness and other key skills. These distinctive learning experiences are supported through a Framework of Learner Experiences that, alongside a student-centred approach, balance guidance with student agency in determining a student's own learning path and learning experiences. Diverse and innovative modes of delivery and engagement will sustain the Framework of Learner Experiences and empower student agency through a deeply flexible approach to learners accessing their education.

KEY ACTIONS

Promote, encourage and support student initiative and agency in determining their own learning path, to allow flexibility in accessing their education through diverse and innovative modes of engagement.

Promote, encourage and support student engagement and connectedness with the entire university community, integrating the learning experience and developing active citizenship, along with team working, leadership, entrepreneurship, work preparedness and other key skills.

02 CONNECTED, ENGAGED, & INTERNATIONALIZED CURRICULUM

RELEVANCE TO THE UEM

'Connected' is considered horizontally and vertically across, and through, a learning path to ensure coherence for the learner through a considered arrangement of learning experiences. The curriculum is both co-created and delivered through partnership; the partnership includes active and engaged learners as well as industry, community, Higher Education and international partners.

The curriculum places a strong emphasis on research, scholarship and, ultimately, the application of knowledge. Fundamental curriculum values of experiential and experimental learning will empower learners and learning partners to positively impact the world in which we live, particularly through sustainable and active citizenship. TU Dublin learners benefit from a wide range of formal, informal and technology-enhanced learning experiences inspiring a transformative learning experience and producing rounded, agile and critical graduates that are ready for their future careers.

KEY ACTIONS

Provide a connected, engaged and internationalised curriculum, co-created and delivered in partnership with the student and with industry, community, HE and international partners.

Maintain a strong emphasis on the application of knowledge, research and scholarship, sustainability, experiential learning and development of active citizenship through all interactions with students.

Integrate research-led innovative teaching; enquiry-based collaborative learning and research skill development; workplace, community and international experiential learning; career development learning; and the full range of formal, informal and technology-enhanced learning experiences in the formation of the graduate.



03 DISTINGUISHED BY DIVERSITY OF PROVISION & FOCUS ON PRACTICE & CAREER DEVELOPMENT

RELEVANCE TO THE UEM

Authentic learning experiences require the application of critical inquiry leading to the construction of knowledge, the solution of complex problems, and the production, and reflection, of meaningful real-life practices. This approach promotes meaningful learning experiences, foster continuous inquiry, and enables interdisciplinarity and alliance learning with purposeful assessment and empowering feedback as part of a supportive and scaffolded learning journey.

An example of an interactive authentic learning experience is “negotiated work-based learning” experience whereby learners design their own work-based learning experience and can include such aspects as social activism and entrepreneurial endeavour. Including other stakeholders like employers, enables a transdisciplinary learning experience.

KEY ACTIONS

Make full use of apprenticeship and skills based learning approaches in a continuum from Level 6 to Level 10 awards on the National Qualifications Framework.

Focus on practice, experiential learning and career development using a range of teaching and learning approaches and experiences that differentiate TU Dublin from other universities.

04 EXCELLENT, FLEXIBLE, AGILE TEACHING & LEARNING

RELEVANCE TO THE UEM

Within these values, core concepts, such as innovative teaching, learning and assessment (TLA) practice that utilises multiple modes of delivery and interaction, help to shape values embodiment at a practical level. Furthermore, imaginative and judicious use of technology supports TLA innovation and also enables enhanced agility, flexibility and sustainability of provision.

TLA innovation within a Universal Design for Learning (UDL) framework supports enhanced outcomes for all students. UDL seeks to cater for all learners and, therefore, recognises and celebrates diversity in the classroom. This echoes Guiding Principle 7 (Inclusive, Global and Multicultural) and Guiding Principle 10 (Access and Equal Opportunity) and feeds into a coherent and considered University Education Model.

KEY ACTIONS

Make full use of innovative teaching, learning and assessment practice, utilising multiple modes of delivery and interaction.

Adopt enhanced agility, flexibility and sustainability of provision, supported by imaginative and judicious use of technology.



05 KNOWLEDGE CREATION TO APPLICATION

RELEVANCE TO THE UEM

A commitment to knowledge creation, research and scholarship is a central tenant of the University Education Model (UEM). The core concept of learners encountering leading edge, practitioner-based, knowledge at all levels and in all disciplines ensures learners are exposed to knowledge creation and application throughout their learning journey. Building on this foundation, the UEM also values learners working directly with researchers during their learning journey.

This is a fundamental transition that encourages learners to deepen their knowledge, and also to support the development and sharing of new knowledge. Integrating, and valuing, research and research-like learning experiences for our learners will support them in becoming innovative workplace practitioners. By extending curricula that are designed based on research and scholarship, new opportunities for our learners will emerge to support them in their development into researchers; with the skills to participate in leading edge, as well as post-graduate, research culminating in effective and impactful knowledge exchange.

KEY ACTIONS

Demonstrate commitment to knowledge creation, research and scholarship using leading edge knowledge in disciplines at all levels.

Deepen the knowledge of researchers as innovative workplace practitioners participating in leading edge and engaged research, and effective knowledge exchange.

06 HIGHLY ENGAGED STUDENT EXPERIENCE

RELEVANCE TO THE UEM

Providing opportunities for learners to engage with workplace, community and professional environments, is a key enabler of enhancing the TU Dublin learner experience. This Guiding Principle recognises the value of encouraging closer connections in order to prepare learners to navigate and solve the issues of society.

Learning comes alive for the students as they work on projects with community partners, developing professional transferable skills, and enhancing their understanding of their specialist subject skills and of the community they work with. Students receive course credits for their work, as these projects are embedded into their studies. Community partners become part of the teaching process through the collaboration, contributing their knowledge and expertise, and increasing the relevance of TU Dublin research and programmes of study.

KEY ACTIONS

Demonstrate embedded engagement with industry and community partners in through processes, policies and practices to provide an engaged student experience of learning to become rounded and engaged citizens



07 INCLUSIVE, GLOBAL, MULTICULTURAL

RELEVANCE TO THE UEM

TU Dublin's equality statement (2023-2028) specifies the university's commitment "*to ensuring that the student body entering, participating in and completing its programmes at all levels reflects the diversity and social mix of the Dublin region, and Ireland's, population*" and is underpinned by UN Sustainable Development Goal 4 to 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.'

With that in mind, our wide-reaching student demographic reflects global diversity and, therefore, provides opportunities for making connections and for creating conditions for discussion and exploration of the tensions, differences and similarities between us all. Exploring the unexpected connections fosters a growth mind-set and encourages us to take personal and collective responsibility for inclusion of other perspectives.

KEY ACTIONS

Foster and develop a multi-cultural, globally connected and inclusive learning community with strong international exchange of students and staff, physical and virtual.

Respect and value the diversity of learning, culture, and skills that students bring will be, to enrich learning for all through peer-learning networks, student mentors, international team projects and co-curricular activities.

08 CONTINUOSLY DEVELOPING COMMITTED AND CARING STAFF

RELEVANCE TO THE UEM

A continuously developing, committed and caring staff are central to enhancing the TU Dublin learner experience, as well as creating a vibrant and welcoming place to work. This Guiding Principle calls for the creation of conditions that support staff who teach in their professional development, foster this development through active commitment and, ultimately, enable staff to learn and grow immersed in a culture of teaching excellence.

Enhancing and sustaining a culture of teaching excellence requires the empowerment of people through policies, procedures, practices as well as the formal and informal interactions between university leaders and staff. People practices represent communications and signals to staff about TU Dublin's intentions and actions towards them. They signal what is important and valued within the university, what is expected, how leaders and staff should interact, and what appropriate responses are.

KEY ACTIONS

Promote and recognise excellence in teaching and student development.

Promote and support high-quality staff development opportunities and resources with practice-based CPD that will be recognised within a national professional development framework.



09 TRANSITIONS

RELEVANCE TO THE UEM

Learners will be supported through their transitions, large and small, as they navigate their learning journey to, through and beyond TU Dublin. This Guiding Principle places a particular emphasis on providing a proactive, caring and flexible approach to support students as they transition to higher education and in the programme choices they make. The Guiding Principle also promotes accessible pathways to ensure students are as well prepared as possible when joining TU Dublin, as well as adopting a proactive and supportive approach to help learners to adjust to higher education and develop self-efficacy throughout their learning journey.

In addition, this Guiding Principle identifies the need to provide seamless transition from Further Education(FE) to Higher Education(HE).

KEY ACTIONS

Provide a proactive, caring and flexible approach to support students as they transition to higher education and in the programme choices they make.

Develop accessible pathways to ensure students are as well prepared as possible when joining TU Dublin, and proactively support students to adjust to HE and develop self-efficacy throughout the transition period.

10 ACCESS AND EQUAL OPPORTUNITY

RELEVANCE TO THE UEM

TU Dublin aims to be inclusive in all aspects of the University and, in doing so, create a welcoming atmosphere in which to learn and work. An inclusive approach to student recruitment is an integral part of TU Dublin and this is achieved through supportive policy and practice resulting in a diverse student body that reflects the demographics of the region, as well as providing developmental opportunities and services to enable all students to learn and thrive.

TU Dublin has published a comprehensive Equality Statement which notes ‘that the student body entering, participating in and completing its programmes at all levels reflects the diversity and social mix of the Dublin region, and Ireland’s population.’ It specifically highlights the aim to provide an enhanced experience and positive educational outcomes for all students through the utilisation of approaches such as Universal Design for Learning in the provision of education and related services, supports and facilities.

KEY ACTIONS

Energetically and proactively facilitate equitable access to education and opportunities for all students and potential students, particularly those from underrepresented communities, regardless of economic or social background, disability, gender, racial or cultural background or belief.

Support and promote a culture of equity, inclusion and respect for all in the TU Dublin community.

03

Realisation

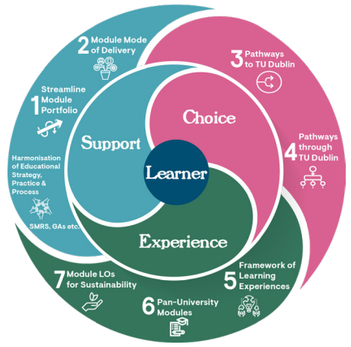
Fundamentals





THE BRIEF FROM THE UET: 7 FUNDAMENTALS

Initially, the broad scope of the UEM was agreed through its Charter and associated Guiding Principles. The Fundamentals subsequently built on these previously agreed positions and developed aspects of the UEM that are immediately relevant to Faculties and Schools. Their purpose is to outline aspects of academic programme and discipline provision that need to be considered, and addressed as appropriate, as part of academic quality reviews. The Fundamentals are necessary to ensure the implementation of the University strategic intent and to progress towards the full suite of academic programmes offered by the University being aligned, to the greatest extent possible, with the direction signalled by the UEM. The approved '***Fundamentals***' are:



1 Streamline Module Portfolio — UEM Fundamentals

Academic module duplication across the University is minimised, with modules containing similar learning outcomes combined wherever possible.

2 Module Mode of Delivery — UEM Fundamentals

New academic modules are developed in a manner to achieve pedagogical foundations when delivered in multi-modal formats of in-person, on-line synchronous, and on-line asynchronous delivery.

3 Pathways to TU Dublin — UEM Fundamentals

Progression opportunities from awards at lower levels of the NFQ to university programmes are supported and transparent.

4 Pathways through TU Dublin — UEM Fundamentals

Opportunity is afforded to students to facilitate their involvement in choice within their learning pathways.

5 Framework of Learning Experiences — UEM Fundamentals

All learning experiences include some aspects aligned to the University Education Model, in particular the component parts of the University Framework of Learner Experiences (FLE).

6 Pan-University Modules — UEM Fundamentals

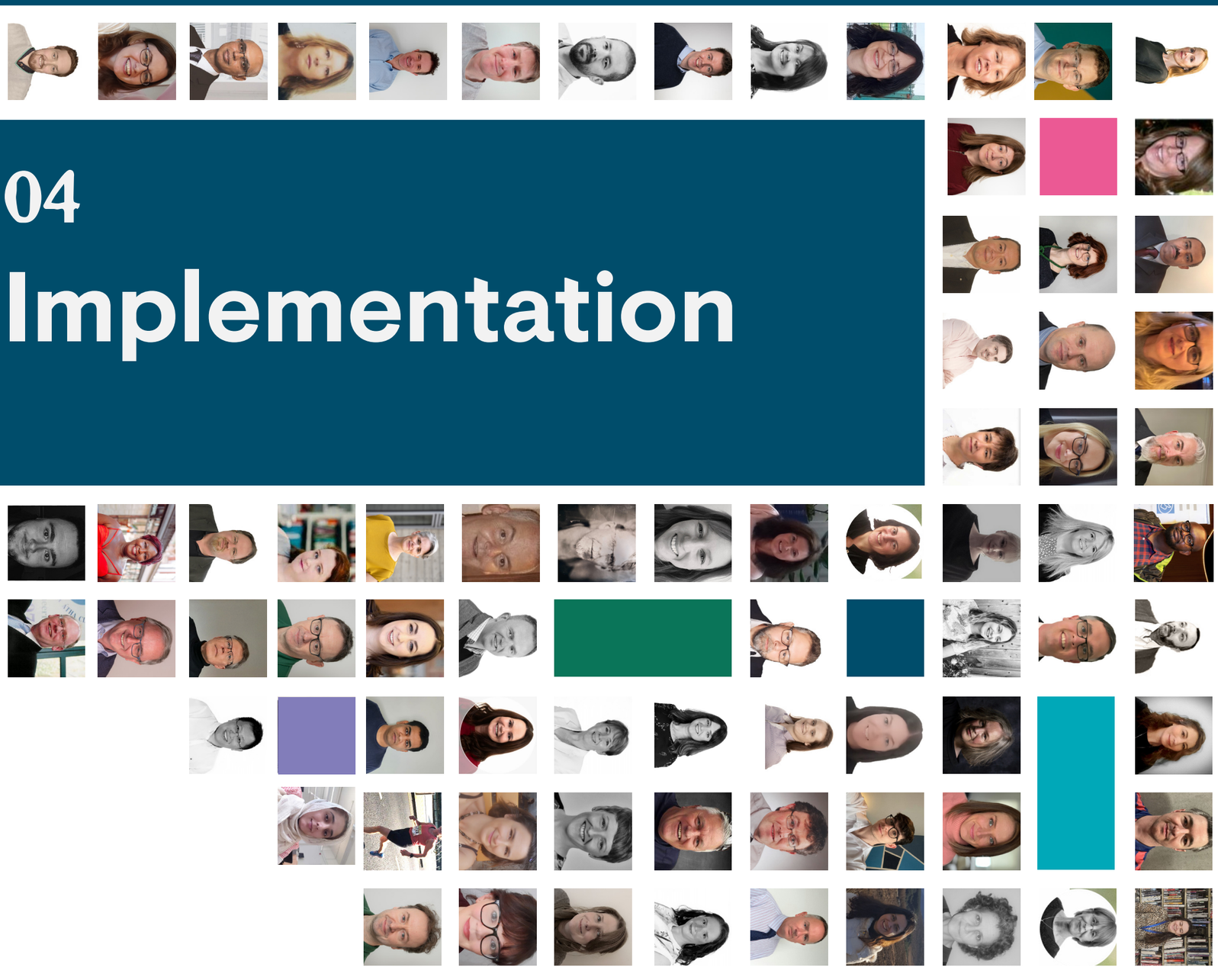
Opportunity is afforded to students to elect to take common modules at School, Faculty or University level.

7 Module LOs for Sustainability — UEM Fundamentals

Learning outcomes related to sustainability are transparent.

04

Implementation





DR. EOIN LANGAN

DEAN FACULTY OF BUSINESS

Eoin's background is in accounting, finance and IT consulting prior to transitioning to a career in higher education. He joined TU Dublin in 2019 as Head of Accounting and Finance, City Campus.

THE UEM: TURNING THE DREAM INTO REALITY

The new Faculties and Schools became fully formed in late 2022 with the alignment of academic staff to Disciplines and Schools. Within the Faculty of Business (FoB), the Faculty Executive Team made the decision to commence the Programme and Schools reviews as a means of integrating our new organisational structures and afford staff who were coming together from our previous three campus structures the opportunity to co-operate and collaborate from both a Discipline and Programme perspective. This provided the opportunity to develop our new Faculty culture whilst undertaking these reviews as required under the University quality assurance and enhancement mechanisms. The reviews enable staff within the Faculty to get to know each other through a collaborative approach and aims to build trust and develop relationships required for the future development of the Faculty. In addition, they afforded the opportunity to implement elements of the **University Education Model** and the following speaks to **Fundamental 1** (Streamlining Module Portfolio), and **Fundamental 7** (Module Learning Outcomes for Sustainability).

FUNDAMENTAL 1 – STREAMLINING MODULE PORTFOLIO

The programme module catalogue identified 2,040 modules within the FoB programmes, many with the same or similar titles. Thus, as part of the Programme Reviews we commenced the progress of developing common modules especially for the early years of programmes. If we take the Discipline of Marketing as an example there are 29 modules with title of Marketing or Introduction to Marketing or similar. Our plan is to reduce this to one module each for levels 6, 8 and 9. With a 10 ECTS module and a 5 ECTS module thus we have gone from 29 modules to 6 modules. A further example is Communication and Critical Skills (covering Communications and Personal Development & Communications and Transition related modules such as Critical Skills Development) there are 51 modules, again this will be a max of 6 modules going forward. The disciplines have been identifying the modules this semester and work is now ongoing.

FUNDAMENTAL 7 – MODULE LEARNING OUTCOMES FOR SUSTAINABILITY

Given that all modules are being reviewed as part of our programme review this equally affords an opportune time to incorporate learning outcomes focused on sustainability at both Programme and Module level. This activity is being undertaken this semester with support from the Sustainability Education Team within the Sustainability Office. This activity focuses not only on learning outcomes but rather aims to embed sustainability into the broader curriculum and have sustainability an element of the majority of modules. While we are incorporating some stand-alone sustainability modules, the strategic approach is to bring sustainability into the syllabi and align with the EU Green Competency Framework. The Sustainability Education Toolkit available here is a most useful tool to assist this activity.

LESSONS LEARNED/NEXT STEPS

The Faculty of Business will continue to implement the Fundamentals of the UEM in a strategic manner and the logicalical next step is **Fundamental 6** – Common Pan University Modules and a key element of delivering on these is a University Resource Allocation Model and I am chairing a working group developing an approach for TU Dublin.



PROFESSOR JOHN DORAN

DEAN FACULTY OF SCIENCES & HEALTH

Joined DIT as a physics lecturer in 1996, appointed Asst Head of School in 2003, Head of School in 2009 and Dean in 2022. Research activity is in the applications of nanomaterials in solar energy technology.

The Faculty of Sciences and Health at TU Dublin is home to more than 4,500 students who are enrolled on a wide range of undergraduate, postgraduate, and professional programmes, including full-time and part-time courses, short CPD courses, and industry-based programmes. Several hundred research students are pursuing higher degrees across our wide range of scientific and health disciplines. A large number of our programmes are professionally recognised and accredited. Our taught programmes and our research activities are designed to respond to the needs of industry, community, the health professions, wider society and address the multiple global challenges that we face, including climate change.

VISION AND REALISATION

We believe that the proper understanding and application of science is crucial to the development of sustainable solutions to global and societal challenges. We are dedicated to developing scientific and technical knowledge and skills in our students and with our collaborators. We are committed to providing an excellent experience for our students, staff and collaborators across all of our science and health disciplines. We believe that an innovative environment and real-world experience is an important part of higher education and we integrate significant work-based opportunities into our programmes. The realisation of the University's strategic intent, specifically the **University Education Model** will allow us to deliver on these visions for the students and staff of the Faculty, as well as for our societal and industrial partners.

FUNDAMENTAL 1 – STREAMLINING THE MODULE PORTFOLIO

A critical initial step in realising the University Education Model is to streamline the Faculty's module portfolio. The aim is to reduce duplication of academic modules within the Faculty and eventually across the University, as much as it is possible and appropriate, thus enhancing the overall impact of teaching and learning. Addressing the **Fundamental 1** is crucial as it sets the stage for enabling the other Fundamentals. Currently, efforts are underway to categorise Faculty modules into their respective disciplines. Initially, nearly five hundred modules were reviewed, and similar ones were grouped based on learning outcomes before categorisation. This categorisation process is ongoing and aligns with the Disciplines defined by the Faculty. Once complete, each module will be assigned to a specific Discipline. Following this, modules within each discipline will be streamlined using four recommended approaches: maintaining the module as is, restructuring related modules, combining similar modules, or acknowledging equivalent modules. Actioning **Fundamental 1** will provided opportunities for our learners to take advantage of the full scale of the University module portfolio and, therefore, benefit from increased flexibility and choice. Additionally, academic staff will benefit from shared delivery resources within their Discipline.

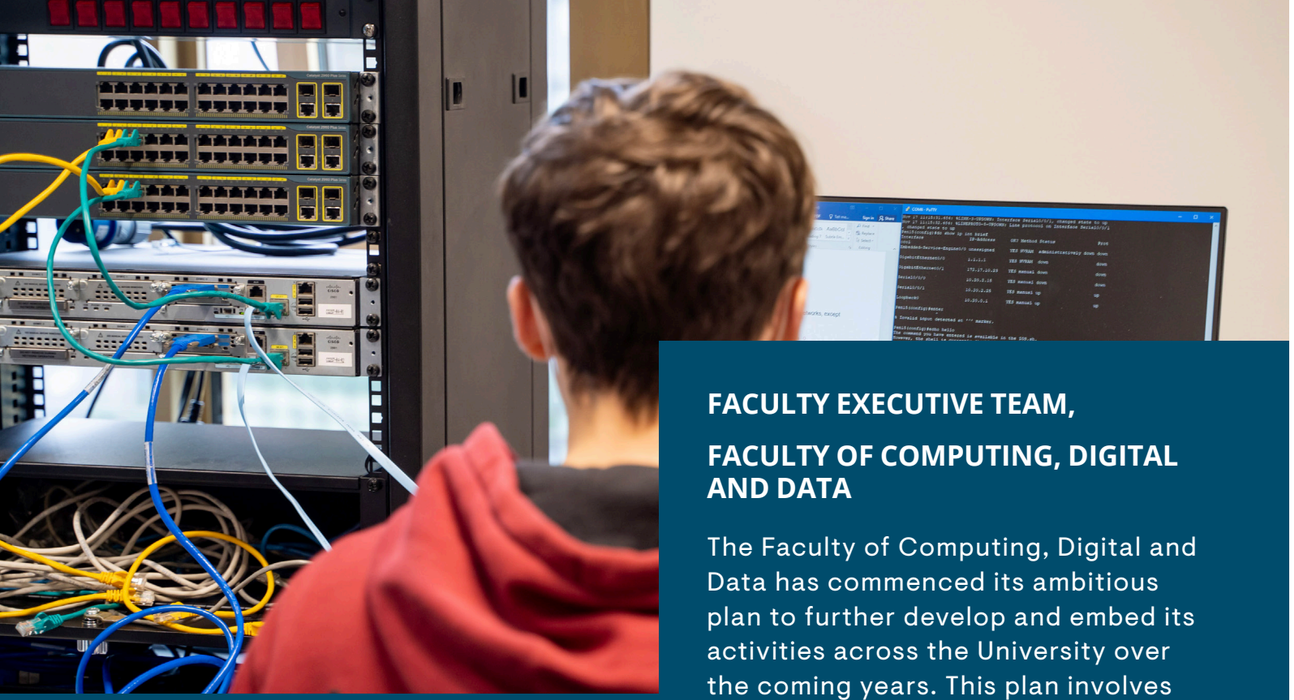
FUNDAMENTALS 2 TO 7 – SHORT CASE STUDIES

Work is also underway across the Faculty delivering on aspects of the other Fundamentals.

Microcredentials aimed at industry-based learners, delivered online or in-person and funded through the Human Capital Initiative under the Convene project, is an example of **Fundamental 2** and **Fundamental 3** in action. Here, routes into TU Dublin are diversified allowing industry-based learners to engage in continuing professional development and learners can participate in a modality that works best for them.

Under **Fundamental 4**, **Fundamental 5** and **Fundamental 6** the Faculty currently contributes a cross-school major stream in Food and Nutrition Studies and three Environmental Health-related Minors (Public Health, Health and Safety, and Environmental Management) to the proposed Liberal Arts degree.

Finally, addressing **Fundamental 7**, the roll out of sustainability literacy training across all Schools in the Faculty has commenced with a view to embedding sustainability learning experiences and outcomes into our Programmes. Colleagues within the Faculty Sustainability Committee have led the development of a resource to support the review of lab manuals for sustainability.



FACULTY EXECUTIVE TEAM,

FACULTY OF COMPUTING, DIGITAL AND DATA

The Faculty of Computing, Digital and Data has commenced its ambitious plan to further develop and embed its activities across the University over the coming years. This plan involves the development of a new suite of programmes on a cross-Faculty and cross-University basis, with students from all fields enabled to engage with Computing, Digital and Data disciplines in ways that are aligned with their own areas of study. This will facilitate student choice and enable common modules to be taken across the University, while also offering new learning experiences and progression opportunities to students and new collaboration opportunities to staff.

INITIATIVE

The Faculty of Computing, Digital and Data is ideally situated within Technological University Dublin to collaborate with disciplines in all fields in the implementation of undergraduate programmes, postgraduate programmes and research. The application of expertise of the Faculty's disciplines, including Artificial intelligence, Data Science and Digital Transformation, Mathematics and Cybersecurity in areas such as Business, Engineering, Science and Health opens up opportunities for exciting programmes to be developed to meet the needs of all sectors of society and the economy.

The University Executive Team's **Fundamental 4**: "Opportunity is afforded to students to facilitate choice within their learning pathways" and **Fundamental 6**: "Opportunity is afforded to students to take common modules at School, Faculty or University level" draw attention to the need to consider how the student can engage with subjects outside of their home discipline during their learning experiences in TU Dublin. These Fundamentals have shaped the Faculty's approach to current and future programme development at all levels.

Faculty is developing new Masters programmes or reshaping existing Masters programmes in Data Analytics, Artificial Intelligence, Cybersecurity and Digital Transformation to serve the needs of the University by enabling specialisations in Computing, Digital and Data disciplines and other disciplines from across the University to be offered to students from the second semester onwards. The Faculty is reshaping some of its undergraduate provision into a streamed structure with a common entry across several programmes being followed by a specialisation in a Computing, Digital and Data disciplines from second year and a minor from a discipline from any Faculty becoming available to students through their selection of electives.

The Faculty has engaged with the exciting development of the Bachelor of Arts in Liberal Arts programme **[Fundamental 4]** and is committed to offering students on that programme majors and minors in Computing disciplines.

In addition, the Faculty is exploring opportunities to develop new programmes in partnership with providers across the tertiary sector, facilitating new entry and progression pathways through programmes in Computing, Digital and Data disciplines **[Fundamental 3]**.

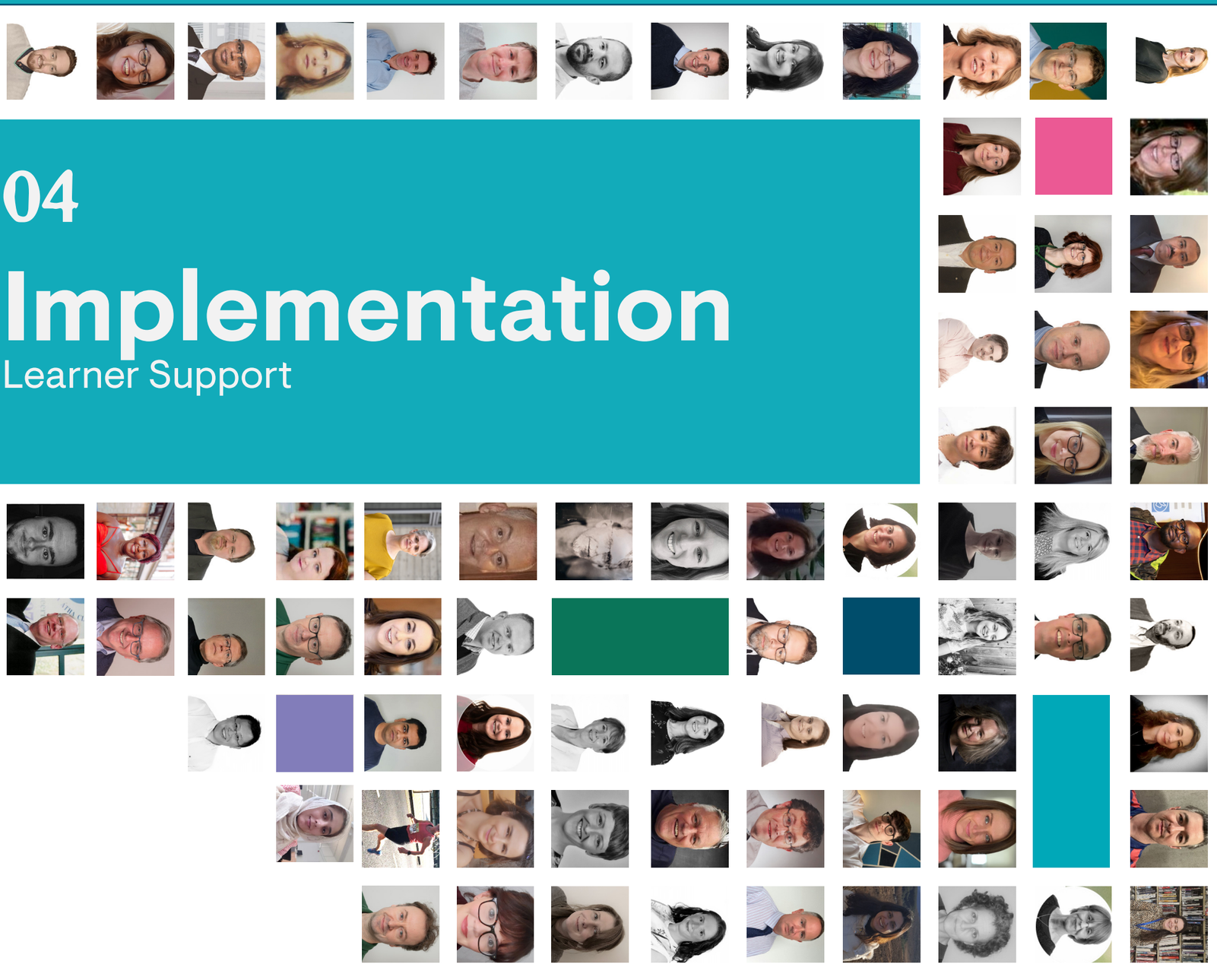
LESSONS LEARNED/NEXT STEPS

The next steps on the exciting journey of the Faculty of Computing, Digital and Data will involve the completion of the design and the subsequent implementation of the new suite of cross-University programmes. The Faculty looks forward to working with colleagues in all disciplines to provide a high quality learning experience to all students, enabling them to apply the skillset of practitioners in Computing, Digital and Data in their own areas of study and supporting them in applying digital skillsets to meet the challenges and opportunities that they will encounter in their professional lives.

04

Implementation

Learner Support

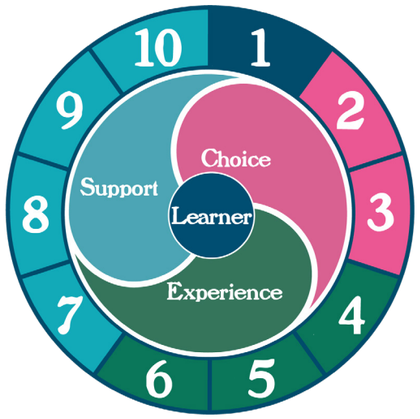




STUDENT EXPERENCE TRANSFORMATION PROGRAMME

The Student Experience Transformation (SET) Programme is the key technical enabler of the UEM. SET will unify our three existing student record management systems (SRMS), replacing our ageing and unsupported IT infrastructure with a new, modern, out-of-the-box solution configured to TU Dublin needs. When fully implemented (target go-live date for September 2025), the new system, allied with transformative changes in our processes and procedures, will provide the foundation to allow our students radical choice.

Submitted by Dr. Ken Carroll, Eileen Quinn, Lene van der Merwe



INITIATIVE

A Student record Management System (SRMS) is a fundamental support to the student and business needs of the university. It allows us manage student data efficiently and to monitor aspects of the student life cycle within a centralised system.

Moving to a unitary SRMS will bring real benefits including:

- Streamlined business processes with improved efficiency – many administrative tasks can be automated, reducing time and effort required to manage information.
- Improved communication – the SRMS will allow easier communication with students, faculty, and staff.
- Compliance with regulations – help ensure adherence to academic regulations, compliance with data protection, and ensures student information is accurate and secure.
- Data analysis – improved reporting capabilities providing insights, helping individuals and functional units make informed decisions about student performance and retention.

The **University Education Model** (UEM) is constructed around **Learner Support, Learner Choice,** and **Learner Experience** to provide a landscape in which learners can learn and grow, while developing the skills, knowledge, experience and qualifications they require.
The SRMS will be a critical enabler of the University Education Model focused on:

- Student Empowerment – ceding power and accountability to our students to the greatest extent and encourage them (with appropriate guidance) to take optimal ownership of their educational experience.
- Radical choice in their programs to undertake a coherent set of core modules complemented by elective choices such that the whole aligns to an award standard.
- Interest-guided - enable (and trust) our students to make educational choices guided by their interests, passions, gifts and strengths.

For staff:

- Work worth doing – creating conditions (unified systems, technology and processes) that enable our staff to undertake work that benefits others, has a meaningful impact on the student experience and is satisfying to engage in.
- Right, first time - enable staff to capture what a student needs in the first interaction and reduce the need for re-working.

The SRMS will transform what we currently do. Specifically:

- Switch our current programme-led focus to one that is student-centred and module-led.
- Make personalised information available to our students in one place, at all times, and on any device.
- Make role-appropriate information relating to a student's learning cycle accessible to our academic/ professional services staff in one place, at any time, and on any device.

LESSONS LEARNED/NEXT STEPS

Key lessons to date:

- Our current SRMS configurations do not afford students the same enhanced educational pathways as envisioned by the UEM. As we explore each capability of the new unitary SRMS, it is being configured though a UEM lens to ensure that each fundamental of the UEM can be enabled.

We will know success:

- When our students can undertake a self-selected learning pathway.
- When our students can access timely, relevant, personalised information that enables them to take optimal ownership of their educational experience.
- When our staff can access role-appropriate information that enables them to do their job with maximum ease.



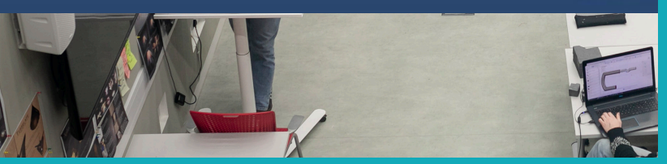




Student Transformative Learning Record

Adding Value to th
recording transfor
students.

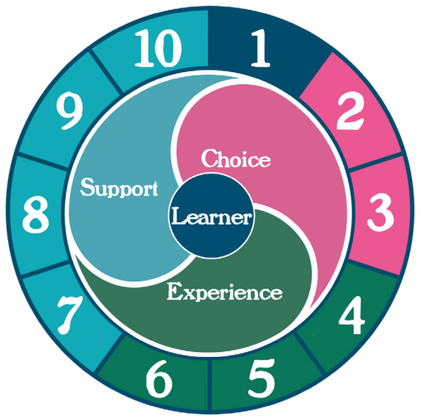
UEM 3 -



STUDENT TRANSFORMATIVE LEARNING RECORD (STLR)

The Student Transformative Learning Record (STLR) was implemented in TU Dublin to encourage, measure, and record students transformative learning growth in our core competencies. While the traditional academic transcript gives a snapshot of students' Discipline Knowledge, STLR captures students' growth in our core competences that were mapped to the UEM principles. At the heart of STLR is the idea of Transformative Learning (TL). Put simply, transformative learning requires students to reflect about experiences they may have had and/or as part of completion of their assignments designed to encourage them to reflect.

Submitted by Amanda Dixon



INITIATIVE

The Student Transformative Learning Record (STLR) is a student facing mechanism that records transformative learning experiences for all TU Dublin students and aligns with the **University Education Model** Framework of Learner Experiences [**Fundamental 5**]. The STLR initiative supports students on their transformative learning journey and offers each student an official TU Dublin Transformative Learning Transcript. These transformative learning experiences can be assessment based, event based or co-curricular activities. The STLR transcript is a useful resource for graduates and can assist in securing employment as it is a representation of the employability skills developed over the course of their time in TU Dublin.

STLR works in partnership with the following entities in TU Dublin who offer, online and face to face, transformative learning experiences to students: Growth Hub, Campus Life, Volunteering, Student Life, Career Development Centre, TU Dublin Students Union, Student Success, Academic Lecturers (Assessment), TU Dublin Events, TU Dublin Green Campus, Climate Launchpad, and TU Dublin Guest Speakers.

STLR record the transformative learning experiences offered by these entities on a STLR Transformative Learning Transcript for each student.

The University Education Model **Fundamental 5** triggered a review of the STLR competencies with a focus on whether there was alignment to the University Education Model principles. The STLR core competencies are Civic Knowledge Skills and Experiences, Global Culture Competence, Health & Wellbeing Development, Leadership & Teamwork Development and Research and Innovation Competency Building. A summary of the alignment with the University Education Model is provided in the table.

The University Education Model lens has added value to the STLR initiative by offering a prompt to review and take stock of the five core competencies. The outcome of the review highlighted that there is a strong connectedness between the STLR initiative and the University Education Model and the overall University Strategy. This alignment shows that the STLR initiative can in turn add value to the University Education Module and the University strategy by providing a mechanism that records transformative learning experiences for TU Dublin students.

STLR Initiative	UEM Guiding Principle 3
Competency 1 Civic Knowledge Skills & Experience	UEM Guiding Principle 1, 6, 10
Competency 2 Global Culture Competency	UEM Guiding Principle 2 & 7
Competency 3 Health & Wellbeing Development	UEM Guiding Principle 6, 8, & 9
Competency 4 Leadership & Teamwork Development	UEM Guiding Principle 1
Competency 5 Research & Innovation Competency Building	UEM Guiding Principle 2, 4, & 5

LESSONS LEARNED/NEXT STEPS

A key lesson learned is that continual review of the STLR initiative is important to ensure that it aligns with the continuously changing higher education landscape we are operating in. Engagement with internal and external stakeholders is vital to this process.

Future plans for enhancing the STLR initiative include the implementation of a STLR dashboard that will be accessible to all TU Dublin students by the end of 2024 academic year. The STLR team have also applied for a digital badge for the STLR initiative so students will not only have their official TU Dublin STLR transcript but will have a digital representation of their achievements in a digital badge format.

1 Streamline Module Portfolio



UEM Fundamentals

2 Module Mode of Delivery



UEM Fundamentals

3 Pathways to TU Dublin



UEM Fundamentals

4 Pathways through TU Dublin



UEM Fundamentals

5 Framework of Learning Experiences



UEM Fundamentals

6 Pan-University Modules



UEM Fundamentals

7 Module LOs for Sustainability



UEM Fundamentals

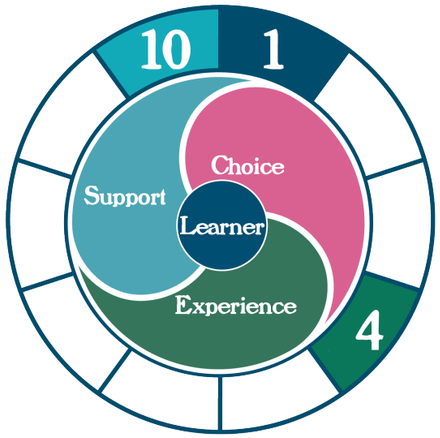


SUBJECT SPECIALIST GROUPS

Following the formation of the Faculty of Computing, Digital and Data, an opportunity arose for staff across the Faculty who were teaching in similar areas to share best practice and contribute to the development of the next generation of modules, designed for the whole faculty rather than for a single programme or school. To achieve this objective, a group comprised of the Head of Learning Development and the Heads of Discipline in the School of Computer Science, School of Enterprise Computing and Digital Transformation, and the School of Informatics and Cybersecurity designed a structure for the cross-Faculty Subject Specialist Groups.

Ciarán O'Leary, Róisín Faherty, Brian Gillespie, Geraldine Gray, Brian Keegan, Seán McHugh, Susan McKeever, Stephen Sheridan, Christina Thorpe

Submitted by Dr. Ciarán O'Leary



INITIATIVE: SUBJECT SPECIALIST GROUPS

The University Executive Team, in the context of the **University Education Model**, required that: *"academic module duplication across the University is minimised, with modules containing similar learning outcomes combined wherever possible"*. The Faculty of Computing, Digital and Data is progressing this objective by establishing Subject Specialist Groups. These groups are formed across the four schools in the Faculty from lecturers teaching modules in specific subject areas, with the objective that staff teaching the same subject across the Faculty will, where appropriate, share the same module descriptor, developed from the collective expertise and input of all those staff.

The benefits to our new Faculty of undertaking this exercise go beyond addressing module duplication because of their focus on fostering cross-faculty interaction. In the Faculty of Computing, Digital and Data, three of the four schools are staffed by Computing lecturers with similar and overlapping skillsets. While significantly more interaction across schools has taken place since the establishment of the Faculty, it is important that – over time – staff with similar interests are facilitated to interact with each other on a more formal basis. This may serve as a foundation for joint activities – including teaching, research and engagement activities.

It is intended that within the first three months of the group being formed, that common module descriptors will have been developed. It is not intended that these will have to be implemented in programmes straight away, but rather that they will be a suite of modules that can be added to programmes over time as programmes undertake reviews.

It is intended that Subject Specialist Groups will become a permanent feature of our Faculty to facilitate ongoing engagement across the Faculty (in person and otherwise), and to consider amendments to modules that are shared by staff on different programmes in different schools.

To date, two Subject Specialist Groups have been established: for Computer Programming and Computer Networking.

LESSONS LEARNED/NEXT STEPS

It has become evident in the work of the Subject Specialist Groups that scope is required for enhanced flexibility to be afforded to the designers of modules, such that certain aspects of module descriptors can be specialised for a programme. There are a variety of reasons why there may be a need for a programme to use a different assessment strategy or implement a different number of contact hours for a given module than another programme. The next step is to attempt to progress towards this flexibility considering the current and potential future design of the TU Dublin Quality Framework.

1 Streamline Module Portfolio

UEM Fundamentals

2 Module Mode of Delivery

UEM Fundamentals

3 Pathways to TU Dublin

UEM Fundamentals

4 Pathways through TU Dublin

UEM Fundamentals

5 Framework of Learning Experiences

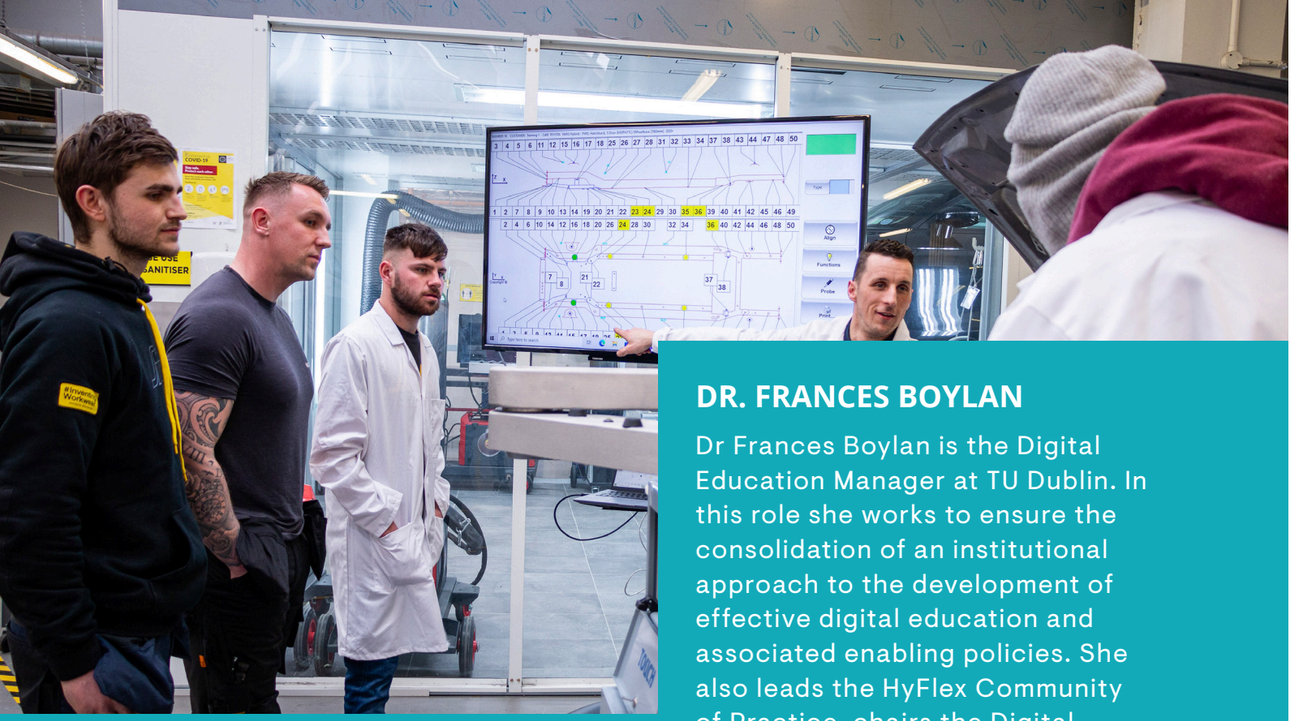
UEM Fundamentals

6 Pan-University Modules

UEM Fundamentals

7 Module LOs for Sustainability

UEM Fundamentals



DR. FRANCES BOYLAN

Dr Frances Boylan is the Digital Education Manager at TU Dublin. In this role she works to ensure the consolidation of an institutional approach to the development of effective digital education and associated enabling policies. She also leads the HyFlex Community of Practice, chairs the Digital Education Policy Implementation Working Group, oversees a range of digital education initiatives for TU Dublin, and contributes to the MSc in Education, CPD short courses, and other professional development opportunities for staff in the area of digital education.

INITIATIVE

Informed heavily by experiences and learnings over the pivot to emergency remote teaching, learning and assessment necessitated by the Covid-19 pandemic, significant progress was made over the academic years 2021/22 and 2022/23 furthering technology-enabled flexible and agile learning and teaching at TU Dublin. As the **University Education Model** team disseminated the prototype 'framework of learning experiences', which included learner choice as a central tenet, the Digital Education Policy working group was established tasked with developing an enabling policy that would support staff and students as they engaged with digital education and embraced the flexibility offered by emerging digital pedagogies. It became clear that to enable the continued progression of the Digital Education Policy and the University Education Model that it was time to define what we meant at TU Dublin by "providing flexibility in structure, mode and place of delivery". The use of approved shared definitions would allow for transparency and consistency across all faculties, functions and services; help facilitate comprehensive, complementary, and collaborative outputs between the UEM and Academic Affairs teams; and allow functions and services to prepare for the kinds of additional supports and guidance that may be required by staff and students going forward. Building on UEM Fundamental 2 "New academic modules are developed in a manner to achieve pedagogical foundations when delivered in multi-modal formats", members of the UEM team worked closely with the Digital Education Manager, Academic Affairs, to formulate the definitions for what would become the four approved modalities for module delivery at TU Dublin.

The four modalities (In-person, on-campus, technology-enabled; Blended; Online; & HyFlex) were underpinned by the understanding that TU Dublin seeks to provide our students with a digitally enhanced learning experiences that will produce the most sought-after digitally-literate graduates (Strategic Intent 2030, PE1 01).

As the best way to encourage students to develop their digital skills and literacies is "through ongoing contextualized digital literacy development activities, not as a separate topic or course, but integrated into discipline learning" (Coldwell-Neilson, Times Higher Education 2021), it was proposed, and approved, that all modules offered at our university going forward will be technology-enabled by design. TU Dublin will now support the design, development, validation, and offering of modules, as the constitute parts of programmes, under these four modalities.

LESSONS LEARNED/NEXT STEPS

Now that the four modalities have been approved, work has started in ernest to provide the technical and infrastructural support required to realise flexible delivery. Work has also begun on developing the associated pedagogical supports on which faculty staff will rely as they take a digital by design approach in the development of new modules, or the review and redesign of existing modules, and embrace different modes of delivery.

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7 Module LOs for Sustainability
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SCHOOL OF MANAGEMENT, PEOPLE & ORGANISATIONS (MPO)

The School of MPO is a collegiate community which fosters inspiring, impactful, innovative and critically independent thinkers who rise to current and future challenges and opportunities in its four disciplines: Strategy & Leadership, Management, Human Resource Management, Organisation Studies.

The School is a thriving and inclusive community of educators and researchers working together to continue to be critical thinkers in management and leadership development, people and organisation education and research and contributing towards building a sustainable future for our learners, business and wider society.

Submitted by Dr. Roisin Donnelly



INITIATIVES

The School of MPO has been considering and positioning its current review of undergraduate and postgraduate programmes in light of the UET's Fundamentals and **University Education Model** Guiding Principles since May 2022, and has placed emphasis on how this relates to the School's values and strategic priorities. Specifically, the examples below show just some of this in action to support learner choice (through pathways), experience and support.

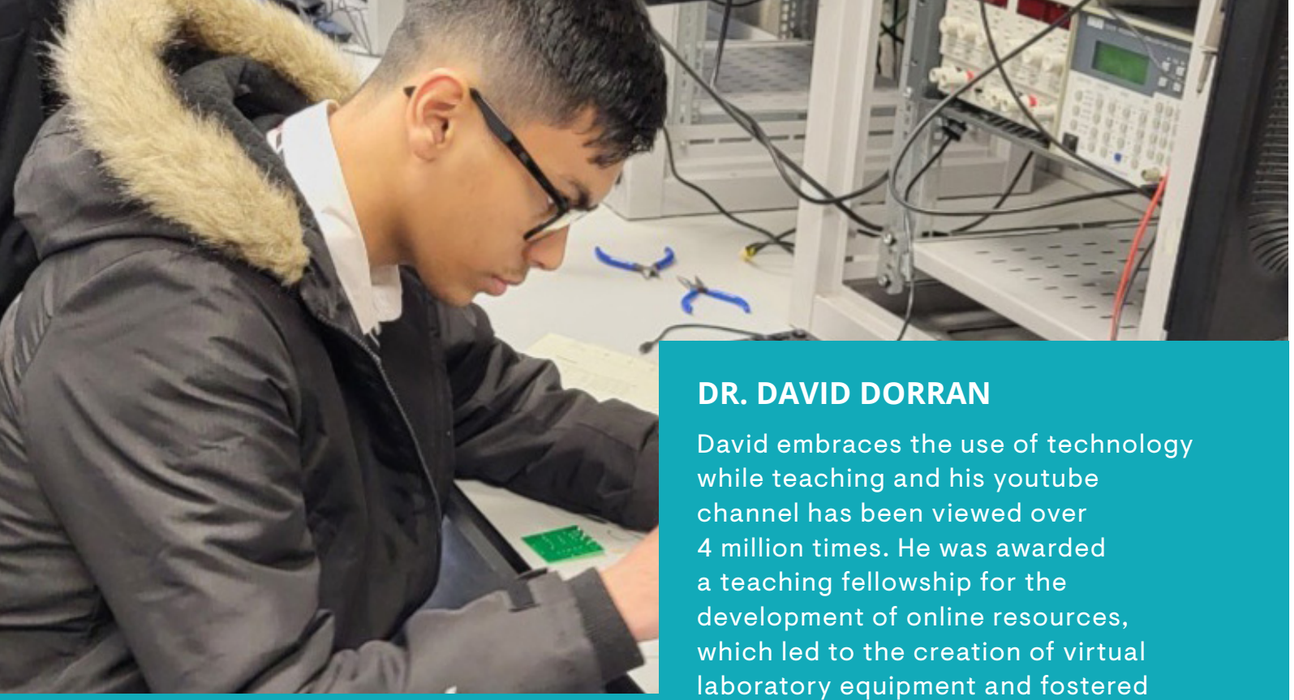
The UEM Guiding Principles were used to help inform the re-design of our level 8 and level 9 HRM programmes that were successfully revalidated by TU Dublin and CIPD in June 2022. Specifically, **Guiding Principle 1** *Student-centred and Student engaged for student success* was at the core of our design, along with **Guiding Principle 2** the provision of *Excellent, flexible, agile teaching & learning*. A snapshot of how our Human Resource Management (HRM) programmes have delivered on this UEM alignment include:

- The BSc (Hons) HRM programme creates a pathway for leaving cert and further education graduates (or equivalent) to level 8 study on both a part time and full-time basis. It also welcomes mature applicants and recognises the value of the RPL policy in TU Dublin. **[Fundamental 3]**
- Modalities feature in the PT UG programme which is now designed to be delivered in a blended mode to allow learners flexibility in accessing their education. We are proposing a 70% online and 30% in-person blend across all modules, with different rhythms assigned to different modules, based on an assessment of learner and faculty suitability and programme-fit. **[Fundamental 2]**
- Block teaching is also in use whereby learners can attend day-long workshops to meet the learning outcomes of a given module in a more condensed, practical manner. **[Fundamental 2]**
- One of the PT programme aims includes the use a range of engaging and blended learning approaches in a supportive environment throughout the programme to enable HRM professionals to enhance their interpersonal and leadership qualities, underpinned by evidence-based knowledge and abilities, which can be directed to the analysis and solution of HRM and management issues with integrity, creativity and innovation. **[Fundamental 5]**
- Graduates will also be able to exercise appropriate judgement based socially responsible, ethical and sustainable business and management practice and contribute confidently to strategic decision-making within the wider organisation and social contex. **[Fundamental 7]**

LESSONS LEARNED/NEXT STEPS

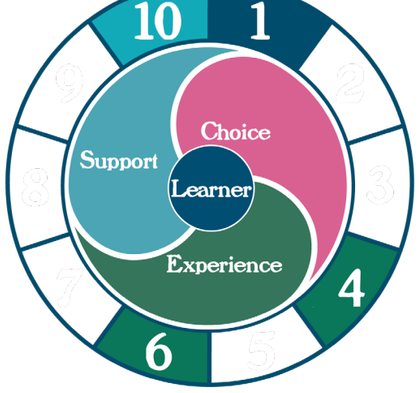
From the Tallaght campus, our Management programmes are currently being offered at level 6, 7, and 8 – a Higher Certificate in Business Management, Bachelor of Business in Management, and a Bachelor of Business (Hons) in Management. These programmes are offered to students on a full-time basis and up to recently were offered also to part-time students. We are currently in the process of re-evaluating our PT programmes on the campus, in light of what our student audience require in terms of flexible delivery and micro-credentials and this is an exciting opportunity to re-construct these PT management programmes and ensure the regional remit is respected. We have also broadened access opportunities by opening the level 8 FT programme to advanced entry to the FET sector through a partnership with Ballyfermot College of FE and will welcome the first cohort from here in September 2024. **[Fundamental 3]**





DR. DAVID DORRAN

David embraces the use of technology while teaching and his youtube channel has been viewed over 4 million times. He was awarded a teaching fellowship for the development of online resources, which led to the creation of virtual laboratory equipment and fostered the development of assessments for electrical and electronic engineering students which are accessed worldwide. He is also an advocate for problem-based learning initiatives within his faculty and his students have successfully nominated him for a HEA teaching hero award. In addition, he has secured over €2.5 million in research funding, published over 40 research papers and supervised 4 PhD researchers to completion.



INITIATIVE

First year engineering students often enter their programme with a diverse range of skills. Quite a few will have gained experience and know-how from being in technology clubs or from their own hobbies and interests, and some can find the pace of module delivery to be initially too slow. Delivering a module at a pace that engages all students is a significant challenge for all lecturers but particularly so in the first stage of a programme.

To support our students in our electrical circuits module was offered via a suite of self-paced activities that allowed them engage with the module at a pace that suited their past-experience and ability. Students were provided with a mixture of online video material and in-class tutorials to develop their understanding of key concepts. They could validate this understanding by completing targeted online quiz assessments, when they felt they were ready, before moving on to the practical elements of engineering. A key feature of these assessments is that they can attempt them as often as they like, which helps build confidence and reduce the anxiety associated with 'one-off' assessments.

The practical skills of being able to use laboratory equipment can be a challenge to many students. The array of dials, buttons and displays on electronic equipment can be difficult to digest for even experienced engineers. Students can be afraid to experiment with the equipment for fear of damaging it or being embarrassed in front of their classmates. To alleviate these concerns an online virtual lab was developed to allow students hone their skills in a safe non-judgmental manner, with additional online quiz assessments put in place so that students could ensure they had made adequate progress.

At this stage students had the key skills and concepts required to engage with practical engineering projects. Students arrive at this stage at their own pace and continue their practical project work at their own pace. Students were provided with video exemplars of projects which they had to replicate. The practical video assignments provide assurance that each student develops the fundamental skills required to effectively progress through the programme and engage in team-based projects.

LESSONS LEARNED/NEXT STEPS

Two of the students who participated in the module had previously attempted the module and they both said they found the new flexible, self-paced mode of delivery suited their learning style much better than the traditional 'one-fits-all' mode of delivery previously used.
One significant challenge associated with the approach adopted is to manage the process of providing feedback on video submissions. The time required to review video submissions is significant and since submissions can arrive at any time it can be difficult to manage. Future development will focus on managing effective feedback on video submissions through video processing techniques which will highlight key features for speedier review.

1 Streamline Module Portfolio
UEM Fundamentals

2 Module Mode of Delivery
UEM Fundamentals

3 Pathways to TU Dublin
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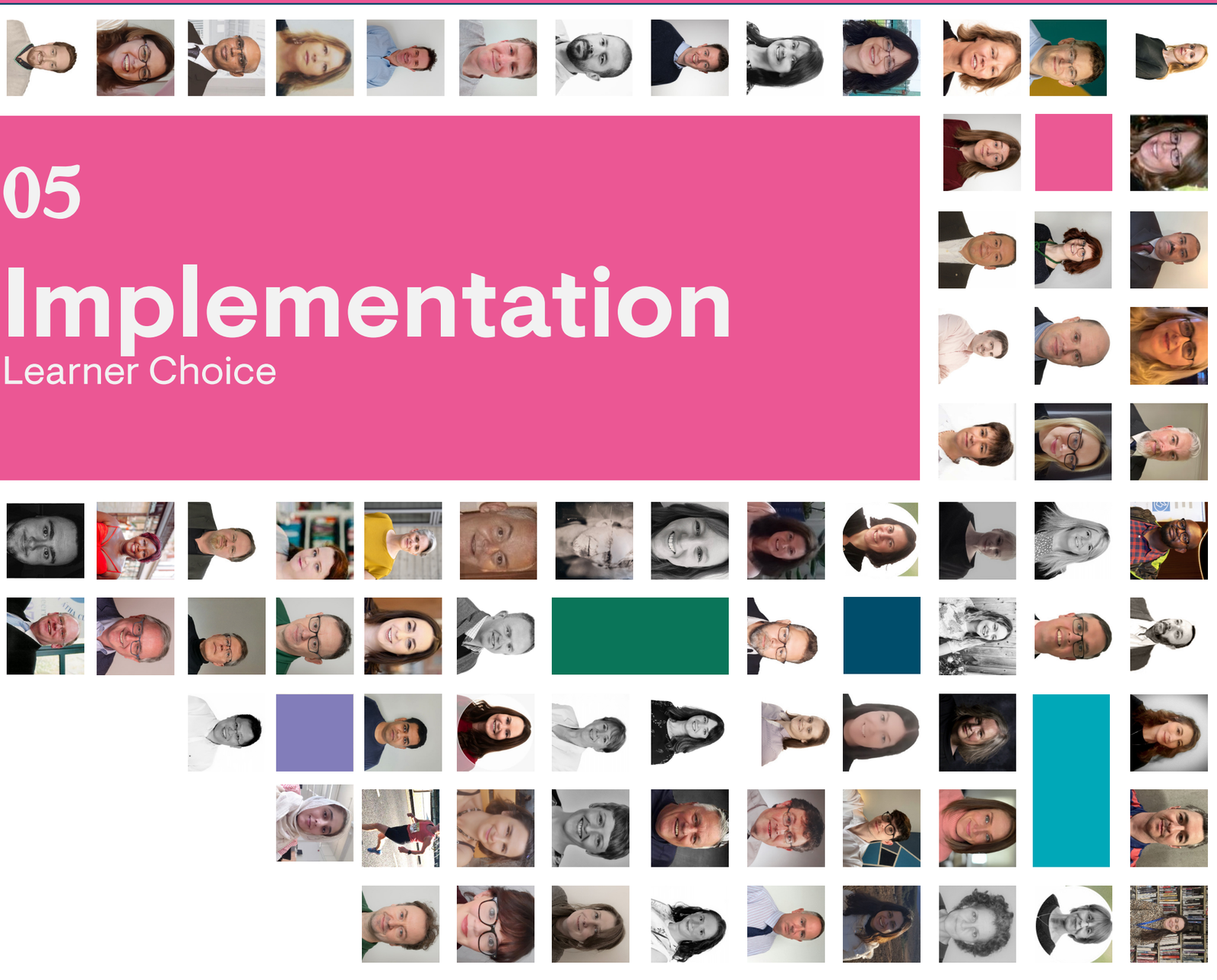
6 Pan-University Modules
UEM Fundamentals

7 Module LOs for Sustainability
UEM Fundamentals

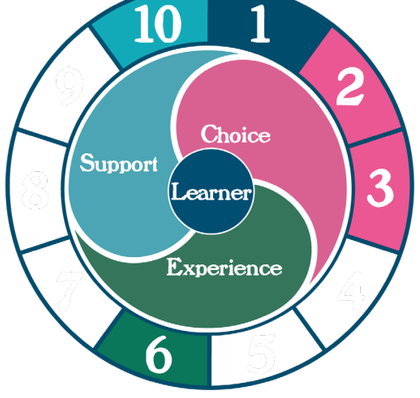
05

Implementation

Learner Choice







JILL BARRETT

Jill Barrett is a Career Coach within TU Dublin Career Development Centre and a former Placement Officer within the University. In her role as Career Coach, she founded the Retention Project Office, and directed two researchers in completing the first combined qualitative and quantitative study of student withdrawal from higher education in Ireland. Her recommendations were adopted by the Department of Education's National Skills Taskforce in developing its strategy for recruitment and retention in the Physical Sciences. In collaboration with Angela Collins (SETU), Jill won the Building Effective Partnerships category of the AHECS National Awards 2023, for the project featured in this case study.

INITIATIVE: SUPPORTING STUDENTS FROM UNDER-REPRESENTED GROUPS TO ASPIRE TO LEADERSHIP ROLES

In alignment with the **University Education Model's** goal of creating a 'culture of excellence' Professional Services teams play a critical role in supporting and enhancing the core academic provision within the university. Inspired by the UEM Guiding Principle (GP) of proactively facilitating 'equitable access' [**GP10**] to opportunities for all students [**GP1**], particularly those from under-represented communities an initiative, led by Jill Barrett of TU Dublin Careers Centre, created a unique event to motivate students from under-represented groups to aspire to leadership roles.

The event - 'Lift the Lid on Equality – Careers in Leadership for Under-represented Groups' – in collaboration with Angela Collins of SETU Waterford, was pitched as an inspirational half day event featuring 17 contributors. These included 6 speakers from EDI under-represented groups leading fireside chat style discussions with a range of leaders in business, politics, and the voluntary sector, across 8 themes. The event was enhanced by presentations from two motivational speakers and a video created by a disability champion. The aims were to educate, motivate and inspire all those attending, towards the contemplation of leadership and achieving a more equal, diverse, and inclusive society.

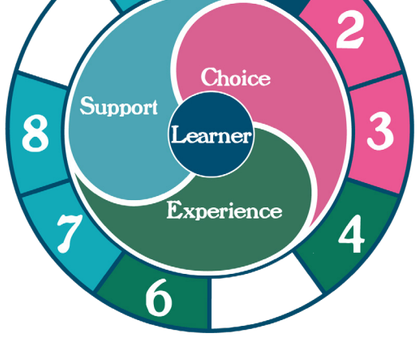
The key to the success of 'Lift the Lid on Equality' was the collaboration and partnerships with a wide range of organisations and individuals including keynote speakers Caroline Casey, Founder and CEO of The Valuable 500 Global EDI business collective and Jools Hamilton, Co-Founder of The Good Summit Global Events. Other partners included: EDI leaders from five representative bodies (The Irish Traveller Movement, The National Women's Council of Ireland, CrossCare, AsIAm and AHEAD), political leaders (including Owen Hurcum, the world's first non-binary mayor), business leaders (including Leon Diop, Ernst and Young and co-founder/CEO of Black and Irish) and public sector EDI leaders.

Prior to the event, independent connections were facilitated between the EDI experts (our interviewers) and our guest leaders (our interviewees). This allowed them the agency to agree and discuss topics they felt to be of most relevance, value, and interest to the student audience. This empowered all collaborators to drive the agenda, making them co-creators of the narrative.

LESSONS LEARNED/NEXT STEPS

Driven by three of the core tenets of the UEM model that initiatives within it should **Include, Empower** and **Grow**, both the construct of the day and our quality assurance in terms of the structure of the evaluation of the event, resulted in all these objectives being achieved. Responses from participants exceeded all expectations, being 100% positive. Feedback received demonstrated that the initiative would have a lasting impact on the online audience of c.2,000. Its success as a concept was further bulwarked by the TU Dublin Students' Union undertaking to run the event in 2023 & 2024. The project supported the **UEM Guiding Principle** of providing 'an engaged student experience of learning, to become rounded and engaged citizens'.





DIGITAL BADGE WORKING GROUP

Philip Owende, Assistant Head of Academic Affairs, Quality Framework (Chair)
Ciaran O'Leary, Head of Learning Development, Faculty of Computing Digital & Data
Sandra Thompson, Head of Discipline Global Business
Roisin Donnelly, Head of School Management, People and Organisations,
Denise O'Leary, Head of School Culinary Arts
Pat O'Connor, Head of School Social Sciences, Law and Education
Hamza Jamaa, VP Academic Affairs, Students Union
Mary Scally, CEO, Students Union
Sinead O'Neill, Senior Manager: Lifelong learning
Shaun Ferns, Education Model Team Leader
Sarah Woodhouse, Senior Staff Officer, Curriculum Management Team
Carole Redmond, Assistant Head Academic Affairs, Administration
Nicole O'Neill, Education Innovation Manager

Submitted by Nicole O'Neill

INITIATIVE: TU DUBLIN DIGITAL BADGES

TU Dublin Digital Badges Scheme is provided to students who successfully complete programmes. These programmes equate to approximately 25 learning hours. The scheme was introduced to support the implementation of **University Education Model**, by providing additional opportunities for: engaging and motivating learners; implementing new assessment approaches that recognise alternative achievement; tracking learning progress; scaffolding learning; recognising learning; encouraging behaviours that contribute towards learning (including effective engagement with the community and other external stakeholders); and sharing of accomplishments. The scheme is also intended to recognise competencies and skills achieved in co-curricular and extracurricular activities (e.g., partnership in Quality Enhancement processes, clubs and societies) and work-orientated competences (e.g., leadership skills, mentoring, etc.).

Examples of Digital Badges that have been approved and implemented under the scheme include:

- **Cyber Quest Badge** which was developed in partnership with ZeroDays, and Microsoft Ireland Dream Space and which empowered Secondary School students with essential knowledge and skills in the dynamic realm of cybersecurity.
- **Our Student Voice** badges which support Class Representatives to develop the skills and competencies to effectively undertake the role of class representative; support students who participate on quality assurance panels and support students who engage in co-creation of the curriculum.
- **International Business Case Competition Volunteer Badge** which aims to reward, celebrate, and foster internationalisation on campus through student volunteering such as at a prestigious business case competition.
- **Entrepreneurship Digital Badge** which recognises student achievement on a framework of entrepreneurship competences outside of the learner's accredited programme curricula. The learning outcomes were designed around the European Commission EntreComp framework.

LESSONS LEARNED/NEXT STEPS

After an initial pilot of a small number of digital badge, applications are being opened up across the University for Schools, Faculties and Professional Units to develop new Digital Badges aimed either at supporting students who are engaged in extra-curricular programmes, supporting staff development in external organisations, and providing new pathways to TU Dublin.
[Fundamental 3]

For a number of the digital badges, high quality self-directed on-line learning materials have been developed and consideration needs to be given on ensuring their currency for each roll-out and on how to support students when they are engaging with self-directed resources and providing opportunities for discussion of materials.

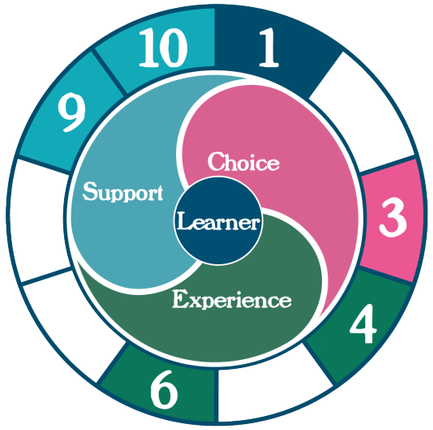
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TYDE (Transition Year Dual Engagement)

Susan Lynott PhD candidate and supervisor Dr. Kevin Mellon from the School of Mechanical Engineering established TYDE (Transition Year Dual Enrolment) in 2023. TYDE is a college in school program which aims to develop partnerships between TU Dublin and local schools that provide secondary school students with an authentic experience of what is required to succeed in university programs whilst doing so through their school or within the university. This experience will support students in transitioning from secondary school to university life, encourage participation, and support good college and career choices.

Submitted by Susan Lynott, Dr. Kevin Mellon



INITIATIVE: TYDE (TRANSITION YEAR DUAL ENGAGEMENT

TYDE (Transition Year Dual Enrolment) is a college in school program which aims to develop partnerships between TU Dublin and local schools. It will provide secondary school students with an authentic experience of what is required to succeed in university programs whilst doing so through their school or within the university. This experience will support students in transitioning from secondary school to university life, encourage participation, and support good college and career choices. TY students take modules from the university engineering programs running at the Blanchardstown campus. In alignment with **Fundamental 4** - *'Opportunity is afforded to students to facilitate choice within their learning pathways'*. The students get to experience first year modules under the same conditions as students enrolled on TU Dublin programmes.

The aim of the project is to primarily to explore matching the ability of transition year students to successfully engage with and complete pre-university courses, and to evaluate its effectiveness as a means of addressing emergent access, inclusion, and flexibility criteria.

The aim of this project is to provide appropriate research data to the development of the wider learning systems that can reliably improve understanding and engagement in precollege related study and career choices.

In alignment with **UEM Guiding Principle** *'GP 1 - Student Centered & Student Engaged,'* the benifits to students are:

- gain valuable experience of university level courses whilst still in school.
- build confidence in their ability to take programmes in college with emphasis on STEM programmes.
- assist in making more suitable college choices,
- selection of leaving certificate subjects improves time management skills and learn how to be more an independent learner.

Research found that students who took college courses in high school were more likely to graduate from high school and enroll in college, (Karp et al, 2007).

Benefits to the schools include: Partnership with one of the largest university faculties in Ireland. Aims to improve enrolment from diverse backgrounds into engineering.

Can be used to drive innovation in blended program delivery with our programs. Research showed significant benefits from pre-college in boosting performance of students in examinations (An, 2013). Students who take pre-college education were significantly more likely to enroll in college (Song & Zeiser, 2019).

Benefits to TU Dublin: Showcases TU Dublin Engineering programmes to students. Having undertaken a TU Dublin first year module will make choosing TU Dublin programs preferable. Aims to improve enrolment from diverse backgrounds into engineering. Can be used to drive innovation in blended program delivery with our programs. Research showed significant benefits from pre-college in boosting rates of college degree attainment for low-income students. (An, 2013).

LESSONS LEARNED/NEXT STEPS

Pilot delivery, with partner school Colasite Pobail Setanta Phibblestown Clonee, Dublin 15, was successfully completed in January of 2024. Students took a week long blended learning engineering module, completing 4 out of the 5 learning outcomes. They will finish the module with a final project in May 2024.

In addition to running the project with the next intake of TY students in Colasite Pobail Setanta, the project will expand with an additional 3 schools.

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Common Entry Engineering





Addressing the need to provide clear routes of progression both in Ireland and internationally

- Align with the Professional Requirements of Engineers Ireland
- Align with QA/UEM

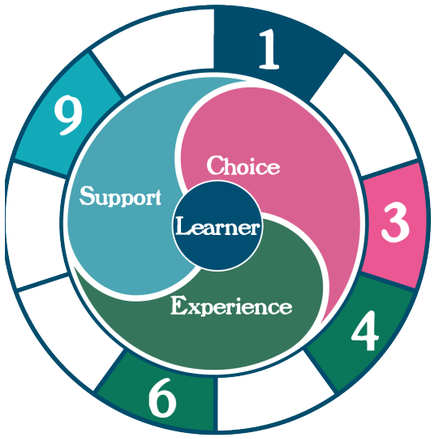




FACULTY OF ENGINEERING AND BUILT ENVIRONMENT.

PROPOSED BY FACULTY OF ENGINEERING AND BUILT ENVIRONMENT : SCHOOL OF ELECTRICAL & ELECTRONIC ENGINEERING, SCHOOL OF TRANSPORT & CIVIL ENGINEERING, SCHOOL OF MECHANICAL ENGINEERING.

Submitted by Patrick Flynn



INITIATIVE: COMMON ENTRY ENGINEERING

Common First Year Engineering is a very popular choice with level 7 and level 8 CAO applicants as it provides an opportunity for students to sample the different Engineering programmes on offer in TU Dublin and allows them make a more informed career choice at the end of a year's study. There is currently a large array of offerings in Engineering programmes to first years some of which is a legacy issue from the old IoTs. This led to a working group being established last year to look at the overall Engineering offerings and the group made a proposal for a new Common Entry Level 7 and Level 8 programmes to be implemented in 2025 and 2026 respectively.

The **University Education Model** informed each stage of the design of the framework for the new common curriculum. The new common entry provides students with a shared experience of Engineering and appreciation of each Engineering discipline through the use of shared modules in first year **[Fundamental 6]**. The students can then plan their chosen career path at the appropriate moment of their academic journey [**Fundamental 4**]. The Common Entry will allow connections to FETs to provide pathways into the University and the common entry as part of the overall re-organising of the Engineering programmes that will lead to routes from level 7 to level 8 and to an integrated level 9 masters [**Fundamental 3** & **Fundamental 4**]. The common Entry provides an opportunity to develop a common curriculum which will include different modes of learning and delivery across the 3 campus locations. [**Fundamental 2**]. The content which is now being developed will include sustainability embedded in the programmes along with ensuring that any duplicate/ overlapping modules are eliminated [**Fundamental 1** & **Fundamental 7**].



Una Beagon- STCE – Bolton St
Joe Clarke – STCE- Bolton St
Catherine Deegan – SEEE Grangegorman
Patrick Flynn – Faculty HoLD
Kevin Gaughan- STCE Bolton St
Mary Looby – SME Blanchardstown
Lucy McAuley – SME Tallaght
Padraig McEvoy – SEEE Grangegorman
Paul Stacey – SME Blanchardstown
James Wright – SEEE Tallaght

Zeinab Bedri – STCE Bolton St
Malabika Basu – SEEE Grangegorman
Kevin Delaney – SME Bolton St
Michelle Looby – SME Blanchardstown
Louise Lynch – STCE- Bolton St
Emma Robinson – SEEE Grangegorman
Diarmuid Rush – SEEE Tallaght
Gerry Stockil – SEEE Tallaght
Keith Sunderland – SEEE Grangegoman



LESSONS LEARNED/NEXT STEPS

The newly formed Common First Year Programme Content Engineering Working Group (CEWG) will build on the work of the previous Common Entry Working Group and will propose the content and delivery of the first-year programmes for the new Common Entry Level 7 and Level 8 into Engineering. The group will explore the **Framework of Learning Experience** to ensure that the student's personal competencies are developed through the use of authentic assessment supported by UDL [**Fundamental 5**]. Sustainability will be built into the new curriculum. The need to engage with the supports within the University around the UEM, Teaching Learning and Assessment, University Sustainability Council, staff and stakeholders is key to ensuring a successful outcome.

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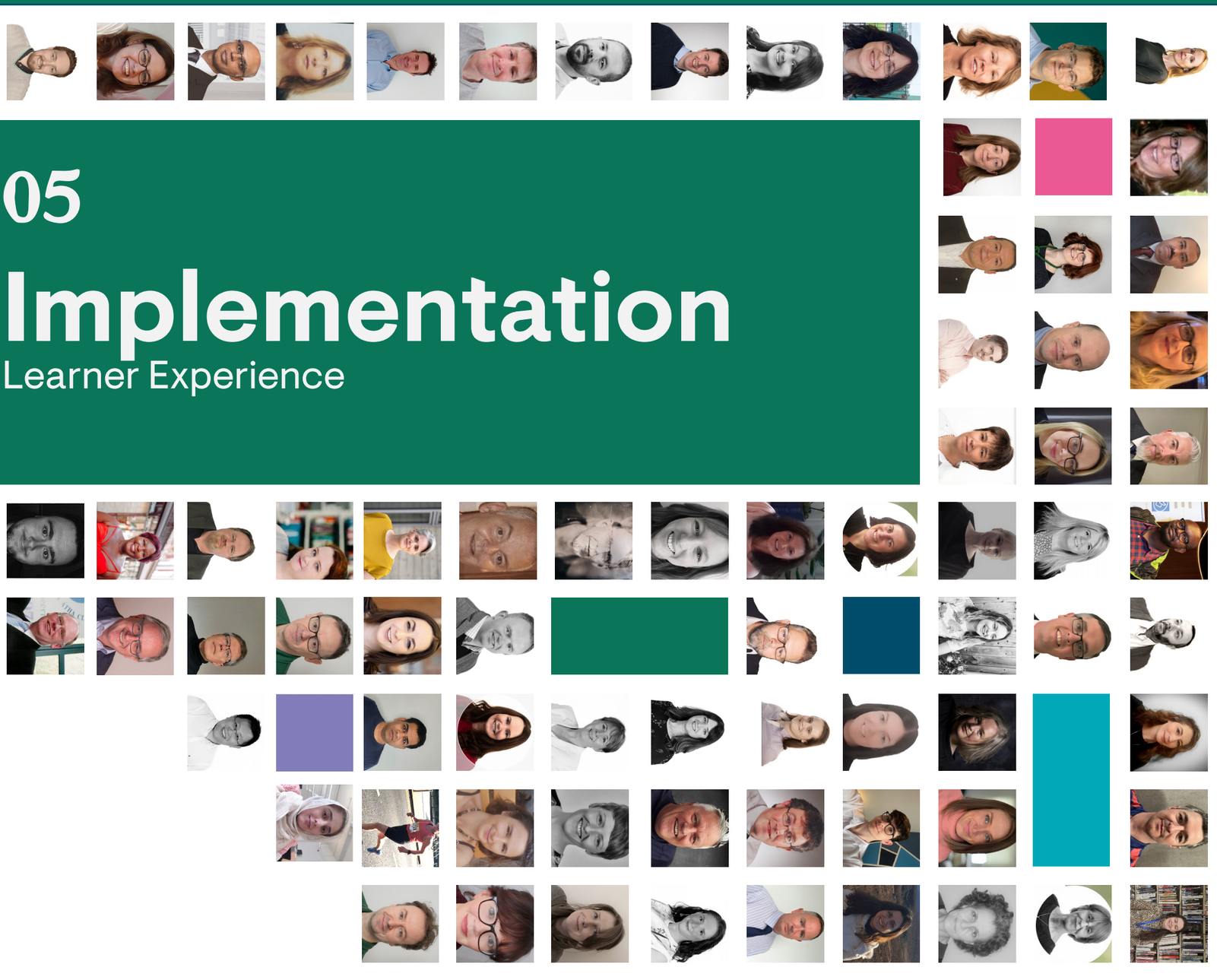
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05

Implementation

Learner Experience





ELAINE EDMONDS

Elaine is a Spatial Planner, Urban Designer and Environmental Scientist and has worked in private practice since 2009. Specialising in masterplanning and development planning, particularly large-scale transport, recreational and commercial developments, she has a particular interest in community involvement in the development design process.

Elaine holds a BSc in Environmental Science from Trinity College Dublin, an MSc in Spatial Planning and PG Dip in Urban Design from Oxford Brookes and an MSc in Urban Development and Regeneration from TU Dublin.



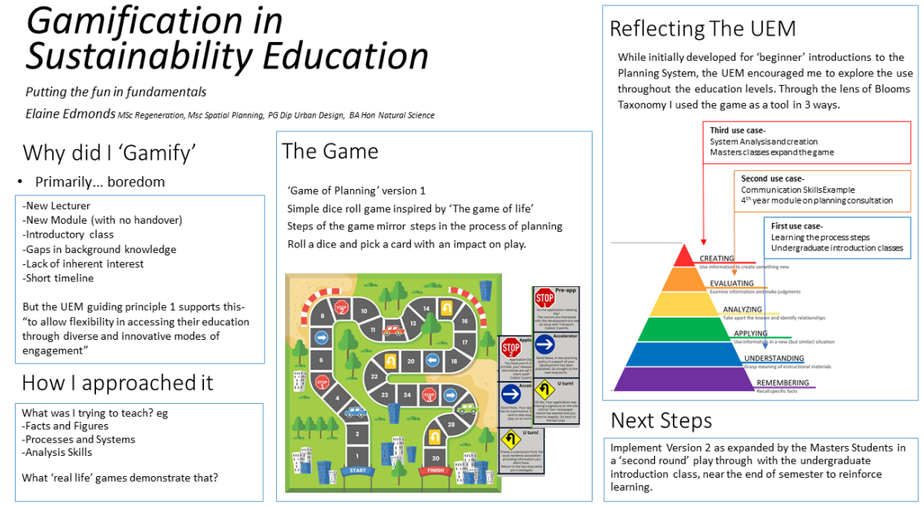
INITIATIVE

As a new lecturer with a short timeline to take over modules, I was facing a difficult semester. One of my modules was an introduction to the planning system for Auctioneering students. As a dry, technical subject outside of the core educational interest, the class could be difficult to engage. In order to provide an interactive primary introduction to the steps of the planning process I created a game to be played in class.

A simple customized version of an existing game was quick to create with online tools and playing it in class provided a way for the students to actively engage in the process, through repetition in the game the steps of planning were remembered and the perception of planning as boring was lessened, providing a context to refer back to in future lectures. While initially the game was a necessity for the particular situation, considering it as a wider part of my teaching I saw that it was a useful tool in the **UEM Principle 1 - Student Centered Learning**, "to allow flexibility in accessing their education through diverse and innovative modes of engagement".

Incorporating multimodal formats like games which have visual and kinesthetic learning modes and which can be adapted to in person and online teaching follows UEM **Fundamental 2** to achieve pedagogical foundations when delivered in multi-modal formats.

On reflecting on the game use with the introductory class I considered opportunities to expand its use to all levels of education. While it forms an introduction to planning for the early modules, I expanded its use to an example case study for a planning communication class with 4th year Planning students and further with Masters Students in reflective and critical analysis of the Planning system, I used game building as a method.



LESSONS LEARNED/NEXT STEPS

In expanding the use of the game I have decided to also return to its use in the introduction class by repeating its session at the end of semester as a method to revise, with the option to play the more advanced version developed by the masters students.

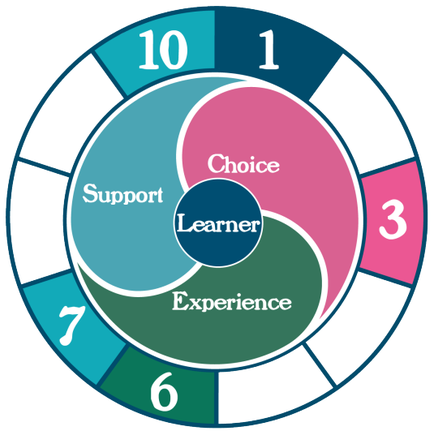
In future I hope to use the game with real estate and architecture students both to educate but to develop a game with the economic and technical restrictions to reflect real world development.

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MELODY CHINENYANGA & ZUZANA TESAROVA

Melody, a librarian, and Zuzana, a Social Care lecturer, first crossed paths in TU Dublin's staff Anti-Racism Reading Group, facilitated by the university's Equality, Diversity, and Inclusion (EDI) directorate. Despite their differing departments, they collaborated effectively, co-facilitating the inaugural student Anti-racism reading group with support from EDI. Their joint efforts secured library funding for an Inclusive Collection, launched by TU Dublin's President, Professor David FitzPatrick and attended by the EDI members, Assistant Head of Library Services Collection development, and participant students. They've shared their experiences at conferences and within the CoP, fostering a more open and trusting relationship. Soon, they will lead an Anti-Racism workshop at the Social Care conference, furthering their commitment to promoting diversity and inclusion. Melody has moved on to become EDI Lead for Race Equality.



INITIATIVE

Aligned with TU Dublin's commitment to an inclusive and equitable learning environment, the Anti-Racism Reading Group for students offers a vibrant platform for critical discourse and action-oriented initiatives against racism. This abstract presents evidence of the Race Equity Community of Practice's (CoP) multifaceted efforts, focusing on addressing racism across five interconnected dimensions: historical, institutional, structural, technological, and individual. Two founding members of the CoP decided to collaborate after attending the staff Anti-Racism Reading group to facilitate a group for students. They committed to facilitate one each semester and have done so successfully since 2021. This approach allows students from diverse backgrounds to be heard and supported in situations they feel, discriminated against. This helps enhance their university experience. By creating this safe space for conversation, healing can start when everyone can articulate and express how certain behaviour impacts others in the classroom and within the university. Exploring the historical dimension, delves into racism's deep-seated roots, tracing its origins through pivotal historical events, ideologies, and systems. By examining historical legacies of oppression, members gain insight into how past injustices shape contemporary racial dynamics. Through rigorous analysis of institutional policies and practices, the CoP interrogates institutional racism's pervasive nature. By scrutinizing case studies, members shed light on how institutions perpetuate systemic inequalities, fostering collective awareness for reform and accountability. Central to the CoP's mission is exploring the structural dimensions of racism, highlighting societal structures perpetuating racial disparities. Through interdisciplinary dialogue, members address complex intersections of race with class, gender, and other forms of oppression, working towards dismantling barriers to equity and justice. Recognizing technology's pivotal role, the reading group critically examines how digital platforms can reproduce or challenge racial biases. Engaging with cutting-edge research, members explore technology's potential in advancing racial equity. The commitment to individual growth is evident in emphasizing case studies, where members analyse real-life racism scenarios, fostering empathy and critical thinking. Participation in the Anti-Racism Reading Group, CoP, and TU Dublin's training serves as a catalyst for meaningful change. Empowering members to become proactive agents of racial equity, the CoP embodies the university's commitment to diversity, equity, and inclusion. In conclusion, this abstract reflects the transformative work of the Race Equity CoP at TU Dublin, addressing racism through multiple dimensions. It stands as a testament to the university's dedication to advancing racial equity and justice.

LESSONS LEARNED/NEXT STEPS

All students who have participated have said it's essential learning for them. We need to market it better or get help from marketing experts. Anti-racist education is vital across all disciplines, integral to students' learning journeys. Lecturers must mandate diverse sources in written work, not just academic ones, to ensure inclusivity. This surpasses mere acknowledgment of cultural diversity, aiming to dismantle oppressive structures and foster empathy for historically disadvantaged groups. Encouraging students to utilize varied materials like personal narratives and oral histories promotes understanding of diverse perspectives. Anti-racism encompasses education, workshops, diverse resources, healing exercises, and Restorative/Transformative justice, forming a multi-layered approach. We're all on a racism spectrum because we were raised in a racist system and if we don't take action to dismantle it, we become complicit.



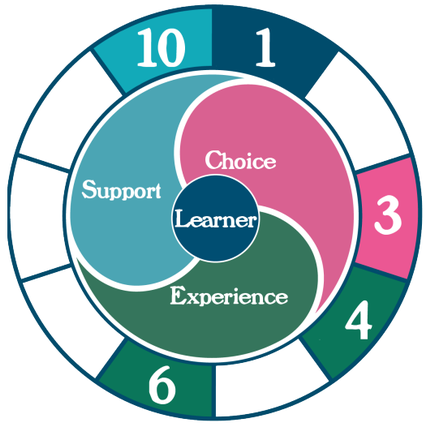
Higher Certificate in Science in Pharmacy Technician Studie (School of Food Science and Environmental Health)

TU Dublin Career Development Centre



THE PROFESSIONAL DEVELOPMENT EPORTFOLIO TEAM OF HIGHER CERTIFICATE IN SCIENCE IN PHARMACY TECHNICIAN STUDIES (TU654/TU657)

The TU654/TU657 Programme prepares students with the knowledge, skills and practical experience for a profession as a Hospital/Community Pharmacy Technician. The Professional Development ePortfolio Team aims to empower the students to take ownership of their learning and enhance their employability skills by integrating key trainings/assessments and through documenting, participating in, and reflecting on, high impact activities designed to promote prioritised graduate attributes while providing the support, resources, and guidance. The team comprises scientists (Dr Tao Zhang, Kathy Young, Dr Denis O'Shea, Prof Christine O'Connor, Dr Julie Dunne), pharmacists (Dr Seána Hogan and Dr Mary-Therese McGrath) and career coach (Jill Barret).



INITIATIVE: INTEGRATING A SUSTAINABLE EPORTFOLIO MODEL INTO THE CURRICULUM TO ENHANCE PROFESSIONAL DEVELOPMENT TRAINING FOR PHARMACY TECHNICIAN STUDENTS.

Enhancing students' professional employability skills has always been the central focus of TU654/TU657 programme curriculum, with a goal to empower pharmacy technician graduates to secure meaningful employment, contribute to the society in the field of pharmacy/ healthcare, and adapt to the demands of a rapidly changing labour market.
Following on from earlier work by Dr Dunne (prioritisation of the graduate attributes for the programme: Excellent-Communicators, Active Team-Players, Motivated Self-starters, Collaborative-Workers, Ethical, Emotionally-Intelligent, Work Based/Related-Learners), and the establishment of the **University Education Module**, particularly **Fundamental 5** of all learning experiences, an innovative and practical integrated ePortfolio learning/ teaching strategy was designed, implemented and further developed by the Professional Development ePortfolio Training Team. The team adopted a range of learning approaches, assess their learning for specific learning outcomes and help them to develop and practise their employability skills across the diverse aspects within the programme by integrating high impact activities/workshops and diversified assessments, such as student-centred/driven, authentic, learning with communities, etc. Specific examples include community-engaged volunteering project (CIRCLET)[1], ethical debate, integrated case-study, work-placement reflective blogging, personality identification & communication, handling conflicts, etc.
The initiative was also coupled with fostering a digital literacy workforce by facilitating the students to design, develop and maintain an ePortfolio throughout the course with a final industry sponsored student awards competition (Outstanding Pharmacy Technician Student ePortfolio: Comprehensive Award & Academic Showcase Award). A collective programme ePortfolio has also been established which provides an opportunity for the programme team to create and maintain a collaborative and reflective team culture, and also showcase the effectiveness of ePortfolio to the students.
This integrated Professional Development ePortfolio approach has been demonstrated to effectively enhance students' learning experience, though participation, documentation and reflection, for example through the TU654/ TU657 Alumni Sharing articles [2-4] and disseminated nationally and internationally [5-7].been organised in collaboration with the industry partners to show the excellence in solving real world industry challenges.

LESSONS LEARNED/NEXT STEPS

Varied assessments can have more acceptance and engagement from students who are likely to support their academic progress. There is a strong case for adopting a more collaborative and integrated approach as an alternative to traditional assignment.
ePortfolio is an appropriate and evidence-based, even be high-impact, learning and assessment approach promoting student's engagement and enjoyment throughout the course of study and beyond as a life-long learners.

1. https://circlet.eu/tud-case-3/
2. www.linkedin.com/feed/update/urn:li:linkedInArticle:7161341918516305920/
3. www.linkedin.com/feed/update/urn:li:linkedInArticle:7158603685013442561/
4. www.linkedin.com/feed/update/urn:li:linkedInArticle:7162880704928829440/
5. https://studentengagement.ie/wp-content/uploads/2022/11/zhang-et-al.pdf
6. www.tudublin.ie/explore/news/tu-dublin-wins-three-awards-at-gradireland-ahecs-employability-awards.html
7. https://iiop.ie/sites/default/files/2023-11/AIPC%202023%20Proceedings.pdf

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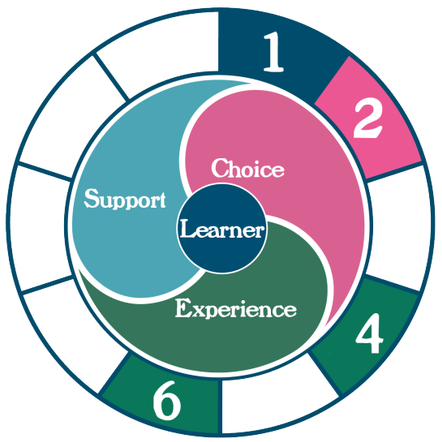
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Dr. Catherine Gorman

Working as a Senior Lecturer in the School of Tourism and Hospitality Management, TU Dublin, Catherine lectures in a number of modules underpinned by sustainability.
She is member of a number of Communities of Practice including HyFlex, SDG Literacy, Green Campus and the Engaged Research Network, and supervises students from undergraduate to PhD. Academic outputs and research interests relate to sustainability and ecotourism, cultural heritage tourism, pedagogies that focus on experiential teaching and learning, and Community Based Learning (CBR). Previous employment with Failte Ireland (the National Tourist Board) and the National Botanic Gardens contribute to her teaching and research interests.

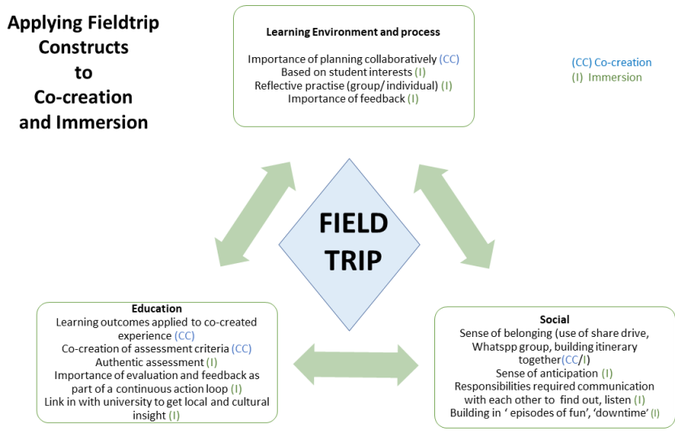


INITIATIVE

Fieldtrip is a capstone optional module offered to final years in two tourism programmes. The module is innovative as content is co-created and driven by the students who collaboratively identify an issue/theme pertinent to the sector. Working in pairs, the module content revolves around student generated research questions often aligned to their dissertation. Potential field study destinations that exhibit evidence with regard to the theme are identified by the students. The fieldtrip component provides experiential learning engaging with providers, academic institutions and policy-makers [**Fundamental 6**]. Once selected, each pair develop a research question which drives their literature and assessment and an autonomy and choice of directional learning which speaks to **Fundamental 5**.
The fieldtrip follows stages of preparation, execution, evaluation and closure built around the learning environment and process, educational and social constructs. Preparation and Planning workshops involve student decision-making around all aspects of the trip. Realism and cognitive challenges contribute to the authenticity of the assessment [**Fundamental 5**] and students volunteer for identified responsibilities such as travel, accommodation and food etc. There are three methods of assessment: case study, presentation (with co-created criteria) and a reflective journal. An evaluation workshop prior to the final presentation aids the students to achieve the learning outcomes of the module and to answer questions such as what could we have done better?
Feedback from the students has been very positive:

‘ I liked the planning with fellow students’ ‘ a different type of module, very engaging and interactive’. ‘I learnt loads’.

Delivering the module, the lecturer becomes facilitator with questioning core to delivery. Uncertainty at the outset of the module can be difficult to manage and the fact that no trip goes exactly to plan provides challenges that contribute to student resilience and decision-making. Within the group, leaders emerge and each student find their own strengths. Students recognise that communication is key to developing a successful outcome and social bonding within the group contributes to their holistic intelligence.



LESSONS LEARNED/NEXT STEPS

The UEM prioritises a student-centric approach. This module wholly revolves around students driving their own learning as they progress through the module which provides autonomy. Co-creation and indeed the fluid structure bring immediate student ownership and engagement, and an immersion in the process. Feedback from year to year is brought forward thus providing a building block on which the module is molded according to student needs and interests. A short video developed post-trip of student messages guiding future cohorts would provide continuity and a sense of handing the baton on to the following year.

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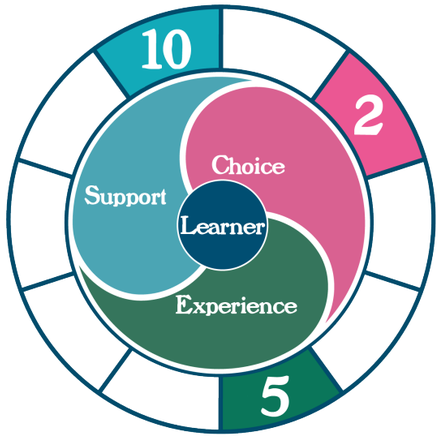
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RESEARCH ENGAGEMENT AND IMPACT OFFICE

The Research Engagement and Impact Office offers supports to PhD students and prospective students regarding research impact and engagement.

Submitted by Dr. Mary Deasy, Dr Gordan Cooke, Dr. Catherine Bates



INITIATIVE

The Research Engagement and Impact Office offers supports to PhD students and prospective students regarding research impact and engagement.
In line with **University Education Model (UEM) Guiding Principle 2** – *Connected, engaged, internationalised curriculum* – the Office supports prospective and current PhD students to identify and engage with community and industry partners, to ensure their research is co-designed, connected, and focuses on societal impact.

The Office team offer workshops related to engagement and impact to PhD students as part of their accredited structured modules, from '*collaboration and teamwork*' to '*communicating our research for impact*'.

The Research Engagement Lead coordinates the TU Dublin Engaged Research Network (ERN), whose membership of over 100 includes staff and PhD students. The ERN offers networking opportunities and a place to share experiences and upskill in relation to engaged research.

In relation to **UEM Guiding Principle 5** – *knowledge creation to application* - the Office team is developing opportunities and structures for research students to try out and co-design early-stage research ideas with stakeholders, to ensure that their views inform the development of relevant applications. The Office team is also developing ways to engage researchers and research students with policymakers, to ensure that knowledge is effectively applied.

In relation to **UEM Guiding Principle 2** – *Connected, engaged, internationalised curriculum* - we're showcasing the societal influence of our university's research through the publication of our research impact case studies. These narratives are curated to illustrate the tangible benefits our research endeavours from all disciplines are having in health and technology, arts and humanities, sustainability and education. By highlighting specific examples of how our research has addressed critical challenges, improved lives, and shaped policies, we aim to underscore the university's role as a catalyst for positive change in society.
Learn more about Research at TU Dublin at https://www.tudublin.ie/research/

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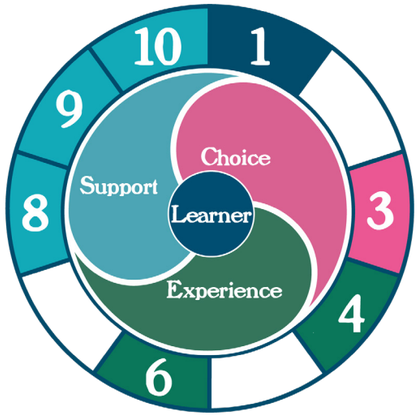
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Catherine Curtin
Library Manager Teaching & Learning

Library Services provides multi-modal teaching and learning support to staff and students across all five faculties and campus locations. Our Faculty Liaison Librarians will support, partner, and play a key role in the development and embedding of Digital Literacy in all programmes and teaching practices in TU Dublin. We aim to support teaching and learning activities through the provision of resources, facilities, and services for all our stakeholders by aligning with the UEM. Our teaching and learning activities will reflect this by serving the learning needs of our diverse student base, the support needs of staff and researchers and the social needs of the wider communities in which we are located.



INITIATIVE

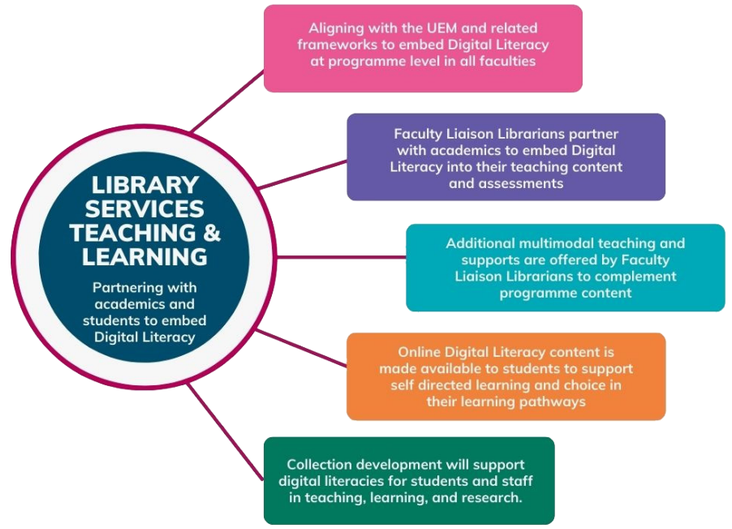
Library Services intend to partner with programme teams to embed Digital Literacy at programme level in all faculties. Faculty Liaison Librarians will offer support to academics colleagues, advising on how best to incorporate Digital Literacy into programme and module learning outcomes. Library Services will support Academic Affairs and LTA policies, procedures, and **University Education Model** in the development of programme and module content. Additional teaching and learning support would be offered to complement and enhance any Digital Literacy content delivered by academics. Multi-modal content would be provided and would allow student choice in how they engage with additional support.

Case Study:

An initial first step in the inclusion of multi-modal content is the introduction of Library Orientation Worksheets with the Faculty of Engineering & Built Environment to support Orientation for new students.

Library Orientation Worksheets are developed in collaboration with an academic. The worksheets are supported by online guides and tutorials on how to find and access library resources in the print and online collections. Following a tour of the physical library (optional) students complete the worksheet independently. Library staff are available to assist with any informal questions that may arise. Students can choose to engage with Library Orientation independently, at their point of need and at their own discretion. Peer to peer learning is also supported when completing the worksheets.

UEM Fundamentals 1, 2, 4, and **5** triggered the action to implement the Orientation Worksheets. The UEM lens has added value in allowing us a mechanism to standardise our Digital Literacy offerings and involve the student in shaping their own engagement with support services in parallel with more formal supports offered in collaboration with schools and faculties.



LESSONS LEARNED/NEXT STEPS

The Worksheets received positive feedback from staff and students in the Faculty of Engineering and Built Environment. We plan to next implement the worksheets with the Faculty of Arts & Humanities with a view to eventually introducing them in multimodal formats to support Library Orientation for all faculties. A Key lessons learned is that partnership with academic staff at programme level is required to ensure that all students can access the support they require to develop their Digital Literacy skills.

Future plans include building on our engagement with schools and faculties at programme level to embed Digital Literacy into the teaching and learning content of academic staff. Collection development will support digital literacies for students and staff in teaching, learning, and research.

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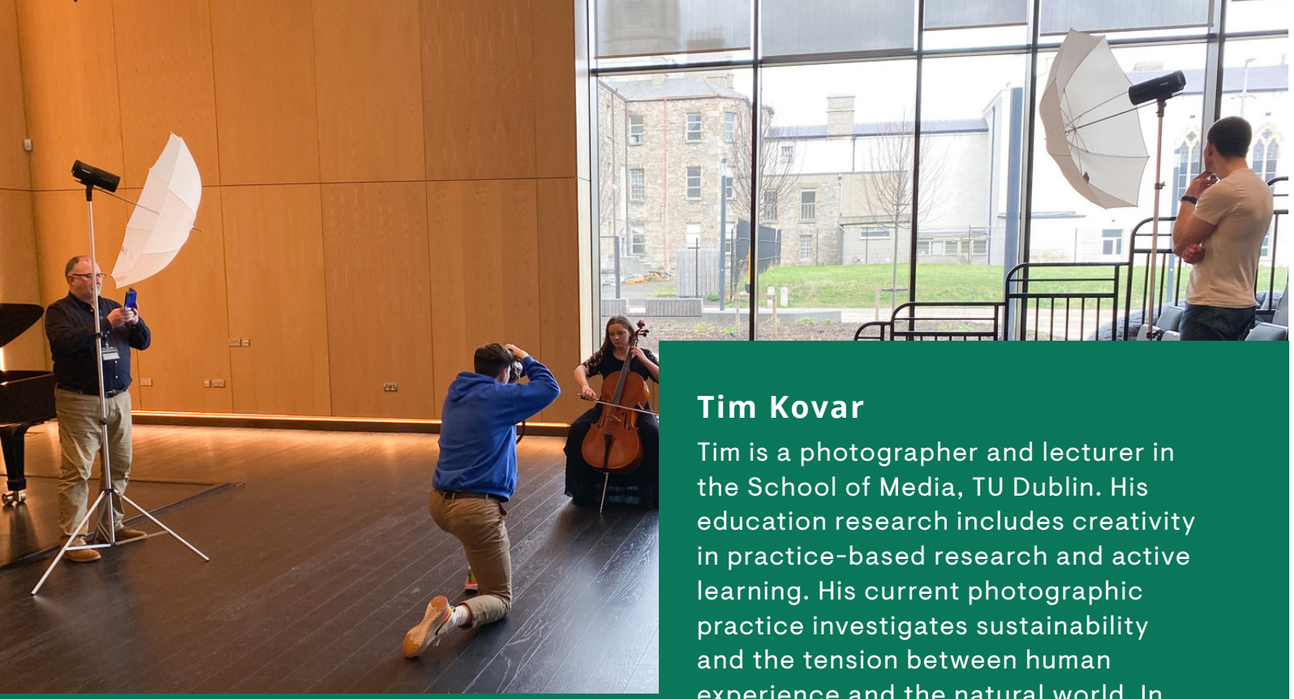
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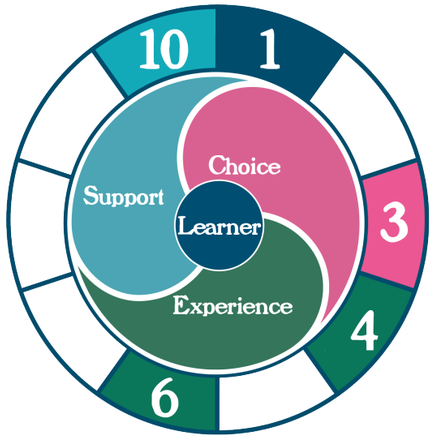
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Tim Kovar

Tim is a photographer and lecturer in the School of Media, TU Dublin. His education research includes creativity in practice-based research and active learning. His current photographic practice investigates sustainability and the tension between human experience and the natural world. In his early career Tim was a commercial photographer and designer and has MSc degrees in digital media and sustainable development.



INITIATIVE

Learning is more effective as student engagement increases.
This project developed as part of my search to find activities that meet our learning objectives but that extend beyond the usual classroom experiences. This relates to **Fundamental 5: Framework of Learning Experiences.**
A chance meeting led to a conversation with Laoise O'Brien, who works with the Conservatoire. She mentioned her need for images of students studying music and I mentioned the need for my students to make photographs in more professional contexts. We quickly hit upon the possiblity of BA Photography students doing portraits of the B. Music final year students. The Photography students face the requirement of making work not just for a grade but to satisfy a client. The B. Music students get professional portraits that will help them develop their careers. In addition, we could use the new facilities in the East Quad to showcase the development of TU Dublin.

This project is part of the Year 2 module Photo Practice 7: Studio to Street, where the students learn to apply the key factors of studio photography on location. But the technical aspects are less important than the personal characteristics needed for the photographers to engage with their subjects and secure positive, compelling images. The Conservatoire students also get to apply their personal approach to presentation and stage presence. Both sets of students gain valuable experience that is directly related to their professional careers.

The **University Education Model** articulates the value of dynamic learning experiences that allow students to actively engage with the community outside of their discipline. The Photography students must understand the priorities and requirements of their subjects in music performance. The success of this project shows students the importance of research and communication for effective collaboration with the diversity of individuals who will be their clients.

UEM provides an intellectual framework for this student-centred, active learning education.

LESSONS LEARNED/NEXT STEPS

I have always looked for active, student-focussed learning activities and I think the UEM provides an institutional imperative for all staff to look beyond the standard 12-week syllabus. There are benefits for all disciplines in finding collaborative learning activities across disciplines. I currently have recurring activites with four different courses and will continue to look for more.

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PATH
Programme for Access to Higher Education

PATH 4 Phase 2:

Enhancement of course provision in Higher Education for students with intellectual disabilities.

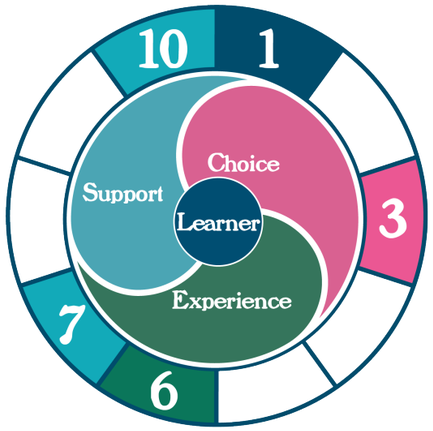


OLLSCOIL TEICNEOLAÍOCHTA BHAILE ÁTHA CLIATH
TU DUBLIN
TECHNOLOGICAL UNIVERSITY DUBLIN

Pathways Together Programme, School of Social Science, Law and Education.

Deirdre Bonar and Sylvia Healy are lecturers / programme developers in the School of Social Sciences, Law and Education and the School of Chemical and Biopharmaceutical Sciences respectively. They have developed a new TU Dublin Programme for people with intellectual disability called the Pathways Together Programme, which was recently awarded over €1m in funding from the HEA under PATH4. It is planned to launch the new level 4 certificate programme in September 2024.

Submitted by Deirdre Bonar & Sylvia Healy



INITIATIVE

In developing the Pathways Together Programme, we were closely guided by the **University Education Model**, in particular **Fundamental 5** which focuses on the student experience. In order to inform the programme design, we consulted with various stakeholders to ensure the best possible experience for the learners. Our consultations included focus groups with potential students and graduates with intellectual disability, surveys of schools, families and disability service providers and many interviews with TU Dublin staff, other HEIs and national interest groups. With **Fundamental 5** and the student experience in mind throughout our consultations, we gathered valuable information on learner experience, learner choice and learner support. Examples of how the UEM lens proved useful and how the programme's built-in learning experiences align to the UEM and the component parts of the Framework of Learning Experiences (FLE) are as follows:

Authentic Thread

The programme's pedagogical practices are underpinned by universal design (UD) principles, facilitating students to explore and discover knowledge. Learning will be assessed through a range of flexible and creative authentic assessments that will play to the students' strengths, allowing them to demonstrate their learning in a way that suits them. Also in line with the FLE, students will be offered a choice of subject streams and will be provided with work placements, supporting them in their pathway to employment on graduation.

Inclusive Thread

As this programme is designed specifically for people with intellectual disability, embracing difference and inclusion is central to this programme. Half of the modules offered on the programme will be fully inclusive, meaning Pathways Together students will take modules offered on other programmes, fostering belonging and providing many opportunities for connecting with other students and for informal learning experiences outside the classroom.

Digital Thread

Digital literacy is an essential skill for all students in the modern world, including those with intellectual disabilities. Therefore, a digital skills module has been included in the programme so that students will be digitally confident on graduation.



LESSONS LEARNED/NEXT STEPS

One of the key takeaways for us to date is that inclusion and belonging benefits everyone, not just students with disabilities. The development of the Pathways Together Programme is ongoing. We are currently meeting with lecturers who wish to become teaching fellows on the programme, adapting their modules to make them accessible and inclusive so that students from the programme can be included. The UEM will continue to frame our discussions and will remind us and our colleagues of the type of learner experience our students need.

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Get To Know Your Student Health Center At Grangegorman Campus

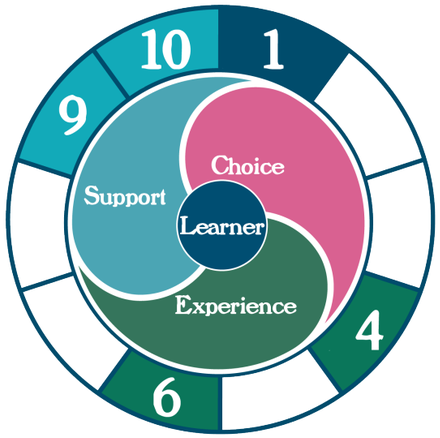


EXTENDED INDUCTION

Extended Induction had been offered for many years in the College of Sciences and Health in Dublin Institute of Technology. With the formation of the Faculty of Computing, Digital and Data in TU Dublin, some of which had previously been part of the College of Sciences and Health, the Faculty was keen to develop an Extended Induction programme that was fit for purpose for the new Faculty, serving Schools distributed across three campuses. The staff-student design team, listed as authors here, built upon the previous work from Sciences and Health to develop and pilot an online, multi-media Extended Induction programme.

Ciarán O'Leary, Melvin Bendera, Marie Brennan, Patricia Magee, Tania Malik, Paul Molloy, Marco Nocerino, Keith Nolan, Tom Nolan, John O'Carroll, Eric Peakin, Mariana Rocha

Submitted by Dr. Ciarán O'Leary



INITIATIVE: EXTENDED INDUCTION

Extended Induction is recognised as international best practice for managing the transition of students into the tertiary learning environment. The basic premise of Extended Induction is that students are better equipped to absorb information about their tertiary experience if this information is provided in sessions distributed throughout the first seven weeks, rather than all condensed into a single intense day of orientation. This enables orientation to be more focussed upon the critical day-one activities – students making a social connection with each other and meeting this lecturers. The College of Sciences and Health in DIT ran a high quality Extended Induction programme for seven years, with excellent engagement from students. The model used was based on students being co-located on a single campus with a large space for interaction. In the new Technological University Dublin organisational design, the Faculty of Computing, Digital and Data is distributed across the Tallaght, Blanchardstown and Grangegorman campuses. Building on the Sciences and Health model, the Faculty developed an Extended Induction programme to meet its specific requirements and draw on its digital talents and priorities (supported by NTUTORR funding).

The model involved the extensive use of digital technology to enable students to learn about the tertiary experience in comparable depth to on-campus Extended Induction programmes. Edited video recordings were developed that showcased the services and supports available to students across the three campuses. Over the summer of 2023, the student members of the team developed this video content. Each week, for the first five weeks of semester 1, a selection of videos were released to students in the Faculty of Computing, Digital and Data.

The students were then required to answer quiz questions based on their review of the video content, and carry out an on-campus task, such as taking a photograph of the location of a service on their campus.

The **University Education Model** focus on transitions and the dimensions of the **Framework of Learner Experiences** have helped shape Extended Induction.

LESSONS LEARNED/NEXT STEPS

While there was strong engagement with the online Extended Induction, an online Extended Induction is not the preferred mode of delivery. It was found by the project team that, for students to be fully assisted with the transition to Higher Education, it is important for students to be engaged on campus. Future versions of Extended Induction will continue to make use of the digital content developed, but it will be supported by on-campus events at which the related activities will be completed. This will enable the social dimension to the transition to higher education to be additionally supported and emphasised.

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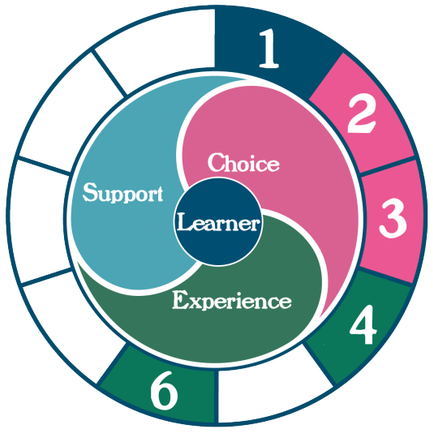
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Enterprise Challenge
at the Enterprise Academy

The Enterprise Academy, a multidisciplinary business unit within TU Dublin, works with enterprises across sectors and business types to create flexible, scalable, accredited solutions that address current and future skills needs. A key role of the TU Dublin Enterprise Academy is to facilitate engagement between enterprise, students and the University. The Enterprise Challenge is an elective module that offers multi-disciplinary student teams a hands-on learning experience that helps students bridge the gap between academic knowledge and practical skills. The module also fosters essential transversal skills highly sought after by employers, such as analytical thinking, creative problem-solving, teamwork, communication and adaptability.

Submitted by Niamh O'Hora, Dr. Kevin Delaney



INITIATIVE

Enterprise challenges help students solve real-world problems, connecting what they learn in class to hands-on experience. While many TU Dublin modules use live challenges to build skills, finding sponsors, managing the process and facilitating multi-disciplinary collaboration can be challenging. Providing an opportunity for students to take common modules at School, Faculty or University level, the Enterprise Academy and Global School of Business have introduced a 5 ECTS credit Enterprise Challenge module for all TU Dublin students, focusing on enhancing their skills and career development.

Student Centered & Student Engaged:
In the pilot phase of this elective in May 2023, The Enterprise Academy partnered with the travel technology company, Travelport, who sponsored business and sustainability challenges for student teams to address. This involved students from Tallaght, Blanchardstown, Bolton Street, Grangegorman, and Aungier Street campuses – from diverse disciplines such as Business, Computing, Product Design, Food Innovation, Digital Marketing, Game Design, Mechanical Engineering, and Science & Nanotechnology.

"I liked the challenge of being introduced to a completely fresh industry I don't know about and having to think about it in a critical way."

Connected, engaged, internationalized curriculum:
With an emphasis on knowledge application and experiential learning, student teams, guided by a Design Thinking approach, mapped the user experiences, identified specific problems through research, ideated solutions, and created digital prototypes. The pilot culminated with teams presenting their projects to a panel of judges from Travelport and academia.

Distinguished by Diversity of Provision & Focus on Practice & Career Development:
Emphasising practical application and career development, the Enterprise Challenge approach encompasses teamwork, problem-solving, analytical thinking, and evaluation. Students received valuable mentorship from stakeholders and Travelport mentors. This was facilitated through discovery sessions, collaborative workshops, customer research, evaluation, group critiques, and presentation pitches.
Learner feedback received was overwhelmingly positive.

"I really enjoyed working with students in other disciplines and industrial backgrounds and learning about different approaches and points of view."

LESSONS LEARNED/NEXT STEPS

A key format for enhancing the offering, is to engage Schools and Faculty to adopt the module as a UEM elective opportunity at School, Faculty or University level, facilitating genuine choice within learning pathways for TU Dublin students.

The Enterprise Challenge module descriptor is published in the Akari program catalogue. For more information on integrating the Enterprise Challenge module into your program, visit www.tudublin.ie/enterprise-challenge or reach out to Niamh (niamh.ohora@tudublin.ie) or Kevin (kevin.delaney@tudublin.ie) and we'll be happy to help.

For academics working with live challenges and project sponsors, resources and assessment templates from the pilot are compiled and available at www.tudublin.ie/intranet/enterprise-academy-toolkits.

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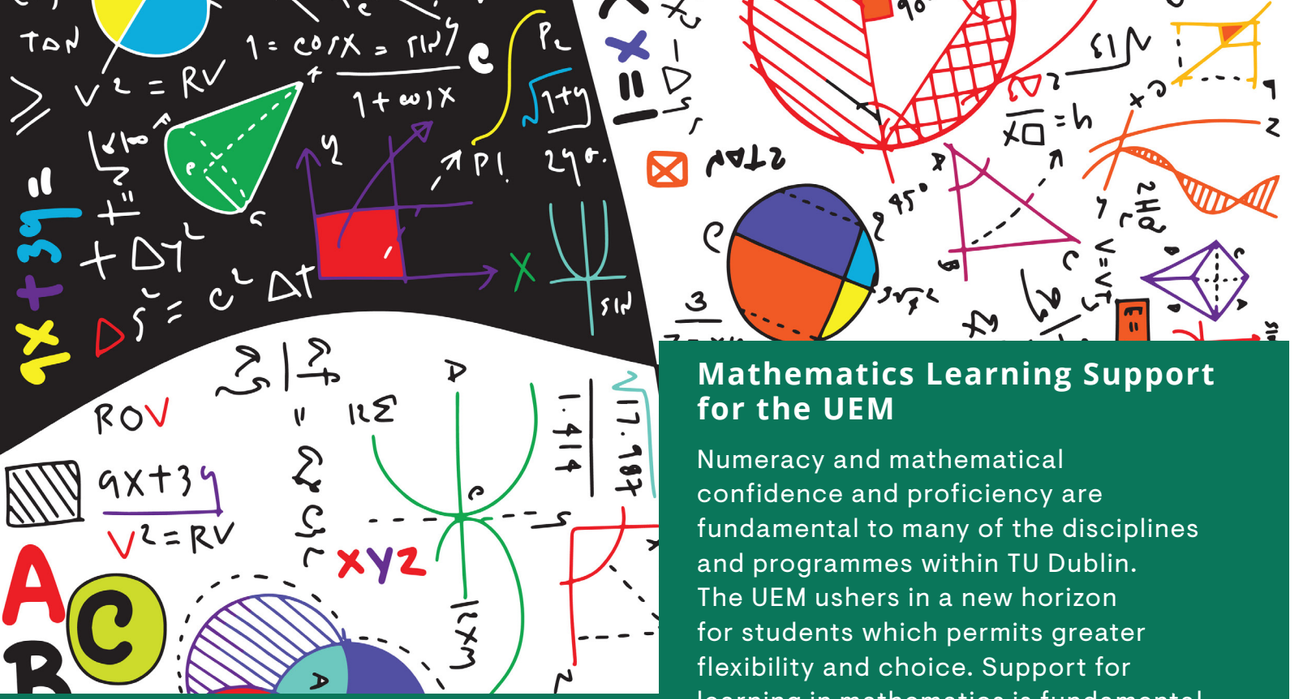
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Mathematics Learning Support for the UEM

Numeracy and mathematical confidence and proficiency are fundamental to many of the disciplines and programmes within TU Dublin. The UEM ushers in a new horizon for students which permits greater flexibility and choice. Support for learning in mathematics is fundamental to student success and an integrated, pan-University Mathematics Learning Centre that meets the widely differing needs of these learners is key to the success of the UEM, the student experience and learner retention. The Mathematics Learning Centre is evolving with the UEM to cater for new learning methodologies, different learning pathways and greater diversity, providing a positive experience to all.

Submitted by Dr. Chris Hills

INITIATIVE: MATHEMATICS LEARNING SUPPORT

The Mathematics Learning Centre (MLC) is being redeveloped. The project within the School of Mathematics & Statistics is to ensure the MLC meets the needs of all TU Dublin students in the future. This work is inextricably linked to the developments that are taking place in relation to our programme portfolio and how it is delivered, driven by the UEM.

The UEM requires a unified and consistent approach to mathematics learning support in the University. As learning becomes more dynamic, an MLC which addresses current variations and provides, universally, an enhanced and consistent level of support will emerge. A development plan is being put in place for a unified and integrated MLC for all learners – allowing them to meet their potential, succeed in their programmes and, most importantly, develop their confidence as users of mathematics – no matter their location, background or mode of study. Supporting learners to meet their learning goals underpins student retention and progression through the NFQ **[Fundamental 3]**.

A unified, welcoming and non-judgemental Mathematics Learning Centre is central to the new and different educational experience promised by the UEM: a student-centred experience where students take control of their learning with confidence **(Guiding Principle 1)**; a flexible, multi-modal learning experience **(Guiding Principle 4)**; a supportive experience for those entering HE from all backgrounds **(Guiding Principles 9 & 10)**. In **Guiding Principle 10**, the MLC will continue to contribute to the commitment by the School of Mathematics & Statistics to gender equality, recognised in the School's Athena Swan Bronze Award.

The project has begun with seeking a Head of Mathematics Learning Support and starting to understand current requirements. At the completion of the project, a successful MLC will provide: a pan-University understanding of current provision within mathematics to support **Fundamental 1** in relation to module duplication; support to students in exercising choice **[Fundamental 4]**, joining diverse groups in Pillar Modules **[Fundamental 6]**, and engaging via their chosen mode of learning **[Fundamental 2]**.

LESSONS LEARNED/NEXT STEPS

The diversity of mathematical and statistical learning across the University is evident. It is found embedded in programmes, shared between programmes, particularised to a single discipline or universal and abstract. Our strong tradition of teaching mathematics as an important skill means there is a shared history of excellent student support. But, the experience of students across our locations varies and support can be disjoint. The future sees a Head of Mathematics Learning Support who will implement a development plan for the MLC: formalising its mission and describing its future structure, scope and operation. Key to success is effective communication and cooperation with schools.

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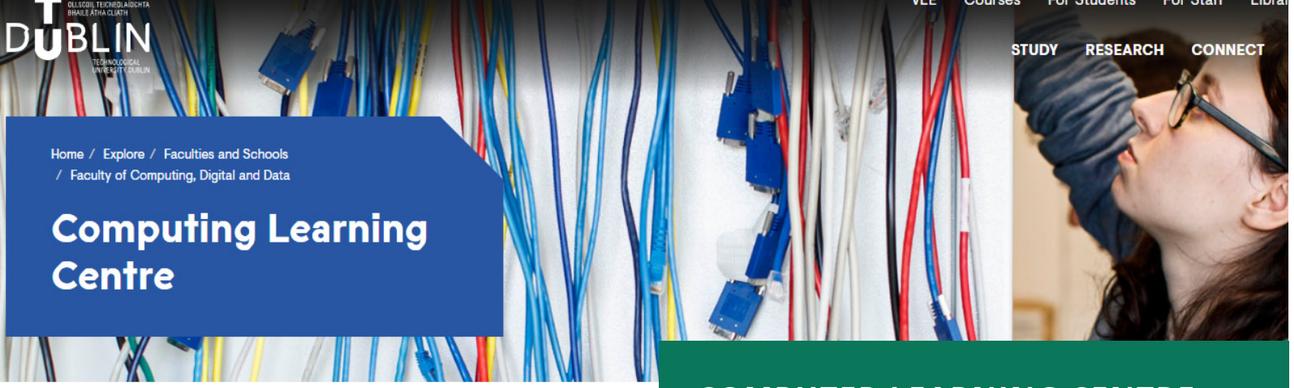
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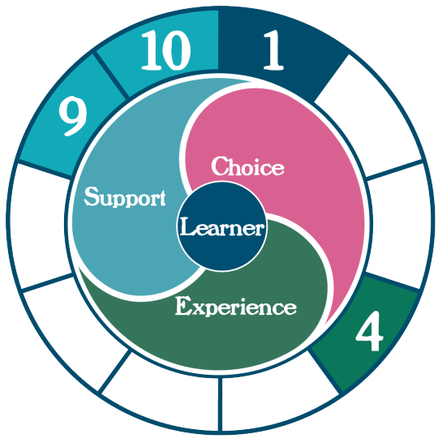
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COMPUTER LEARNING CENTRE

A design team, comprised of the members listed, was put in place by the Faculty of Computing, Digital and Data, and presented with the task of developing a Computing Learning Centre to provide academic support for students in TU Dublin with the Computing content of their programmes. The design team developed the model for the Computing Learning Centre and the staff required. In the period since June 2023, the Computing Learning Centre has provided one-to-one tutorial support to students across TU Dublin. The Centre's operation will be enhanced substantially with the imminent appointment of dedicated academic leadership for the Centre.

Ciarán O'Leary, Mairead Cullen, Keith Nolan, Brian Gillespie, Stephen Sheridan, Melvin Bendera

Submitted by Dr. Ciarán O'Leary

INITIATIVE: COMPUTING LEARNING CENTRE

The Faculty of Computing, Digital and Data have developed a Computing Learning Centre for the University. The Computing Learning Centre provides dedicated, targeted support students to that are experiencing difficulties with Computing modules on their programmes, regardless of whether they are studying on a Computing programme.

The context for the design of the Computing Learning Centre is summarised as follows:

- Retention on Computing programmes nationally and internationally is poor relative to many other disciplines.
- Often learning computer programming, and related critical thinking and analytical skills, represents the greatest challenge to students when they are studying on a Computing programme.
- With the increase of students coming to third level having completed the Computer Science Leaving Certificate curriculum, or having developed programming skills in some other way prior to their third level experience, there is a need to engage and challenge these students in order to maintain their interest and work ethic.
- Many students on non-Computing programmes have a need for support related to Computing topics, both as beginners and as students at a more advanced stage.

The Computing Learning Centre offers the following services to all students:

- Advice and support for anyone struggling with Computing.
- One-to-one sessions and group sessions with a tutor.
- Competitions and challenges for students who are looking to take their Computing skills to the next level.

Feedback from one of the students who made use of the Centre is provided below:

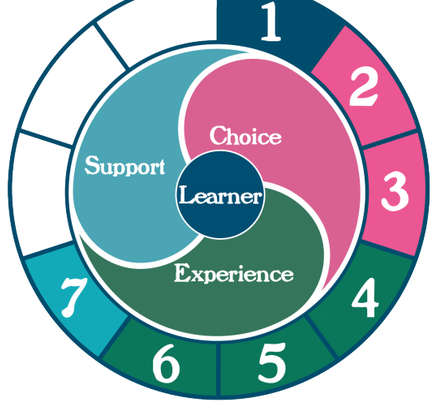
"My mentor was amazing, helped me throughout everything I asked for and he would never disappoint, every session I learned something new and therefore became a better version of myself with more confidence in the repeat exam I took."

The **University Education Model** has directed focus towards the diversity of background from which students progress to Higher Education, and the need for support for transitions to Higher Education. This has informed the design of the Centre. The website for the Computing Learning Centre is at https://www.tudublin.ie/clc.

LESSONS LEARNED/NEXT STEPS

The next step is to fully implement the Computing Learning Centre with the appointment of staff to key roles, including the Academic Lead. The Centre has been operating in an interim capacity since June 2023, but with the appointment of its leadership it will be able to develop further its capacity to support students across the whole University. The main lesson learned to date is to keep an open mind when providing support for students at the key transition points in their learning experience. Many of the students visiting the Centre to date are experiencing challenges in unexpected academic areas. The work taking place in the School of Mathematics & Statistics relies on the experience and expertise of all colleagues in the School. Future enhancement is continuing with the detailed development of the Liberal Arts, the developing understanding of mathematics and statistics across the University, and interaction between Faculties and Sustainability.





Helena Fitzgerald, Head of Societal Engagement

The Students Learning with Communities Programme supports TU Dublin staff and students to collaborate with underserved communities on real-world projects for mutual benefit. Community partners become part of the teaching process and contribute knowledge and expertise to increase the societal relevance of TU Dublin learning. Through collaboration, learning comes alive for students. They develop professional transferable skills, an enhanced understanding of their specialist subject and of the community they work with while earning course credits for their work. The collaborations are designed to further the community's goals, to give all participants the opportunity to engage in critical thinking, and to become energised to work for social change.

INITIATIVE: STUDENTS LEARNING WITH COMMUNITIES PROGRAMEE

The Students Learning with Communities (SLWC) Programme at DIT began in 2008. Since then it has evolved to become an innovative model for engaged teaching and research that cultivates active citizenship among the university's staff and students. The programmes approach engages students in the application of learning in real-world contexts and develops students' team working skills and work preparedness through the collaborations it supports.

Working with underserved communities, including local groups, not-for-profit organisations, and charities, the programme supports lecturers to effectively integrate community engaged learning - also known as service-learning - into modules and programmes to deliver a highly engaged student experience. By enabling an embedded learning experience, students becoming more informed and understanding of our complex world through the multiple perspectives and points of view introduced through collaboration. Due to the nature of the collaborations, projects implemented also address the Sustainable Development Goals (SDGs).

The SLWC programme has been delivered by a small team who provided supports for academic colleagues who wanted to embed community engaged learning into their modules. With the growing need for the University to engage proactively with communities within our region - including as a function of TU Dublin under the TU Act - the University Education Model provides opportunities for community engaged learning to become embedded within all academic programmes. The SLWC programme approach provides exemplars that align with Graduate Attributes under digitally capable, sustainability focussed and collaborative real word problem-solvers addressing the People, Planet and Partnership pillars. In addition, it provides a well-tested resource with which our students can develop competencies needed to address the SDGs in areas such as 'embodying sustainability values', 'embracing complexity in sustainability', 'envisioning sustainable futures' and 'acting for sustainability' - as set out in Green Comp, the European Sustainability Competence Framework.

LESSONS LEARNED/NEXT STEPS

Through supporting students learning with external organisations and communities, and engaging with real world challenges, the Students Learning with Communities programme has created a strong foundation to build upon. It has developed well-tested resources for academic programmes to align with UEM/Graduate Attributes. The next steps involve exploring how the programme can evolve, both through increased integration into existing modules and as a stand-alone module to enable multi-disciplinary collaboration. We want to reach a point where co-learning with societal partners on UN SDG aligned themes and challenges becomes integral to how TU Dublin engages society in education.

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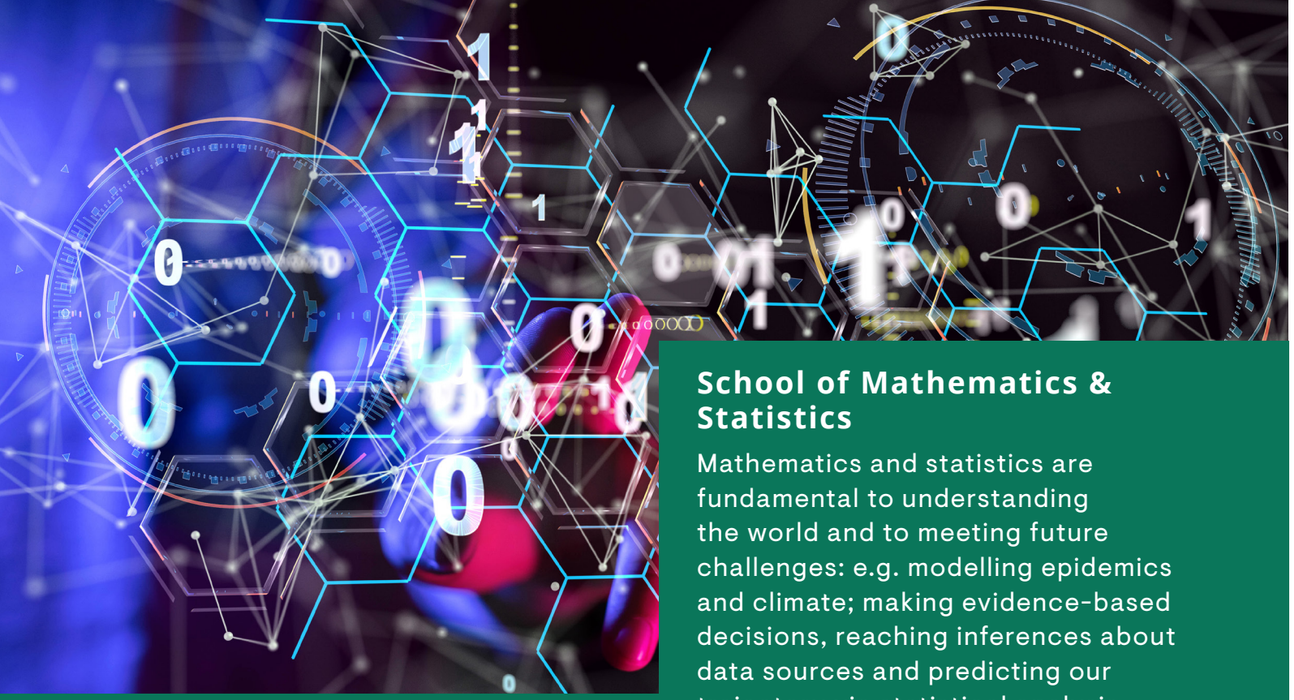
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School of Mathematics & Statistics

Mathematics and statistics are fundamental to understanding the world and to meeting future challenges: e.g. modelling epidemics and climate; making evidence-based decisions, reaching inferences about data sources and predicting our trajectory via statistical analysis. The UEM offers the opportunity, through new approaches, to make mathematics and statistics more accessible, and its applications and impact more visible, to a more diverse population of learners. The wider context of mathematics is being enhanced in our programmes and, with other faculties, opportunities to include mathematics as part of a broader learning experience developed, utilising Discipline Boards in the School of Mathematics & Statistics.

Submitted by Dr. Chris Hills

INITIATIVE: BROADENING THE EXPERIENCE OF STUDYING MATHEMATICS AND STATISTICS

The foundations of science, technology, engineering, business and modern industry often rely on the rigour of mathematics and statistics. The work in the School of Mathematics & Statistics uses the **University Education Model**, its **UEM Guiding Principles** and agreed **Fundamentals**, as a valuable framework to enhance the student learning experience, offer more flexibility and opportunities and, most importantly, ensure graduates possess an understanding of the role of mathematics and statistics in applications, their impact on society, their contribution to discovery and their potential for effecting change.

The changes developed by colleagues in the School of Mathematics & Statistics will enhance the student experience from the perspectives of mathematician and non-mathematician: improving the understanding of mathematics students of the applications and impacts of their discipline and the techniques they possess to address global challenges; and providing a mathematical foundation to other students so that they may understand the relevance and potential of mathematics as a rigorous foundation and tool.

The School, aligned with **Fundamental 7**, is enhancing the mathematical modelling throughout its programmes to reflect sustainability challenges and our final-year projects will offer opportunities to explore topics that impact our world; associated with **Fundamental 2**, the School's MSc programme offers more flexible learning (via in-person, online and blended modalities) and includes global citizenship as an important component. Accessibility and diversity are also a priority, benefitting all students (and all fundamentals), and, following the School's Athena Swan Bronze Award, professional development has been enhanced and a new student scholarship introduced for women in mathematics.

UEM **Fundamental 1** & **Fundamental 6** are key enablers for new partnership. The School is actively engaged in the Liberal Arts programme. Through pillar modules, more students will be able to enrich their learning and wider understanding through the lens of mathematics and statistics. In addition, developing opportunities for both minor and major studies in mathematics and statistics provides new learning pathways that integrate mathematics and statistics with a broader learning experience and more choice **[Fundamental 4]**.

LESSONS LEARNED/NEXT STEPS

The early adoption of discipline boards in the Faculty of Computing, Digital and Data has enabled a broader perspective via disciplines rather than a programme-based focus. These structures will allow greater engagement between disciplines, more opportunities for cross-disciplinary partnership and, using a discipline lens, an improved understanding of commonality.

The work taking place in the School of Mathematics & Statistics relies on the experience and expertise of all colleagues in the School. Future enhancement is continuing with the detailed development of the Liberal Arts, the developing understanding of mathematics and statistics across the University, and interaction between Faculties and Sustainability.

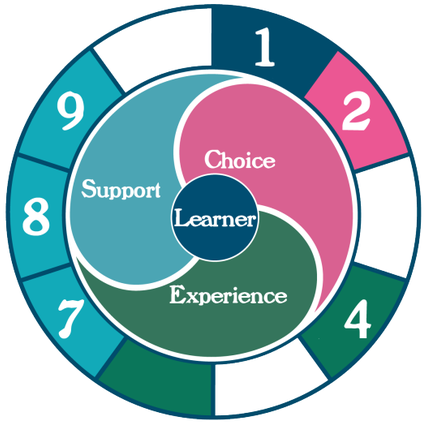




Building Change Project

The Building Change project team is Emma Geoghegan (Head of Architecture), Noel Brady TU832 Programme Chair) and Miriam Delaney (Curriculum Change Lead). We are supported by Richard Gallery in the Sustainability Office.
The project is part of a national iniative led by TU Dublin involving all seven Irish universities with professionally accredited programmes in architecture.

Submitted by Emma Geoghan, Noel Brady, Miriam Delaney



INITIATIVE: Building Change Project

Over the last number of years the TU832 Bachelor of Architecture team have been engaged in a holistic and dynamic review of the five year professionally accredited undergraduate programme in architecture. This initially involved a co-design process through which the team worked collaboratively with learners, industry stakeholders and colleagues from cognate disciplines to reframe and re-write the Architectural Design Studio modules to embed learning outcomes related to the UN SDG, aligning with **Fundamental 7** of the **University Education Model** – making sustainability learning outcomes transparent.
The success of this pilot phase led to the '*Building Change*' project a now national initiative led by TU Dublin and supported by the HEA through HCI Pillar 3 funding which aims to radically transform architecture education by embedding sustainability and climate literacy across all six professionally programmes in architecture in Ireland. We are collectively piloting new teaching and assessment methods, new teaching structures in our studio modules and through these processes exploring how to test, refine and embed the knowledge and skills necessary to design a zero carbon future. In parallel to the changes to the undergraduate programme we have developed a series of educator upskilling and continuous professional development opportunities from staff, from workshops to 5ECTS accredited certificates.
The TU Dublin team have used the principles of the **University Education Model** as a parallel lens to the Building Change project to allow us to critically evaluate the TU832 programme and implement additional refinements and changes to improve the learner experience. We have undertaken a comprehensive review of all modules to remove duplication across programme stages and ensure that the pathway through the programme is clear for all students. A key principle of the Building Change project is student agency and the curriculum review has involved co-design processes with learners at each key stage. Aligning with the UEM, where possible, we have introduced choice, **[Fundamental 4]** through the strengthening of existing elective modules and increasing the range of cross disciplinary learning opportunities available to our students across the university.

LESSONS LEARNED/NEXT STEPS

That significant curriculum change requires a culture shift for educators and learners and that this can take time. Invest in the process, be transparent and open about successes and failures and reflect at each key stage.
When students are engaged and feel that they have genuine agency in a process their involvement is key to making those shifts in culture.
Acknowledge what is working well already in the programme and build on that.
Working with external stakeholders – from industry and practice partners to the professional registration body – allows for valuable critical reflection on current teaching and learning practices.

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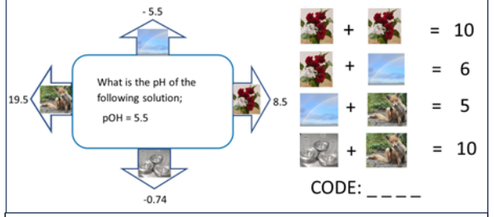
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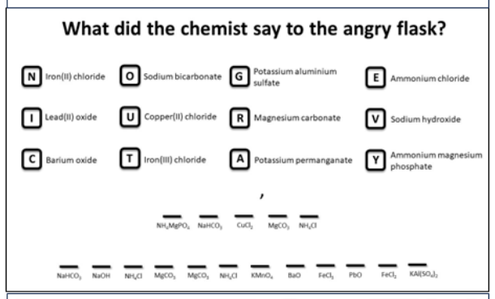
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Working in Partnership with Students to Redesign First Year Chemistry Tutorials

This initiative was developed by a subgroup of TU Dublin's Chemistry Education Research Team (CERT) that has a focus on supporting and engaging learners during their transition to university. The Chemistry Education Research Team at TU Dublin aims to incorporate the best practices from education research into day-to-day teaching of chemistry and evaluate their impact. The staff and students involved are based in the School of Chemical and BioPharmaceutical Sciences.

Submitted by Dr. Claire McDonnell, Dr. Sarah Rawe, Dr. Gavin Sewell.

INITIATIVE

Our weekly year 1 chemistry tutorials provide a valuable opportunity for interaction and learning with a much lower student:staff ratio than in lectures. Not all students were attending regularly though and it was clear that a redesign was required. A *'students as partners'* approach is being used to ensure that changes introduced will be effective. This involves working directly with six second year students. They have also gathered feedback on chemistry tutorials from their peers.

This tutorial redesign work has taken place in 2022-3 and 2023-4 and aligns to **University Education Model Fundamental 5**. The three threads of the **Framework of Learner Experiences (FLE), Authentic, Digital and Inclusive,** are within the approach taken. Reflecting on these FLE elements has allowed us to enrich the learner experience. The emphasis is on authentic assessment in terms of rapid, regular and structured feedback on progress to allow students to consolidate their learning. This is achieved during the tutorials by using collaborative puzzles based on an escape room format and polling app quizzes. This is built on with a weekly 2 question online quiz after the tutorial. Another change was to demystify assessment by showing how tutorial problems align to past exam questions.

The inclusive element comes from the '*students as partners*' methodology as well as our overall aim of easing the transition to university chemistry using the tutorial framework. The collaborative puzzles use a range of puzzle mechanics and therefore appeal to broad range of learners. They also encourage interaction and peer learning. UDL principles have been applied in the design of tutorial resources and the VLE content area. Digital technology is incorporated where it can enhance the learning experience – using simulations from existing open educational resources that have real world applications (e.g. CK-12 simulations) and developing quizzes for the VLE and polling apps. Supports and online activities for before and after tutorials are built into the VLE.

This work has been funded in 2023-4 by an NTUTORR fellowship.

LESSONS LEARNED/NEXT STEPS

We found that chemistry tutorial attendance didn't drop to very low numbers in semester 2 as had happened before the redesign. Preparing an escape room type puzzle as an initial tutorial activity worked well to engage learners and get them discussing chemistry with their neighbours. However, student partners reported that, as exams approached, gamification such as the puzzles didn't seem serious enough and they wanted more focused exam practice at that stage. We have made that change.

There's still plenty to do as we want to extend this approach to semester 2 for our level 8 students in 2024-5. Each year, the feedback from our student partners has brought up new and different issues to work on.

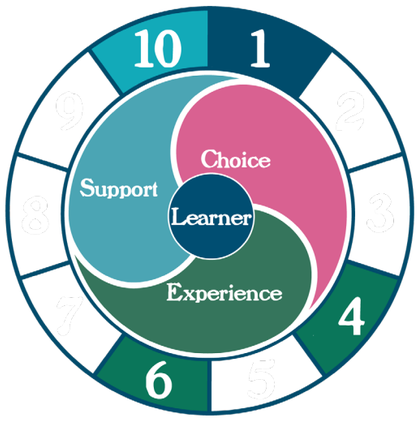
We've made examples of our collaborative escape room type puzzles and editable templates for others to use available online at; https://chemedresearchteam.wordpress.com/2023/08/13/escape-room-type-group-puzzles-for-chemistry-templates-guidelines/

We also produced a poster in August 2023: https://vicephec23.files.wordpress.com/2023/08/c-mcdonnell-s-rawe-vicephec-2023-poster.pdf



Peter Monahan

Peter Monahan is an assistant Lecturer in the Mechanical Department but also covers some specific lectures in the Building Engineering and Multi-disciplinary Departments. Peter is qualified with BSc in Building Services Engineering from DIT in 1992, PG Diploma in Project Management from Trinity College in 2000 and more recently with the PG Cert in University Teaching & Learning with TU Dublin in 2021. He teaches on the L7 and L8 programs specifically Professional Development to the 1st year mechanical class, Employment Experience to the 2nd year mechanical class, supervision of L7, L8 & L9 final year mechanical projects. He also teaches Technical Graphics, CAD, MATLAB, Fire Engineering and Material Laboratories to various student cohorts on the L8 Mechanical program.



INITIATIVE

The Level 7 Ordinary Degree in Mechanical Engineering taught in TU Dublin City Campus has accreditation completed by Engineers Ireland. Recently there was a recommendation made by Engineers Ireland to introduce more practical elements and work experience into the course. From this the MECH2039 Employment Experience module evolved as an elective module that can be taken as an alternative to the taught MECH2002 Professional Development Module. As this module takes place in 2nd year, the students only have 1 year of college learning so the students may only get non engineering related employment. As they get the employment themselves, they have full access to the TU Dublin Careers Portal and student membership of Engineers Ireland & Institute of Mechanical Engineers to help with this. Employment experience aligns with the **University Education Model** by maximising the value of work placement, peer mentoring and negotiated 'work' based learning. The Authentic Assessment Methodology is achieved in tandem with the UEM in the following ways:

1. This is a voluntary module, and the student sources the employment themselves with the support of the TU Dublin lecturing staff, TU Dublin Careers Portal and module lecturer.
2. Peer mentoring is achieved by the presentation by past students who have completed the module who both discuss and demonstrate the alignment of module learning outcomes with their employment.
3. To get access to this module, the Engineering Experience module lecturer must review the student application based on the Employer questionnaire and confirm that the negotiated 'work' based learning has sufficient content to meet the module learning outcomes.

Employment experience at any stage of student development achieves lifelong learning by development of the key skills of communication, self-management, and organisation. Employment experience aligns with the University Education Model Actioning the Brief, Learning Pathways **Fundamental 4** and **Fundamental 5** and in tandem achieves an authentic learning experience. There is an option in stage 2 Mechanical Engineering to complete an Employment Experience module MECH2039 as an option to the Professional Development module MECH2002. This aligns with the **Fundamental 4** which allows the student an option for taught or practical module completion. This also aligns with **Fundamental 5** where the student can gain their own employment experience in an engineering or equivalent field. The authentic assessment approach that has been taken for the Employment Experience module MECH2039 is the constructive nature of all the deliverables, that once they are completed in the order of assessment, will be completed within a single semester.

LESSONS LEARNED/NEXT STEPS

Based on the student feedback questionnaire completed at the end of the module and the quality of the student submissions I will be proposing the following module updates. I propose to update the deliverable requirement include a work journal and I will be issuing the indicative deliverable weighting regime. This will allow the student to list and record all the activities and projects they have completed during the employment experience and reflect on same. The introduction of the indicative weighting system allows the students to gauge the time to be spent on each section to get the maximum overall result. The introduction of both these authentic assessment measures will increase the student engagement/ performance and allows the student to complete reflective learning on the activities that they have completed in the workplace.

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Dr. Darvree Downey

I graduated in Biotechnology from NIHE Dublin (now DCU) and worked in the food industry in Britain and Ireland prior to doing a PhD in dairy biochemistry in UL. I lecture in Biology and Biochemistry across the science programmes on the Tallaght campus of TU Dublin.

Since its inception in 2010, I have taught on a Critical Skills Development (CSD) module that aims to help students become reflective independent learners. This incorporates my interest in student work-appraisal skills developed during a post-graduate diploma in higher education in MU and reignited when studying the LTA module on assessment and feedback in TU Dublin.

INITIATIVE

Critical Skills Development (CSD) is a 100% CA module that aims to support first year students transition to learning at third level. The module aligns very clearly with **University Education Model Guiding Principle 9 (Transition)**.

A core CSD assignment requires students to review and compare a range of study materials on a topic from a theory module and reflect on their learning. Students describe their current knowledge before reviewing an assigned video, a self-sourced one and the relevant chapter in an undergraduate textbook. They analyse the impact of the exercise on their approach to learning new concepts. In a change to the previous format, in-class self- and peer assessment were introduced as part of this CSD project, with the aim of developing student feedback literacy. The understanding of the concept of feedback has changed over the last decade to one in which students are active agents rather than passive recipients (Little et al, 2023). The project revision was informed by this conceptual shift and the UEM focus on enhancing the learner experience.

The format involved an in-class discussion on the assessment and marking of the CSD project followed by an in-class anonymised peer assessment exercise based on this class-generated marking criteria. Students gained an insight into the importance of following task instructions. They got a chance to reflect on their work and see how others interpreted the exercise. Comparison of peer, self and tutor-assessed marks suggests as expected, that higher-achieving students have stronger evaluative skills than their lower performing peers.

This initiative addresses **Fundamental 5** of the Actioning the Brief document as it strengthens assessment authenticity. Developing student capabilities to make evaluative judgments is core to education and research but such work appraisal skills are also a key graduate attribute (Nicol et al, 2014). There is also alignment with Fundamental 6. The initiative enhances an existing module designed as a programme-independent learning experience for first years that has potential as a pan-university module. **[Fundamental 6]**

LESSONS LEARNED/NEXT STEPS

One project is inevitably insufficient to embed feedback literacy skills. Development of evaluative capabilities requires practice. A follow-on study this semester is examining how these skills can be honed by incorporating self- and peer-assessment into weekly laboratory assignments. In-class anonymised peer-assessment was difficult to manage.

Also, the time limitations imposed by the in-class format may have limited reflective learning. VLE-based or other online formats will be explored next semester to address this. An updated project design will also enable the students to apply the insights gained from the review processes to improve their work prior to final submission.

Little, T., Dawson, P., Boud D. & Tai, J. (2023): Can students' feedback literacy be improved? A scoping review of interventions, Assessment & Evaluation in Higher Education, DOI: 10.1080/02602938.2023.2177613

Nicol, D., Thomson, A. and Breslin, C. (2014) Rethinking feedback practices in higher education: a peer review perspective, Assessment & Evaluation in Higher Education, 39:1, 102-122, DOI: 10.1080/02602938.2013.795518

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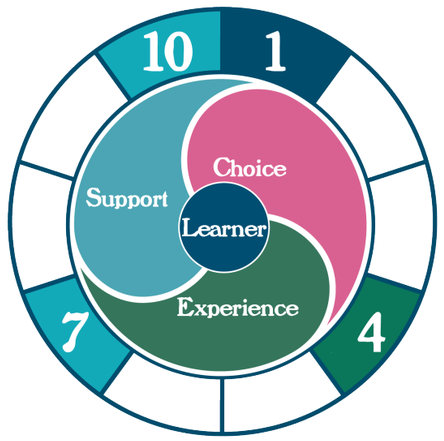
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Laura Cleary-Keogh
I am a lecturer in the School of Chemical and BioPharmaceutical Sciences and an active member of the Schools Learing, Teaching and Assessment Group. I have a keen interest in universal design for learning.



INITIATIVE

I have applied plus one approach and introduced some principles of UDL into my teaching practice. The students involved were year two laboratory science apprentices studying a microbiology and environmental monitoring module. The students were provided with multiple means of action and expression. The students were provided with choice and autonomy over the type, format, and submission timeframe for some continuous assessments and laboratory assignments the semester.

As alternative to in-class CA or an essay type assessment the first assignment the first assessment required the students to critically evaluate an essay produced by generative AI Chat GPT. The students were instructed to input the specific prompt “Write an essay on contamination control in the cleanroom environment” into Chat GPT. The students were instructed to provide the essay provided by Chat GPT and to critically evaluate the essay. To aid the students with their evaluation they were directed to reputable peer reviewed sources in both written (white papers, journal articles and books) and video (YouTube recordings of lectures and workshops from expert pharmaceutical microbiologist Dr. Tim Sandle), thus providing multiple means of representation.

The second assignment focused on an alternative to the written laboratory report. The students had completed a laboratory practical focused on sterility testing of an ophthalmic solution. In the media at the same time the students had completed the lab a public advisory had been issued by the FDA regarding contaminated eyedrops. This had intrigued the students, and the co-designed assignment required the student to research in a case study format FDA warning letters, investigation reports etc. relating to the contaminated eyedrops and resultant recall. The students were required to problem solve and provide their suggested corrective and preventative measures.

These changes made provided students’ choice and autonomy in their assessments and encouraged student engagement. The re-designed assessments adopted some principles of UDL and more authentic assessments both of which align with the framework of learning experiences, **Fundamental 5**.

LESSONS LEARNED/NEXT STEPS

Providing students with choice and autonomy increased engagement and performance in their assessments this semester. The re-designed assessments challenged the students to integrate new ideas and apply theory to practice and actively encouraged peer sharing of knowledge and experience. The students achieved well in their assignments and welcomed "any change from the norm”.

Providing a positive change to the students learning experience and providing more authentic assessments will be incorporated into the other modules I teach.

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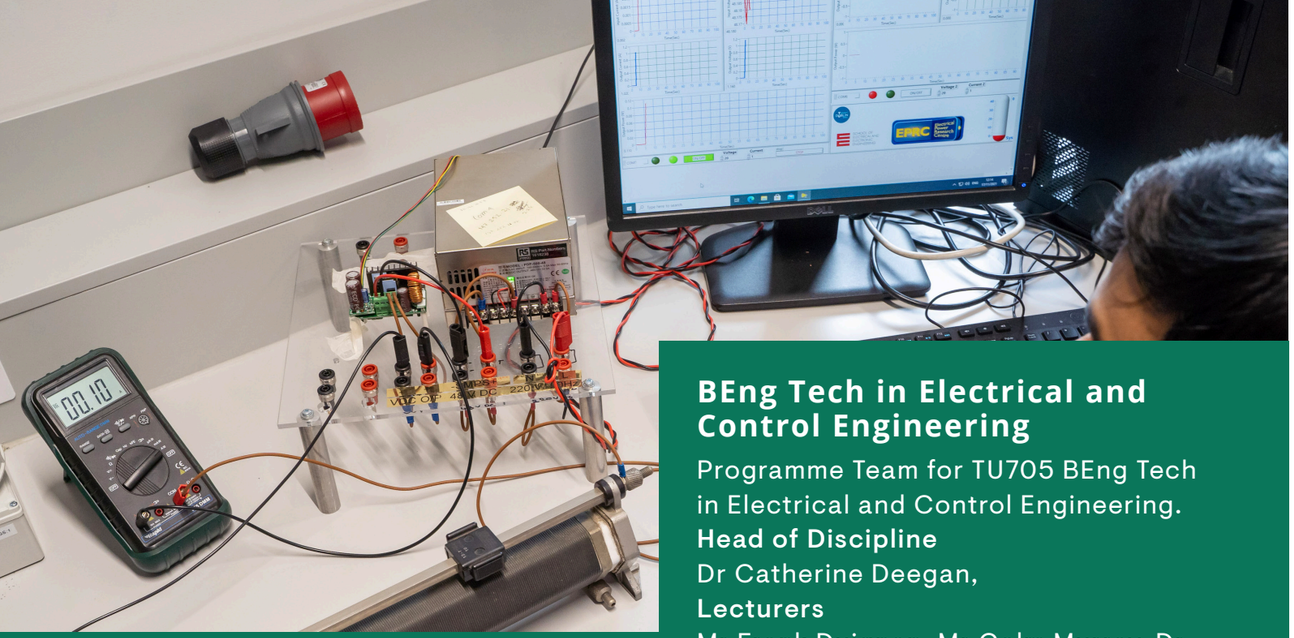
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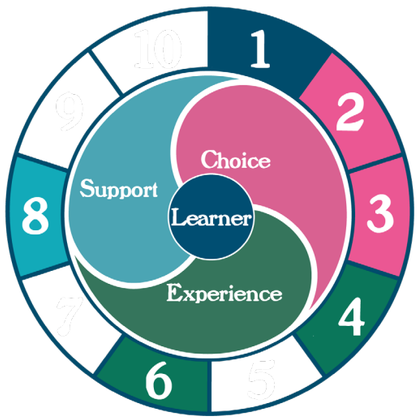
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BEng Tech in Electrical and Control Engineering

Programme Team for TU705 BEng Tech in Electrical and Control Engineering.
Head of Discipline
Dr Catherine Deegan,
Lecturers
Mr Frank Duignan, Mr Colm Murray, Dr Malabika Basu, Dr Ted Burke, Dr John McGrory.
The Prof-Assess Project Team from the LTA unit in Academic Affairs
Dr Jen Harvey, Dr Derek Dodd, Ms Nicole O' Neill.

Submitted by Dr. Catherine Deegan



INITIATIVE: PROF-ASSESS

Prof-ASSESS is an initiative by the Learning Teaching and Assessment unit to enhance the coherence, validity, reliability and efficiency of assessment at programme level in support of the intended programme learning outcomes. It aims to achieve this via the development of a co-created assessment evaluation framework that facilitateds authentic task design in the context of the learner's discipline and professional area of study **[Fundamental 5]**. This initial evaluation study was performed in Control Engineering with this Schools' BEngTech degree programme in Electrical and Control Engineering . This formed part of an assessment evaluation process of this degree programme that the staff found to be helpful, particularly as this programme had been through a successful professional accreditation process this past year. The contribution and input of Engineers Ireland in the initial workshops was found to be invaluable when prioritising relevant graduate attributes for engineers as well as contributing to general discussions and definitions of authentic assessment. In addition, existing authentic assessments were presented. For example, Robosumo, an engineering team design practice assignment where learners are assessed both on the design product and their design process via a variety of modes.

The 4-pillar framework, with accompanying evaluation tool, developed from this project was used by this Programme Team to evaluate the Electrical and Control programme at module level. This was found to be very useful as it facilitated a rapid accessible and visual means to review a programme's assessment. In turn, this framework enabled an informed discussion of the programme's aims and objectives and allowed changes to assessments to be proposed at module level for more authentic tasks to be incorporated in learner's workloads.

A full set of modules for year three of this programme were evaluated using this tool and as a result some of these will have adjustments made to assessments to incorporate more authentic, in-context content and skills development. We focused on third year as most of our learners aim to progress from this level 7 programme to the level 8 BE in Engineering **[Fundamental 3]**.



LESSONS LEARNED/NEXT STEPS

Important to develop a shared language for assessment and for evaluation processes for same. This was developed in partnership with the professional body and with strong input from a range of colleagues.

Discussion of assessments via set prompts facilitated constructive evaluation of programme aims objectives and learning outcomes in an holistic manner.

Apparently minor changes across a range of modules could effect significant improvements to the programme assessment and student skills profile.

Next steps for this process will be to involve students in the process and ask them to use the tool to perform an evaluation on their assessments, as well as to evaluate the earlier years of the programme.

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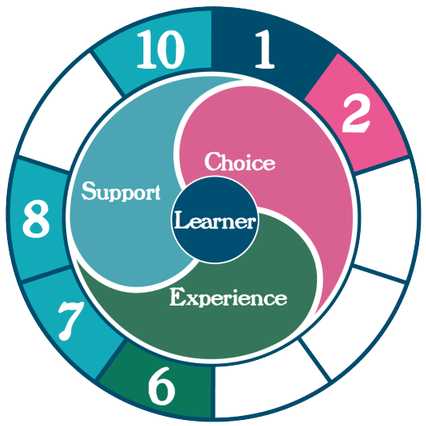
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Dr. Bríd Ní Chonaill

Dr Bríd Ní Chonaill is a senior lecturer in Humanities and delivers modules on Combatting Racism to Community Development and Youth Work and Social Care students. She has carried out research on issues relating to migration, integration and racism and was the project lead on the Embedding Antiracism in the Community Development and Youth Work Programme Le Chéile project (2020-2021) and the EDI funded development of the Community Development and Youth Work Anti-Racism Placement Resource (2021-2022). She worked in collaboration with colleagues Georgina Lawlor and Dr Nóirín Macnamara on the focus on positionality (see Ní Chonaill et al 2022).

INITIATIVE: ROLE OF POSITIONALITY IN TERMS OF TRANSFORMATIVE LEARNING

This case study links to **Fundamental 5**, aligning with the inclusive strand of the Framework of Learner Experience. We prepare students to work in increasingly diverse contexts, locally, nationally, and globally. Our work embedding anti-racism in practice-based education identified challenges students faced understanding the structural and systemic nature of racism (Ní Chonaill et al 2022). This challenge is not restricted to racism but part of a broader 'struggle to recognise that all forms of power, inequality and domination are systemic rather than individual' (Ahmed 2012, p.44). To properly address inequalities, it is necessary to 'see' how they disadvantage some people and advantage other people at multiple levels (individual, institutional, structural and historical).

I used the power flower activity (Arnold et al 1991, p.87) to initiate reflection on positionality, namely how the power attached to our social positions shapes what we have access to in society (Misawa 2010; Tien 2020). The dominant social identities in Irish society were filled in as a group on the outer circle and then students individually completed the inner circle of the flower regarding their own positionality: 'race', ethnicity, nationality, sexual orientation, socioeconomic status, gender identity, ability and religion. Students frequently do not self-identity with advantaged social groups e.g. male, White (Tatum 2021; Rolón-Dow et al 2020) so it is important to acknowledge these. The activity recognised the multidimensional nature of identities and welcomed the diversity within the classroom.

This activity constituted a starting point in analysing power and privilege and their impact on practice for students and educators. Acknowledging that everyone participates in the system (Fitzgerald 2021, p.10) is key to recognising the systemic nature of inequalities. Sylvia Duck's graphic of the wheel of power/privilege was then introduced to visually reinforce where power is centred – how dominant norms, beliefs, structures and practices advantage and disadvantage us. However, follow on work and intentional scaffolding is required to locate individual positionalities in broader histories and systems of power.

LESSONS LEARNED/NEXT STEPS

This activity can be introduced at first year level but incremental development is needed to connect individual positionalities to the histories of and power attached to, dominant identities and social groups. An 'archaeology of self', 'a deep excavation and exploration of beliefs, biases and ideas that shape' our worldview (Sealey-Ruiz 2021) is also required. Developing structural thinking takes time, requires intentional scaffolding and constant learning and unlearning on the part of educators as well as students. Student feedback has informed the work to date and will continue to consolidate transformative learning over the course of a programme.

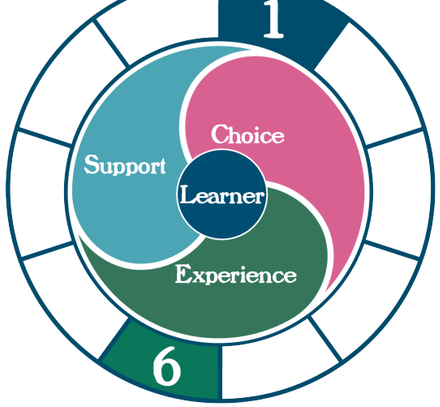
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John O'Carroll
Student Success Manager

I am employed as a Student Success Manager within the department of Student Services and Wellbeing in TU Dublin. My remit within TU Dublin is to support, facilitate and enhance the student experience both inside and outside the classroom.

This new initiative the "Learner Assembly" will enable a wide diversity of students to discuss and debate key topics, issues and concerns with the University Educational Model team. The outcomes from these sessions will be put to the University Executive team in the hope of making some positive improvements and change for the betterment of university life for TU Dublin students



INITIATIVE: TU DUBLIN LEARNER ASSEMBLY

Following the establishment of the **University Education Model** the plans for a Learner Assembly were initiated. Following consultation and the support of TU Dublin's University Executive Team this Learner Assembly will now seek to engage directly with TU Dublin students to openly discuss and debate topics of interest, concern, ideas and initiatives directly related to TU Dublin and the impact on students and the service provided by the university.

The Learner Assembly's vision is to be a more equal partnership between our learners and our university and through these assemblies we will build on ongoing conversation to address challenging issue's together

The Learner Assembly will be delivered in two varying workshop formats across the three main campuses during March, namely Grangegorman, Blanchardstown and Tallaght. Both Blanchardstown and Tallaght will take the form of an open hour session with Learner support and four to five activities, with triggers and a guide for each topic. The format for Grangegorman will be the more traditional type with one activity for discussion. Topics have been chosen relevant to university life both inside and outside the classroom. It is intended to try out these two types of Learner Assembly formats to identify which is the best fit to maximise engagement and output. The sessions will be facilitated by the Learner Assembly working group. In addition TU Dublin Student Ambassadors present also to encourage and support the student experience.

It would be the intention of these Learner Assembly events that outcomes and recommendations are then presented back to the University Executive team to see if improvements, change and or developments can come out of key topics raised at these events. It would be envisaged to host Learner Assembly sessions annually across the three campus locations.

The **Fundamental** [4] that triggered this action "*Opportunity is afforded to students to facilitate their involvement in choice within their learning pathways*". This Learner Assembly is affording students this opportunity to have their voice heard within the university environment.

Learner Assembly

Autonomous, Agency, Advising, Advocacy, Accountable

Have Your Say, Be heard, Make a difference...

LESSONS LEARNED/NEXT STEPS

The UEM lens has added value in how initiatives and programmes are structured to align both with the UEM and the TU Dublin strategic plan.

The key lessons learned will be identified and reviewed following the roll out of the first Learner Assembly sessions which commence on March 7th. The Learner Assembly working group will reconvene to review these events and look at the next steps of this initiative. Plans for future enhancement will be considered following these events which may include but not limited to annual Learner Assembly's, format of assemblies to suit the needs of the students a focus on different cohorts of students could also be a focus such as access, mature, part-time, erasmus/exchange, international and apprenticeship students.

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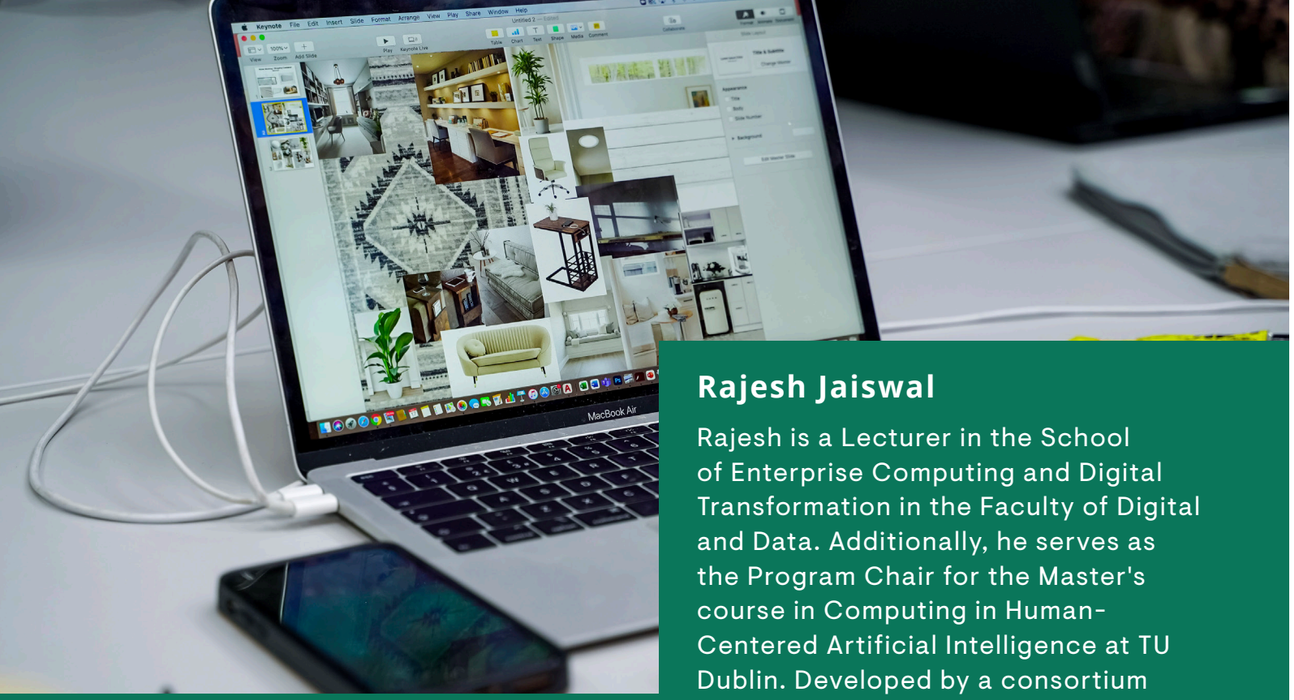
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Rajesh Jaiswal

Rajesh is a Lecturer in the School of Enterprise Computing and Digital Transformation in the Faculty of Digital and Data. Additionally, he serves as the Program Chair for the Master's course in Computing in Human-Centered Artificial Intelligence at TU Dublin. Developed by a consortium of 10 members, this program aims to produce AI professionals with legal, regulatory-compliant, and ethical expertise. With the support of the teaching team, school management, and the international office, he has incorporated six UEM Guiding Principles into our program through blended intensive programs, cross-module projects, guest lectures, hackathons, technical certifications, international collaborations, and conferences.

INITIATIVE

Implementing the **University Education Model** has played a pivotal role in enhancing the educational experience for students and effectively bridging the gap between academic graduates and industry professionals. In our endeavour to incorporate the UEM, we have introduced cross-module projects, guest lectures, hackathons, technical certifications, inter-university projects, and conferences. Among these initiatives, we organized a Blended Intensive Programme (BIP), an educational endeavour that fosters collaboration among students from diverse European countries. The EU financially supports this event through the Erasmus+ programme for higher education in Europe. Teaching staff from participating universities also contribute to the program. Termed 'intensive' due to its concentrated duration, the program involves a combination of online and on-site learning activities conducted over five days at the premises of HU in Utrecht (NL). A vital component of this program is completing a Human-Centred AI research project proposal by students. The design and execution of this research project align with multiple Sustainable Development Goals and UEM principles (GP1, GP2, GP4, GP5, GP6 and GP7).

To facilitate the development of the research proposal, HCAIM students from four European universities – Italy, Hungary, the Netherlands, and Ireland – will participate in an Erasmus-funded BIP in Utrecht for five days.

This comprehensive program encompasses study activities and didactic approaches, featuring knowledge-sharing sessions by experts from across Europe, interactions with representatives of SMEs and Research Centers, coaching sessions, peer reviews, and collaborative teamwork in international groups. Social events are also incorporated to allow participants to acquaint themselves with each other in an informal setting.

Collaborating with peers from different countries, participants resolve real-life AI challenges, considering ethical and technical dimensions and applying these insights to their research topics. The program imparts valuable lessons on effective collaboration in an international context and within diverse teams. Additionally, participants cultivate a professional attitude in communication with relevant stakeholders, including coaches/advisors, researchers, entrepreneurs, problem owners, and fellow students. The program further aims to enhance personal and professional skills, such as analytical thinking, work ethic, planning competence, proactiveness, and self-awareness. This practice contributes to a well-rounded educational experience with practical applications aligned with sustainability goals and UEM principles.

LESSONS LEARNED/NEXT STEPS

Student motivation can be cultivated through dynamic teaching methods, emphasizing international exposure that broadens perspectives. We also learnt that student-centric learning, and collaborative initiatives further enrich the educational environment, promoting holistic development. We plan to tailor education to individual needs and investigate methods to improve inclusivity in the delivery of the course.

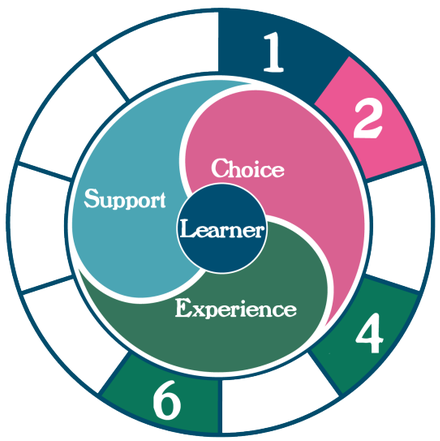




Prof Assess Project Team

The Prof Assess Project Team funded by the QQI consists of Jen Harvey: Assistant Head of Academic Affairs - Learning Teaching and Assessment, Derek Dodd: Academic Developer and Nicole O'Neill: Education Innovation Manager.
We were supported by a Research Assistant: Rachel Harding and worked closely with Catherine Deegan: Control Engineering Discipline Lead: Emma Geoghegan, Architecture Discipline Lead and Declan Hovenden, Optometry Discipline Lead and Deirdre McGowan, Head of Law

Submitted by Nicole O'Neill



INITIATIVE: PROF ASSESS

Working together with 3 TU Dublin programme teams (BSc in Optometry, Bachelor of Architecture and BEngTech in Electrical and Control Engineering and in consultation with 4 Professional and Regulatory Bodies: Engineers Ireland, CORU, Kings Inn and RIAI the Prof Assess Project aims to develop a new TU Dublin Authentic Assessment definition, a supporting framework and a toolkit to encourage staff to build authenticity into programme assessment strategies. **[Fundamental 7]**
The research team focused on a process of appreciative inquiry to work with the programme teams, who were chosen as they all have a strong professional focus and an emphasis on continuous assessment. The work of the project team was also supported by the TU Dublin Authentic Assessment Community of Practice and has been expanded to include the Bachelor of Law (LLB).

The resultant TU Dublin Authentic Assessment definition:
'Meaningful challenging assessments designed to develop the attributes, capabilities and professional skills that prepare our students to become effective life-wide learners and responsible global citizens'
was developed in consultation with project stakeholders and subsequently approved through Academic Council. This definition was designed to guide programme teams in the development of strategies that focus on activities that engage students in cognitively challenging tasks to support the achievement of both discipline specific learning outcomes and associated graduate attributes.

The framework advocates for the development of a continuum of authenticity across a programme so that elements of authenticity are introduced from the early stages and developed incrementally throughout. The framework also places an emphasis on mirroring real-world tasks using realistic contexts and strategies that encourage the development of self-efficacy by allowing students choice within assessment tasks or processes and the development of student autonomy through critical reflection informed by self and peer evaluative feedback.
The implementation of this definition embodies the UEM Principles as it is encourages student-centred assessment that requires students to be highly engaged, globally responsible and focusses on skills and capabilities that are needed for life-wide personal and professional development.

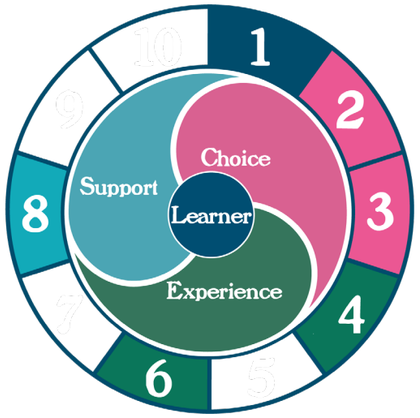
LESSONS LEARNED/NEXT STEPS

Emphasising an appreciative inquiry approach was useful for recognising and valuing the high quality practices currently being utilised and building on the strong tradition of practical career focused education.
Participating in the project empowered programme team members to recognise the multiple elements of their assessments that have the potential to support the development of professional competencies and with the vocabulary to articulate this.

Working in partnership with PRSBs has helped develop a shared language to describe the capabilities, skills and attributes required in professional external contexts that can be achieved through assessment.
The implementation of small changes to parts of assessment can make a difference to enhancing student engagement and skills development.
The toolkit when finalised will be rolled out to support all programme teams in preparation for reviews.

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Sustainability Education Team

The Sustainability Education team offers strategic guidance and assistance in integrating sustainability into the curriculum and overall culture of the University.
Our efforts are closely aligned with policy (SDG4 & ESD to 2030), the university's strategic objectives of the Planet pillar, **Fundamental 7** of the UEM and the Planet: sustainability-focused, global citizens' graduate attribute.
We achieve this by empowering faculty and staff through capacity-building opportunities, workshops, and other forms of support to ensure that sustainability is at the heart of student experiences across all academic programmes.

Sustainability Education Team: Dr. Brian Gormley, Dr. Lucia Walsh, Dr. Aimee Byrne, Dr. Ken Boyle and Dr. Olivia Freeman

Submitted by Dr. Lucia Walsh

INITIATIVE: EMBEDDING SUSTAINABILITY IN TU DUBLIN

We support colleagues from across the University through these initiatives:

- **Sustainability Education Toolkit:** – we curate and regularly update an online collection of resources related to sustainability and case studies.
- **Workshops with Discipline and programme teams:** we have been working with discipline and programme teams to support them with embedding sustainability into their programmes with a particular focus on Year 1 of programmes ahead of the new academic year. Workshop objectives include (1) developing a shared understanding around the need to embed sustainability into our practices; (2) Signposting of resources around the SDG framework; (3) engagement with SDG mapping tools; (4) promoting ideation around module amendments in the context of ESD frameworks such as GreenComp
- **Formal learning opportunities:** we offer short programmes that focus on enhancing levels of sustainability knowledge and overall literacy (knowledge , skills, mindsets): 'Educating for Sustainability' Level 9 CPD and 'Education for Sustainability' digital badge that is supported by the National Forum.

Promotion of other workshops and tools that focus on embedding sustainability into our practice:

Sulitest – we have been supporting colleagues with implementing this sustainability literacy awareness test into their teaching & learning. It focuses on self-assessment of sustainability awareness and can be used on its own or linked to reflection and authentic assessment.

Climate Fresk – a very engaging workshop using a game-based approach to learn about basics of climate change science and come up with actions to contribute to solving challenges. So far, we've had 200 participants and 18 colleagues are now facilitators.

Other engaging workshops – we have been delivering other workshops that use creative approaches to learning such as 'Stepping into the Doughnut' (linked to Doughnut Economics), using Lego to think through our sustainability competences (linked to GreenComp) and climate change escape rooms (thanks Sarah Rawe!).

Student orientation – in September 2023, we delivered a sustainability session to over 5,400 incoming students and over 300 of them also completed a sustainability and climate action challenge.

LESSONS LEARNED/NEXT STEPS

The level of engagement and enthusiasm about embedding sustainability into practice has been encouraging and we will continue to build on the supports that we provide.
Each Sustainability Education Team member works closely with one of the Faculties: Dr. Brian Gormley (Faculty of Computing, Digital & Data); Dr. Lucia Walsh (Faculty of Business); Dr. Aimee Byrne (Faculty of Science & Health), Dr. Ken Boyle (Faculty of Engineering & Built Environment) and Dr. Olivia Freeman (Faculty of Arts & Humanities). Please contact us to explore how we can support you.

Please also consider joining one of the communities of practice – 'SDG Literacy' (which supports colleagues with seminars, practice-sharing and other collaboration opportunities) or 'Research Living Lab for Transformative Pedagogies & Proactive Learning to Support Sustainable Development.'

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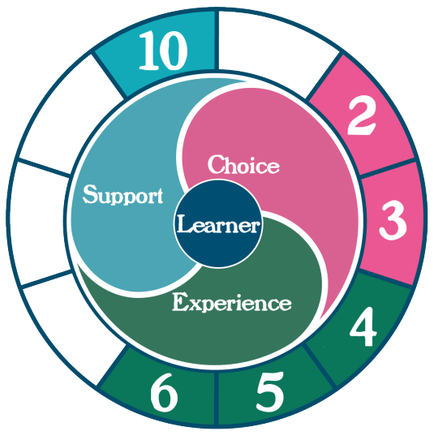
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Professional Diploma in Transversal Skill

Innovative Learnin





Transversal Skills Project

Dr. Norah Cussen
Head of Executive Education
Graduate Business School

Dr. Deirdre Ryan
Lecturer
School of Tourism and Hospitality Management

Dr. Dominic DIllane
Head of School of Tourism and Hospitality Management

Submitted by Dr. Norah Cussen

INITIATIVE: Transversal Skills Project

UCD and TU Dublin's Joint Professional Diploma in Transversal Skills provided participants with the cross-sectoral skills to thrive in today's workplace, co-delivered by the two largest universities in Ireland. Transversal skills consistently top future skills analysis globally and their importance, at all levels in the workplace, has been accelerated by the double disruption of the pandemic and fourth industrial revolution. Both institutions came together in early 2020 at the height of lockdown to design an offering in response to huge demand from those displaced and out-of-work due to the pandemic. This collaboration was a direct result of the two institutions' collaboration on Convene, a larger Human Capital Initiative. The programme was successfully funding by July Stimulus and Sprinboard+

The World Economic Forum had called for a re-skilling revolution, and this has now intensified. Individuals and organisations need to adapt and re-skill to succeed, and transversal skills are central to this. They include innovation, creativity, entrepreneurial agility, analytical skills, business acumen, teamwork, and communication skills. They translate across professions, industries, and organisations. Graduates with these skills are in high demand from employers across sectors and industries around the world.

Transversal Skills Project Aligns to **Guiding Principles** 2,3,4,5,6,10
This programme was funded by government and created access for those returning to education or impacted by Covid 19. This programme was design and delivered in partnership with TU Dublin and UCD with TU Dublin staff delivering half of the programme and UCD delivering the other module. Students were regisitered with both Universities and had access to services from both. They also benefitted from the cultural and diverse teaching approaches in both Universities.

LESSONS LEARNED/NEXT STEPS

This project was based on the National Skills Strategy and UNESCO categorisation of transversal skills and leveraging each institutions' respective expertise, modules are selected and designed to meet the needs of an advanced cohort. To ensure that the course met the up-to-date needs of employers, modules were co-designed and informed by collaborators from across industries and sectors.

The programme launched in September 2020 and received more than ten expressions of interest for every one place available (1105 people registered for 100 places). To date, 215 learners have participated in the programme (83 students completed the full 6-module 30 ECTS programme while 74 students completed 1 module and 58 completed 2 modules)

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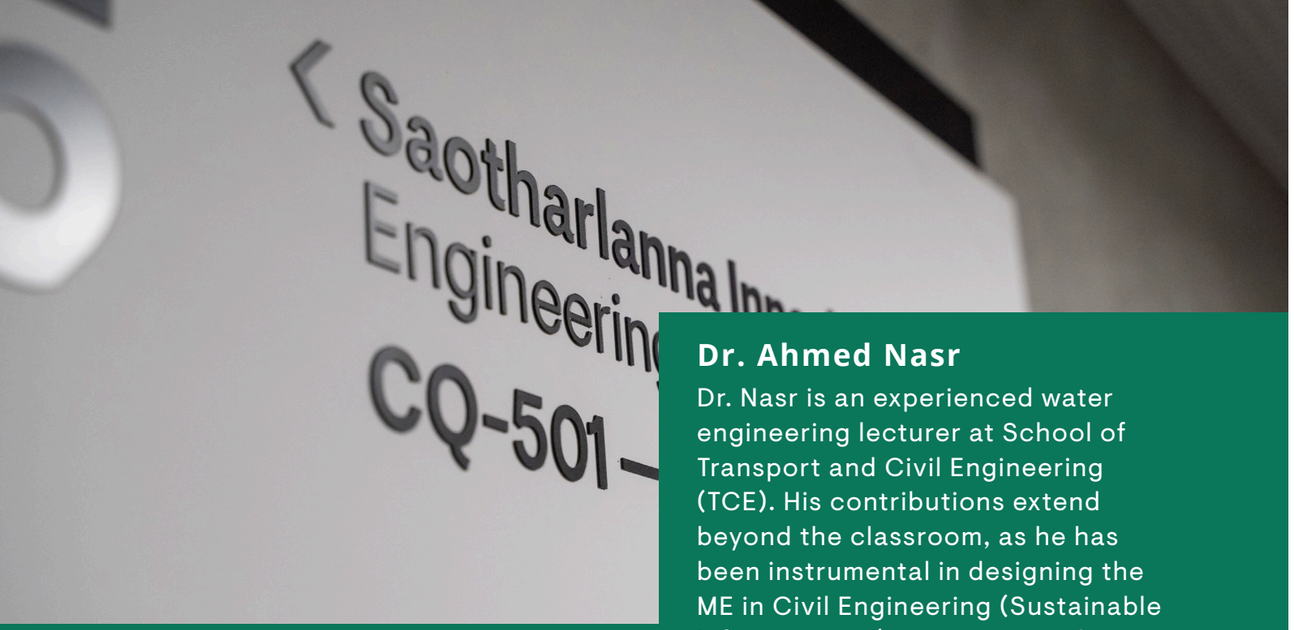
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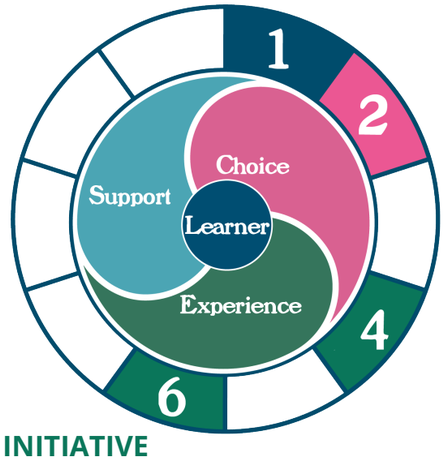
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Dr. Ahmed Nasr

Dr. Nasr is an experienced water engineering lecturer at School of Transport and Civil Engineering (TCE). His contributions extend beyond the classroom, as he has been instrumental in designing the ME in Civil Engineering (Sustainable Infrastructure) programme, where he currently holds the position of chairperson. Dr. Nasr's innovative teaching initiatives have earned him recognition, including selection as a Teaching Champion in 2021 alongside a team of TCE lecturers.
In research, Dr. Nasr has led numerous projects spanning various hydrological applications. His track record extends to securing external research funding and providing mentorship to students at both master's and PhD levels.



INITIATIVE

The TU Dublin **University Education Model** (UEM) has placed a high priority on enhancing the student experience in sustainability education, considering it a pivotal aspect of its core objectives. This commitment provides a prime opportunity to reassess existing modules pertaining to sustainability. One notable example includes the water and environmental engineering modules offered by the School of Transport and Civil Engineering. These modules cover both the theoretical foundations and practical applications essential for designing sustainable infrastructures on a large scale. A critical challenge in delivering these modules lies in effectively assessing students' understanding of sustainability principles and their proficiency in devising innovative solutions aligned with the UN Sustainable Development Goals (SDGs). To address this challenge, a meticulously devised strategy for sustainability assessment has been implemented. Central to this strategy is the utilisation of a range of innovative assessment tools tailored to measure students' proficiency in seamlessly incorporating sustainability considerations into their design methodologies. An illustrative instance of such initiatives is the implementation of a new assessment technique within the Civil Engineering Scheme Design module, a key component of the final year curriculum. In this project, students were tasked with conceptualising a low-tech, sustainable Eco-Sanitary system tailored for the village of Kameswaram (India). Collaborating with the Friend In Need India Trust (FIN) as a community stakeholder, students were provided with a real-world context for their design problem.
At the outset of the project, students completed a brief survey to gauge their familiarity with the UN SDGs and their pertinence to the assigned task. Throughout the project lifecycle, students' progress in incorporating sustainability considerations into their designs was continuously monitored. Upon project completion, students were directed to employ the SDG Assessment Tool developed by the Gothenburg Centre for Sustainable Development to qualitatively evaluate the project's impact vis-à-vis the SDGs. Through this tool, students were empowered to assign scores indicative of the project's contribution to each of the 17 SDGs, thereby gaining insights into its broader societal implications.



LESSONS LEARNED/NEXT STEPS

Utilising the SDG Assessment Tool enabled a comprehensive approach to assessing students' understanding of sustainability by aligning project outcomes with relevant UN SDGs. The tool is user-friendly and generates a single report summarising students' reflections on their work and its connection to the SDGs. This report serves as a comprehensive document for assessment and forms the basis for providing feedback to students. The experience with the SDG Assessment Tool has proven successful in its implementation, significantly reducing the time required to develop a self-assessment template for students to evaluate their knowledge of sustainability and the UN SDGs. Exploring the utilisation of the tool in additional modules will be considered.

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Published: 23 Feb, 2024

James Doody: Sustainability Themed Projects



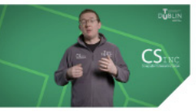
Published: 23 Feb, 2024

Jelena Vasic: Embedding Sustainability in computing subjects



Published: 23 Feb, 2024

Damian Gordon: Accessibilator: A tool to create dyslexia-friendly Word documents



Published: 23 Feb, 2024

Keith Quille: The CSinc Research Group



Published: 23 Feb, 2024

Rajesh Jaiswal: Human-Centred AI Masters Programme



Published: 23 Feb, 2024

Jacqui Curley: Clinical Coding Programme



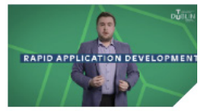
Published: 23 Feb, 2024

Keith Quille: Human Centric AI for Education



Published: 23 Feb, 2024

Karen Nolan: Secondary School Summer Camps



Published: 23 Feb, 2024

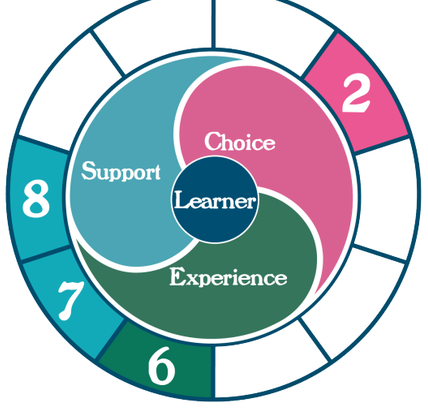
Keith Nolan: Low Code, Rapid Application Development

Tech-Ed for Good

The Faculty of Computing, Digital and Data is committed to helping drive the global effort towards the achievement of the Sustainable Development Goals. The Faculty has put in place a Sustainability in the Curriculum Group as a sub-group of its Academic Quality Enhancement Committee. The members of that group authored this case study. Through the group, and supported by TU Dublin Sustainability, the Faculty has put in place a number of initiatives to assist in embedding sustainability and the Sustainable Development Goals (SDGs) in the culture, practices and curricula of the Faculty. One of those initiatives is Tech-Ed for Good.

Ciarán O'Leary, Marie Brennan, Róisín Faherty, Damian Gordon, Brian Gormley, Geraldine Gray, Mary Hendrick, Gráinne Hurley, Rajesh Jaiswal, Brian Keegan, Helen Sheridan, Stephen Sheridan, Carl Sullivan, Jelena Vasic

Submitted by Dr. Ciarán O'Leary



INITIATIVE: TECH-ED FOR GOOD

As part of the implementation of the University's Sustainability Education Framework, all Faculties have been asked to identify key areas for Sustainability impact, identify key existing resources (people, partnerships, projects, other exemplars) to deliver Sustainability impact at Faculty level, and ensure sustainability learning outcomes are be embedded all programmes. The University Executive Team has required that through the implementation of the **University Education Model**, Learning outcomes related to sustainability are transparent. The Sustainability in the Curriculum Group established in the Faculty of Computing, Digital and Data recognised the need for activity that is currently taking place within the Faculty, and that is related to any of the seventeen Sustainable Development Goals (SDGs), to be showcased and shared across the Faculty. This would represent the starting point for the Faculty's work towards enhancing the visibility and presence of sustainability in its culture, practices and curricula. To achieve this objective, and using funding made available to the Faculty through the Strategic Alignment of Teaching and Learning Enhancement (SATLE) Fund, the Faculty implemented the Tech-Ed for Good project.

Tech-Ed for Good is a series of videos created by lecturers throughout the Faculty of Computing, Digital and Data in Technological University Dublin that showcases how the work undertaken in the Faculty has a positive influence on society, the environment, our communities, and that helps to shape the positive use of digital technology. Much of the work showcased in Tech-Ed for Good aligns with the Sustainable Development Goals, including:

SDG 3: Good Health and Well-Being
SDG 4: Quality Education
SDG 5: Gender Equality
SDG 10: Reduced Inequalities

By sharing information about work in the Faculty through Tech-Ed for Good, it is hoped to further build partnerships among staff in the Faculty and partnerships between the Faculty and others. Staff, students, partners of TU Dublin, and people throughout society are invited to review the videos which are shared on a dedicated website (https://www.tudublin.ie/tech-ed-for-good) and on social media (https://www.linkedin.com/company/cdd-tudublin/).

LESSONS LEARNED/NEXT STEPS

The next step in the implementation of Tech-Ed for Good is to use the video resources as a platform for discussion across the Faculty on how to further embed sustainability in the culture, practices and curricula in the Faculty. This will include the identification of programme learning outcomes, stage learning outcomes and module learning outcomes related to the activities showcased, and future activities, such that curriculum designers and lecturers can be assisted in showing how their curricula reflect the University's objective of enhancing students' knowledge of sustainability and the Sustainable Development Goals.

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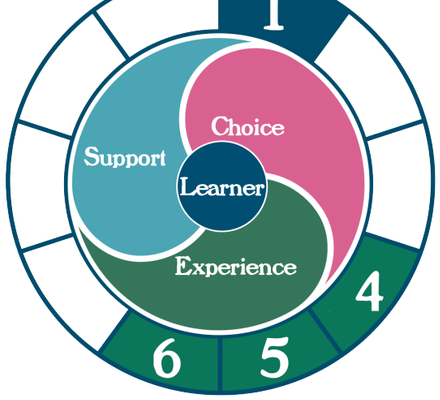
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Margaret O Donoghue

I lecture in early childhood education and care. I deliver modules across the four-year programme. I have an interest in developing assessments that facilitate the development of education for sustainable development competencies in teacher education, where students have opportunities to acquire the knowledge, skills, values and dispositions needed to promote sustainable development (UNESCO, 2017). Students experience sustainable development in action through collaborations and engagement between themselves and the local community. As an early years educator, I have a unique opportunity to support students to embed attitudes and values that can enable and empower children to be agentic in how they approach sustainability.



INITIATIVE

The module I used to align with the **University Education Model** is Creative Group Facilitation. This module sits in year 3 of the early childhood education and care programme. I focused on Fundamental 7, where learners develop a deep, practical, understanding of sustainability, both within their discipline and for life, that encourages positive sustainability change. Looking across the module learning outcomes I identified where I could include and make transparent links to sustainability to be included in the 100% continuous assessment. There were three key stages to doing this. The first stage links to the UEM component of 'experience', engaging with two community-based artists Bronwen Barrett and Michelle Henry from the Freshly Ground Theatre Company. Together we developed a project for the students that could address the module learning outcomes through a sustainability lens. I also met with a local primary school to ask if our students could visit the school to carry out their project one morning a week for three weeks for approximately one hour. The second stage involved the students taking part in a three-hour workshop on campus. During the workshop, they delved into the concept behind a project entitled Feathered Friends. Students were taken through the project timeline and pacing. Michelle and Bronwen discussed the methodologies behind each activity and how to build a story with the children's voices at the heart of it. The artists shared examples of creative activities and introduced the students to pathways for designing and developing their projects. The third stage required the students to work in groups to develop their projects. Each visit to the school built on the work they had done with the children the previous week. The students were encouraged to adapt their plans depending on how the children engaged and what their interests were. On completion of the three weeks the students will come together as a group and share their experiences. Sustainability is at the core of this project. The projects used mainly recycled/eco-friendly materials. Using the UEM lens the students are supported to develop capacities to foster societal transformation for a sustainable future, with ESD integrated into this module without having to change the learning outcomes.

LESSONS LEARNED/NEXT STEPS

The need to support students to develop capacities to foster societal transformation for a sustainable future. We need to have education for sustainable development integrated into our ECEC programme. As early years educators our students need to empower and mobilise young people to be agents of change for sustainable development. To do this we need to embed experiential opportunities for them to engage in a pedagogy of sustainability at all years of the programme. Last December we received some SATLE funding to look at our programme to identify where we could embed SDE and this will inform our next programme review/validation.

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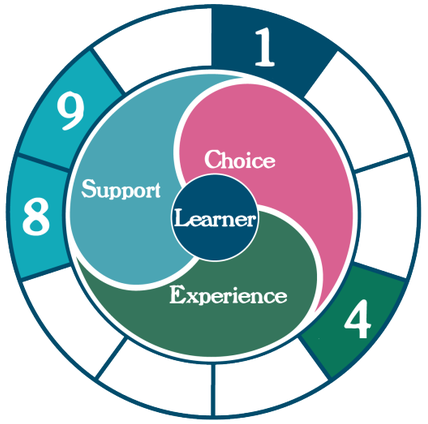
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Cover the core syllabus to get to the message from this lesson.

S	E	N	E	R	G	Y	N	P	D
U	C	L	I	M	A	T	E	I	E
S	J	U	S	T	I	C	E	H	V
T	C	L	E	A	N	T	T	S	E
A	A	P	K	E	■	H	N	R	L
I	S	W	E	A	C	T	E	E	O
N	L	A	T	A	I	L	V	N	P
A	A	T	O	N	C	A	E	T	M



Sustainability Subgroup Chemistry Education Research Team (CERT)

This resource was developed by a subgroup of TU Dublin's Chemistry Education Research Team (CERT). This subgroup focuses on developing resources for embedding sustainability into our programmes and greening laboratory practices. The Chemistry Education Research Team at TU Dublin aims to incorporate the best practices from education research into day-to-day teaching of chemistry and evaluate their impact.

Submitted by Dr. Sarah L. Rawe, Dr. Eoin J. McGillicuddy, Dr. Sean D. McDermott, Dr. Mehael Fennelly, Dr. Patrice Behan

INITIATIVE

This initiative employs an interactive puzzle-based escape room, as an innovative and cross-curricular approach to introducing the UN's Sustainable Development Goals at 3rd level. **[Fundamental 7]** Educational games encourage active and collaborative learning while both engaging and challenging learners.
Here we introduced sustainability literacy into three of our first- and second-year undergraduate chemistry programmes in the form of a puzzle-based "escape room" game. Available as a printable escape room it was developed for use in any face-to-face classroom suitable for most physical teaching spaces, but it can also be adapted for the virtual classroom. The escape room consists of a narrative, or storyline that leads the players (i.e., students working in small teams) as they progress through 4 levels of puzzles. The puzzles are themed so that players can begin to appreciate the broad ambitions and scope of the SDG framework in addressing social, environmental, and economic impacts. Each puzzle has different game mechanics, and includes a wordsearch, crossword, pictograms, maze, re-ordering activity and multiple-choice questions. These require learners to work together while adopting a range of problem-solving strategies.
Educators reported the activity to be an effective and engaging pedagogical approach while students reported that it was fun and enjoyable and that it increased their awareness of the SDGs and sustainability. It engaged students in sustainability, while encouraging active citizenship. The escape room and supporting resources are freely available, along with a guide for educators explaining how to implement and run the session.

While the escape room can be adapted for other subject areas including chemistry-themed first year tutorials, **Fundamental 7** (Learning outcomes related to sustainability are transparent) provided the incentive to modify the original sustainability escape room so that it could be adopted more widely in the university. The adapted escape room was used across TU Dublin as a Sustainability and Climate Action challenge during the September 2023 orientation https://www.tudublin.ie/explore/about-the-university/sustainability/sustainability-education/orientation/

LESSONS LEARNED/NEXT STEPS

The escape room can be used as a standalone activity or alongside activities such as the Sulitest https://www.sulitest.org/ It is likely to provide deeper, more effective learning when followed by guided discussions and opportunities to reflect on the information within each level. There were very positive responses from student participants and from the staff involved, who acted as gamemasters. Staff reported that escape room activities encouraged teamwork increased engagement and participation in these classes. A majority (95 %) of student participants surveyed directly after completing the escape room believed they gained increased awareness of the SDGs and found the activity fun and enjoyable. The flexibility of the escape room was demonstrated when it was also used with staff members as learners as part of their CPD on sustainability and an adapted version was used with incoming students as part of their university induction and orientation.

Rawe, Sarah L.; McGillicuddy, Eoin J.; McDermott, Sean D.; Fennelly, Mehael; and Behan, Patrice (2024) "Fostering Student Engagement with the United Nations Sustainable Development Goals using an Escape Room," Irish Journal of Academic Practice: Vol. 11: Iss. 2, Article 9. Available at: https://arrow.tudublin.ie/ijap/vol11/iss2/9

Chemistry Education Research Team. (2023). Escape Room Activity to Introduce Sustainability Literacy – resource & guidelines. Retrieved from: https://chemedresearchteam.wordpress.com/2023/10/30/escape-room-activity-to-introduce-sustainability-literacy-resource-guidelines/

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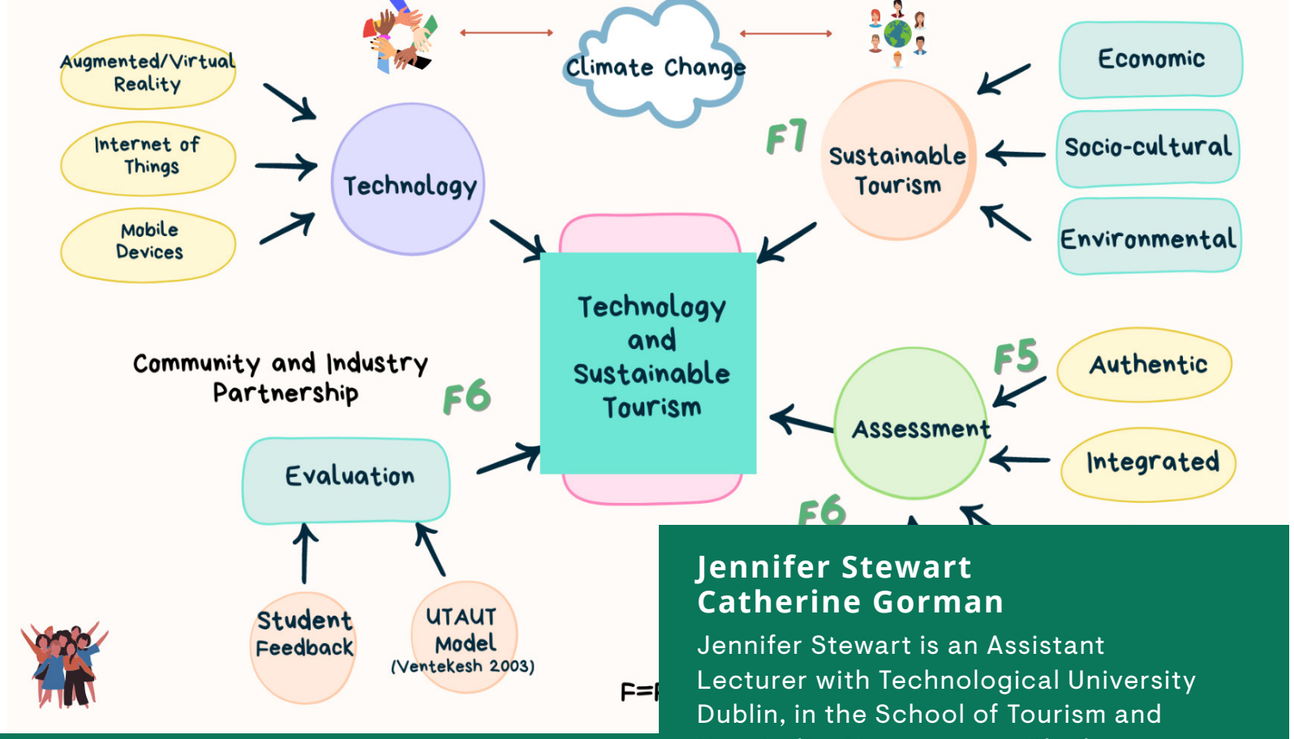
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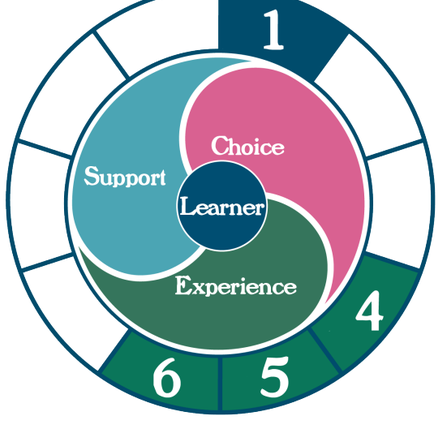
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Jennifer Stewart
Catherine Gorman

Jennifer Stewart is an Assistant Lecturer with Technological University Dublin, in the School of Tourism and Hospitality Management. She lectures in tourism and marketing, and teaches modules on sustainable tourism futures, tourism policy planning and regulation, tourism and technology, destination marketing, and marketing strategy. Academic outputs and research interests relate to film, technology and sustainable tourism. Catherine Gorman delivers a number of modules underpinned by sustainability and supervises students from undergraduate to PhD. Academic outputs and research interests relate to sustainability and ecotourism, cultural heritage, pedagogies that focus on experiential teaching and learning, and Community Based Learning (CBR).

INITIATIVE: USING TECHNOLOGY AS A TOOL TO EMBED SUSTAINABILITY INTO THE TOURISM CURRICULUM

The modules Sustainable and Regenerative Tourism, and Tourism and Technology foster and embed sustainable literacy by employing integrated authentic assessment. The key objective is to graduate students who contribute to action SDG 8.9 'devise and implement policies to promote sustainable tourism which creates jobs, promotes local culture and products'. Multi-modal delivery and assessment includes experiential (field trip), creative (video), written (exam/assessment) and oral (presentation) methods. This allows learning across the spectrum of learning preferences as highlighted by **Fundamental 2** of the UEM. Delivery and assessment of these modules focuses on the **Learner Experience** which underpins **Fundamentals 5, 6 and 7**, and are the main drivers of this teaching case study. The authentic assignment requires learning and understanding of technological tools such as Fectar (hologram), Unity, Google Earth, Screencast-O-Matic and Matterport 3D (virtual tour). These tools are used to develop the content around sustainability and regeneration within the tourism sector for a site or sites. Sites to date have included the Burren, Co. Clare, Just Transition Peatland project (Midlands of Ireland) and the Phoenix Park, Dublin. The integrated assessment between technology and sustainable tourism requires an interdisciplinary slant thus addressing the TU Dublin Strategic Goals: People, Planet and Partnership. The recognised social bond of working as a group in an out-of-classroom learning experience creates a class dynamic which contributes to holistic intelligence. As the assessment is undertaken in pairs or groups, partnerships form within the classroom as well as externally as students engage with communities and industry professionals. This enables connectivity to realism and learning on the ground. Linked to **Fundamental 7**, the module revolves around the needs of the Planet, considering the ecocentric, technocentric and anthropocentric stances. Engaging with industry and communities uses on-the-ground evidence, challenging the students to develop sustainable and regenerative knowledge using technology. The module is supported by tools such as Sulitest, and evaluation of module delivery including use of the UTAUT model helps to build depth while keeping currency.

LESSONS LEARNED/NEXT STEPS

The framework and fundamentals of the UEM align with the principles and values of the project. The UEM encourages creativity, building on, and adding value to the modules year-on-year. The project focuses on student learning using student-centric approach thus providing autonomy and self-learning. By working on an integrated authentic assessment using multi-modalities, the student simultaneously develops holistic intelligence, a global perspective of the world and deepening their own learning experience. The initiative helps the students to think in a connected manner. The future use of tools such as Climate Fresk will help to enhance the teaching and learning experience for students and staff

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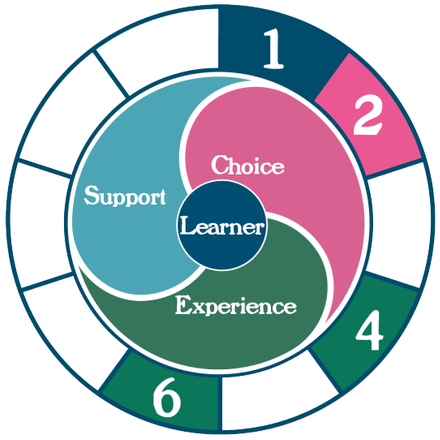


TU881 Food Innovation Programme

The submission is being made on behalf of the programme team for TU881 Food Innovation and in collaboration with Dr Cormac MacMahon Head of Finance, School of Accounting, Economics, Finance.

Over the past two years the project has sought to embed sustainability within the Food Innovation programme. This has been achieved through a number of mechanisms including (i) the co-creation of a professional development programme to build capacity for integrating sustainability (ii) module updates to reflect latest sustainability knowledge and (iii) service-learning as a pedagogy for developing sustainability competencies for a food degree.

Submitted by Dr. Graham O'Neill



INITIATIVE: TU881 Food Innovation Programme

The current work was inspired by **Fundamental 7**, "*Learning outcomes related to sustainability are transparent*". The overarching ambition was to embed sustainability within the programme in a way that was applied to the subject area, food. The approach has been to explore embedding sustainability in each module where appropriate, culminating in a new programme learning outcome.

There are two areas where the UEM lens has contributed particular value (i) the framework of establishing, consolidating and leading has helped to guide the programme teams journey. The second area has been the suggested classification of modules into "sustainability-focused, sustainability-inclusive, neither." This approach is quite clear and simple and therefore it has been easy for staff to classify their modules and use this as a guide to determine if sustainability could be embedded further.

Regarding the current project, the production and consumption of food draws on natural and human resources and are de facto drivers of land-use. The UN SDG's has spurred growing awareness of food system fragility, reflected in dietary orientation, waste streams and food security. Education is a key lever in transformation for food system resilience. Yet, food sustainability competencies and their signature pedagogies are in their infancy. The current project has sought to address this specifically for food related programmes. Foundations for transformation emerged in 2020 when the School co-created, with its students, a professional development programme to build capacity for integrating sustainability in its education portfolio, with significant input from external stakeholders. Initial benchmarking was undertaken using a TU Dublin tool that mapped modules to the SDGs and measured sustainability embeddedness using AASHE-STARS. A thematic analysis of staff interviews and student focus groups revealed 70 food sustainability competencies over 9 categories. The programme has developed opportunities for students to develop these sustainability competencies through service learning by collaborating with (i) Priory Social Enterprise Brewery to transform spent grain into food products (ii) Dublin Zoo, testing the nutritional quality of animal feed.

LESSONS LEARNED/NEXT STEPS

1. It takes a team. To truly embed sustainability within the programme you need the participation of the full programme team. The team will likely have varying degrees of knowledge of sustainability, a professional development programme for staff gave the project a strong foundation.
2. We don't have all the answers. It is vitally important to gather advice, experience and input from external stakeholders. Those stakeholders should be diverse representing public bodies, enterprise, social enterprises.
3. Next steps will be to keep open dialogue with our graduates to know what we are doing well and what we can do better.

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Prof. David Kennedy

Prof. David Kennedy is Head of Mechanical Engineering at TU Dublin Bolton Street.



INITIATIVE: INTEGRATED MASTER (M.E.) IN MECHANICAL ENGINEERING

Mechanical Engineering is launching a new 5-year integrated Masters programme for September 2024 to prepare our full time students for a Level 9 qualification and meet the academic requirements for Chartered Engineer. This Mechanical Engineering programme is a progression route to higher awards for engineering graduates wishing to undertake further studies on either a part-time or fulltime basis and is built on the successful Level 8 programme delivered by the Mechanical Engineering staff at TU Dublin Bolton Street over the past 70 years, with worldwide recognition.

The programme is focused on meeting the needs of Industry through Energy Innovation and Design, encompassing sustainable and renewable energy. Modules such as Computational Fluid Dynamics, Process Engineering, and Renewable/Sustainable Energy focus directly on this. These activities are supported by Manufacturing & Design Methodology, Finite Element Analysis, Biomechanics, Robotics/ Machine Vision and Engineering Materials. The project, supported by Research Methods, Statistics, Innovation and Knowledge Management contribute to the independent learning of these topics.

A major work placement module in year 4 of the 5-year programme will successfully prepare graduates for full time employment, research on projects and develop ethical and sustainability knowledge and skills for future careers.

The framework and delivery methods for the Masters programme will produce graduates that can engage across all aspects of societal demands as Chartered Engineers. This learning will be reinforced by the support of a dedicated Industrial Panel of Engineering and Business experts in the workplace.

The ME framework combines the core elements in the **University Education Model**:

Learner Experience: This will build on our knowledge of delivering Masters Degrees and will encompass workplace learning, research and project-based learning as part of the learner's journey.

Learner Choice: This Integrated Masters will facilitate progression for our Level 8 Honours Degree students with entry pathways for Level 6 and 7 students also.

Embedding Research: The integrated masters will ensure that research is embedded at all stages of the programme from undergraduate to post-graduate awards.

Programme outcomes will epitomize the core university strategic plan covering People, Planet and Partnership:

a. Ensure students can achieve a high standard of education and reach their potential.
b. Exposure to Sustainability Challenges and broad experience of multi-disciplinary collaborations to solve and implement challenges.
c. Collaboration with Industry through Research and Work placement provision

The Masters will allow our students to achieve the highest level of Engineering Education in Mechanical Engineering, appropriate for University standards and alignment with national and international Universities.

Students can graduate with exit awards at appropriate stages and the ladder of opportunity for students in a dynamic and rapidly changing global economy is a key feature for participants.

LESSONS LEARNED/NEXT STEPS

Having provided an evening Masters in Mechanical Engineering since 2008, the Discipline has gained years of experience preparing for an equivalent full-time provision to our undergraduate Level 8 students, thus aligning our offerings with other Universities in Ireland.

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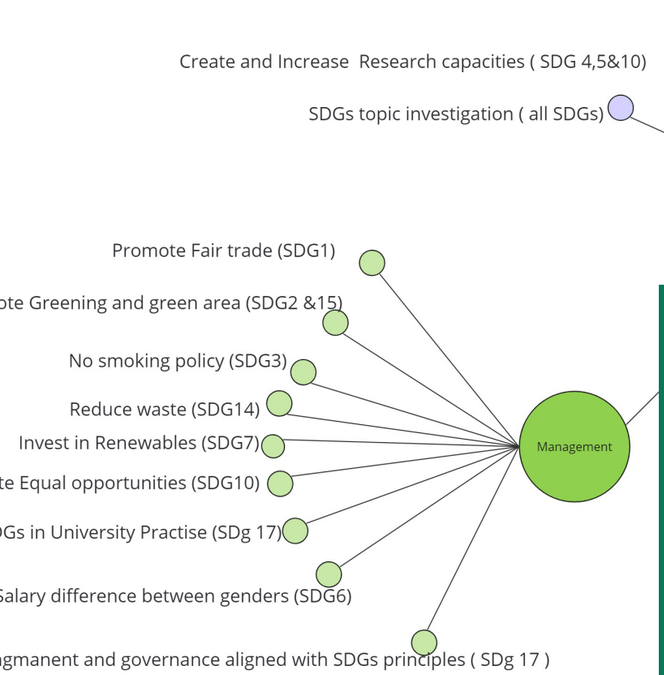


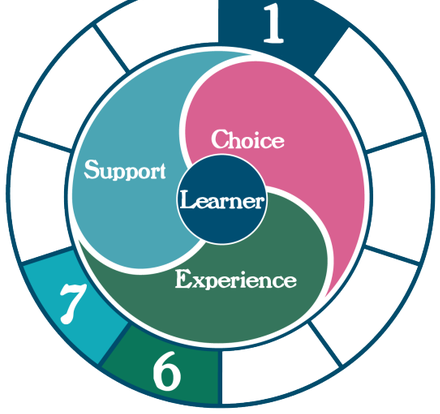
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ELaRA-TESST: The European Laboratory for Pedagogical Action - Research and Student-Centred Learning (ELaRA)

Technological Education for Smart Development, Sustainability and Transdisciplinarity is a research Living Lab defined by its Student-Centre Approach. Students are integrated as proactive members by working closely with academics on the development of alternative pedagogies that transform education inspired by EDI (Equity, Diversity and Inclusivity) Principles. The team is developing A New Educational Model (ANEM) that offers insight to support an educational paradigm shift inspired by a circular knowledge Process defined by collaboration, co-creation, codesign, innovation and critical thinking. **Abrar Alzankawi, Ozéias da Roch, Intesar Madi, Anna Zherdeva, Daniel Kamphambale, Lia Pop, Murat Gulmez, Ivaylo Peev and Lucía Morales.**

INITIATIVE: ELaRA-TESST

The essential role of **Guiding Principle 6** of Technological University Dublin's (TU Dublin) Educational Model in fostering sustainable development research and pedagogy is considered part of doctoral students' work at the Department of Economics. **Guiding Principle 6** highlights the need to provide learning environments where students can engage with a learning experience that aligns with the goal of empowering future generations with the knowledge, skills, and perspectives necessary to drive positive change. Integrating **Guiding Principle 6** into the educational research methodology and pedagogical approach aims to promote a learning environment that fosters academic excellence while instilling purpose and action among students. The principle connects to the work done by students within the ELaRA-TESST Lab that fosters learners integration and an active collaboration on research activities that enable the development of A New Educational Model (ANEM). Collaborative projects, experiential learning opportunities, and community engagement initiatives are explored to inspire and equip students to become proactive change makers pursuing the sustainable development goals.

Moreover, global universities support and create adequate learning and working environments that foster sustainable development through research, education, and management practices. Education emerges as a dynamic force for change, empowering students with the information, motivation, and skills necessary for tangible action towards SDGs implementation.

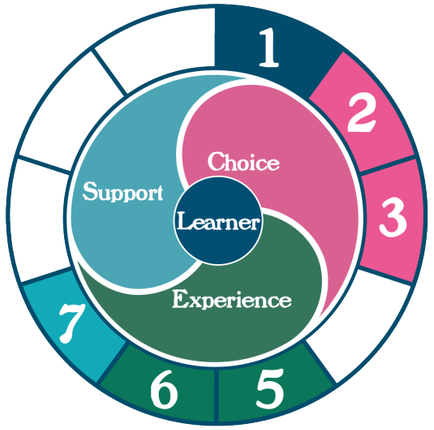
Furthermore, universities can nurture future leaders and support national education policies by guiding students and providing job support aligned with the SDGs. Effective management practices within universities are vital for realising sustainable development objectives. Embedding SDG principles within governance structures and operational frameworks promotes initiatives such as fair trade, renewable energy investment, and waste reduction, fostering an environment conducive to sustainable growth. Universities can propel societal progress towards sustainability by amplifying research efforts, particularly in supporting technological advancements (SDG 9) and investigating topics relevant to all SDGs. In tandem, education emerges as a dynamic force for change, empowering students with the requisite information, motivation, and skills to effect tangible action towards SDGs implementation.

LESSONS LEARNED/NEXT STEPS

By guiding students and providing them with SDGs-related job skills it would be possible to support active engagement towards sustainability. Universities such as TU Dublin can nurture future leaders, reinforce national education policies (SDG4), and cultivate a culture of volunteering aligned with the SDGs. Moreover, effective management practices within universities are indispensable for realising sustainable development objectives. By embedding SDG principles within governance structures and operational frameworks, institutions can champion initiatives such as promoting fair trade (SDG1), investing in renewables (SDG7), and reducing waste (SDG14), thereby fostering an environment conducive to sustainable growth.







Sustainable Innovator for Enterprise Project

Dr. Norah Cussen
Head of Executive Education
Graduate Business School

Dr. Deirdre Ryan
Lecturer
School of Tourism and Hospitality Management

Dr. Kevin Delaney
Lecturer
School of Mechanical Engineering

Dr. Dominic DIllane
Head of School of Tourism and Hospitality Management

Submitted by Dr. Norah Cussen

INITIATIVE: Sustainable Innovator for Enterprise Project

The work placement programme was structured to mimic a traditional work placement which would meet the requirements of our existing programmes. This programme was available to students across the university and also to international students from Hainan University who are registered on TU Dublin programmes. Student interaction with the programme can be viewed as part of four key phases.

The SIE design focused on immersive experiences whereby Indeed hosted an online hiring event over two days. Students were invited by Indeed for an online Interview through the virtual hiring platform. The programme team worked with Indeed to design specific questions and an interview style suitable for the student cohort. Indeed provided several trained recruiters who conducted one-to-one interviews with students. A matching algorithm was used to match the most appropriate students with the challenge most appropriate to their skillset, Students were then "offered the job". The programme team, Enterprise Academy and Indeed collaborated to ensure each team was composed of the multidisciplinary skillset required for each enterprise challenge. This was part of a detailed process to help the students develop their own career readiness skills. Examples of activities covered include interviewing skills, selfpromotion, and building their own profile on Indeed and LinkedIn.
SIE aligned Aligns to **Guiding Principles**: 1, 2, 3,5,6,7.

This programme was also offered pan-university as alternative to placement students participated from city campus, Tallaght and Blanchardstown. This programme was fully engaged with enterprise and we had an international partner in China with student and faculty from China joining the programme.

LESSONS LEARNED/NEXT STEPS

The lessons learned from this pilot and existing research suggest that students benefit from the opportunity to work in a multidisciplinary environment. Higher education providers have the opportunity to create these immersive environments. However, if the intent is for these environments to prepare students for the workplace then further collaboration with enterprise is needed. This collaboration has purpose for enterprise and can provide many benefits including, access to talent pipelines, insights and research. There is a need for HEIs to reflect and ask the question 'how are we preparing our students for work?' The answer will require further collaboration with enterprise to cocreate education offerings that reimagine the concept of 'close to practice' or 'approximations of practice' [12]. It is hoped that the pilot described here might contribute to the development of flexible and engaging alternatives for students.



OLLSCOIL TEICNEOLAÍOCHTA
BHAILE ÁTHA CLIATH

TECHNOLOGICAL
UNIVERSITY DUBLIN

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