Transforming Learning

Emerging technology transforms learning

Seven institutions used the learnings from Covid-19 to enrich collaboration

A €40 million project funded by the EU – NextGenerationEU aimed at transforming the teaching and learning experience in higher education institutions is drawing to a successful conclusion. The two-year National Technological University Transformation for Recovery and Resilience (N-TUTORR) project, co-ordinated by the Technological Higher Education Association (THEA), is an innovative collaboration involving the seven institutions in the technological higher education sector in Ireland.

"We've been engaged in a very ambitious programme of work across the newly emerging technological higher education sector since 2022," says N-TUTORR national co-ordinator Dr Sharon Flynn. "The main aim is to transform the learning experience and make it better for students."

The project has its origins in the EU Recovery and Resilience Facility (RRF) established with the ambition for Europe to emerge stronger and more resilient from the Covid-19 pandemic. According to Tim Conlon, head of policy and strategic planning at the Higher Education Authority (HEA), the funding available from the facility offered an opportunity to build on the experiences and learning gained during the pandemic.

"The higher education system is very resilient," he points out. "It manages to deal with crises and react and respond very well. Higher education institutions went to great lengths to protect students during the pandemic and students accepted the unusual circumstances. A survey carried out before the pandemic told us that only 20 per cent of staff said they were appropriately equipped to teach in a digital environment, yet six months later they were all doing it. There has to be some kind of learning from that."

That learning includes the ability to deliver education in different environments to different people. "We wanted students to be able to engage in the digital world as well as staff to be able to deliver education in it," Conlon notes. "We also had an emerging technological university sector and we wanted to create an opportunity for partnership across institutions. Collaboration is very important."

That resulted in the Department of Further and Higher Education Research Innovation and Science and the HEA putting in a bid for funding to roll-out teaching and learning in a new way in the technological higher education environment. That was followed by the successful proposal for the N-TUTORR project from the seven higher education institutions.

Flynn explains that the project is divided into three separate workstreams covering student empowerment, enhancing staff capabilities, and digital ecosystems. A fourth workstream was added recently to secure and embed changes achieved to date.

The centrepiece of the student empowerment stream is the students as partners in innovation and change fellowship programme. These fellowships provide an opportunity for students and staff to collaborate on small scale projects that will have an immediate impact on the student experience.

"We looked at opportunities to bring in the student view and work with them to enhance the learning experience," Flynn adds. "The fellowship projects were very important for that. We kicked off in early 2023 by putting out a call for ideas from groups of students and staff for projects to improve the student experience in their own institution which would each receive funding of up to €5,000. We were inundated with proposals. We received more than 250. We originally intended to fund 100 but we got such a fantastic response that we increased the number to 130. The successful projects were announced in May last year and we held a showcase event in Croke Park in April of this year to demonstrate the fantastic impacts and outputs of projects.

A number of student champions were appointed to support the fellowships and other aspects of the N-TUTORR project. "They help with developing materials and resources for students and get involved in activities as well," says Flynn. "We pay them for their time each month as it was important that we weren't just selecting from a cohort of people who are privileged enough to be able to afford to volunteer. We wanted to involve the widest cross-section possible."

Conlon emphasises the importance of student empowerment in today's world. "It has always been a challenge to make the transition from second to third level education. Students are going from rote learning to self-directed learning. They have to actively pursue their learning and studies. And now you have artificial intelligence (AI) and essay mills as well. It's a very different environment. This stream helps give students an understanding of sources and resources and that's very important."

The second stream is focused on transforming learning, teaching and assessment by developing the capabilities of academic, management and support staff. "We are doing this through our communities of practice, N-TUTORR masterclasses, and other staff training initiatives," says Flynn.

The third stream is concerned with providing the digital infrastructure to support the other streams. "We need to ensure the digital systems are in place to support assessment, academic integrity, and respond to development like generative AI (GenAI)," she explains. "This is a very good example of the sector coming together instead of the seven institutions working alone to plot their own courses."

It isn't just a case of providing new equipment. "A lot of facilities in the seven partner institutions have been improved but there is a larger piece around using digital media to support online and hybrid learning," she points out. "We didn't just purchase new equipment or technology, we provided training as well. We also gave guidance on how to use the technology within the curriculum. A very holistic approach was taken."

The project has been an unqualified success and met the performance indicators set for it, according to Dr Victoria Brownlee, senior manager, system development and performance management, at the HEA. "The milestone targets were set at EU level," she explains. "Those targets were for 9,600 students and 4,000 staff to participate by April 2024. Overall, more than 13,000 students and over 4,000 staff were engaged. And these are distinct engagements with each student or staff member counted only once. The total number of engagements is likely to be much higher than that."

Conlon believes collaboration between the partner institutions was critically important in achieving those targets. He points to the concept of coopetition. "They are competing for students on the one hand but need to collaborate and cooperate as well. N-TUTORR created a safe space and environment for them to tackle shared challenges collaboratively. They were not necessarily equipped to work together in that way before this but having looked at the shared challenges, they found a way to do it."

Brownlee points out that this was the first time the newly established technological universities had worked together. "It took time to establish relationships and find ways of working together. A steering group involving representatives from the partner institutions was created and we met with the project management office every few weeks. Tim Conlon chaired the presidents' group which provided project level governance. This group offered an opportunity for presidents to discuss progress as well as opportunities and challenges within the project."

That work will provide a basis for future collaboration. "The governance structure to work collectively and deliver projects now exists and relationships have been built between the institutions. We hope that will be sustained for the future."

Flynn echoes those sentiments. "There has been huge commitment from across the sector including by the group of seven presidents and other leaders in each institution to ensuring the money was spent in the best possible way to really make a difference to students. A true sense of collaboration has been developed across the sector. There is now a real sense of collective achievement and a desire to continue that collaboration."

Looking back on the Croke Park event, she describes it as a huge celebration. "We had 350 people in there on the day, many of them students. There was a real sense of joy and pride across the sector. It was absolutely fantastic. We have plans for another big showcase event at the end of the year."

The project team will now look beyond the milestone targets. "Between now and end of year we will focus on the impact of the different projects and initiatives on the ground," says Flynn. "We will be telling the stories about the fellowship projects and other activities that have been happening and how they have had a positive impact on the learning experience for students. These examples build upon the hands-on / active experiences that are a strength of the technological institutions."

■ Funded by the EU, the €40 million NextGenerationEU project closed its year with an event held at Croke Park that showcased many of the projects

To read more about the range of projects supported by N-TUTORR visit transforminglearning.ie/fellowships

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Empowering students to transform their learning

Building students' self-confidence can inspire them to make positive changes in society and within higher education

Student empowerment is at the very heart of the N-TUTORR project. The aim is to equip students with the knowledge and skills to take greater ownership of their own education and play a role in the transformation and improvement of the learning experience.

"Student empowerment is now a high priority within the higher education sector," says Dr Carina Ginty of Atlantic Technological University (ATU) who co-leads the N-TUTORR student empowerment workstream. "When students are given the power to make decisions to drive change in their university or higher education institution it enhances the teaching and learning and assessment experience. N-TUTORR funding provided the opportunity to promote greater student empowerment and partnership across the sector."

Empowerment has multiple benefits, she adds. "It builds students' self-confidence, enhances problem-solving skills, and helps them to make evidence-based decisions. That all leads to opportunities for them to engage with what's happening in society and the world. It inspires them to be successful and to make positive changes in society and higher education. It's a win, win, win for everyone involved."

Ginty's co-lead on the workstream, Dr Moira Maguire of Dundalk Institute of Technology (DkIT), describes student empowerment as a process. "It's about allowing students to develop agency to identify problems and solutions and put them into action. The traditional model in the past was where the teacher transmitted information and the student was quite passive. Things have moved on a lot since then. Real student empowerment and partnership offers possibilities for change. But you have to move beyond tokenism."

The Students as Partners in Innovation and Change Fellowships and the Student Champions Programme are two of the key N-TUTORR empowerment initiatives. The fellowship programme provided opportunities for students and staff to collaborate on small-scale enhancement projects that aim to have an immediate positive impact on the student experience within their own institutions.

N-TUTORR student champions develop student engagement and empowerment in their own institution and support with the development of initiatives including fellowship projects.

Collaborative team
"When we set out to design the student empowerment workstream in N-TUTORR we were fortunate to have such a collaborative team in the seven partner institutions," says Ginty. "Student empowerment co-ordinators were appointed in each of the partner institutions. We talk about them as the power of seven. They put in place complementary activities to support the empowerment programmes."

The fellowship projects evidence true partnerships between staff and students, she adds. "They are two-way balanced partnerships with common goals and where projects are co-designed with respect and recognition between the partners. Participating in the projects helps build relationships and respect between educators and students. The staff gain a new outlook and approach to teaching strategy and how to develop the learning experience. That can help them to reimagine and consider where the curriculum needs to go for the future. Students are gaining fabulous transversal skills in areas like communications and leadership."

Teams comprising students and lecturers from the partner institutions were asked to submit proposals for fellowship projects. The initial intention was to provide funding of up to €5,000 each to 100 projects but this was increased to 130 due to the volume and quality of the proposals.

"The students have done some amazing work," says Maguire. "They often have incredible talents that they bring to the projects. One of the things the projects showed was how small amounts of money combined with empowerment and support enable students and staff to do great things and have a real impact."

A special event was held in Croke Park in April to showcase the fellowship projects. "It highlighted the quality of the projects. We had a huge number of presentations and digital posters that did an excellent job of sharing the work students and staff have been doing. We also had some very powerful interactive displays. All demonstrated the innovation and relevance of the projects and the real impact they're having on the ground.'

Ginty mentions the Robot Ate My Homework project (see page 4) as another which is highly relevant to today's issues.

"A student-led approach by the sport, exercise and nutrition department in ATU, working in partnership with staff, to finding solutions to the emergence of essay mills and AI technology in academic writing."

Project teams were also supported by the student champions. "We appointed 100 of them," says Ginty. "They all went through a rigorous selection process. Students applied and were interviewed for the role. They took on project themes such as equality, diversity and inclusion, sustainability, digital transformation and so on. They also championed new ideas, ran workshops for project teams, and supported local initiatives in their institutions."

Another initiative was the development of MyDigitalBackpack.ie, an online platform developed for students across the sector to complete short non-accredited courses and earn a digital badge accreditation. Digital badges offer a way to communicate achievements, strengths or skills and promote lifelong learning that goes beyond the classroom and showcases accomplishments that otherwise may have been hidden.

Looking forward, Maguire says: "Student-staff partnerships have not been done on this sector-wide scale before. We want to see that continue. It's been really exciting to see the outputs of the projects and the work of the champions. Everyone was very proud of the students at the Croke Park showcase event. It was inspiring to see so many of them presenting their excellent projects to a huge audience."

■ Clockwise from main: a group of students and staff from Atlantic Technological University at the recent N-TUTORR event at Croke Park in Dublin; Dr Carina Ginty, of ATU, and Dr Moira Maguire of Dundalk Institute of Technology, who co-lead the N-TUTORR student empowerment workstream

Students in financial distress make visual statements

66 Voices is an installation project by two graphic design students in IADT

PETER MCGUIRE

When it comes to money, students have rarely had it easy.

In the past few years, however, their financial stress has grown. Like the rest of us, they've seen soaring rents, food inflation and all-round higher costs and, as most students are on a fixed income, they've really felt the sting.

In November 2023, a poll of over 40,000 undergraduate and postgraduate students – conducted by StudentSurvey.ie for the Higher Education Authority (HEA) – found that more than a third have considered dropping out of college, with many respondents citing financial pressure.

Tadhg Nolan and Nicola Byrne, third-year graphic design students at the Institute of Art, Design and Technology (IADT) in Dún Laoghaire, met while doing a portfolio preparation course at Gorey School of Art, and have been firm friends ever since. They share an apartment in Dún Laoghaire, and both have struggled with the cost of living.

"I am supporting myself, so I work three evenings a week, and on weekends," says Nolan. "The course has quite demanding hours, with studio time from 10am-5pm every day, and we spend a lot of evenings working on our projects. It can be intense and, as graphic design students, we have a lot of costs including paying for paper and materials. I have struggled to pay for it all. It's hard not to compare yourself to others on the course, especially those who might be living at home."

Byrne, meanwhile, works at weekends in a pharmacy to help cover her college costs.

"I am mostly supported by my parents, and they pay my rent, but they're not high-income, and they have made a lot of sacrifices," she says.

"My brother is due to start college next year so it will be tough to cover all the costs. I get some support from Student Universal Support Ireland (Susi), but because my parent's income exceeded the rigid threshold by €100, my grant support has gone down."

Putting in long days at college, working on assignments at night and on weekends, and trying to put in hours at work would take its toll on anyone, but Byrne and Nolan knew they were not alone. And, at the start of this academic year, they had a chance to show it.

"Our lecturer told us about the National Technological University Transformation for Recovery and Resilience (N-TUTORR) programme," says Byrne.

"This is a collaboration of all the technological universities and institutes of technology to try and improve the educational experience, with themes including education for sustainability, academic integrity and equality, diversity and inclusion, among others. Our class was briefed with taking a theme and developing a project around it. We had the option to work in groups or work alone, so Tadhg and I decided we would focus on student financial stress, and how that can differ from one student to another."

Nolan had recently been to the Howardena Pindell exhibit at the Irish Museum of Modern Art (Imma).

"As part of the exhibition, there was a room with a short film where a black woman was
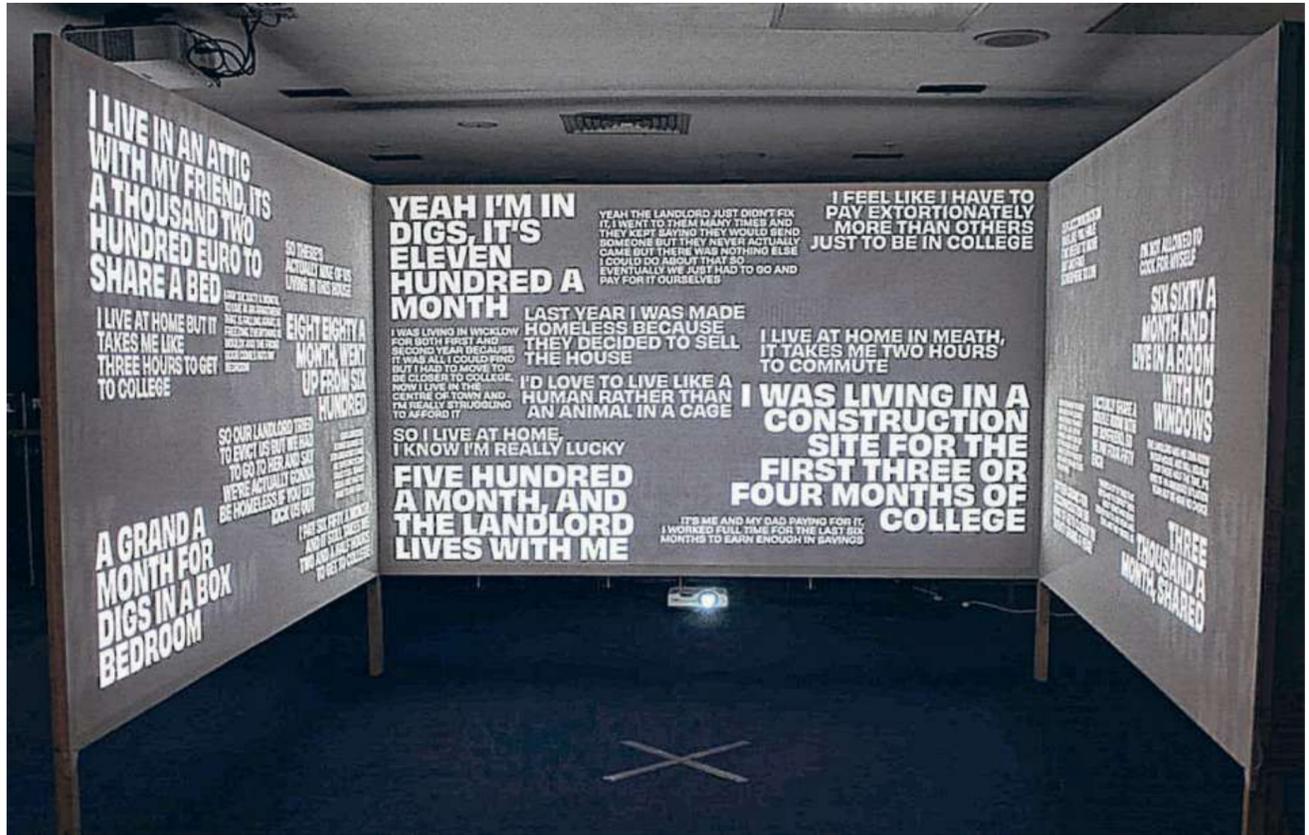
Top: The project demonstrates the range of hardships experienced by students and above: IADT students Nicola Byrne and Tadhg Nolan

interviewed about her life," he says. "Her lived story really connected with me, and I was struck by how engaging with her real-life story evoked a reaction, and I thought: we hear the statistics about student struggles, but it's those real stories that create a response, and make people feel that sense of connection. We knew that we needed to hear the real voices of students."

Byrne and Nolan decided that they wanted to interview students about their financial struggles, and create an immersive installation based on their conversations. N-TUTORR provided funding for their project, and the two friends set off to create 66 Voices.

"We started by recording students, cutting out snippets related to rent, work and other stressors," says Nolan.

"Then we sequenced these to present a flat, digital version of what the installation would look like, spent three weeks developing the project, and interviewed another 46 people to make 66 voices in total."

Why 66?

"We knew we wanted a big number, but not so big that we would be interviewing forever," says Byrne. "The number 66 also worked, graphically, as a stand-in for quotation marks, and it gave us a logo mark for the project."

Byrne and Nolan initially fo-

Some financial struggles of IADT students

"I buy a lot of frozen pizzas because it's a whole meal for €1.75."

"I've robbed bread rolls from Lidl to have for my lunch."

"We paid €1,200 to share a digs bed in an attic."

"From evenings to mornings, I work basically whenever I can."

"I ask myself: do I eat lunch today, or go out and connect with people?"

"There's that, like, feeling of guilt asking people for money."

"€66 a month and I live in a room with no windows."

"We have to pay for Adobe, that's like €3 a month."

"I live at home in Meath, it takes me two hours to commute."

"The landlord just didn't fix it, I went to them many times and they kept saying they would send someone, but they never actually came. There was nothing else I could about that so eventually we just had to go and pay for it ourselves."

cused on students in financial distress, but they soon realised that their project required a broader focus.

"All students come from different financial backgrounds and have different incomes," says Byrne. "As art and design students, we are used to having to buy materials, but those with less money don't have the same access to what they need, while those who have to work longer hours have less time to focus on their college work. This is an issue of equality."

Even the relatively better-off students, however, had some form of stress, they say.

"We showcased stories of people who could not afford lunch, so were stealing bread rolls," says Nolan.

"We heard from a woman in her 30s who was struggling with the cost of being a student and having children, and from students who were paying well over €1,000 a month for awful accommodation."

Byrne and Nolan, who have to move out of their apartment soon, have both noticed that rents for new tenancies are higher than existing ones, an observation that is borne out by data from the Residential Tenancies Board.

"It is twice what we were paying three years ago, but it's that or homelessness," says Nolan. "The landlords have the power."

Both of these young artists, who study spatial and experiential design, felt it was important that people didn't experience the stories simply by reading

them on a page.

"They needed to feel it, so when they walked into the space, they would see the words on the boards, and also hear the voices of the students we interviewed," says Byrne.

"In that space, they feel immersed, without distraction. We wanted there to be a call to action, so as well as creating a poster about the event, we created one about what a lecturer could do to support their students, including being aware of the challenges that students face, making allowances where possible, recommending affordable resources, and advocating for their students."

While the exhibit was primarily aimed at lecturers, many students told Nolan and Byrne that there was also a positive response from their peers.

"Students felt it reflected their experience and allowed them to see they were not alone – that financial stress is a systemic issue for students," says Byrne.

Both say that they love their course, but feel that there is a need for wider, systemic change. They would like to see more flexible grant thresholds, the abolition of student charges, and rent caps.

"This project, and the positive reaction to it, has made me feel hopeful," Nolan says. "I want to keep designing for change, and evoking feelings through design."

Stylish and dynamic 3D CV presentation shows off accomplishments

The N-TUTORR fellowship programme is an opportunity for third level students to work on projects to improve their college experience.

Last year Munster Technological University Cork classmates Shannon Morrissey and Nodhlaig McCarthy were awarded an N-TUTORR Fellowship for their proposal to develop a step-by-step guide to help students make the most of an innovative e-portfolio solution, called Portfolium, that allows them to showcase their college work.

Portfolium is like a 3D CV on steroids. It enables third level students and recent graduates to present all their academic work and projects in one place, as well as relevant extracurricular experiences such as volunteering or internships.

It also combines a social networking element that allows students to connect with

businesses and employers, and showcases their academic accomplishments in text, images and video form, as well as links to platforms such as LinkedIn and X.

Portfolium was already available to Munster Technological University (MTU) students as part of Canvas, the digital learning platform on which lectures are posted and assignments submitted in the college. But it was not being utilised by students in their department, says Nodhlaig McCarthy who, like Morrissey, is in her third year of a four-year degree in coaching science and sports pedagogy.

The pair received funding under the N-TUTORR fellowship to develop their Portfolium guide.

For McCarthy, a camogie and Gaelic football player who hopes to become a coach and sports physiotherapist, Portfoli-

A step-by-step guide to help students use innovative e-portfolio solution, called Portfolium, to better showcase their college work
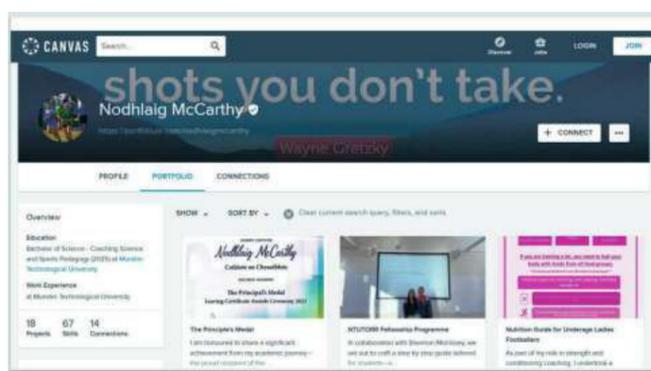
um offered the perfect format in which to store and record all the achievements she has gained during her years at MTU, including work experience and volunteer work.

"It is an online platform which showcases a student's best work to future employers, classmates and lecturers," she explains.

"You use it to create an archive, uploading Word documents, PDFs, PowerPoints or voice memos, and you can link it to YouTube videos. If you put it up and attach your CV, your LinkedIn, Twitter and all those platforms to it and it just looks really professional."

Thanks to McCarthy and Morrissey's step-by-step guide, their classmates can now use it to store all the various coaching practice certificates they have gained through their years at college.

It also allows them to show

the work they undertook to achieve each certificate.

"So, for example, we've done all these modules such as our FAI PDP 1 coaching certificates in soccer, which included drawing up lesson plans and doing projects.

"But at the end, all that activity boiled down to just one line on our CV. Prior to Portfolium there was no way to display all the work we had put into getting those certificates, in a way that people could see," McCarthy explains.

"Now students can put up

videos of themselves coaching, show their lesson plans and projects and all the different elements that went into that work."

It allows employers to see the person behind the achievements. "In coaching, 90 per cent of what you're going to be doing is volunteer work, which might just make up a small part of your CV. But on Portfolium you can show the volunteer work you did with your local club, say who you worked with and what you did, upload videos of yourself in action, and

explain the pedagogic approach you took," she says.

The social networking element is important too. "You can connect with people that you have worked on projects with, to show you can work in those kind of team environments," she explains.

The step-by-step guide is already being used by first- and second-year students on MTU's coaching science and sports pedagogy course, with McCarthy and Morrissey hosting workshops to help them make the most of it.

"Previously, if you were doing a CV, you had to try and remember the various courses you did in first year, and the projects you worked on. With Portfolium the students can just tip away at it from the beginning, just adding those details as they go," she says.

The new handbook also helps students make the most of the various media they can include, from pictures and video clips to voiceover and text.

Morrissey and McCarthy designed the guide using universal design for learning principles, which put a premium on user experience and accessibility.

"The guide is designed to be easy to use and accessible to

> **On Portfolium you can show the volunteer work you did with your local club, say who you worked with and what you did, upload videos of yourself in action, and explain the pedagogic approach you took**

everyone. Because we have text you can read it, but there are also pictures and videos, and Shannon recorded a voiceover for it too. So you can hear it, read it and get the information in whatever way you need it," she explains.

Developing the guide has given both students a much clearer understanding of the benefits technology can bring to the learning environment.

"It has also shown me the importance of showing my work and making myself stand out to future employers," says McCarthy

A new recipe for mindful, sustainable kitchens

A new module at TU Dublin uses a mindful approach to engage student chef creativity

Wellness to counteract the high stress environment of a professional kitchen

BARRY McCALL

A team of six students and three lecturers from the Technological University (TU) Dublin Tallaght campus has co-created a new applied food sustainability module that enables a deeper understanding of how to build a sustainable kitchen and manage waste and uses a mindful approach to engage student chef creativity in developing a sustainability mindset.

The Mindful Kitchen: Creative Food Sustainability has its roots in the award-winning mindful kitchen health and wellbeing for chefs module which has been embedded into all year one full-time culinary arts programmes in the Tallaght campus of TU Dublin since 2019.

"This is meant to be a creative art, but all the research shows that you need time and space to be creative," explains Annette Sweeney, senior lecturer in culinary arts at TU Dublin. "Both of those things are often in short supply in a professional kitchen, but mindfulness helps."

The mindful kitchen health and wellbeing module is the first of its kind anywhere in the world in culinary arts education and comprises two key elements – using a mindful approach to working and being in the kitchen and heightening chefs' awareness of self-care within the kitchen.

The key to delivery is the creation of a mindful space within the mind of the student and in the kitchen. This is done using mindful tools including Qigong, a blend of physical exercise and breathing techniques, and yoga exercises and playing music with nature sounds. Having created a mindful space, students are presented with practical mindful challenges to boost creativity in areas such as food sourcing, preparation, cooking, service, and food waste.

This promotes creativity and sustainability from within, Sweeney points out. "If you are more mindful of yourself you will be more mindful of food, the environment, and sustainability. You become more aware of how nature can benefit what you are doing and how that can inspire your work. We do a little bit of foraging with the students as well. We also have things like tea rituals where the students mindfully make and drink a cup of tea for themselves from the foraged ingredients. We play nature sounds and soft music and that's very much in contrast to a professional kitchen with its deadlines.

"That's where creative ideas come up and students are surprised when they experience their creative ability in this way. These are the kind of tools we give them. Delivering them in the kitchen is very important. Applied learning means you can do it in a professional kitchen as well."

Chef mental health is a growing concern in the catering industry and research has shown that burnout is directly related to the high-stress environment of a professional kitchen. The self-care element of the module equips students with the knowledge and healthy habits required to confidently deal with modern kitchen culture and effect positive change.

Kitchen culture

"It looks at kitchen culture, what's acceptable and unacceptable and different types of leaders," Sweeney notes.

Pre-designed kitchen scenarios are dramatised, debated, discussed, solutions proposed and debated. The scenarios are examined for fairness, equality and justice. This takes the students out of their comfort zone and is a fun interactive way to explore best practice.

"Students can find the whole idea of mindfulness and self-care quite foreign initially," she adds. "But they are now doing it in secondary schools and that helps."

The success of that module, which is the first of its kind anywhere in the world, led directly to the N-TUTORR fellowship project.

"We wanted to build on the learnings from the first module and create one that would inspire mindful creativity and a sustainability mindset in culinary arts students," she explains.

The first step for the project team was to engage with best practice in the industry. "Applied learning is key and we have always been influenced by the industry. We built the module from the outside in. We went out to the industry to look at best practice in sustainability. We visited Doug McMaster who is a leader in the space in his Silo restaurant in London. It is a zero-waste restaurant with no bin in the kitchen."

But sustainability won't matter much if the food doesn't come up to scratch. "The food was stunning; we were blown away by it."

The team also linked in with Isle of Man-based Pippa Lovell who forages for ingredients and uses invasive species in her dishes to support the island's biodiversity. They also explored low carbon foods with the help of food data specialist company Nutritics.

"We had a masterclass with JP McMahon in Galway," Sweeney adds. "He is the director of the Food on the Edge in-

ternational symposium which is a patron of our mindful kitchen project. Two-star Michelin chef Jordan Bailey spoke to us about fermentation and Tom Hunt, an eco-chef from London, spoke about zero-waste cooking."

Masterclasses delivered by these industry leaders covered a range of topics including applied food sustainability, wild and foraged food, root to fruit, zero-waste cooking, and fermentation.

By combining the advice from industry with the learnings from the course, the team co-created a four-hour practical module comprising sessions on professional kitchen practice for sustainability; the mindful kitchen; and creativity for sustainability.

"It's all about inspiring people to go from being an egocentric chef to an eco-centric chef," says Sweeney. "We want to take what we have learned from the industry into the mindful crea-

> **It's all about inspiring people to go from being an egocentric chef to an eco-centric chef**

■ **Top from left: TU Dublin student Natasha Czophor, lecturers Annette Sweeney and Vourneen Hennessy and student Carlos Palieo with produce grown in the gardens of Airfield Estate, and (above) Sweeney and Palieo foraging wild plants in the gardens of Airfield Estate in Dundrum, Co Dublin**

tivity piece. We want students to look at their own sustainability, to look at food as art from a nature point of view and apply that to the ingredients they use. We want to inspire a creative approach to sustainable dish design with a zero-waste mindset. The professional practice element looks at how we can be more sustainable in what we do in the kitchen."

The co-creation process was central to the success of the project. "It's about empowering students to become design partners," says Sweeney. "That's very powerful in education. The students gave their own time as did the lecturers. It was a great experience for us to work with them. When you are engaged in co-creation you have to park your ego at the door. It's about how to relate to the students. We are all in this together and every opinion is valued. If someone has an idea, test it and pilot it. You have to approach it with the mindset that everything we do, we do as a team. We worked on the project for two hours a week, every week and it was a very positive experience. I would highly recommend co-creation to any lecturer."

Innovation

The next phase for the project will see the new module piloted across both the Grangegorman and Tallaght campuses for year one students in the coming academic year.

"We want to embed the fact that they can be creative into the students' mindset. There isn't always time to allow creativity to happen in culinary arts education and this module will help," says Sweeney.

"We also want to inspire some innovation in food sustainability. That aligns with the ethos at TU Dublin where we embed people, planet and partnership into all of our modules. Health and wellbeing are also addressed. The students are the best salespeople for this. They really were on board and very enthusiastic about it from the beginning. Personally, I am very excited by the outcome from the project and looking forward to getting the new module up and running."

Using TikTok to break down the complex language of sustainability

DANIELLE BARRON

Whether you're on it or not, it's all happening on TikTok. An innovative project carried out by Dundalk Institute of Technology (DkIT) has now harnessed the power of the short video platform to drive awareness of our shared climate change objectives.

The N-TUTORR project, entitled TikTok for the sustainable development goals (SDGs), aimed to bring students studying science and agriculture together to build creative content that would help communicate the sustainability message to both their peers and the wider public.

The 17 SDGs, also known as the global goals, outline a universal call to action to end hunger, achieve food security and improve nutrition, and promote sustainable agriculture.

The project was led by Dr Caroline Gilleran Stephens and her colleague Dr Suzanne Linnane, both lecturers in the Department of Agriculture, Food and Animal Health.

Gilleran Stephens says she has been teaching her students about the SDGs for many years and realised it was time to try to bring them to life. "We thought we could get students really engaged in it by creating videos that we were able to disseminate to the wider community, and then carry out an assessment."

Engagement was key – the students were heavily involved in the design of the project and even their own assessment.

"We asked students what should be involved in an assessment and the big thing that came across from them was flexibility, so we made it very flexible," explains Gilleran Stephens. "They could choose which SDG they wanted to focus on and choose the audience they wanted to target."

This meant some students got to explore SDGs that were close to their own hearts. "Students chose the SDG that resonated the most with them. For example, a number of our agriculture students very specifically wanted to target the non-farming community, or urban dwellers, to try to get them to understand a bit more about their way of life," Gilleran Stephens says. "So, they discussed SDG2, which is zero hunger, because they have a supportive role in providing food, they had a lot of pride in it."

TikTok was chosen as the best platform for the videos, explains Samuel Rodrigues, a PhD student at DkIT, and also an N-TUTORR student champion. "We know that many young people use TikTok and it's the platform they use the most. We thought it would be a good way to teach them about the SDGs and really illustrate them. People aren't necessarily conscious of the SDGs so we knew we could reach a wider audience, especially young people."

Rodrigues, whose research focuses on the link between environmental education and citizen science, created sample videos so that the students would have an idea of what the lecturers were expecting. "We showed how you could use simple and accessible language to explain the SDGs and make the content engaging."

This was particularly helpful for those reluctant to make videos, finding themselves out of their comfort zone, Gilleran Stephens says.

"We have some part-time students who are full-time farmers, for example, and initially they weren't keen to produce videos as it wasn't something they had ever done before. We provided them with a lot of mentoring and support."

The result was a "diverse array" of videos, each with an impressive level of quality, Gilleran Stephens explains.

"We ran the project with 81 students across three courses and ended up with 32 videos. At the end of the project, we held a showcase/viewing evening on campus – complete with red carpet – and an awards ceremony with live voting on the night. Not only did the students enjoy it, but they learned a lot and had a much deeper understanding of sustainability and the SDGs at the end of it."

The project was such a success, Gilleran Stephens said they are keen to repeat it next year. "It provided us with such a novel way of assessing students – rather than just lecturing them on the SDGs, this was far more interactive. They had their own take on it and it meant something to them."

■ **DkIT lecturer Dr Caroline Gilleran Stephens (with phone) with agriculture students (from left) Amanda Quinn, Alanna Corrigan, Shane Corcoran, John Brown and Thomas Mc Keon**
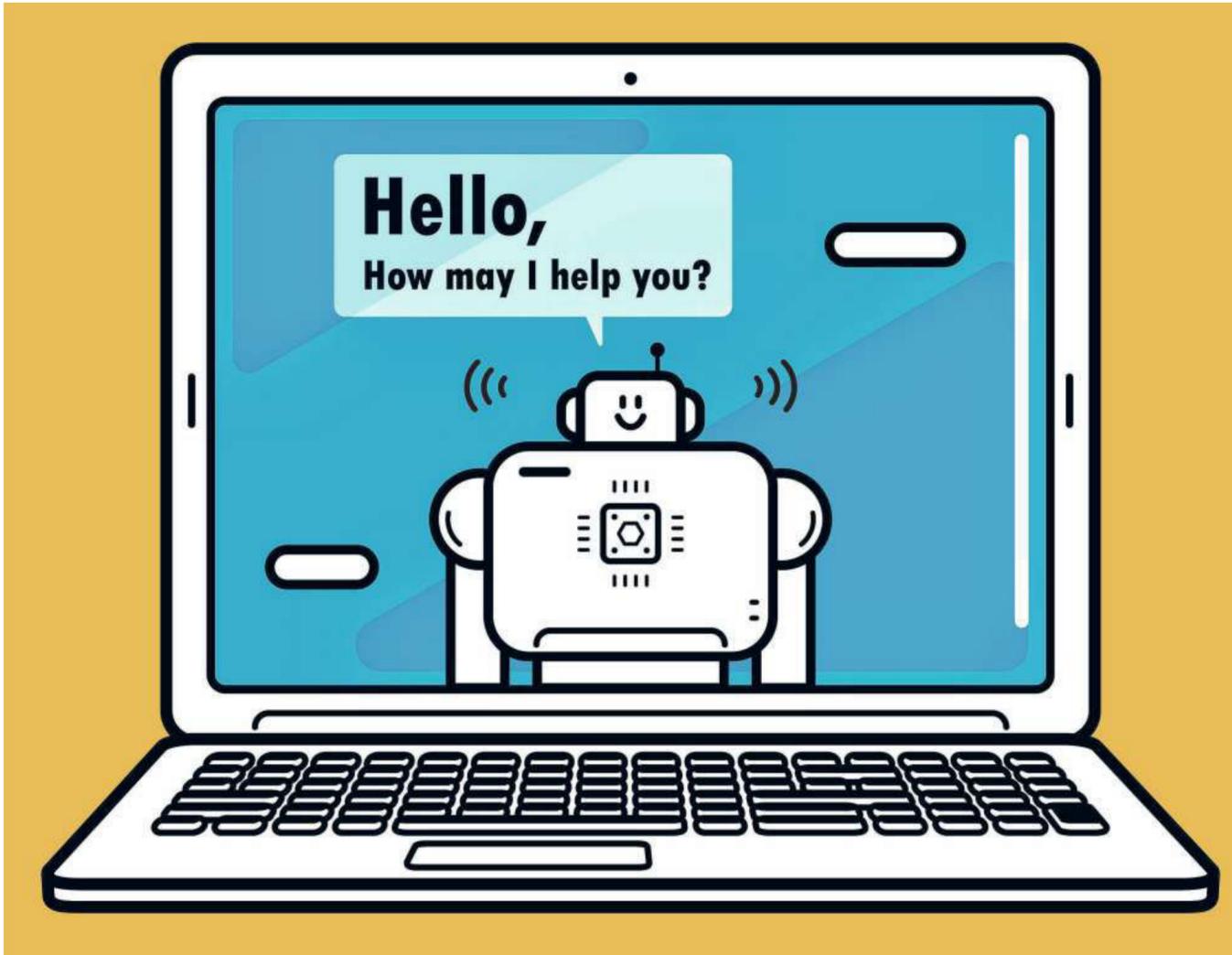
When plagiarism goes digital

Technological advances in generative AI bring new ethical questions to bear to the higher education sector

If you could cheat in your exams – and get away with it – would you, do it?

This is one of the ethical dilemmas facing college students today. Over the past decade or more, third-level lecturers have become wise to the use of so-called "essay mills", which involve students paying a company to write an essay for them. But students had to quite actively seek these companies out and pay them.

The rise of artificial intelligence (AI), however, presents novel temptations to cheat. Students can easily find the software online, and anti-plagiarism technologies are struggling to keep up.

Dr Robert Mooney is a lecturer in sport and exercise science at Atlantic Technological University (ATU) Galway. He has a background in electrical and electronic engineering and carried out his PhD at the University of Galway, on the topic of wearable technology.

He wanted to get a proper understanding of how students are using artificial intelligence, not just as a plagiarism tool, but also as a legitimate study tool.

"It has been pretty clear that students have been using AI engines more and more in the past couple of years," he says.

"The kneejerk reaction from us as staff is to penalise this as a deliberate act of plagiarism. I feel that this approach is flawed, as it makes us look like old-fashioned teachers cracking the whip and, also, it will become increasingly more difficult to detect as these engines continue to improve.

"This is where the idea of the project came about – in our reaction we seemed to forget to ask the students for their opinion, so that is what I attempted to do. We are all looking for solutions and it seems obvious that the end-user voice should be part of this too."

Mooney applied for funding through the National Technological University Transformation for Recovery and Resilience (N-TUTORR) programme, which is a collaboration between the technological universities and two remaining institutes of technology to explore and improve their student experiences.

"I was really excited when I saw the N-TUTORR project advertised," he says.

"I felt it was a great way to engage with our students and gain some insight into their own perceptions and practices when it comes to AI and their education. I applied for the funding based on this idea and was fortunate to be selected.

"The aim of the project was to give the students a chance to speak up.

"Twenty students from the department of sport, exercise and nutrition at ATU Galway were involved. We met and discussed how best we can gather some data and then developed

a questionnaire to send out across the ATU student body. The students were excellent and really helped to frame the course of this work."

Using Microsoft Forms, Mooney aimed to survey as many students as possible.

The survey was anonymous, but Mooney had to overcome some initial suspicion from students that their responses could get them in trouble by reassuring them that the information would not be used to catch any cheating.

"There are ways that we pick up plagiarism, particularly as

we know our students here and will pick up on sudden changes in their quality, writing style or grades," Mooney says. "It may be that one paragraph stands out."

Mooney says that there can be a preconceived idea that the tools are for assessment alone, but that students are also building it into their learning.

"They are using them for study notes, for supplementing learning from lecturers and to gather information. AI is also being used so that students can generate a model answer for past exam papers, which they can use to revise."

The rise of AI is increasingly forcing lecturers away from older models of assessment - primarily exams and assessment, says Mooney.

"My colleagues and I are moving away from traditional essays, and more towards oral and video presentations, question and answers to assess understanding and integrating chatbot ChatGPT into assessments.

"For instance, lecturers may generate an essay using ChatGPT and then get students to critique it. They can learn about their subject, and also see what AI is getting right and wrong. I think it is a really strong idea, but a big concern I have is that academic writing is such a key skill we aim to develop in our students, who are training to be scientists. I am not concerned that this area is not going to run away from us, as everyone is approaching the issue positively and looking for solutions to em-

■ The rise of artificial intelligence presents novel temptations to cheat.
ILLUSTRATION: GETTY IMAGES

brace new technology."

Mooney says he was not surprised to find out that so many students were using AI, but it is now helpful to have objective measures.

"Seventy-five percent of survey respondents have used an AI engine during their studies, and 48 per cent used it during the previous month. Many others are using AI on a weekly basis."

He was surprised, however, with how students are using AI tools.

"My naive opinion was that it was all for the purposes of cheating, but that wasn't necessarily the case," he says. "On the downside, it is now almost seen as something everyone should do, and that they're missing out if they're not using it."

Mooney says that this project could be scaled up and carried out by other subject areas in other third levels.

"Students have found ways to integrate these tools into their learning, using AI to help with grammar, to generate study notes and to research topics.

"This was always about hearing the student voice and including them in this collaboration was key for me.

"It seems that our students are much more clued into the potential positives associated with these new technologies and that perhaps it is us as educators who need to give them a bit more credit, and catch up," he says.

What ATU students think about AI in education

"While students should still learn to write well, having more practicals, presentations and exams may prevent AI from completing the degree in the place of the student."

"I think [AI] can be useful for idea generation but should be carefully used. Over-reliance may lead to poor critical thinking and brainstorming abilities."

"AI detectors are unreliable."

"I would not directly copy from AI or submit references it gives me, but I

would use it to help generate ideas and answers for my assessments."

"AI technology should be used as a tool to further help the student and lecturers, with all new technology, it should be embraced and (people should) see the potential benefits from it, rather than the old-school mentality of: 'it's new, it shouldn't be used'."

"While AI engines are currently not 100 per cent reliable, for courses such as software it is extremely helpful as it can search the web and give you

documentation that is easier to read, understand and implement.

"As AI gets more reliable, I believe they should be integrated to some degree into courses and colleges as I find it helps a lot if you're struggling with certain topics."

"Sometimes it is incredibly hard to find the words to rewrite something to avoid plagiarism, especially after reading what you want to explain in a journal. It helps the clarity of the work. AI is always going to be around and develop."

Levelling the playing field in Stem and in the sports arena

A PhD student is trying to raise the profile of women working in sports science

DANIELLE BARRON

The gender gap in science is marked in the field of sports science, where women tend to be underrepresented.

An N-TUTORR fellowship project has now sought to narrow that gender gap by empowering women undergraduates in sport and health sciences. Responsible for this is a PhD candidate within the She research centre at Technological University of the Shannon (TUS), Athlone campus, Cherianne Taim.

Originally from Singapore, Taim was one of the first women sports physiologists in the country, therefore, she has seen first-hand the lack of women working in sport science. This, she says, inspired her to produce a booklet that would highlight some of the successful women working and excelling in this field as researchers.

"This project stemmed from a personal passion of mine," Taim, whose research explores the role of the menstrual cycle in women's athletic performance and health, explains. "Through my PhD I have worked with really successful women, sports science researchers and practitioners and I wanted to increase their visibility because whether working in sport or within Stem (science, technology, engineering, maths), gender gaps do exist."

The project was a straightforward one – to produce a booklet with profiles of some of the successful women working in the traditionally male-dominated field of sports science. This would not only shine a light on their achievements but would hopefully serve to inspire and encourage women undergraduates to pursue a career in this rapidly growing field.

"I wanted to highlight that there are incredible women working in sport in Ireland and secondly inspire young women to consider sports science as a career. I truly believe in the whole idea of 'if you can see it, you can be it'," says Taim. "By sharing this booklet with undergraduate students in TUS Athlone, especially those studying sports or health sciences, we could have at least a small impact in encouraging women undergraduates to pursue a career in sports science."

The project involved Taim reaching out across Ireland to most of the higher education institutes, and approaching women researchers who are well established and widely published in the field of sports

science, across various disciplines such as physiology, nutrition and sports psychology.

"I got them to elaborate on their role and reflect on their career, and also got them to offer advice to graduates considering a career in this area," she explains. "I know I would have found this really helpful when navigating my own career in this field."

The resulting publication, Women in Sports Science: A Profile of Leading Irish Researchers, features interviews with 22 women researchers in Ireland, both north and south, showcasing their achievements and diverse disciplines within sports science research.

Among the women profiled are Dr Áine McNamara, an

> 66 I would have found this really helpful when navigating my own career in this field
> – Cherianne Taim

elite performance professor at Dublin City University's School of Health and Human Performance, Dr Carla McCabe, a lecturer in sport and exercise biomechanics from Ulster University, Prof Kirsty Elliott-Sale a professor of female endocrinology and exercise physiology from Manchester Metropolitan University, and Dr Niamh Kitching a lecturer in physical education from Mary Immaculate College, who shared the "a-ha" moments that inspired them to pursue their respective career paths.

The booklet was shared across the N-TUTORR network and is also hosted online, to maximise its reach. Women in Sports Science: A profile of leading Irish researchers was funded by the N-TUTORR students as partners in innovation and change fellowships programme 2023-2024.

It is available for download at sheresearch.ie.

■ Sports science is traditionally a male-dominated field of study in Ireland. PHOTOGRAPH: ISTOCK

Ramping it up: Putting inclusion for all at the heart of campus design

PETER McGUIRE

Throw up a ramp for the wheelchair users. Let neurodivergent students go to the access office if they need help.

People with disabilities can often feel that the world requires them to adapt to it, even as their world makes minimal, often reluctant concessions to allow them to live in it. And, at third level, there remain a number of hidden barriers that discourage disabled students from engaging in learning.

But what if a new campus, designed from scratch, didn't have inclusion as an afterthought, but as a guiding principle?

John Balfe, a lecturer in applied social studies and early childhood education programmes, at the South East Technological University (SETU) Wexford campus, and doctoral candidate at University College Cork, set out to answer this question.
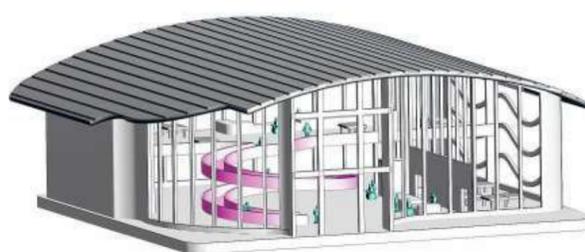
"I was teaching a module on disability studies, and instead of using a medical model that looked at individual disabilities, I was encouraging my students to think critically about society's role and responsibilities," Balfe says.

"With SETU growing, the existing Wexford site has been earmarked for a new campus on a 55-acre site. We saw that there was an opportunity here to ensure that the new campus was accessible for everyone.

"Through N-TUTORR funding, the 12 students in the module worked with me to see what this would look like. We wanted to present the needs of students with disabilities first, and have the campus adapted to that. What could we, as a society and community, do to ensure that there was more universal access to education?

"There is a lot of good work happening in the university, and other universities, around access programmes and universal design for learning, but these can be sticking plaster approaches. The onus is often on the student to seek out the programmes and declare their disability, while individual lecturers may, or may not, take on training.

"We knew that, instead of the same old tiered lecture rooms and old staircases that are designed with one cohort of middle-class, able-bodied and relatively privileged students in mind, a different ap-

proach was possible."

Putting up a ramp may solve one problem, but students with disabilities could have many others, says Balfe.

"What does the person do before they get to that ramp? What transport do they have? What about that kerb they can't mount to get to their building? There are all sorts of psychological, social and emotional barriers to accessing education."

The project team met people with disabil-

■ A digital drawing illustrating how the access ramp becomes part of the entrance lobby of SETU, replacing the more formal and outmoded statement staircase

ities in Wexford, and asked them about their daily lives, as well as the obstacles and barriers they face.

"We took a community-based, participatory research approach, using semi-structured interview techniques," Balfe says. "We heard back about everyday struggles, such as how someone can be left stranded if their bus doesn't have a wheelchair lift. Or that a person on the autism spectrum may be put off by the fear of a large, noisy,

bustling and bright lecture room, but where they nonetheless feel alone and excluded."

The team also asked participants what they would need to attend third level in the first place. "Many said that they just wouldn't have considered it, because getting to a campus near them wasn't an option. And, even if it was, they would struggle with funding. We heard from one participant, who has a visual impairment and uses a guide dog, that they had to climb several steps of stairs every day.

"Neurodivergent students, meanwhile, can benefit from softer, quieter spaces, a designated autism space or a sensory room like those at UCC [University College Cork]."

The voices of disabled people were central in this project, Balfe says.

"People with disabilities are often researched about, with others deciding what they think they need. But often they are not consulted themselves, so we wanted this project to bridge the gap between design, architecture, and social care."

The project used digital technology to create a 3D prototype of an accessible campus, with a physical model produced by engineer Billy House. They engaged with computer-aided design (CAD) designers and architects over a six-month period, presenting the final prototype to the university president, who sits on the design team for the new campus.

Balfe is hopeful that their ideas will be incorporated.

"Although we looked at a new campus, the principles and concepts are scalable, and I would hope that similar projects could happen elsewhere," he says.

"Ultimately, I think this involves a change of thinking, so that rather than education being market-driven, there is more responsibility to put accessibility and inclusion at its heart in a real and meaningful way."