ECOLHE

Empower Competences for Onlife Learning in HE

IO1

Digital Technologies in HE: from the European vision to the university governance

Irish Case Study. University College Cork

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INTRODUCTION

This national case study for Ireland is part of the European action research project ECOLHE. The aim of ECOLHE is to examine the way in which the idea of an E-learning European Higher Education Area has been translated into practice at national level by Academic Bodies. Its purpose is to identify the way in which the digital challenges to promote Lifelong Learning through ICT in higher education is shaped in specific contexts. This national report presents the Irish national framework for digital innovation in HE and the findings of the University College Cork case study. Digital innovation in Ireland follows the approach of the European Digital Education Action Plan (2021-2027) where development is focused on two strands, the need to work systematically and the digital literacies and capabilities of individuals. Any national and UCC strategies/initiatives/reports/projects etc. mentioned during the fieldwork research by interviewees as significant have been included and indeed framed the discussions in the first two parts of this report – the national context and UCC. Therefore, it sets the context for the field work findings and is intrinsically linked.

The main objectives of the case studies are to illustrate:

- needs and perspective of improvement of the use of digital technologies in HE
- emerging teaching and staff skills for the digital era;
- the most important problems detected and possible solutions.

A proposal for index

To reach the objective, **each case study report must present the following structure**:

- an introduction,
- a reconstruction of the national political framework related to the digital innovation in HE,
- a focus on universities micro-policies by documentary analysis,
- a qualitative analysis of the focus group and interviews results.

This qualitative research will focus on three areas - **organizational, teaching-learning (educational) and cultural area -** that consider the following seven sub-dimension of analysis, based on the proposal of a Digital Maturity Framework for Higher Education Institution[1] which synthesizes the main existent frameworks/models related to the integration of digital technologies in HE (Đurek, Begičević Ređep, Kadoić, 2019)

[1] Area/Dimension of analysis rom the digital maturity framework: 1. Leadership, planning and management; 2. Quality assurance; 3. Scientific-research work; 4. Technology transfer and service to society; 5. Learning and teaching; 6. ICT culture; 7. ICT resources and infrastructure http://archive.ceciis.foi.hr/app/public/conferences/2017/02/CECIIS-2017_paper_58_final.pdf (See Annexes 1).

1. **Leadership, planning and management**
    a. Financial investment in the use of ICT in learning and teaching; research and development; business of the institution
    b. Strategic planning of ICT integration in HEI
    c. Managing the integration of ICT in learning and teaching at HEI
    d. Managing the integration of ICT in scientific research at HEI
    e. Information System for Supporting Business Processes of HEI
    f. Planning and implementation of training of HEI employees in the field of digital competencies and ICT application
    g. The relationship between the HEI and the state from the aspect of ICT integration
    h. HEI policy in ICT integration and monitoring global trends
2. **Quality assurance**
    a. ICT quality assurance policies;
    b. monitoring and periodic review of study programmes, from the aspect of ICT application;
    c. evaluation of the work of teaching, research, administrative and technical staff;
    d. continuous monitoring of the results of scientific-teaching work and progress;
    e. procedures for determining the needs, development or acquisition of ICT resources and their application;
    f. approved procedures and follow-up on student enrolment, their progress through study and the completion of studies supported by ICT.
3. **Scientific-research work**
    a. The use of ICT in the preparation and publication of scientific papers;
    b. ICT support in the preparation and management of scientific research work and projects;
    c. ICT research (collaborative ICT research on HEIs);
    d. a system of support for researchers at the beginning of their careers in applying ICT in scientific research;
    e. continuous training of researchers in ICT application in scientific research;
    f. networking and collaboration of researchers with ICT support.
4. **Technology transfer and service to society**
    a. collaboration with stakeholders (employers, local community, pre-tertiary education) supported by ICT;

b. applied research and professional projects supported by ICT and/or ICT;

c. networking of researchers and users of research (stakeholders) supported by ICT.

5. **Learning and teaching**

a. preparation, storage and use of digital content in learning and teaching;

b. innovative learning and teaching methods with ICT;

c. the development of teachers' digital competence;

d. the development of students' digital competence;

e. the use of learning analytics to improve learning and teaching;

f. ubiquitous learning and open curricula;

g. personalisation and support for under-represented groups by using ICT in learning and teaching

6. **ICT culture**

a. the network presence of HEIs;

b. using ICT in HEIs promotion;

c. the development of digital literacy and the promotion of innovativeness in ICT application with HEI employees;

d. self-confidence and motivation of employees on the importance of ICT application;

e. providing access to and support in the application of ICT infrastructure;

f. the application of ethical standards, copyrights and intellectual property in the ICT field.

7. **ICT resources and infrastructure**

a. the availability of ICT resources (hardware and software) for learning and teaching;

b. the availability of ICT resources for scientific research;

c. network infrastructures at HEIs;

d. access to ICT resources for students (both in and out of the classroom);

e. digital environment and information systems for employees and students;

f. technical support and maintenance of ICT resources at HEIs;

g. information security system.

The following table summarizes the elements of continuity that can be traced between the changes initiated by the Bologna process in 1999 and the Digital Maturity (Đurek et. a., 2019)).

Table 1: Bologna process key issues and Digital Maturity Framework in HEIs

Bologna Process Key issues	Digital Maturity Framework for Higher Education Institution
• **Harmonization of the university cycle system** - two main ones (first and second level) and one corresponding to the doctorate - to facilitate the integration of students into the European market.	1a; 1b; 1h; 2a; 2b.
• Uniformity of the qualification system to facilitate the **recognition of national academic qualifications and careers** with the aim of allowing more free access to the labor market.	1c; 2a; 2b; 3d.
• Insertion of a **credit system based on the ECTS** (European Credit Transfer and Accumulation System) as an estimate of the workload required by students to achieve the objectives.	1c; 2b; 2e; 2f.
• **Promotion of the mobility of students and teachers** in the European area of higher education through the development of programs and initiatives regulated at European and national level (joint degrees and courses of study, joint certificates and final diplomas, implementation of the Diploma supplement).	1a; 1b; 1c; 1d; 3 (a-f); 4 (a-c)
• **Quality assurance** through the establishment of an agency at national level (in Italy the ANVUR) that evaluates the quality of education and, consequently, the assurance at European level of the common standards implemented in cooperation between the countries adhering to the declaration.	2 (a-f); 5 (a-g).
• Employability to be pursued through an education that aims with the first cycle **to provide the skills necessary to carry out a profession.**	3d; 3e; 5d; 5f
• **Learning focused on the active role of the student** by promoting teaching based on understanding, autonomy, the relationship between teacher and student (student oriented).	5 (a-g)

• **Lifelong learning** (Masters, specialized training, continuous training, training agreements with organizations and / or companies, student worker management (part-time, differentiated paths, use of ICT, blended, e-learning).	1h; 3f: 4 (a-c); 5f; 5g;

The exploration of these seven areas will allow us to identify for each case study the main interesting experiences in the field of:

1. Enhancing digital technologies in Higher Education institutions;
2. Academics professional development paths with a focus on digital innovation;
3. Quality assurance in Higher Education with particular attention to digital innovation quality standards in teaching-learning processes;
4. Recognition and validation of teaching competencies with particular attention to digital skills in Higher Education.

- a quantitative analysis of questionnaires' results aimed at students;
- a conclusion oriented to outlines the most important efforts and critical issues in organizational and educational processes aimed to enhance digital resources and the environment in Universities (strengths, weaknesses, threats and opportunities, needs and perspective of improvement)

Based on these assumptions, template expects the national researches articulation in four main sections:

a. Introduction
b. I part: the national framework
c. II part: the results of the field research
    1. in-depth interviews
    2. focus groups
    3. survey online
d. Results / Conclusions (strengths, weaknesses, risks, threats and opportunities)

The introduction of national research presents the main characteristics of the national report (objectives, methodology, division into chapters and paragraphs).

I PART. LITERATURE ANALYSIS: THE DESCRIPTION OF THE NATIONAL FRAMEWORK

1.1 Introduction

Irish Digital Context:

The first phase of the Irish National Digital Strategy was launched in July 2013. This strategy focuses on digital engagement and how Ireland can benefit from a digitally engaged society. It sets out a clear vision and a number of practical actions to help increase the number of citizens and businesses engaging online through industry and enterprise, citizen training, schools and education. The government's position is that "digitalisation can drive substantial increases in productivity, innovation, social improvements and connections, and economic growth and jobs". The aim for this strategy is to help position Ireland to reap these benefits and to position Ireland internationally, and within the European Union, at the heart of digital developments. The Action Plan for Jobs 2018 commits the government to developing a new National Digital Strategy, to position Ireland to maximise economic and societal benefits from digitalisation and we are currently awaiting this new national strategy. Ireland's National Skills Strategy 2025 affirms the government's vision for Ireland to be renowned as a place "where the talent of our people thrives…through the effective use of technology to support talent and skills provision, to grow enterprise and to enhance the lives of all within society". The Future Jobs Ireland Initiative 2019 emphasises a philosophy of lifelong learning and one of the five pillars of the initiative is 'Embracing Innovation and Technological Change'. As part of this initiative an expert working group undertook a training gap analysis of future needs, which is coupled with a programme of investment in educational institutions to host the education interventions identified. The third pillar of this initiative is 'Enhancing Skills and Developing and Attracting Talent' which will target a doubling of participation in lifelong learning by 2025.

Higher Education in Ireland Digital Context:

The European Higher Education Area in 2018 Bologna Process Implementation Report provides an overview of the situation regarding national strategies and policies on the use of new technologies in teaching and learning across the European Higher Education Area. Ireland does not yet have a national strategy specifically on the use of new technologies in teaching and learning in higher education however the third strand of the national digital strategy is concerned with education and eLearning and the National Strategy for Higher Education to 2030 sets out key policy priorities for the development of higher education in Ireland, in which eLearning is emphasised. The National Forum for the Enhancement of Teaching and Learning in Higher Education has been leading the way in progressing work on the teaching and learning dimensions, with key initiatives outlined in the report on Building Digital Capacity in Irish Higher Education 2013-18. An important element of this was the development of a Roadmap for Digital Learning in Higher Education: 2015-2017, which called for "a co-ordinated, multi-level approach to foster digital literacy, skills and confidence among students at all levels of education". Recommendations from this led to the development of the All Aboard Digital Skills Framework and A Review of the Existing Higher Education Policy Landscape for Digital Teaching and Learning in Ireland. According to the content analysis conducted as part of the review it indicated that Higher Education Institute policies often fail to reflect the language of digital teaching and learning. It was recommended that "policies be developed in consultation with those that will implement them in practice to ensure consistent and efficient

implementation" which led to a step-by-step Guide to Developing Enabling Policies for Digital Teaching and Learning published by the National Forum in November 2021 to assist HEIs with this process.

On 10th November 2021 the National Forum T&L launched the final report from the 'Next Steps for Teaching & Learning' project, a collaboration across 15 partners in Irish higher education, all seeking to answer one question in relation to Covid-19: 'What have we learnt and what does it mean for the future of teaching and learning in Irish higher education?'. The summary document "Insights from Students and Core Services on the impact of Covid-19 and key lessons for moving forward" brings together common themes based on 6 focus groups across 7 universities, including Examination Officers, Librarians, Heads of Student Services, Heads of IT and Heads of Teaching & Learning, as well as EDTL interns. Two of the seven key messages are significant in relation to digitalisation. One was that "Teaching & Learning experiences for students and staff are diversifying and evolving. Learning environments are transforming to effectively enable mixed modes of learning and participation" and the other was that "The world of work, for staff and students, is digitally infused and requires a commitment to lifelong learning". This highlights the strengths of the response by the university staff to the move online due to the pandemic and the importance of digital innovation in the future of the sector.

1.2 The national legislative framework

This section outlines the national legislative framework of the Higher Education Sector in Ireland with particular emphasis on national policies and organisations concerned with digital transformation in Higher Education.

Irish Higher Education Context:

The Irish Department of Education was formed in 1921 and had responsibility for primary, post-primary, further and higher education in Ireland up until 2020 when further and higher education were transferred to a new department. The Department of Further and Higher Education, Research, Innovation and Science was formed on the 2nd of August 2020 and Simon Harris, TD, is the current Minister for Further and Higher Education, Research, Innovation and Science. The Department is responsible for policy, funding, and governance of the Higher and Further Education and research sectors and for the oversight of the work of the State agencies and public institutions operating in those areas. Its Statement of Strategy 2021-2023 was published on the 8th March 2021 and it sets out among other things the department's ambition to implement a new 10-year strategy to improve literacy, numeracy and digital skills to ensure 'nobody is left behind,' to put in place a sustainable approach to higher education funding, and to introduce new legislation to reform higher education governance.

The Irish Universities Act 1908 established the National University of Ireland and the institutional pattern of university education in Ireland until the late twentieth century. The main current legislation governing Irish universities is the Irish Universities Act 1997. This act and the Higher Education Authority Act, 1971 established the basic institutions for governing the recognised universities such as the Higher Education Authority (HEA) which has statutory responsibility for the effective governance and regulation of the HE system in Ireland. In 2019 the Irish Universities Association (IUA) and Higher Education Authority (HEA) updated the Code of Governance for Irish Universities which "assists universities and their governing authorities in the good and proper management of universities and in ensuring that appropriate procedures and controls are implemented to manage the risks facing such complex institutions, while at the same time respecting their autonomy".

This case study focuses on the traditional university landscape within the higher education sector in Ireland as UCC is a university. Ireland's higher education system was principally a binary system up until recently with seven universities and thirteen institutes of technology. The Technological Universities Act 2018 brought change to the sector as it now allows institutes of technology to apply to become a new type of higher education institution with technological university status. At the time of writing this report there are three new technological universities in Ireland.

Key National Higher Education Organisations:

Three national organisations play key roles in implementing policy, distributing funding, governance, professional development and conducting national research in Higher Education in Ireland – Higher Education Authority, Irish Universities Association and National Forum for the Enhancement of Teaching and Learning in Higher Education. Higher education will change significantly over the next number of years due to digital transformation. According to the National Forum: "The critical application of digital technologies challenges many of higher education's structures, assumptions, policies and procedures, not least beliefs and attitudes about the role and nature of higher education itself. Ireland continues to set an international example by demonstrating how initiatives within and between institutions can be consolidated at a national level". Throughout this ECOLHE Irish case study the key initiatives these three organisations are implementing in the area of digital transformation in Higher Education will be discussed.

1) National Forum for Teaching and Learning in Higher Education (National Forum)

The National Forum works with those who teach, learn and shape policy and practice to ensure a valued and informed teaching and learning culture in Irish higher education. It works across all higher education institutions including Institutes of Technology, the new technological universities and private colleges. The National Forum establishes links between national policy and local practice and are the national body responsible for leading and advising on the enhancement of teaching and learning in Irish higher education. "The National Forum was established in 2012 with a remit that included the following: develop a national professional development framework; support open access to teaching and learning resources and research outputs within the context of building digital capacity in Irish higher education; support collaborative projects in teaching and learning that advance the key priorities of the Forum; develop a national awards scheme; and establish and maintain a strong evidence base for the advancement of national strategic priorities in teaching and learning" (Strategy 2019-21).

The publishing of the Teaching and Learning in Higher Education: A Roadmap for Enhancement in a Digital World 2015-2017 highlighted how digital technologies and their usage within higher education have been at the forefront in Ireland for many years. National Forum Patron, Professor Mary McAleese, following the European Commission's (October 2014) High Level Group (HLG) report New Modes of Teaching and Learning in Higher Education, stated "it is very encouraging and reassuring to see Ireland embrace the imperative of using the new technologies to advance the science of pedagogy, to enhance the quality of teaching and learning, to customise the student experience of both, to widen access, expand opportunities for life-long learning and continuing professional development, to promote diversity in the higher education sector, to lift local, regional and international collaborations to a completely new level and much more." One of the biggest challenges was to

find a way to utilise the always-growing digital capacity so that it can be used to further student learning. Some principles that were paramount in the Digital Roadmap were:

- The need to integrate approaches to building digital capacity across the sector
- The commitment to continuing engagement with stakeholders in the sector including employers, external communities, schools and further education providers; acknowledging that they are best placed to identify current needs, and thereby to scope a future vision for technology-enhanced learning
- The engagement of students as partners
- The use of learning spaces and digital capacity for rich learning
- The need to interrogate the myths and understand the realities associated with digital learning

It was of paramount importance to understand why digital was the best way forward, and the European Commission in 2011 stated that "There is a strong need for flexible, innovative learning approaches and delivery methods: to improve quality and relevance while expanding student numbers, to widen participation to diverse groups of learners, and to combat drop-out. One key way of achieving this, in line with the EU Digital Agenda, is to exploit the transformational benefits of ICTs and other new technologies to enrich teaching, improve learning experiences, support personalised learning, facilitate access through distance learning, and virtual mobility, streamline administration and create new opportunities for research." There has been a plethora of key strategic documents that discuss the promise digital technology brings to learning environments in the higher education sector. That being said, the premise of building digital capacity to improve teaching and learning has been both challenging and complex. Below is a figure showing the complexity of the system: (figure 1- page 15 NF-2015-Teaching and learning).

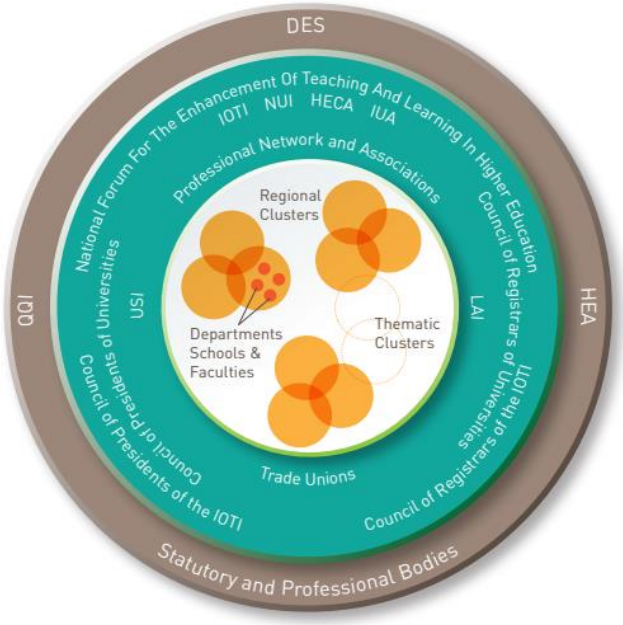


Figure 1 The Higher Education System in Ireland

With the growth of the number of students and the varying profiles of these new students, flexible learning was of utmost importance. Although the 17% target for flexible provision (as evidenced by part-time and remote learner enrolments) to 2013 was reached, a further increase to 20% was targeted for 2016. The main way to reach this target was by harnessing the potential of technology in order to aid in flexible learning for new and existing students. Additionally, Ireland showed a decreasing trend in remote learners from 2009/10 to 2012/13. Ireland was also ranked "lower than the OECD average on the international benchmark of flexibility provision (OECD average 27; Ireland 26). The EU average is 24 indicating that higher education in Ireland is heavily weighted towards fulltime provision (HEA 2014)." (It is worth noting that this may likely have changed since the shift to online provision due to the pandemic).

To reach these targets and implement digital capacities, many recommendations were made, including, but not limited to:

1. All higher education institutions should develop and make explicit within their institutional strategies the responsibility and structures to support the development and embedding of digital capacity in their teaching and learning activities

2. Enhance the national policy infrastructure to ensure that policy approaches are effective enablers of digital capacity building at institutional, inter-institutional and sectoral levels

3. Strategy should be informed by a broad, robust and up-to-date evidence base that captures learning from previous and on-going initiatives and is informed by national and international data and case studies

4. A co-ordinated, multi-level approach to foster digital literacy, skills and confidence among students at all levels of education needs to be developed"

The National Forum's Enabling Policies for Digital Teaching and Learning Project (2017-18) aimed to build awareness and capacity in policy development for digital teaching and learning across Irish higher education. Following extensive research and consultation across the sector, the project resulted in a review of the existing higher education policy landscape for digital teaching and learning in Ireland and a guide to developing enabling policies for digital teaching and learning. Both resources are designed to assist those developing policies to do so in a way that is mindful of what is important to students, those who teach, and the institution, and also what is achievable in practice.

Following on from this project the National Forum Strategy 2019-21 was published and its four key strategic priorities are 1) The professional development of all those who teach 2) Teaching and learning in a digital world 3) Teaching and learning enhancement within and across disciplines 4) Student success. In this strategy it outlines that its work informs, and is informed by, "a range of national policies, strategies and frameworks including the long-term vision set out by the National Strategy for Higher Education to 2030, the related objectives outlined in the current and future Action Plans for Education and Higher Education System Performance Frameworks, the Higher Education Authority (HEA) Strategic Plan 2018-2022, the Strategy Statement of Quality and Qualifications Ireland 2019-21, the Charter for Irish Universities, the National Plan for Equity of Access to Higher Education 2015–19, the National Strategy on Children and Young People's Participation in Decision Making 2015-20, the International Education Strategy for Ireland, and the National Skills Strategy".

Irish National Digital Experience (INDEx) Survey

In more recent times, a vast and comprehensive survey was delivered by the National Forum for the Enhancement of Teaching and Learning in Higher Education. Mary Mitchell O'Connor, Minister of State for Higher Education, stated in her welcome to the 'Irish National Digital Experience (INDEx) Survey: Findings from students and staff who teach in higher education':

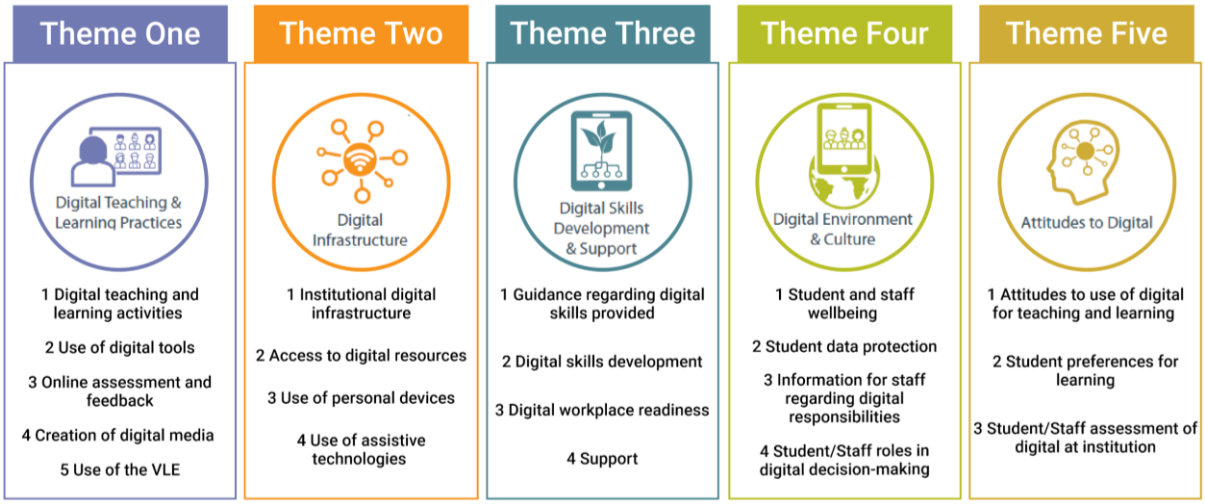
> **"The importance of the digital lives of teachers and learners has never been more in focus than it is at the current moment. I was interested to read that Ireland is the only country with national data representing all students and staff currently experiencing the sudden shift to online teaching and learning. We have a unique dataset at a unique time, and it is up to the whole higher education community to make the most of it."**

The INDEx Survey was performed in autumn, 2019. Through this survey, data was collected from 25,484 students and 4,445 staff who teach at 32 higher education institutions. The main objective was to provide an evidence base to inform decision-making and future enhancement of digital teaching and learning. The overall findings truly showed how students and staff felt about digital teaching and learning, just before Covid-19.

Some interesting and relevant findings are listed below:

- 48% of students would like digital technologies to be used in their course more than they are now and 68% of staff who teach would like digital technologies to be used in their teaching practice more than they are at present.
- 80% of students and 64% of staff who teach rated as above average the overall quality of their institution's digital provision (software, hardware, learning environment).
- 74% of students believed that digital skills were important in their chosen career; 46% said their course prepared them for the digital workplace.
- 70% of staff who teach had never taught in a live online environment (using benchmarking data, this compares with 74% in the UK); this proportion will have changed dramatically since March 2020.
- 30% of students and 44% of staff who teach said they did not have the opportunity to be involved in decisions about digital services at their institution.
- It is also important to note, that although these figures arose just before Covid-19, that does not make them any less relevant, if anything, it proves that digitalisation and digital technologies, could have been stronger before the pandemic, thereby creating a smoother transition. This is evident by the simple fact that 70% of staff who teach had never taught in a live online environment, with that number, post Covid-19, being at a hard 0%. Some basic infrastructure may not have changed dramatically, however, institutions would have invested in new software solutions and/or leveraged existing ones far more significantly. Necessity due to the pandemic has arguably forced both teachers and learners to overcome previous hesitancy.

The INDEx Survey itself is rooted in the policy and practice contexts of Irish higher education. Earlier publications, such as the National Strategy for Higher Education to 2030 and subsequent establishment of the National Forum by the Minister for Education and Skills in 2013 really did further teaching and learning enhancement in Ireland, all the while focusing on the digital capacity that is so evident in higher education today. Through the extensive data research, five main themes emerged: Digital Teaching and Learning Practices; Digital Infrastructure; Digital Skills Development and Support; Digital Environment and Culture; and Attitudes to Digital.



Theme 1: According to students and staff who teach, the VLE remains a central pillar of teaching and learning in higher education. A particularly noteworthy finding that may impact on learning design is the high proportion of students who access the VLE on mobile devices, compared with a much lower proportion of staff who teach. INDEx findings also highlight that the VLE must not be our only focus with respect to digital learning.

Theme 2: Digital infrastructure is foundational for digital teaching and learning practices. Access to reliable wifi, digitally-enabled teaching and learning spaces, digital resources, lecture recordings, digital media production facilities and assistive technologies all provide means by which student learning and staff practice and professional development can be optimised. Ideally, the physical higher education environment and related resources and facilities should support, as seamlessly as possible, digital teaching and learning. Theme Two findings also include robust data on the range of devices owned and used by students to support their learning, and the degree to which institutions support the use of personal digital devices. To foster equity and parity of experience, attention is needed to ensure that students have access to the devices, software and network access they require for learning. This need has been brought into sharp focus during the present time of institutional closures, with students relying on personal access to technology in order to take part in learning and assessment. The National Broadband Plan (NBP) for Ireland intends to provide access to high-speed broadband with a choice of service providers to every home and business by 2026. The government signed the contract for the implementation of the national broadband plan in November 2019. Access to highspeed broadband in rural

areas is still an issue that impacts access to online learning. It is also worth mentioning that a person's domestic space can be a major inhibiter to access e.g. no reliable study space, large numbers in congested space, being homeless etc.

Theme 3: The importance of digital skills and digital competence for higher education students and staff is widely acknowledged. Beyond technological infrastructure and resources, students and staff who teach also require support in developing the confidence and skills to appropriately and effectively use digital technologies within their pedagogical contexts. Another interesting finding from Theme Three centred on the supports students and staff who teach rely on in optimizing their engagement with digital technologies; students look to those who teach them as their main source of support. The extent to which staff who teach see themselves in this role is unknown, but awareness of this finding is illuminating. While in some cases, staff who teach may play a digital support role, in others, they may play a useful 'triage' role, referring students to specific resources (including other staff) that may be helpful.

Theme 4: Digital environment and digital culture are important aspects of organisational digital capabilities and potential enablers of digital practices. Digital environment and culture describe how an institution supports the development of digitally capable people (students and staff) through its institutional strategies, policies, leadership, style of communication, and engagement with students and staff. Considering the importance of institutions' GDPR obligations and concerns about personal data privacy more broadly, it is important to ensure students' data privacy and protection, to communicate clearly to the institutional community regarding related protective measures that are in place, and to equip staff with the necessary knowledge and resources.

Theme 5: The findings of Theme Five, relating to attitudes to digital, demonstrate the importance of the previous four themes. The views of students, reflecting the high value they place on the use of digital technologies in their education, illustrate why it is worth enhancing digital teaching and learning practices, digital infrastructure, digital skills and competences and the institution's digital environment and culture. Digital matters to students; most students agreed that when digital technologies were used on their course, they understood things better, enjoyed learning more, were more independent in their learning and could fit learning into their life more easily. The majority of staff who teach also rated the digital provision within their institution as above average, although staff gave mixed responses when rating the support they received from their institution to develop the digital aspects of their role. An explanation for this lower rating among staff may relate to the findings described in Theme Three where only a minority of staff indicated that they were given time and support to innovate or were recognised/rewarded for attending to the digital aspects of their role.

2) Higher Education Authority (HEA)

The HEA has statutory responsibility for the effective governance and regulation of the higher education system in Ireland. The development of a Higher Education Digital Transformation Framework is a key action in the HEA Strategic Plan 2018-2022. The development of a Higher Education Digital Transformation Framework will bring together and advance the work already started in the sector including: "identifying infrastructure deficits and the need for targeted investment; opportunities for shared services and platforms to progress the digital agenda nationally (e.g. HEAnet, EduCampus); improving online learning and blended models of delivery; how to better

use the data we currently have to improve student success; how to achieve open access to higher education and research publications and data" (HEA 2018-2022 Strategic Plan).

The HEA outlined its strategic plan for the digital transformation of Irish higher education in three simple and clear aspects of teaching and learning:

- How it is delivered, e.g. through online options and in a range of flexible ways
- Who it is delivered to: widening its reach to more and less traditional higher education students
- What it teaches with increased open access to cutting-edge research developments in all disciplines

The pandemic has altered the landscape of these areas with universities moving to 100% online provision and the system itself is currently in a period of flux and data gathering to assess how much of these planned changes have been accelerated and the impact to for example the numbers of non-traditional learners accessing higher education during and post-pandemic due to the online availability. According to the HEA the ability of HEIs to embrace digital transformation is central to their future success and as an organisation it plans for its technological capability to be enhanced to underpin its role in digital transformation across the Irish higher education sector.

3) Irish Universities Association (IUA)

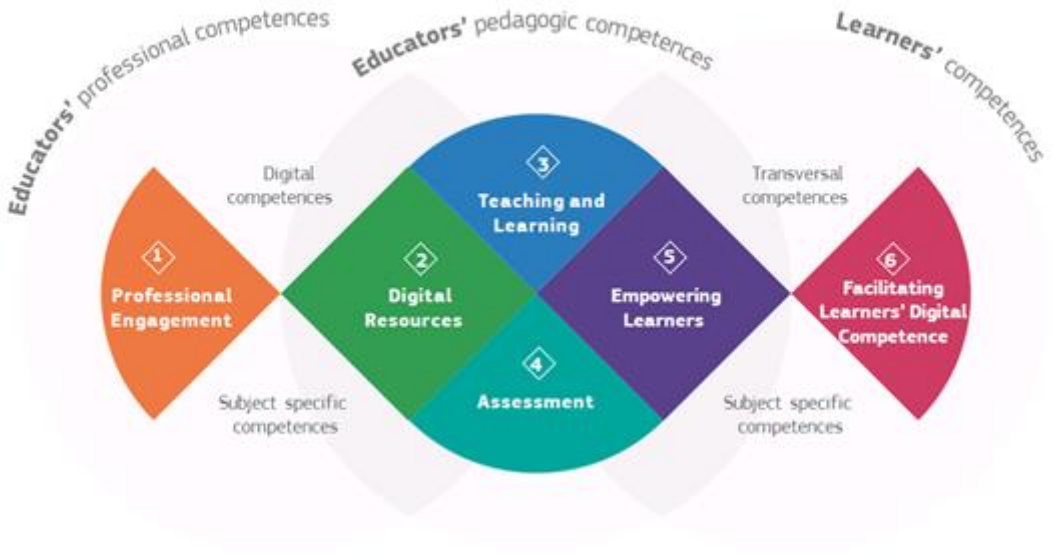
The IUA is the representative body of the universities in Ireland, they represent the interests of the member universities as key contributors to the economic, social, and cultural well-being of Ireland. The mission of the IUA is to collectively formulate and pursue policies which advance education and research in the universities. In September 2018 IUA member universities committed to a Charter to grow and develop the university education system for this and future generations of students. Its target is to enable the Irish education system to become the best in Europe by 2026, thereby achieving the Government's ambition for the national education sector. The first commitment of this Charter is to 'build on the quality of the student experience in a digital age'. As part of this universities have committed to developing a national programme in digital learning in partnership with government. This requires investment to refurbish decaying infrastructure, build capacity and provide the systems needed for an increasingly digital and flexible learning environment.

In a report published by IUA, the effects of Covid-19 on higher education were touched upon, whilst also conveying the strengths of the rapid migration to online teaching and assessing. The transition did not diminish the quality and integrity of the programmes, and the effort was successful in transitioning thousands of academic programme modules across seven universities. The need for a sustained and long-term remote learning scenario for staff or students was also seen as a high priority. Aside from financial issues, the "capacity of the universities to respond to the wider societal challenges, especially the skills, research and innovation needs, that are essential to the recovery" was of utmost importance to respond to the challenges brought about by Covid-19. Different funds, including a Stability Fund, a Transformation Fund, and a Research and Innovation Fund have been proposed in order to secure the learning and development needs of current and future cohorts of students in higher education. The Research and Innovation Fund, in particular, will help with the future of digital technologies in higher education in Ireland, even though the State investment in R&D is at '0.95% of total government expenditure as against an EU27 average of 1.3%'. Similarly, in the Statement of Strategy 2021-

2023, published by the Department of Further and Higher Education, Research, Innovation and Science, the values mirror that of the Irish Universities Association, with a commitment to a culture of continuous learning and professional development, and a willingness to embrace responsiveness and innovation. One of the 5 goals is that of Literacy, numeracy, and digital skills.

1.3 Professional development

The European Digital Competence Framework (DigComp2.0) is a digital competence framework for citizens that identifies the key components of general digital competence. More specifically relevant to the professional development of Higher Education professionals is the common European framework Digital Competence Framework for Educators (DigCompEdu) It is a framework to help guide policy and can be directly adapted to implement regional and national tools and training programmes. The focus is not on the technical skills development of professional educators but it aims to detail how digital technologies can be used to enhance and innovate teaching and learning.



European Framework for the Digital Competence of Educators: DigCompEdu

The National Forum published Ireland's first framework to support the professional development of those who teach across the sector The National Professional Development Framework for All Staff Who Teach in Higher Education in 2016. It came from a need from the sector for nationally recognised CPD that would be recognised across the sector i.e., digital badges. The framework is underpinned by the values of inclusivity, authenticity, scholarship, learner-centredness and collaboration and at its core, it is underpinned by both a reflective and an evidence-based approach (see figure).

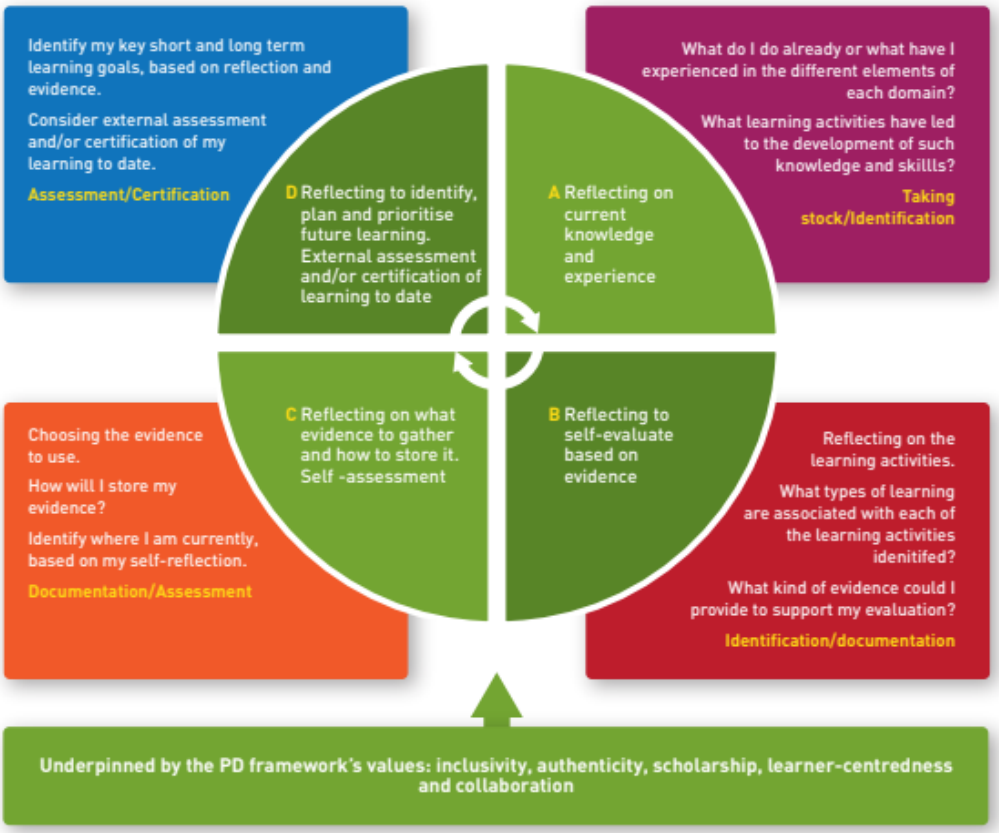
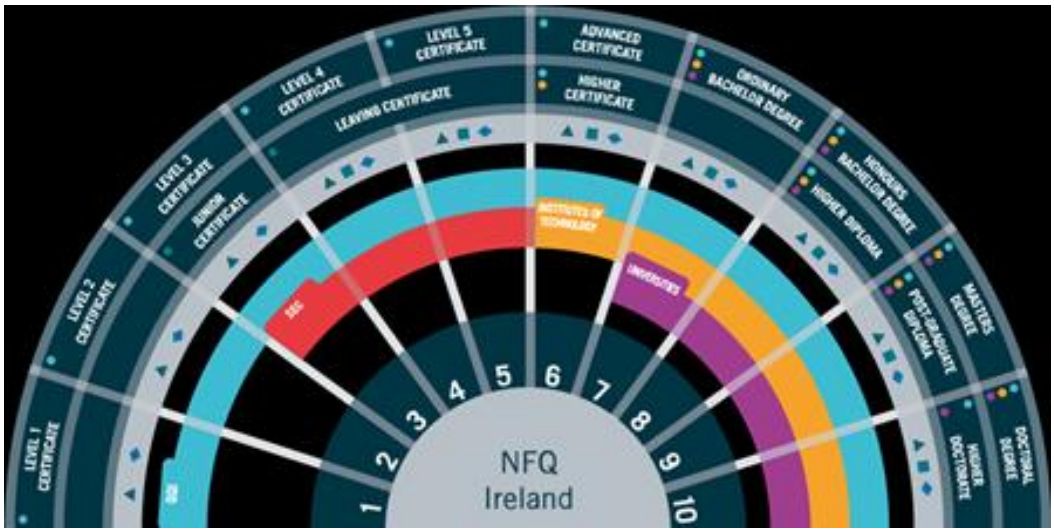


Figure 3: Cycle of Evidence-based Reflection and Planning for Individual Staff

In Ireland, the Irish Universities Association began a project in January 2019 called Enhancing Digital Teaching and Learning (EDTL) which is now extended until September 2022. This project aims to enhance the digital attributes and educational experiences of Irish university students through enabling the mainstreamed and integrated use of digital technologies across teaching and learning. The project aims to mainstream digital teaching and learning activities in Irish Universities, by addressing the professional development of all who teach or support teaching and learning. It takes the view that "to respond to the changes in student population and the increasingly digital environment, educators have to develop their digital skills and adapt to more innovative teaching approaches". An example of one of the course available is 'Getting Started with Personal and Professional Digital Capacity'. This ECOLHE Irish case study highlighted that the professional development in the area of digital technologies needs to happen across all Higher Education staff, not just educators. The admin staff focus group was particularly salient in capturing this perspective and the vital role that the non-teaching staff play in the teaching and learning of students. The national and UCC senior staff interviews showed that the professional university landscape is changing with new roles that are no longer clearly defined along the lines of teaching staff or administrative staff, supporting the case for university wide professional development of staff in the digital environment.

1.4 National systems of assessment and Quality Assurance in HE

The National Framework of Qualifications (NFQ) is a 10-level, single national entity through which all learning achievements may be measured and related to each other. Underpinned by quality assurance principles, it describes qualifications in the Irish education and training system and sets out what each qualification says about what learners at each level should obtain in terms of knowledge, skills, and competences. The breadth of its scope results in a central point of reference, nationally and internationally, for the comparison, contrast, and recognition of qualifications. Its ultimate purpose is to place the learner at the centre of education and training in Ireland.



QQI (Quality and Qualifications Ireland) is an independent State agency responsible for promoting quality and accountability in education and training services in Ireland. Established in 2012 by the Qualifications and Quality Assurance (Education and Training) Act 2012. In its role it oversees key component areas of the development of the European Higher Education Area under the Bologna process in Ireland. The European standards for quality assurance in Higher Education - with specific attention to digital innovation – have been integrated into our national system, incorporated into QQI standards (NAT3). QQIs role is to promote, maintain and develop the Irish National Framework of Qualifications (NFQ); approve programmes offered at a variety of schools, colleges and further and higher education and training institutions; and regulate and promote the quality of programmes offered by schools and colleges leading to qualifications in the NFQ for the benefit of learners, employers and other interested parties. It also advises the Minister for Education and Skills about national policy on quality assurance and improvement in education and training.

1.5 National financing programs

When compared internationally, Ireland has particularly high levels of progression to third-level, reflecting the strong emphasis placed on continuing to higher education and the educational demands of the Irish labour market. According to the Central Statistics Office, 47% of the Irish working age population (25-64 years) have

attained a third-level education (2018). This is significantly higher than the OECD average of 38%, and places Ireland at 7th highest in the OECD (2018). According to the HEA the sector has been under significant financial pressure in the years before the pandemic due to a combination of factors, including significant reductions in funding and resources made during the financial crisis, and growing student numbers. "Across all Higher Education Authority (HEA) funded institutions, the Parliamentary Budget Office (PBO) estimates that funding per undergraduate student (fulltime, part time, remote and FETAC) enrolled in 2019 was 50% lower than in 2008" (Overview of Tertiary Funding 2019).

Under the HEA 2018-2022 Strategic Plan, 'Funding, Sustainability and Performance' is listed as a strategic theme, noting that the agreement and implementation of a sustainable funding model is "imperative and is all the more critical given the demographic trends". These trends predict undergraduate student numbers in higher level education to increase from 187,495 in 2017/2018 to 222,514 by 2030. The Cassells Report 2016, Investing in National Ambition: A Strategy for Funding Higher Education, made clear the need for increased levels of investment in higher education and from differing sources. The 2018- 2027 National Development Plan signalled a ramping up of capital investment in the sector over this decade.

In a recent report published by the Irish Universities Association the effects of Covid-19 on higher education was touched upon, whilst also conveying the strengths of the rapid migration to online teaching and assessing. Different funds, including a Stability Fund, a Transformation Fund, and a Research and Innovation Fund have been proposed in order to secure the learning and development needs of current and future cohorts of students in higher education. The Research and Innovation Fund, in particular, will help with the future of digital technologies in higher education in Ireland, even though the State investment in R&D is at '0.95% of total government expenditure as against an EU27 average of 1.3%. It is up to the universities to apply for these funding streams.

Beginning in January 2022, the National Forum will operate within the umbrella of the HEA – this means that instead of three-year renewable funding, the Forum will receive statutory multi-annual funding. "This is fantastic for the sustainability of the Forum's work in the sector" (NAT3).

1.6 Universities micro-policies

University College Cork (UCC)

The Principal Statute of University College Cork was adopted by the Governing Body in 2009, with its latest amendment in 2020. The University has a system of shared governance made up of the Governing Body (GB), Academic Council (AC) and the University Management Team (UMTO/UMTS). The role and authority of the Governing Body and of Academic Council are set out in the Universities Act of 1997 and in the University's Principal Statute. The Academic Council is the primary internal body responsible for academic affairs and derives its authority from the Universities Act, 1997 (SI24), Chapter V, §27 and Principal Statute. The term 'academic affairs' is broadly defined to include programmes of study; structures; teaching and learning; research; advancement and dissemination of knowledge; selection, admission, retention and exclusion of students; student discipline; the conduct of examinations, and the awarding of fellowships, bursaries and prizes.

UCC Quality Assurance

UCC is recognised as an autonomous degree-awarding body under the terms of the Qualifications & Quality Assurance (Education & Training) (Amendment) Act 2018, with responsibility for assuring and enhancing the quality of its education, research, and allied services. UCC has comprehensive internal and external quality assurance procedures meeting both national and European standards, with a strong focus on enhancing the quality of all activities. The Quality Enhancement Unit at UCC are responsible for the systematic examination of education, research, and other activities. Through their quality enhancement approach, they seek to: preserve UCCs institutional autonomy through accountability and transparency and so enable the diversity of UCCs activities; to recognise and share good practice; to increase their reflexive capacity; to support institutional learning and development to encourage responsiveness across all UCCs activities. The Quality Enhancement Unit in UCC plays a positive role in terms of digital education and innovation and their quality ethos comes from the point of view of enhancement not judgement, the quality review panels that come into schools in UCC are very keen to share their experiences and make suggestions.

Digital Innovation at UCC

UCC Digital Strategy 2018-2022

The following are some of the key policies that University College Cork has outlined in their current four-year Digital Strategy plan. Further investment in student ICT centres, student records, curriculum, VLE, classroom tech identity and wired networks to allow for digital growth. In terms of building digital strategy, with the aid of the University Strategic plan and the UCC Academic Strategy 2017-2022, it allows the enabling of a more connected University, to support the digital growth of UCC and provide the technical platforms for a more data driven University. This course of action will all be governed by the Academic Council, IS&ER committee, and an ICT steering group.

- **Technology enabling academic strategy**.

These digital platforms will play key roles in the enabling of a more connected University. Curriculum management connects teaching with research to allow the support of academic strategy. The student administrative system transforms how the University engages with and supports students. Digital Hub will provide a more personalized experience for both staff and students. CRM digitize legacy processes and workflow. VLE will connect students, researchers, and employers. Research systems provide the tools to digitally curate new knowledge. Digital skills enable and rewards the learning journey.

- **The use of digitalization to support the growth of UCC.**

The provision of the digital transformation of the administrative system will be through capital development to support new tech rich buildings and spaces. Mobile Staff enables a more mobile workforce both on and off campus. IT Security secure university networks, data, and services. infrastructure and data centre and DevOps allows agility, flexibility, and automation, leveraging public cloud where it makes sense. Digital Estate develops the University's online digital estate, websites, intranets, staff apps etc. Also, Digital Learning will empower staff and enhance their learning experience by incorporating a more online approach.

Strategic Plan 2017-2022; Teaching and Learning

This five-year strategic plan outlined by University College Cork was designed to activate the enhancement of learning and teaching based on a continuous involvement plan. The ambition of the project is to 'deliver an outstanding, student-centred teaching and learning experience with a renewed, responsive and research-led curriculum at its core' and to 'ensure a diverse staff who are enabled to reach their full potential'. The following are some of the key actions and targets set out by the plan in terms of digitalization.

Key actions

- Recognise formal and informal learning, including micro credentials (digital badges).
- Cultivate digital intelligence grounded in human values to enable our students to become masters of technology not mastered by it.
- Equip staff and students to use technologies effectively for teaching.
- Ensure that all UCC students have access to excellent digital literacy development and support opportunities.
- Enable greater collaboration and peer support using technology.
- Use educational technologies to support excellent teaching, learning and assessment.
- Enhance capacity for digital learning of students.
- Refocus TEL towards teaching, learning and research.
- Roll out spikey profiles to support digital fluency.

Target

- Provide diverse opportunities for staff to engage in CPD relating to T&L. KPI: Develop and enact a range of staff and student development activities such as the seminar series and T&L showcases. Support national initiatives such as digital badges in Universal Design for Learning, digital badge in Research supervision and staff recognition on national framework for professional development in T&L
- Ensure all teaching staff increase digital literacy skills. KPI: 90% of Academic Staff have registered spiky profiles and training plans to address gaps.
- Ensure all UCC students have access to excellent digital literacy development and support services. KPI: 100% of all UCC students have access to diagnostic assessment and sufficient training capacity to meet demand.
- Increase the number of online courses offered by UCC. KPI: Target: 100 postgraduate courses to have some online component.
- Establish UCC's ID Team as a recognised centre of excellence. KPI: ID Team producing 4 research papers per annum, presenting at 2 international conferences.

- Increase the number of students engaged in some form of online learning. KPI: 50% of all UCC students taking at least one online module. This target has since been exceeded due to the implications of Covid-19.

UCC Centre for Digital Skills

This department is currently involved with a range of committees and working groups across the university. Some of which include;

- The Digital Education Advisory Group. Responsible for reporting to the Academic Council Teaching and Learning Committee and the Academic Council Information Strategy and Education Resources Committee.
- The Digital Badge Subcommittee of Academic Development and Standards Committee
- The IT Steering Group
- Academic Programme and Regulations Programme Approval boards. This board carries the right to decide whether online components are included in new programmes submitted for approval

UCC 2022: Delivering a Connected University

According to the executive summary of the UCC 2022: Delivering a Connected University, the plan sets out a thematic prioritisation of UCCs strategy, as well as the transformative changes to the core operations in response to geopolitical challenges, the escalating climate crisis and accelerating societal and economic pressures associated with the Covid-19 pandemic. This strategic pivot identifies the key strategic priorities for the period 2021-2022, clustered within five interconnected thematic pillars:

- Learning and Teaching - has a particular focus on digitalisation
- Research and Innovation
- Student Success
- People and Organisational Culture
- Infrastructure and Resources.

Deeply rooted in extensive collaboration both within and outside UCC, this two-year plan builds on other university strengths in student focus, sustainability, and community and global engagement, to identify actions to respond to the current crisis and position UCC for long-term success.

Personalised education will be provided through market-aligned, future-ready programmes and the role of technology and digitisation will not only improve flexibility but also enhance efficiencies that will then enable lifelong and life-wide learning.

1.3. Invest in Digital Education

Digital technology has revolutionised the way we teach, as experienced when the entire University went online in March 2020 with only a few hours' notice. While UCC commits to being a largely campus-based undergraduate university, the plan is to increase blended delivery and postgraduate online offering. This will be done while supporting the necessary digital skills and expertise of the academic staff. UCC plans to support its academics to work with learning designers to bring a richness of resources to the delivery of all courses.

This has the potential to enhance educational experience, as an effective blended course will include access to digital resources and activities that help students learn specific concepts and test understanding.

Online learning portals will use learning analytics to track student progress, while predictive modelling will alert staff to additional support requirements. As society is in the midst of the fourth industrial revolution, business and industry are increasingly integrating virtual and online work into their operations; at UCC we are ensuring that our graduates will be work ready for this rapidly changing environment.

ACTIONS

1.3.1. Enhance the digital learning experience for on-campus and off-campus learners, by upskilling including via micro-credentials, through investment in simulation, virtual resources and flexible learning and assessment using technology.

1.3.2. Further enable remote learning through unique online programmes.

1.3.3. Prioritise investment in digital education through expanding our range of infrastructural resources to staff, deploy Instructional Design expertise in Colleges and Schools.

Policy Framework for UCC Digital Badges

"This Policy Framework is a document that sets direction, objectives, standards, policy and process for the development of digital badges in the University." This policy framework aims to keep the level of quality and standard of the digital badges that are issued by UCC. The digital badges are micro-credentials "awarded to earners in an online format." The main objectives of the policy framework are:

OBJECTIVE 1 – To provide a Strategic Approach to developing the organisation and navigation of UCC Digital Badges, enabling the strategic development of emerging longer-term opportunities for digital badges within UCC;

OBJECTIVE 2 – To put in place a clear Governance and Operational Policy for immediate use in the development and issue of externally facing, non-credit bearing digital badges; and,

OBJECTIVE 3 – To ensure UCC Digital Badge Quality and Standards through implementing an Approvals Process for immediate use to progress the development and issue of any new digital badges by UCC.

"The scope of the application of this Policy Framework is therefore the development and issue of externally facing UCC Digital Badges issued as a means of recognising knowledge and skills obtained outside of or complementary to the ECTS credit system, delivered at no additional cost to the earner and not resulting in monetary gain for the badge issuer. These badges can be issued to UCC staff and students." It is important to note here that this may be an opportunity for future application for the use of digital badges "as a tool to support

student assessment and progression activity," which would be of great interest to adults returning to education with and through ACE.

UCC Professional Development

This national project IUA Enhancing Digital Teaching and Learning Project introduced above in section 1.3 Professional Development, in the context of UCC is aimed at enhancing the digital attributes and educational experiences of UCC students through enabling the mainstreamed and integrated use of digital technologies across the teaching and learning. In order to do this, the project set out to develop, pilot, review and roll out staff development programmes and responsive training to enhance the digital confidence, skills and competences of those who teach in UCC.

Resources have also been created to help remote teaching during COVID-19, called 'The EDTL Approach'. The vision of the project 'aims to mainstream digital in teaching and learning activities in Irish universities, by addressing the professional development of all who teach or support teaching and learning. The project aims to support university teachers to develop their digital competences so that students' learning experiences can be enhanced with technology." This can be seen at UCC through the Teach Digi series launched in June 2020. Teach Digi comes from the Irish word for Digital, which is *Digiteach*, which means 'house of digital'. Teach Digi aims to "address the digital education needs of staff during the Covid19 pandemic in a meaningful and responsive way." The findings of the Irish National Digital Experience (INDEx) Survey, previously mentioned in this report, provided an evidence base for training, alongside informal and formal feedback from both UCC staff and students. Teach Digi, in June 2020, launched a series of responsive digital education training support for UCC staff. These aim to support staff in their digital professional development.

Response at ACE

Given the context of Covid-19 and the prevailing public health guidelines, ACE adopted a blended learning approach for all its programmes for the 2020/21 academic year. This approach remained largely unchanged for 2021/22. A hugely successful Community of Practice Week took place over the week of August 24th – 2020. The sessions focused on the needs of adult learners and equipped lecturers with a practical toolkit that helped make the transition to a blended online approach as straightforward as possible.

As part of the initiative to support students doing online programmes this year, and in the context of the additional stress many students were feeling, ACE organised two mindfulness online workshops in October 2020.

1.7 Best practices.

According to all three UCC interviewees UCC takes a 'pedagogy first' approach to all professional development in digital competencies and this view that technology does not drive the pedagogy, it is seen as a means of supporting innovative design in teaching and learning is best practice in Higher Education in Ireland. "The vision of the Centre of Digital Education is to empower staff to improve student learning through the best practice application of technology" (UCC1). The training provided by the centre to staff is teaching with the technology - Canvas, Panopto and MS Teams – and Teach Digi is more focussed on the educational aspect - for example,

how to engage learners, how to build interactivity, why recording lectures is important. This approach to building the digital skills and competences of staff was found to be best practice from across the data gathered.

CIRTL - Centre for the Integration of Research, Teaching and Learning.

- Sees the points of integration between research, teaching and learning and builds on this.
- Not 'training' in the rigid sense, not teaching how to teach but offer frameworks, tools etc.
- Augmentation of what people do and work in partnership with colleagues to champion the development and uplifting of all staff. Sees itself as 'a critical friend' who champions good work
- Seminars and digital badges
- CIRTL programmes moved online around five years ago which was a great advantage in light of the pandemic

CIRTL also offers accredited professional development in the form of the Postgraduate Certificate, Diploma & MA in Teaching & Learning in HE

"UCC has the highest proportion of academic staff with an accredited qualification in teaching and learning in Higher Education in Ireland 70-75% of academic staff have at least the minimum Cert in Teaching and Learning in HE. This year taking the programmes there are: Postgrad Certificate 67 people, Postgrad Diploma 30 people & Masters 15 people in Teaching and Learning in Higher Education, making the Teaching and Learning in Higher Education one of the biggest postgraduate programmes in UCC. The university is also currently planning a Postgraduate Certificate in Professional Practice and Leadership in Higher Education aimed at administrative staff as their roles have an impact on the academic and in recognition of the new roles in HEIs that are now both administrative and academic" (UCC2 Interviewee).

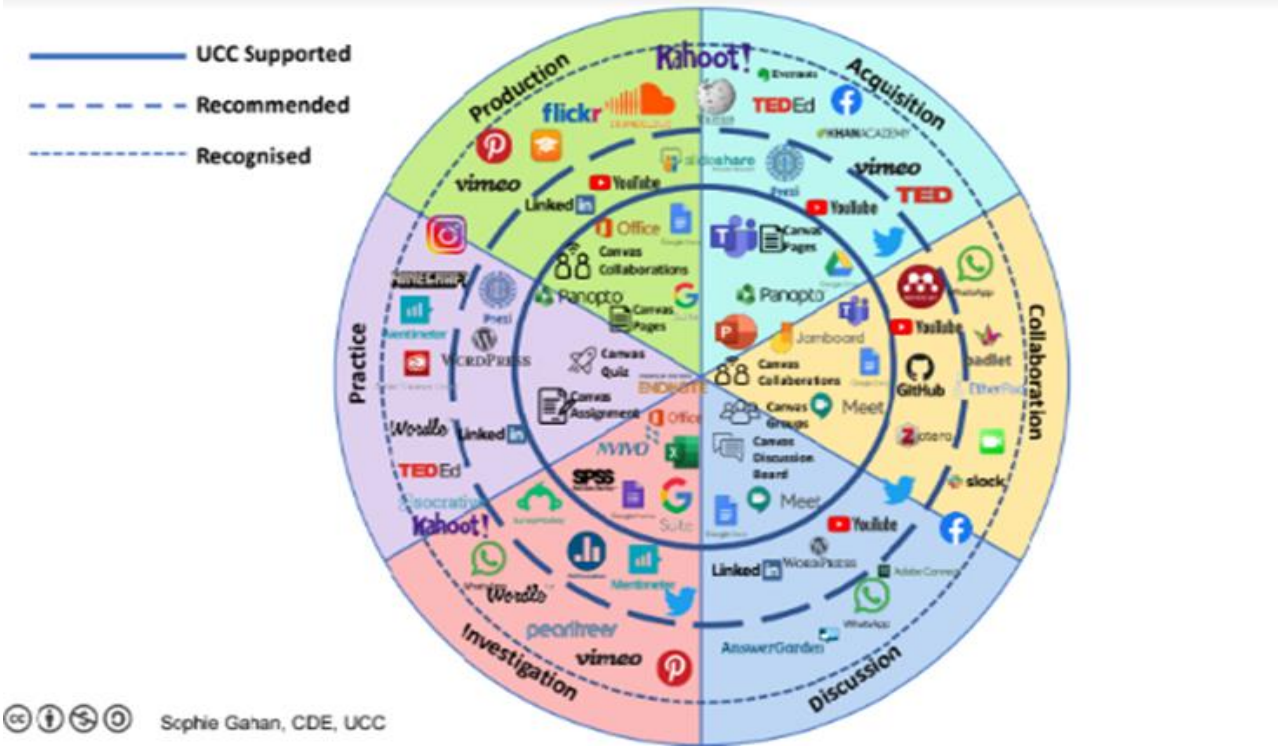
- **Connected Curriculum**

As part of UCC's Academic Strategy (2018 - 2022) a digital Badge course was launched in April 2020 and has been completed by a wide range of staff across UCC and uses a self-evaluation tool to work on the design of your own programme.

The central characteristic of the UCC learning experience is the delivery of a Connected Curriculum, which emphasises the holistic development of students, from a variety of pathways and access points, and staff through research-based, collaborative enquiry, with a commitment to excellence and disciplinary integrity.

- **ABC Learning Design Workshops**

Outlining the type and sequence of learning activities (both online and offline) required to meet the module's learning outcomes. ABC is particularly useful for new programmes or those changing to an online or more blended format.



A Period of gathering Data on Best Practices due to the Pandemic

During the pandemic systems and processes speeded up – decisions were made in real time and the strengths of solid collaborative relationships between various units in UCC allowed for a 'successful' move from a campus-based university to 100% online operations (UCC 2 interviewee). The **Digital Education for Teaching (DEFT)** project is being run by the **Centre for Digital Education**, this project supports **UCC 2022, Action 1.3.3** on prioritising investment in digital education and will use a survey, focus groups, and one-on-one interviews to understand:

- How UCC staff taught over the past year
- How you think you might teach when no longer limited by a pandemic
- What technologies were used for teaching
- What software/platforms would have improved your teaching
- How can we help support your use of digital education in your teaching

II PART. FIELD RESEARCH: THE NATIONAL CASE STUDY

2.1 Introduction

The field research consisted of three national interviews, three UCC interviews, three focus groups held with ACE staff and a student survey. The national interviews shaped the structure of this case study report as they confirmed the important role that national bodies like the National Forum for Teaching and Learning, Higher Education Authority, and Irish University Association play in digital innovation in higher education in Ireland. Changes in the sector occur with respect to the autonomy of the universities and with collaboration between the universities and the government through these national organisations. Throughout the national interviews the interviewees discussed the various strategies and initiatives implemented by these organisations and so these are presented in the national section of this case study report. Any national and UCC strategies/initiatives/reports/projects etc. mentioned by interviewees as significant have been included and indeed framed the discussions in the first two parts of this report – the national context and UCC.

The national interviews highlighted the autonomy of the university, and this was confirmed by the UCC interviews as important changes had taken place in UCC in the area of digital innovation before the pandemic. Any mention of specific practices in universities in the national interviews have been undertaken by UCC and are covered in the best practices section of this case study report. The main points from the national and UCC interviews are presented in short points here and have been influential in the focus of the report as a whole. Three focus groups were conducted with staff from ACE and these are presented with the main themes from all three and a SWOT analysis. The analysis of the student survey is presented last and adds a layer of complexity especially as aspects of online teaching were considered strengths, weaknesses, opportunities, and threats by the students. This balanced view is shared by the ACE staff in the focus groups. This student voice is vital to capture and should be given a prominent position in the discussion of digital innovation. The interviewees were strong advocates for digital innovation and as this report is largely from the perspective of national organisations and large institutions the complexity of the student's situation, especially for ACE students could get lost. Issues like a lack of access to broadband or a lack of time and space for learning in the home environment or the lack of supportive relationships with online learning are not widely addressed in this case study. This is because its focus is on the digital innovation in the sector and the professional development of staff, however for ACE staff the pastoral care and access to education for their students is central to their ethos and so the results of the survey are very important to ACE at UCC.

2.2 Decision-makers: main results

To gain a national perspective on the areas of the field research of the national case study three in-depth interviews with key senior figures were conducted. What is mentioned here perspectives and points garnered from the individuals that are not immediately evident in the report. All strategies and initiatives mentioned during interviews are included and discussed in the national report above.

- **NAT1:** Department of Further and Higher Education, Research, Innovation and Science
- **NAT2:** Irish University Association
- **NAT3:** National Forum for Teaching and Learning

National Policy

NAT1:

- In relation to national policy, laws and decrees the Department of Further and Higher Education, Research, Innovation and Science considers its role to be funding and enabling rather than proscriptive directing in relation to the higher education institutions. This is different to the primary and post-primary sectors sue to the autonomous nature of higher education institutions in Ireland in comparison to schools. Evidence-based frameworks emerge from the work of organisations such as the HEA and they work with the department in a collaborative manner to implement development which respects the autonomy of the HEIs while also maintaining consistency across the institutions.

NAT3:

- The organisations work in collaboration with each other to determine best practice. The National Forum takes an embedded approach and works through collaborative relationships between the organisations, the department, the institutions and with the perspective of staff and students. The interviewee encourages the stakeholders to be aware of existing policies but to have agency in how they are implemented in the various higher education contexts.
- Digital is interwoven in Teaching and Learning in HE and is not looked at as a separate topic. It has become infused with T&L as even in the traditional campus-based face-to-face learning there is still technology in the learning environment, the use of learning platforms, and research with online databases etc. While digital access and capabilities have to be considered across all aspects of teaching and learning, it is vital to keep issues such as student care, equity and flexibility in the approach to digital innovation.

NAT2:

- Would enhancing the digital capacity of staff increase the digital capacity of students? – there is not necessarily a link. Projects have adapted over the past years to look at developing the digital capacity of staff as well as students.
- Mainstream the use of digital technologies in universities to ensure the appropriate technologies and tools would be used – this has been the strategy in recent developments including pre-covid.
- Needs to be pedagogy-lead.
- Recognition of prior learning – sector wide approach project underway.
- National policy needs to recognise and give value to the use of digital technologies in teaching and learning rather than reducing teaching down to a number of hours or a number of people in a course.
- European standards for QA in higher education in digital innovation have not necessarily been integrated into our national system – there were enough frameworks in place that meet the needs

without adding more. Universities tend to be quite autonomous in the instruments they use. DCU is the university that has engaged the most with European and Australian standards.

Professional Development

NAT3:

- Regarding national guidelines on continuing education for university staff in digital competencies, the National Forum published The National Professional Development Framework for All Staff Who Teach in Higher Education in 2016 and it has been very successful. It came from a need from the sector for nationally recognised PD that would be recognised across the sector e.g. digital badges. Courses are easily accessible to staff on https://opencourses.ie/ The Enhancing Digital Teaching and Learning (EDTL) project aims to mainstream digital in teaching and learning activities in Irish higher education, by addressing the professional development of all who teach or support teaching and learning.

NAT2:

- Build across teams or programmes rather than digital champions which would have happened in the past – for a consistent experience for students.

Best Practice

NAT1:

- HEAnet - Ireland's National Education and Research Network - They utilise their national education network to deliver IT shared services to over one million users, helping drive the digital transformation taking place throughout the education sector. It provides high speed, resilient Internet connectivity and associated ICT services to education and research organisations throughout Ireland. One being a bulk laptop purchase scheme supported and funded by the Department of Education and championed by Minister Simon Harris. HEAnet, on behalf of Higher and Further Education institutes, in partnership with Dell, Microsoft and others, procured close to 17,000 laptops; these were manufactured and delivered at a time when there was a global shortage of component parts. These machines were delivered to individual institutes who then distributed them to vulnerable and disadvantaged students.
- Working in collaboration with the higher education organisations and institutions.
- Recognise and value the best practices in teaching and learning that are there by the institutions.

NAT 3:

- That the structural and the individual need to develop digitally in tandem. Issues of connectivity, access to devices etc. should be balanced with the professional development of staff. This also applies to the students - the pandemic highlighted that many students do not have access to these at home and digital developments and innovations need to be equitable for all staff and students.
- Resources available to staff across the sector e.g. All Aboard Project that offers shared lessons and learning materials in digital skills.
- Digital badges – micro-credentials across the sector available online.

- **Digital capabilities and digital competence**[2] – The interviewee discussed the language change that has happened over recent years from 'digital capacities' to 'digital capabilities' in the work of the National Forum. This points to a change in approach and is very significant for the wellbeing of staff and students, as a person's capabilities can't be considered in isolation. It brings in the persons social and economic context into the conversation. This is significant in the discussion of digital transformation for both staff and students as it brings the holistic human to the discussion, and the complexity of that concept. It allows for the scope to broaden from digital skills to include for instance digital identity and wellbeing which is significant for both staff and students in the context of digital transformation in the sector.

NAT2:

- Build on what exists already in the sector and across all institutions – strategies and culture different across institutions and organisations and this led to adopt the Digcompedu framework for mapping. Example of this is the developing a short course through National Forum that is aligned with the PD framework and in collaboration with the universities based on the Digcompedu framework. Accredited way of getting started on journey of digital capacity building.
- Digital accessibility as a driver – for example links between universal design and digital innovation.

Challenges

NAT3:

- Staff in the sector lack the time and resources to attend to the professional development in the area of digital skills in teaching and learning to the level they need to provide quality online learning experiences. The move to 100% and the great work that was done by staff during the pandemic is not sustainable in the future without addressing this – this was echoed in the ACE staff focus groups.

NAT2:

- Pressure on staff to focus on research in their careers – one of the biggest challenges. There are plenty of professional opportunities within the universities, but the challenge is finding the time to engage with them fully. The changes lately due the pandemic in this area were technology and emergency driven so staff now want to 'get back to normal' and back into the classroom – this emphasizes the need for developments in this area to be pedagogy led if they are to be sustainable – so we don't go back to the way we were. Give people time, reward, and a reason to engage with it.
- Many teaching staff are employed on part-time basis and to get a full time post you need to engage in research – why would you engage?
- Infrastructure – UCC is very well developed in this area but not all universities are in the same place e.g. even recording on campus.

[2] "The concept of digital capabilities is built on existing work in digital literacies, data literacies and digital wellbeing, as well as Martha Nussbaum's work in the area of human development. Nussbaum's "capabilities approach" conceives of capabilities as opportunities created by a combination of a person's abilities together with their social, economic and political environment" (INDEx Survey Report 2021).

- Digital strategies tend to be quite vague – they need to be due to the autonomy of each institution – but then it means that it is very difficult to quantify how well a particular organisation is doing in that area. This is both a strength and a weakness. It is not a one size fits all and that is the challenge. You want policies that are supportive to where they are now and so it must be necessarily vague.

2.3 Academic bodies: main results

To gain a university-wide perspective on the areas of the field research of the national case study three in-depth interviews with key senior figures from University College Cork were conducted. The main points from the interviews are presented in bullet point format.

- **UCC1:** Office of the Vice-President for Learning & Teaching – OVPTL
- **UCC2:** Centre for the Integration of Research, Teaching and Learning – CIRTL
- **UCC3:** Centre for Digital Education – CDE

a. **Organizational level** (Leadership, planning and management, Quality Assurance, ICT resources and infrastructure)

UCC1:

- Strength of great working relationships between the various units of the university concerned with digital technologies and digital teaching and learning – speed of key decisions, collaborations – this is something that was tested and proven by the response to the pandemic and will be built on in future. Distributed leadership model with regular meetings with senior stakeholders (individual units). The pandemic "took a hatchet to the normal decision-making process".
- UCC's preparedness for the move to 100% online due to the pandemic by adopting digital innovation practices in recent years – infrastructure was already in place due to IT services upgrades.
- Faculty- a mix between those who need basic training and the enthusiast. Making the training applicable to all. Students- are expected to know canvas as they all have prior experience.
- Online assessment worrying, technical limitations.
- Implemented an external panel to rate/review the university's delivery of digital education- quality assurance.
- Presence of periodic monitoring of academic programs, however the interviewee believes it should be more regular- yearly. Examines academic programs, administration, stakeholders, students etc.
- Stakeholders- HSCI projects, government funded, aimed at plugging skill cap needs for industry. Micro-credentials projects.
- Graduate attributes program. A want for work-based skills among students.
- Infrastructure "not broken". Laptop loan scheme during the pandemic.

- Strengths- implementation of digital education pre-pandemic, assertiveness to go online when it did hit.
- Weaknesses- lack of campus engagement and social learning.

UCC2:

- Until 2019 people would submit the doctrine as a physical artifact and now you can submit it as a digital artifact, university was running out of physical space. Digitalisation was already happening pre-pandemic.
- Presence of subgroups - in order to create more "grassroots planning".
- This notion of 'the collaborative' is very important getting people's involvement – Town Halls - all the various stakeholders involved and creating opportunities.
- ICT culture- integration of the learning activities that were such led activities of the university so that's how I think this potentially sits within that nexus of relationships between the teaching the learning and the research.
- Digital innovation- massive impact from an organisational level. Traditional teachers now forced to operate online due to pandemic. Creates an atmosphere of innovation- how to bring the student voice in.

UCC3:

- Part of strategies and the importance withing Teaching and Learning for enhancing student experience in the area of professional development of staff. Bringing in European frameworks to inform plans and provision.
- Vice-president of teaching and learning and withing this department the digital education and CIRTL work closely together here. This integration is a strength due to the collaborative way of working in digital innovation.
- Pedagogy driven - Centre for digital education is relatively new, about six years old now, and has been expanding. Works very closely with IT Services and other technology drive offices within the university, however it is housed within teaching and learning and that is important in understanding organisationally that digital innovation is led by pedagogy.
- Staff are overwhelmed – global pandemic stressful work and private – has to be kept in mind with staff learning and embracing of new and innovative practices around digital. Policy and guidelines have to keep this in mind for inclusivity, so student and staff voice are captured for the development of any policy and guidelines. Advisory groups of staff and students inform all our services is critical.
- Goals – empowerment and confidence building.
- Combination of synchronous and asynchronous e.g. on Canvas – flexibility and accessibility for staff and streamed into once space on Canvas. FAQ spaces across all the services, technology, and teaching.
- Working closely with national organisations like the National Forum, HEA and other universities to keep on message across the sector.

- Not starting from zero – everyone comes in with a different level of digital skills and supports need to be designed from this perspective. Not just cater for one cohort and this is critically important in planning and management.
- From a quality perspective there can be concerns with putting assessments online, however with the pandemic there was no choice – learning from this experience happening.
- Technology has enhanced processes – but a huge staff development piece in that – can be hugely time consuming.

b. **Teaching-learning level** (Learning and teaching, Scientific-research work, Technology transfer and service to society)

UCC1:

- UCC is a campus-based university and digital education is seen as a support for this but there are no plans for it to change its fundamental identity as a campus-based university
- The acceleration of digital education practices due to the pandemic – current state of flux and data gathering for the future – more blended learning programmes?
- Digital education is designed and developed from a pedagogy first perspective. The aim is to support high quality teaching and learning at the university and that digital education is not the focus in and of itself.
- Pandemic- focus shifted to exams as this was the biggest challenge for UCC's move to 100% online. (Again, emphasis on regular online meetings).
- All lecturers recorded and provided to students. Practices that can be adapted post-pandemic. Vision and goals didn't change, the resources did.
- Suggesting which platforms to teachers depending on the lecture style (Panopto for recording beforehand, teams during etc.). Recommending a hybrid system live/pre-recorded.
- Short courses worry as students are often retirees, however the numbers increased. Pandemic worked well for Adult Education (referencing ACE, UCC).
- Students were happy with the online delivery during the emergency period of the pandemic. They tend to yearn for the social aspects of university.
- Change in research over the past decade in UCC has been very positive.

UCC2:

- UCC recently advertised for a lecturer in digital education – we are beginning to see specific reference now is ground to digital education, digital records curating of collections are now specific job titles that are being advertised within the institution, speaks volumes for how the digital is now being privileged. Staff concerned that they are expected to be digital natives when they are not so clarity is desired.

UCC3:

- Support driven service for staff teaching and learning – for example reflection and planning space through 'Ag Caint' initiative, to reflect on what worked and creating templates based on those conversation.
- Relevance of the work during the pandemic to respond to support staff e,g, instructional design and organising training to respond to staff needs. EDTL approach nationally developed and adopted for the different VLEs and this used as a framework to underpin bespoke training. Weekly webinars and very positive response to these offering.
- Pandemic led to no choice to learn new skills and rapidly so staff might not have the language to express the new competencies they have developed. This is where the EDTL framework comes in to support confidence building. Staff might associate digital teaching with quite a stressful time and might not be confident in their abilities due to the panic nature of the changes.
- Many staff have found it a great experience as they found greater levels of student engagement such as, asking questions in the chat box that they would never have done in a lecture.
- Awareness of the complexity of online working well for some students and not for others or for all programmes.
- UCC has outreach and hubs – pressure to grow more – more students to have better access to reliable Wi-Fi, study spaces and work together. Important to look at digital innovation and access to university.
- Micro-credentials – responding to industry needs developed.
- Access for non-traditional students.
- Ensuring UCCs connected curriculum informing all teaching and learning.
- MS Office suite – responses to criticism of MS Teams and development. FAQ team set up for the university to support academic staff during pandemic – staff in the focus group found this very helpful.

c. **Cultural level** (ex. ICT culture, hidden curriculum of teachers and academic staff)

UCC1:

Digital Education supporting the ideology of the university/ campus experience rather than replacing it.

Digital education has not changed our "fundamental ethos" but rather changed the way we approach them/how we approach them

- DE rapidly transforming into the mainstream.
- The ability to attract students via online will become an expectation from any staff member.
- More technological elements work than expected.
- UCC is traditionally an on-campus university, it will continue with the change of how lecturer-student engage with one another.

- Third mission has become very digital. Not a driver for digital innovation. Will lead to more flexibility of program.
- Conservatism acts as a constraint, however huge faith in students. Student pressure - the want for digital implementation.

UCC2:

- "Culture is where you know we have a moment that makes us aware of the affordances of the technology"

UCC3:

- Pedagogy driven.
- Fear from academic staff about their own autonomy and about the loss of the live classroom. Fears about their identity, their roles and security. A lot of academic staff are on precarious contracts which leads to feelings of fear and insecurity when dealing with change.
- Confidence and awareness building piece – communication is vital in such a large university – for digital innovation to be integrated.
- Communication is a great challenge across a large university. Do academic staff know and access training is a big challenge, but also to include professional service staff for consistency in digital innovation across a large university.

2.4 Focus groups: main results

Adult Continuing Education at UCC

ACE (Adult Continuing Education) is a subdivision of University College Cork that provides part-time educational lifelong learning programmes. Although the University has been providing adult education-based courses since the early 1910's, ACE as an organisation has been operating since 1946 first providing a diploma in Social and Economic Science. Celebrating their 75th anniversary this year, ACE has grown to provide over 90 programs ranging from environmental, economic, and social sciences to upskilling and practical based courses all across Munster. Its purpose is to provide opportunities in lifelong learning within UCC for all adults irrespective of age and previous educational background. Current director of ACE, Dr Seamus Ó Tuama, outlined that the department adapts a 'particular approach needed to enhance adult learning so that all students may have a rewarding educational experience'.

The first activity of the field research was the conducting of three focus groups with various staff in ACE in UCC. The participants were coordinators, lecturers and administration staff within the school. Coordinators in ACE are responsible for the design and delivery of a variety of programmes, which they also teach on. Lecturers in ACE are part-time and are hired specifically to teach as subject-matter experts. They were all staff who have been working in the school throughout the pandemic and so have experienced the move to complete online teaching and learning. The focus groups were focused on the integration of digital technologies in the teaching-learning process and the professional development linked to this integration. The focus groups were conducted involving

a guided discussion on the core themes of the research project, to reach a broad vision of digital technologies integration in the Higher Education system, and specifically in the context of UCC.

The main issues emerging from the **focus groups**, which involve coordinators, lecturers and administrative department staff have been grouped into emphasized themes that emerged from all three focus groups. The ones that fall under the main categories of teaching practices and digital innovation, and professional development with a focus on digital skills and best practices are presented here:

Staff Digital Divide: The phrase 'digital innovation' in the introduction questions needed teasing out for the conversation to begin, pointing to a gap between the language of the digital landscape and the teaching arena. It had to be explained in terms of 'moving online' for there to be a sense of what the questions were asking. It is such a broad area, and it highlighted the divide when the staff who participated in the focus groups were largely not from an ICT background. The language and the jargon of the digital conversation needed discussion and clarification showing the lack of discussion in this area that teaching staff from other disciplines engage in. This is an important point in terms of creating barriers to digital transformation as if people do not understand and/or feel intimidated by the language then they are less likely to engage. Engagement of all staff is necessary to bridge the digital divide.

Desire for developing online teaching knowledge and skills: Only one or two of the teaching participants had designed online courses previous to the pandemic and so the discussion largely focused on the changes in practice in the Academic Year 2020 – 2021. This was also highlighted in the need to explore the terms used in the discussions between participants. For example, synchronous and asynchronous teaching was new to some and the focus groups themselves became peer learning experiences for the participants as they provided discussion space for those who are more experienced in online instructional design to share their expertise with those new to the digital teaching landscape. Due to this mix of experience and choice to develop your teaching practice to include online teaching, the experiences of teaching online due to the pandemic were varied. Some found it exciting as they found that 'it had reignited their interest in adult education' and yet there was also recognition of the extra workload in designing and preparing resources for online teaching.

Best practices related to their own university

There was an expression of 'information overload' during the pandemic from the university. Best practice was acknowledged to be their own community of practice that ACE implemented for staff support in the new teaching and learning. They have continued on the peer learning from the implementation of the community of practice with workshops to share best practice from their digital learning during the pandemic. Weekly basic tips provided by the university were also highlighted as best practice as they were bitesize, basic and relevant and did not overwhelm teaching staff. The admin staff highlighted the upgrading of the infrastructure and systems that had taken place in the previous years as vital for the effective running of the administration of ACE.

Strengths, weaknesses, opportunities, and threats in implementation of digital innovation in Higher Education

A key **strength** would be the infrastructure and systems in place pre-pandemic e.g. Canvas. The other key strength was that the 'fear' of digital innovation has been removed since the move to 100% online and that design of future programmes can now happen from the digital innovation experience of all staff at ACE that has taken place.

A key **weakness** would be the loss of pastoral care and relational work that happens in ACE with face-to-face learning which was a repeated concern throughout all the focus groups. This is a cornerstone of the ethos of adult education at ACE and due to the profile of their learners the loss of it due to implementing more digital innovation would be a great weakness and is the reason why some programmes will return to face-to-face and some perhaps will be considered to remain as blended.

A key **opportunity** is the exposure of staff to digital teaching and learning. It has provided an opportunity for gathering ACE staff and student feedback on the experience of online learning with a view to the potential of creating more blended learning programmes. The data gathered to inform these decisions is now from ACE staff and student real-world experiences of online teaching and learning.

A key **threat** is financial investment needed for the professional development of staff in online teaching and the quality of that teaching. There was an awareness amongst the staff that they did brilliantly in the context of a pandemic, however students would be expecting a much more sophisticated online learning experience and for the staff to be much more skilled in instructional design if it was to become more of a fixture. This will require investment in the areas of instructional design training and the methods of provision used by the university e.g. start using moderators so the teaching staff can focus on content.

2.5 Students Survey Analysis

Introduction

A student survey was targeted towards students within ACE in University College Cork in May and September 2021. The survey was sent out to all students, with 80 responses being obtained. The survey covered 5 key areas:

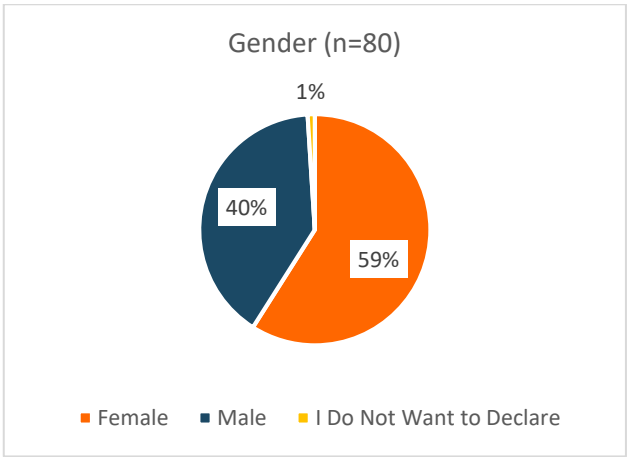
- Student demographics
- The teaching and learning process
- The students experience
- Student learning outcomes
- A SWOT analysis

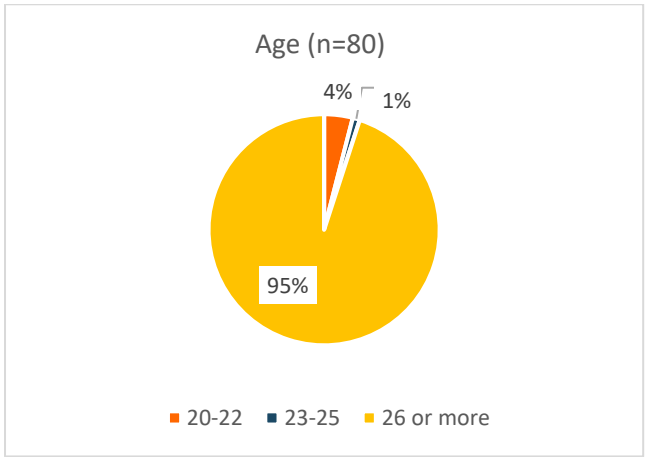
Sections 1-4 asked students to respond to statement questions with a 5-point Likert scale. Section 5 asked students to complete 4 short, open-ended questions.

Student Demographics

Student profiles analysed gender, age, present year of study, degree type, area of study and a personal estimation of their progress with exams.

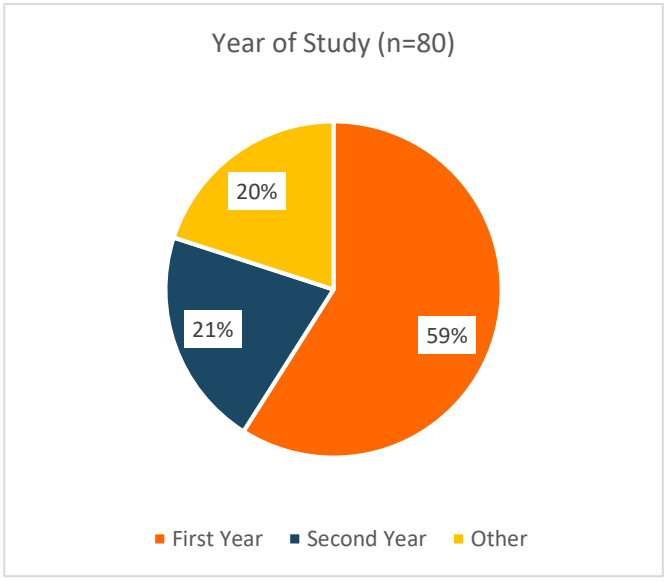
Females accounted for 59% of the sample while males accounted for 40%. 1% of respondents did not want to declare their gender. The majority of the sample was 26 years of age or older (95%), 4% were between 20 and 22, and 1% were aged between 23 and 25. Results are illustrated below in Figures 1 and 2.





Figures 1 and 2: Gender and age profiles of student respondents

As illustrated in Figure 3, 59% of respondents were in their first year of study, 21% in their second and no respondents were in there third year. The remaining 20% responded 'other'. 78.7% of respondents were completing a bachelor's degree with the remaining 21.3% completing a master's degree (Figure 4). Just over half of student respondents (54%) were progressing with their exams, while 46% were not (Figure 5).



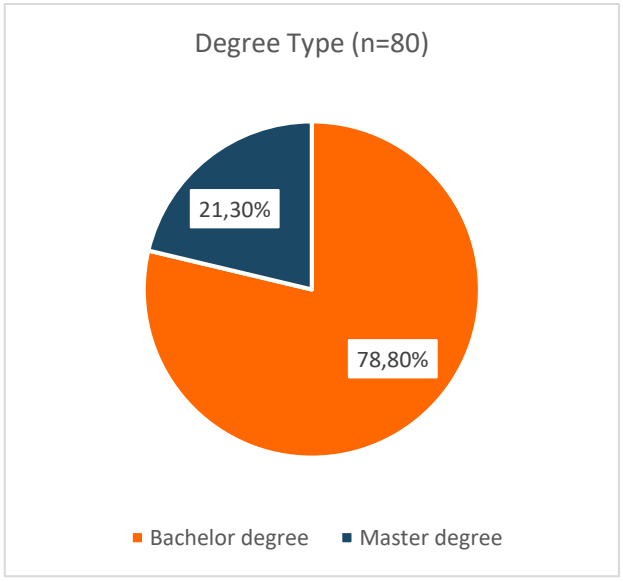


Figure 3 and 4: Year of study and degree type of respondents

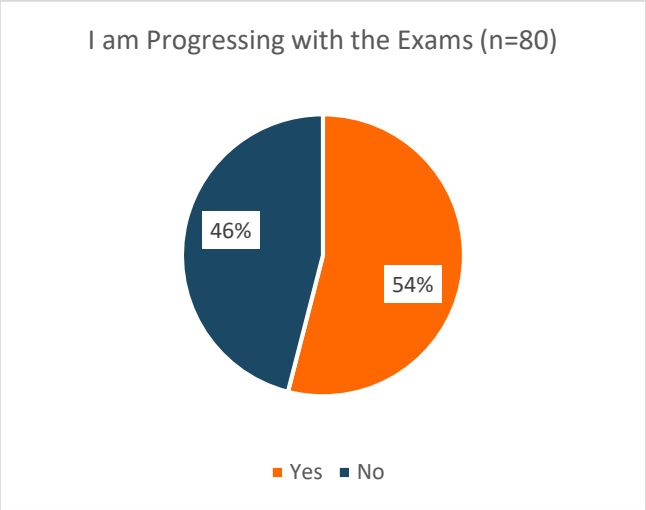


Figure 5: Exam progress

Finally, degree area was assessed (Table 1). Areas of 'Cognition, psychology, linguistics, philosophy and education' and 'Sociology, social anthropology, political science, law, communication, social studies of science and technology' were the areas over 60% of the respondents were studying. 'Environmental studies, demography, social geography, urban and regional studies' also made up a significant number of respondents area of study (13.75%).

Table 1: Degree area of respondents

Degree Area	% Frequency
All areas of mathematics, pure and applied, plus mathematical foundations of computer science, mathematical physics and statistics	2.50%
Archaeology, history and memory	8.75%
Cognition, psychology, linguistics, philosophy and education	33.75%
Economics, finance and management	1.25%
Environmental studies, demography, social geography, urban and regional studies	13.75%
Literature, visual and performing arts, music, cultural and comparative studies	1.25%
Neurobiology, neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, neuroimaging, systems neuroscience, neurological disorders, psychiatry	1.25%

Organ physiology, pathophysiology, endocrinology, metabolism, ageing, regeneration, tumorigenesis, cardiovascular disease, metabolic syndrome	1.25%
Particle, nuclear, plasma, atomic, molecular, gas, and optical physics	1.25%
Physical geography, geology, geophysics, meteorology, oceanography, climatology, ecology, global environmental change, biogeochemical cycles, natural resources management	3.75%
Sociology, social anthropology, political science, law, communication, social studies of science and technology	31.25%

The Teaching and Learning Processes

The following section explored teaching and learning techniques and tools implemented within the students' classes. Figure 6 and Table 2 provide a summary of frequency results. As evident, areas with significantly high 'strongly agree' or 'agree' responses include:

- Use of digital or visual resources or tools, 93.8%
- Use class group activities, 74%
- Use case studies, 88%
- Stimulate debate and peer assessment, 76.3%
- Invite guest speakers, 70.1%

Within this section there are also areas which gained significantly high levels of negative responses. 'Use of game elements or educational games' received either 'strongly disagree' or 'disagree' by 37.5% of respondents. Similar patterns were seen in the responses for 'use lab experiments' (31.8%), and 'students take innovative tests during the classes' (30.3%). A further breakdown of student responses for each individual question is provided in Figures 7- 14.

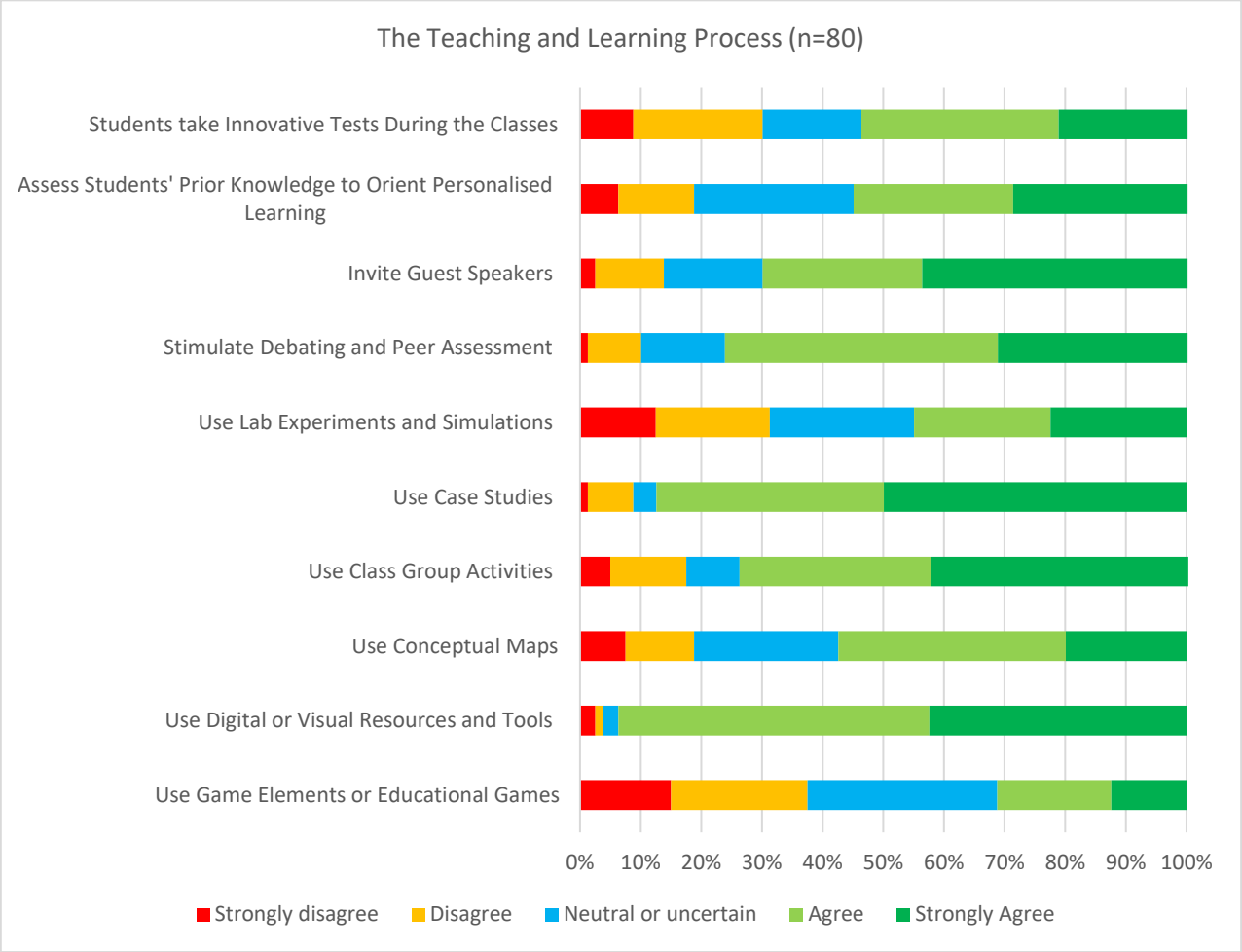
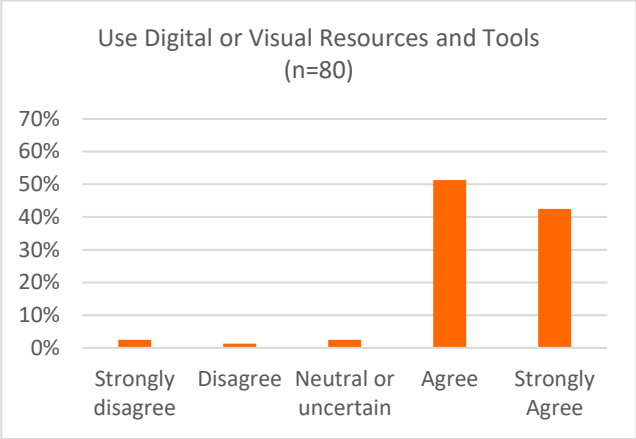
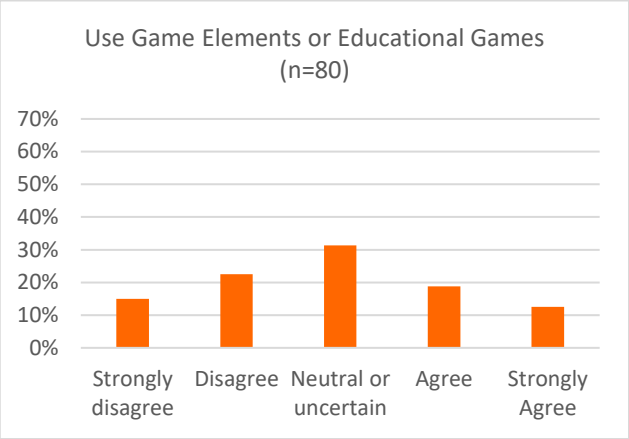


Figure 6: Summary of the teaching and learning process responses

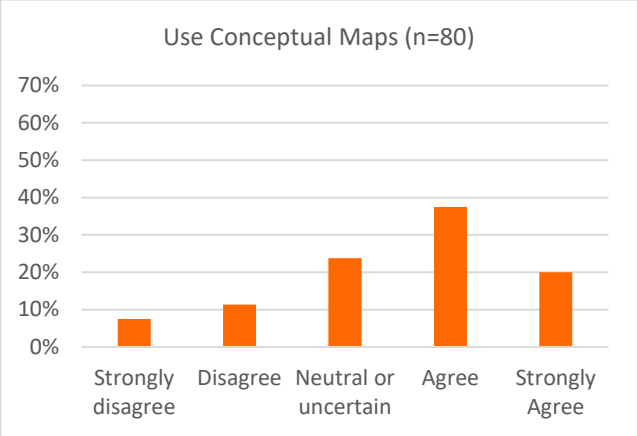
Table 2: Summary overview of the teaching and learning process responses

	Use Game Elements or Educational Games		Use Digital or Visual Resources and Tools		Use Conceptual Maps		Use Class Group Activities		Use Case Studies		Use Lab Experiments and Simulations		Stimulate Debating and Peer Assessment		Invite Guest Speakers		Assess Students' Prior Knowledge to Orient Personalised Learning		Students take Innovative Tests During the Classes	
	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n
Strongly disagree	15	12	2.5	2	7.5	6	5.0	4	1.3	1	12.5	10	1.3	1	2.5	2	6.3	5	8.8	7
Disagree	22.5	18	1.3	1	11.3	9	12.5	10	7.5	6	18.8	15	8.8	7	11.3	9	12.5	10	21.3	17
Neutral or uncertain	31.3	25	2.5	2	23.8	19	8.8	7	3.8	3	23.8	19	13.8	11	16.3	13	26.3	21	16.3	13
Agree	18.8	15	51.3	41	37.5	30	31.5	25	37.5	30	22.5	18	45	36	26.3	21	26.3	21	32.5	26
Strongly Agree	12.5	10	42.5	34	20.0	16	42.5	34	50	40	22.5	18	31.3	25	43.8	35	28.8	23	21.3	17
Total	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80





Figures 7 and 8: Use of game elements or educational games and digital or visual resources



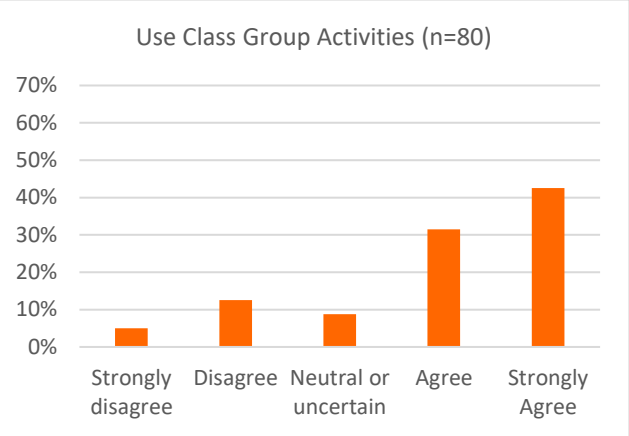
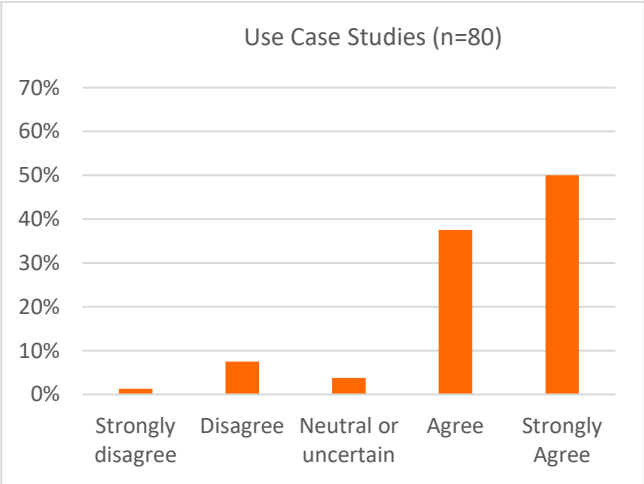
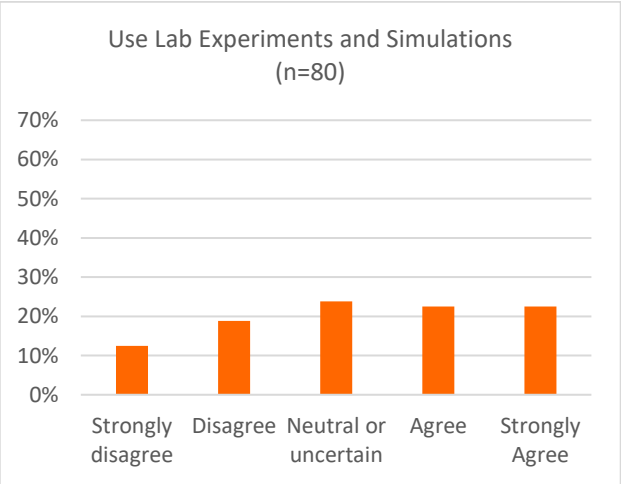
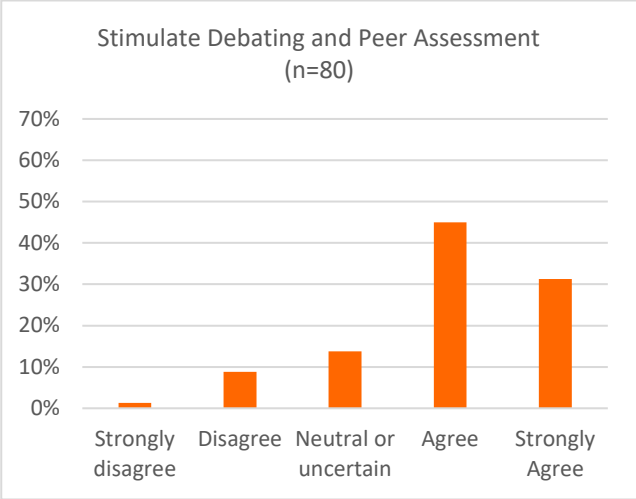


Figure 9 and 10: Use of conceptual maps and class group activities





Figures 11 and 12: Use of case studies and lab experiments and simulations



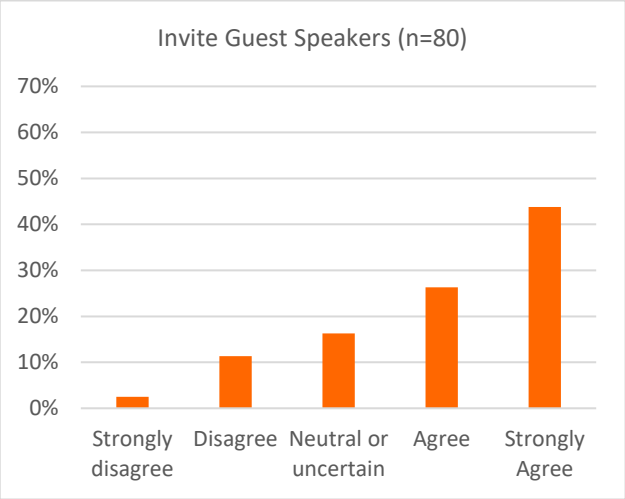
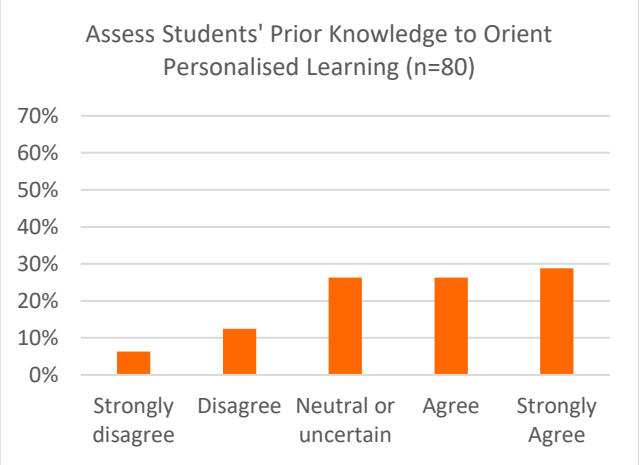
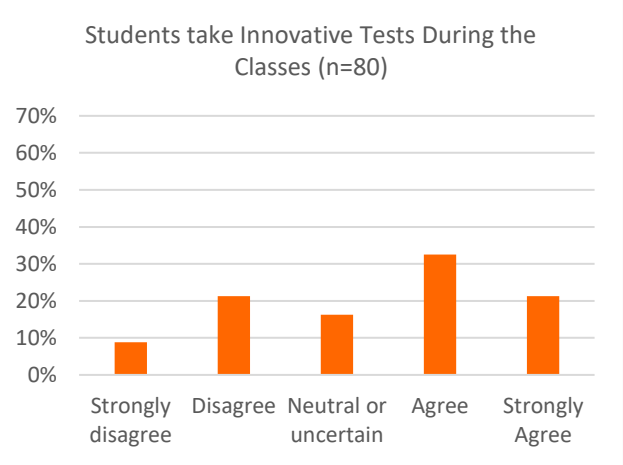


Figure 13 and 14: Stimulate debate and peer assessment and invite guest speakers





Figures 15 and 16: Assessing students' prior knowledge to orient personalised learning and students taking innovative tests during classes

Finally, Table 3 summarises the statistical measures for the teaching and learning process questions.

Table 3: Summary table of statistical measures for each question. [Where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree]

	Use Game Elements or Educational Games	Use Digital or Visual Resources and Tools	Use Conceptual Maps	Use Class Group Activities	Use Case Studies	Use Lab Experiments and Simulations	Stimulate Debating and Peer Assessment	Invite Guest Speakers	Assess Students' Prior Knowledge to Orient Personalised Learning	Students take Innovative Tests During the Classes
N	80	80	80	80	80	80	80	80	80	80
Missing	0	0	0	0	0	0	0	0	0	0
Mean	2.91	4.3	3.5	3.9	4.3	3.2	4	4	3.6	3.4
Standard Deviation	1.234	0.802	0.158	1.215	0.941	1.333	0.961	1.136	1.208	1.275
Min	1	1	1	1	1	1	1	1	1	1
Q1	2	4	3	3	4	2	4	3	3	2
Median	3	4	4	4	4.5	3	4	4	4	4
Q3	4	5	4	5	5	4	5	5	5	4
Max	5	5	5	5	5	5	5	5	5	5

The Students' Experience

The following section can be broken down into three sub-sections: 1) Students' behaviour, faculty characteristics and administrative staff, 2) Teaching staff characteristics and teaching methods and 3) Technological implementation within courses.

1) Students' behaviour, faculty characteristics and administrative staff

Response summaries for this section are provided in Figure 15 and Table 4. Overall positive responses were observed in each of these areas. Responses show 60% and over stating 'agree' and 'strongly agree' to all statements provided. The margin of those responding 'disagree' or 'strongly disagree' remains below 20% of respondents.

In terms of student behaviour, 93.8% of student respondents are largely positive towards the statement 'students are respectful of each other, meanwhile a slightly lesser 75.1% of respondents gave a positive response to the statement 'students are at ease with each other'. Within the latter statement, 18.8% were neutral. Faculty characteristics, while largely positive responses to the statements are observed, high levels of neutral or disagree responses were recorded (23.8% and 11.3% respectively) for the statement regarding the clarity of faculty organisation/ structure. Similarly, the statement regarding the functionality of locations received high levels of neutral responses (23.8%). Lastly, just under 80% of responses were positive for the statements regarding the support provided by the administrative staff and the clarity of announcements from administrative staff.

Response analysis for each individual statement is provided below in Figures 16-21.

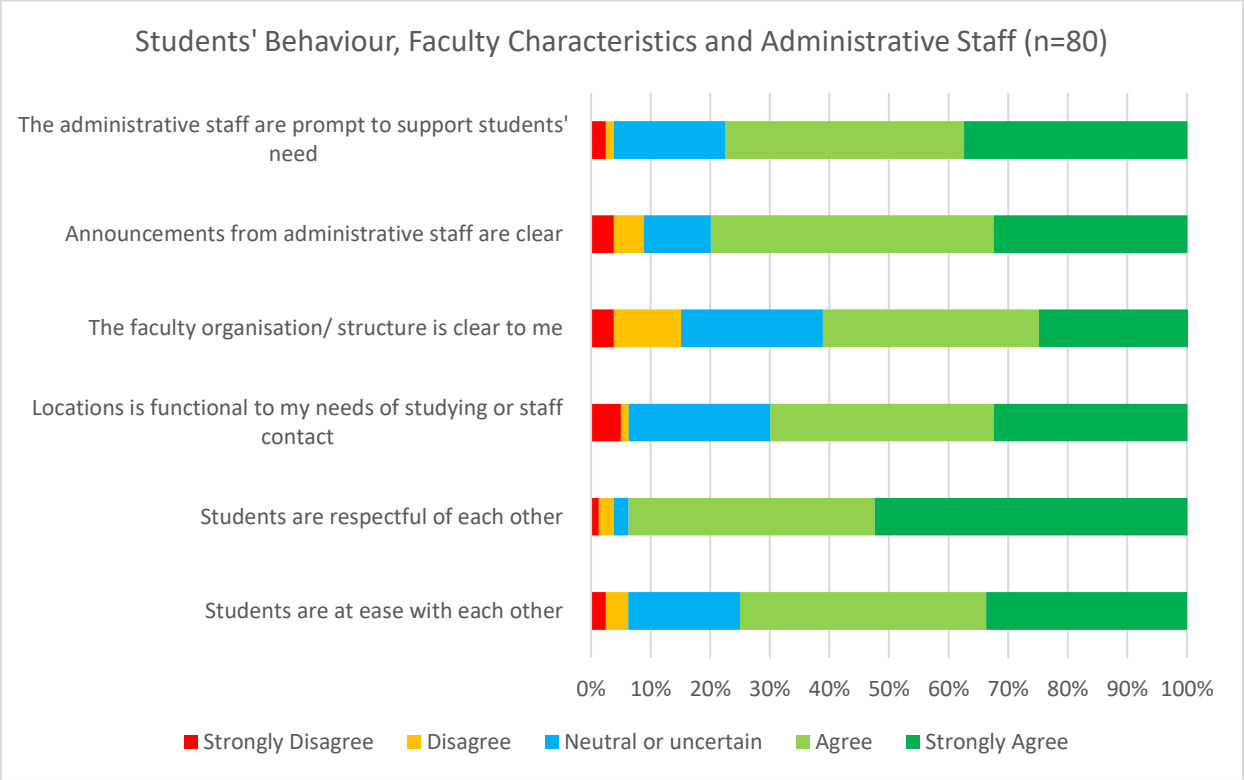
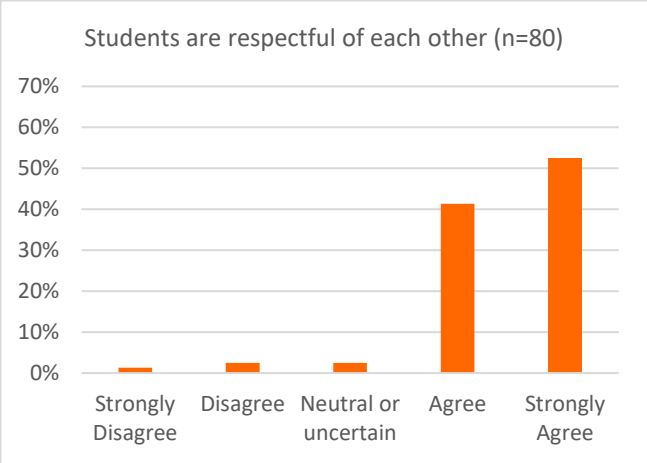
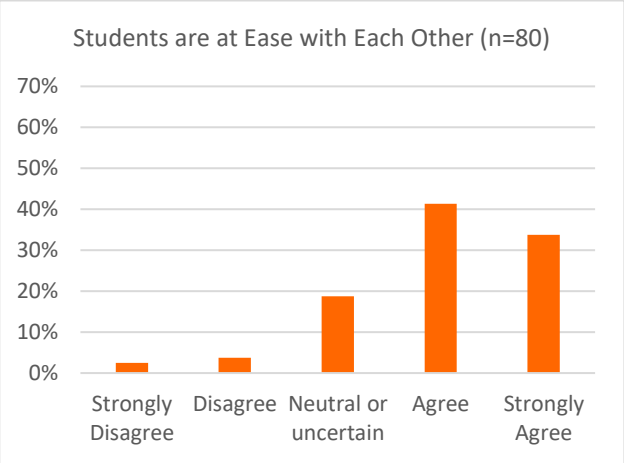


Figure 17: Summary of Students' Behaviour, Faculty Characteristics and Administrative Staff responses

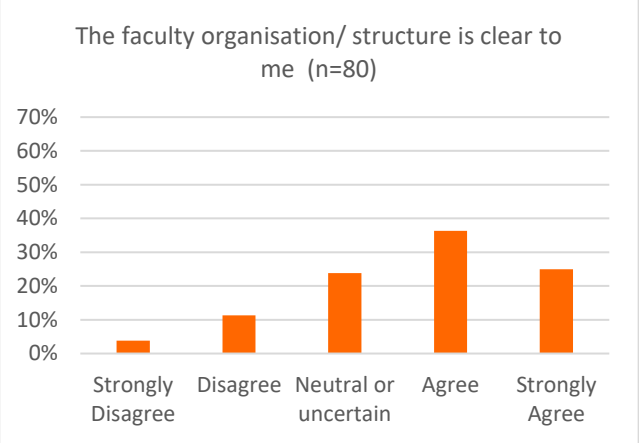
Table 4: Summary of Students' Behaviour, Faculty Characteristics and Administrative Staff responses

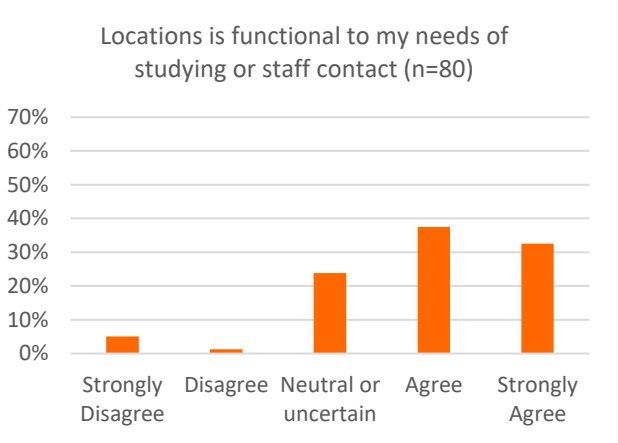
	Students are at ease with each other		Students are respectful of each other		Locations is functional to my needs of studying or staff contact		The faculty organisation/ structure is clear to me		Announcements from administrative staff are clear		The administrative staff are prompt to support students' needs	
	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n
Strongly Disagree	2.5	2	1.3	1	5	4	3.8	3	3.8	3	2.5	2
Disagree	3.8	3	2.5	2	1.3	1	11.3	9	5	4	1.3	1
Neutral or uncertain	18.8	15	2.5	2	23.8	19	23.8	19	11.3	9	18.8	15
Agree	41.3	33	41.3	33	37.5	30	36.3	29	47.5	38	40	32
Strongly Agree	33.8	27	52.5	42	32.5	26	25	20	32.5	26	37.5	30
Total	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80



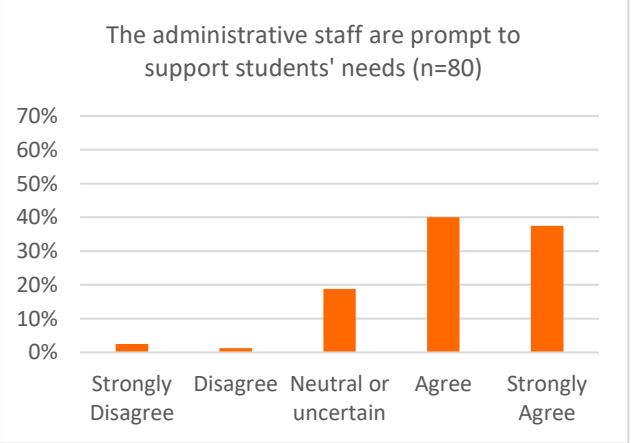


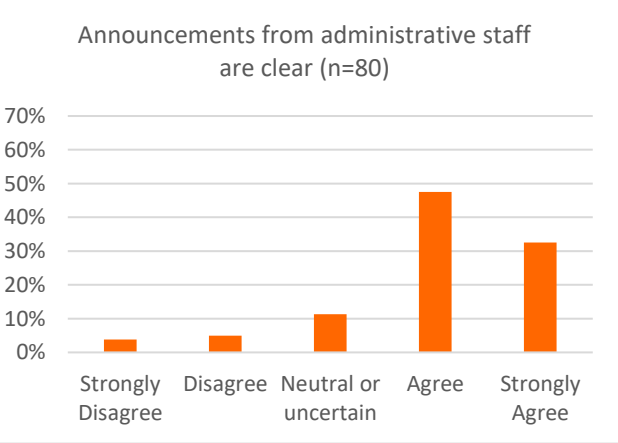
Figures 18 and 19: Students are at ease with each other, and students are respectful of each other





Figures 20 and 21: Functionality of locations to students needs and clarity of faculty organisation/ structure





Figures 22 and 23: Clarity of announcements from administrative staff administrative staff are prompt to support students' needs

Finally, Table 5 provides a summary of statistical measures for each survey question responses within sub-section 1.

Table 5: Summary of statistical measures for each survey question.
[Where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree]

	Students are at ease with each other	Students are respectful towards each other	Locations is functional to my needs of studying or staff contact	The faculty organisation / structure is clear to me	Announcements from administrative staff are clear	The administrative staff are prompt to support students' needs
N	80	80	80	80	80	80
Missing	0	0	0	0	0	0
Mean	4.000	4.413	3.913	3.675	4.000	4.088
Std. Deviation	0.955	0.774	1.034	1.088	0.994	0.917
Minimum	1	1	1	1	1	1
Q1	3.25	4	3	3	4	4
Median	4	5	4	4	4	4
Q3	5	5	5	4.75	5	5
Maximum	5	5	5	5	5	5

2) Teaching staff characteristics and teaching methods

Sub-section 2 explored the characteristics of teaching staff, assessing support provided to the students, empathy shown and engagement throughout the teaching process. Teaching methods used were also assessed which included the digital competency of the teacher, the difficulty and appeal of the teaching material. These statements received largely positive responses from students, with all statements gaining over 80% 'strongly agree' or 'agree' responses. 'Strongly disagree' or 'disagree' responses were below 10% for all statements. Figure 24 and Table 6 provide a summary overview of survey responses for this section. A further breakdown of each individual statement response is provided in Figures 25-30.

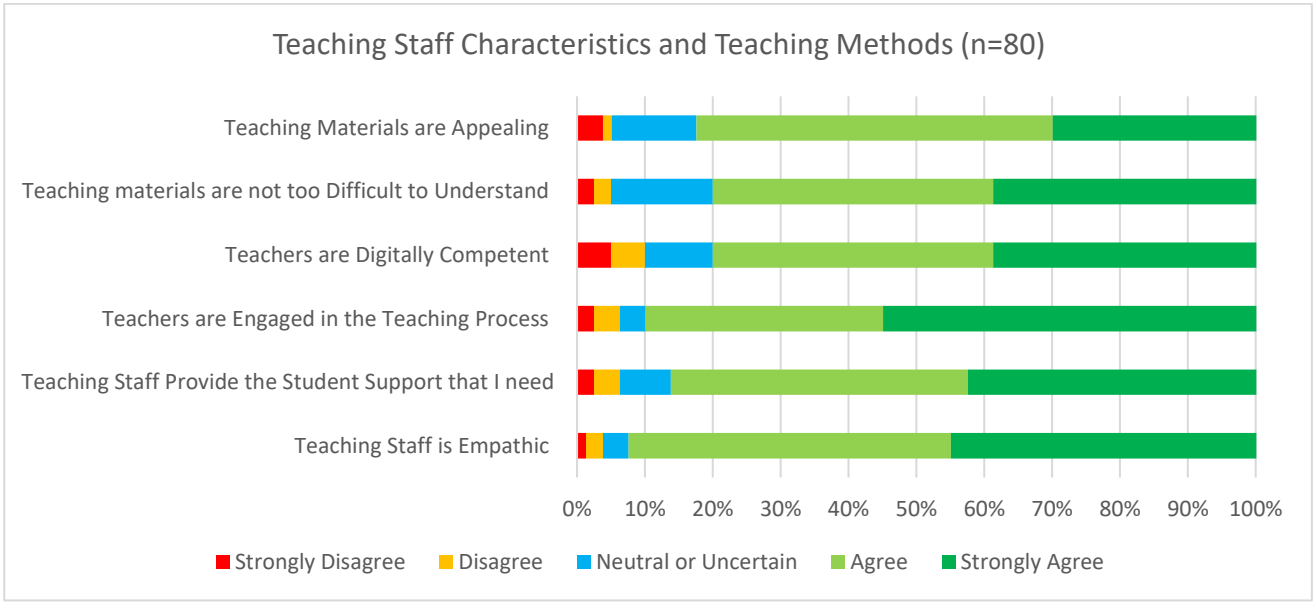
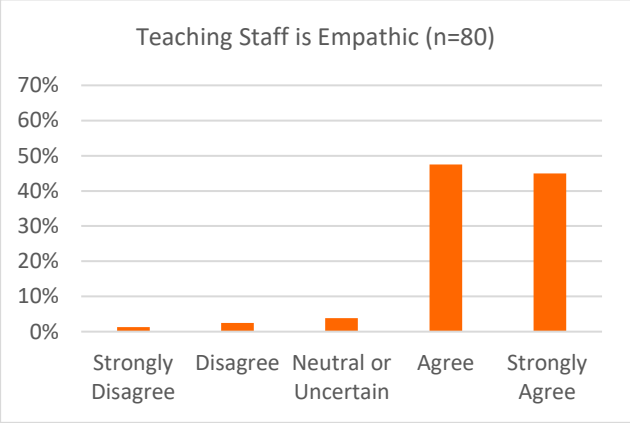
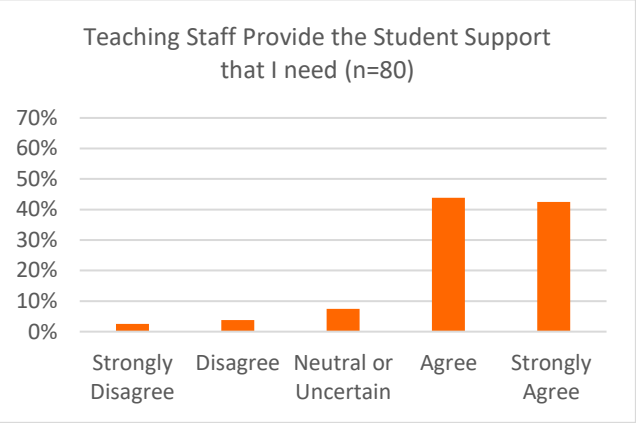


Figure 24: Summary overview of survey responses for Teaching staff characteristics and teaching methods

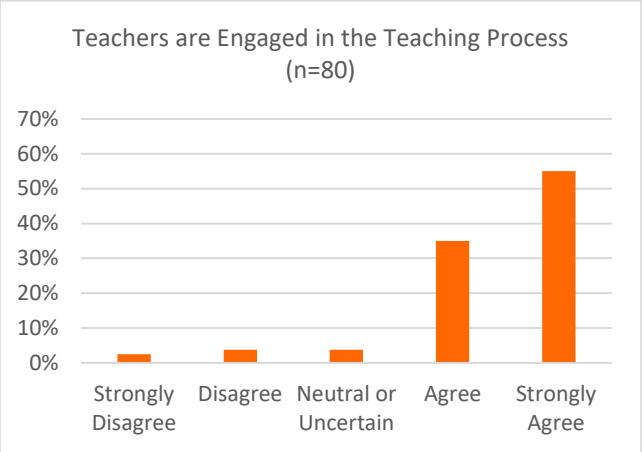
Table 6: Summary overview of survey responses for Teaching staff characteristics and teaching methods

	Teaching Staff is Empathic		Teaching Staff Provide the Student Support that I need		Teachers are Engaged in the Teaching Process		Teachers are Digitally Competent		Teaching materials are not too Difficult to Understand		Teaching Materials are Appealing	
	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n
Strongly Disagree	1.3	1	2.5	2	2.5	2	5	4	2.5	2	3.8	3
Disagree	2.5	2	3.8	3	3.8	3	5	4	2.5	2	1.3	1
Neutral or Uncertain	3.8	3	7.5	6	3.8	3	10	8	15	12	12.5	10
Agree	47.5	38	43.8	35	35	28	41.3	33	41.3	33	52.5	42
Strongly Agree	45	36	42.5	34	55	44	38.8	31	38.8	31	30	24
Total	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80





Figures 25 and 26: Teaching staff is empathic and teaching staff provide student support



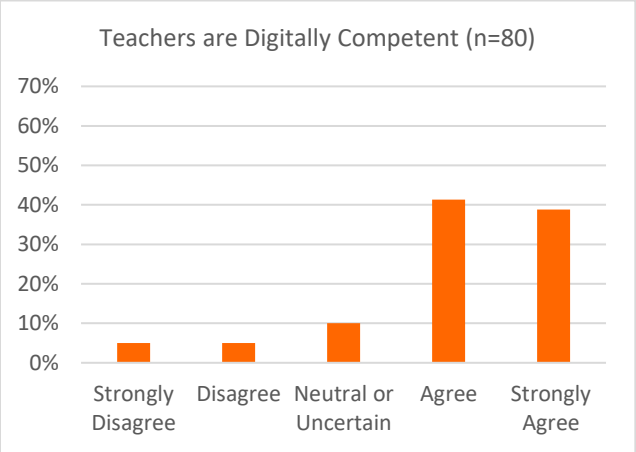
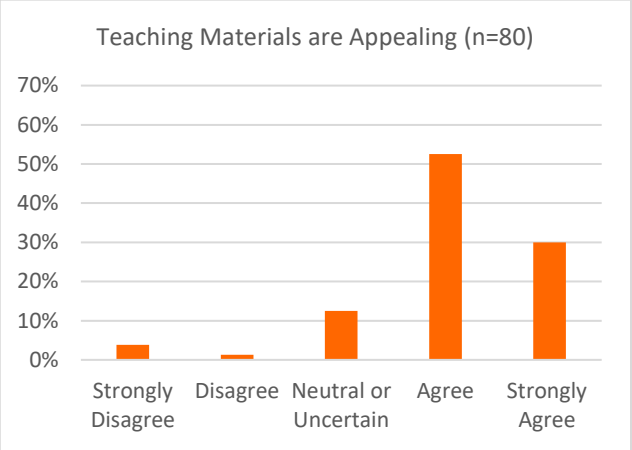
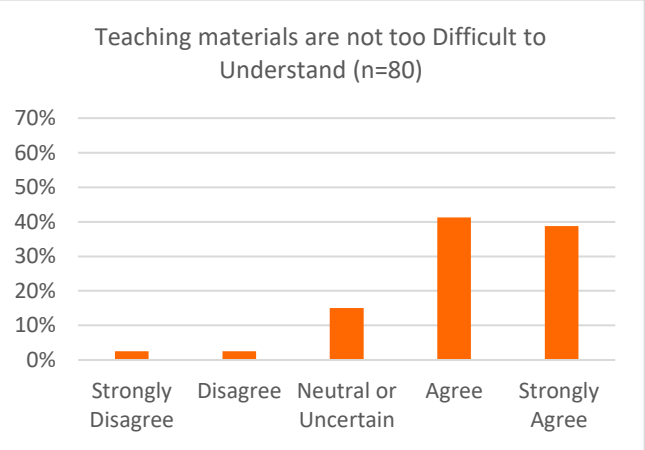


Figure 27 and 28: Teachers are engaged in the teaching process and digital competence of teachers





Figures 29 and 30: Difficulty of teaching material and appeal of teaching material

Lastly, the statistical measures for each survey question are outlined in Table 7.

Table 7: Summary of statistical measures for teaching staff characteristics and teaching materials [Where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree]

	Teachers are Empathic	Teaching Staff Provide the Student Support	Teachers are Engaged in the Teaching Process	Teachers are Digitally Competent	Teaching Materials are not Difficult to Understand	Teaching Materials are Appealing
N	80	80	80	80	80	80
Missing	0	0	0	0	0	0
Mean	4.325	4.200	4.363	4.038	4.113	4.038
Std. Deviation	0.776	0.920	0.917	1.073	0.928	0.906
Minimum	1	1	1	1	1	1
Q1	4	4	4	4	4	4
Median	4	4	5	4	4	4
Q3	5	5	5	5	5	5
Maximum	5	5	5	5	5	5

3) Technological implementation within courses

The final sub-section within the teaching and learning experience is the examination of the technical implantation within courses. Over 92.5% of students responded positively (either 'strongly agree' or 'agree') to the statement regarding the availability of online lessons. 87.5% of students showed a positive response to lessons catching attention and stimulating curiosity. The effective use of technology and learning portals and the intuitive use of ICT tools and platforms saw fewer positive responses and an increased number of neutral or disagreeing responses. A summary of these results are illustrated in Figure 29 and Table 8. A further breakdown of each individual survey question response is provided in Figures 32-35.

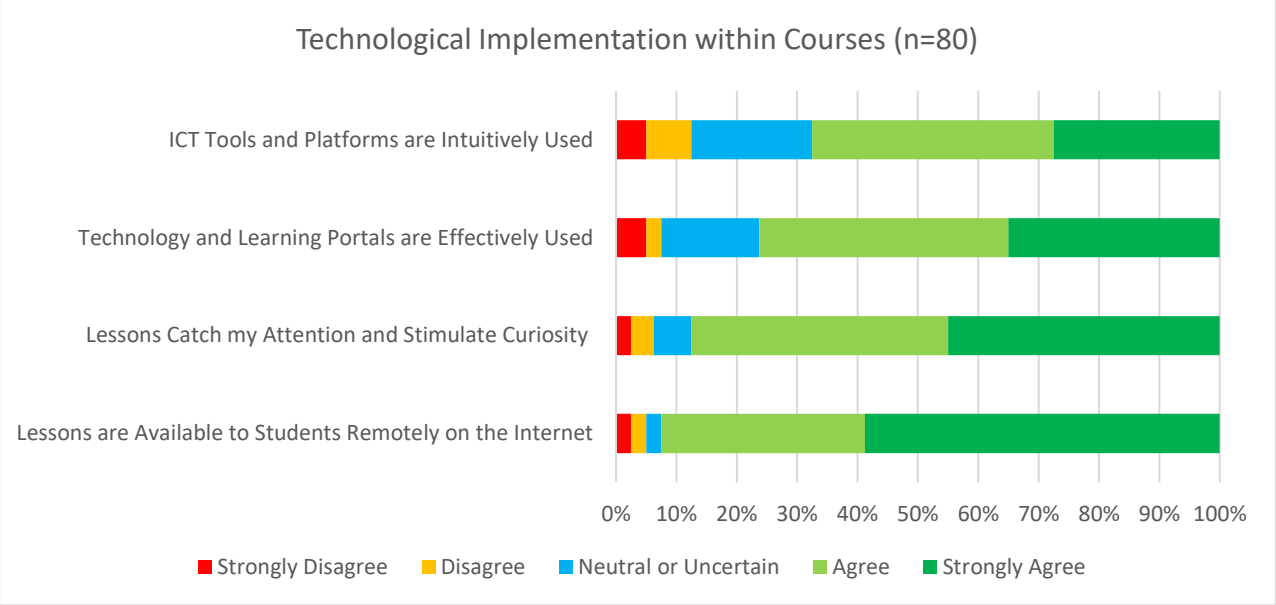
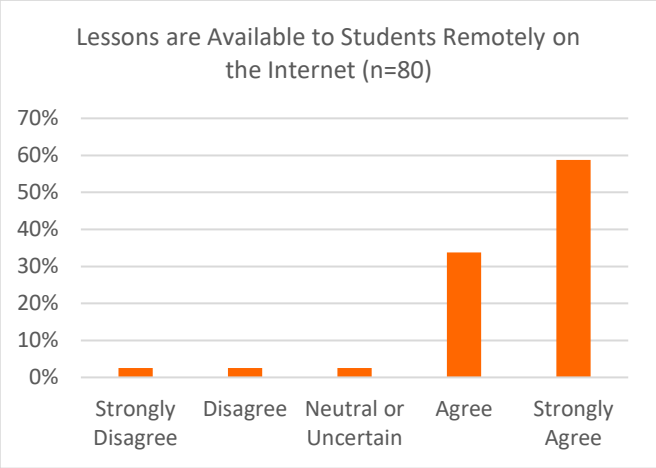


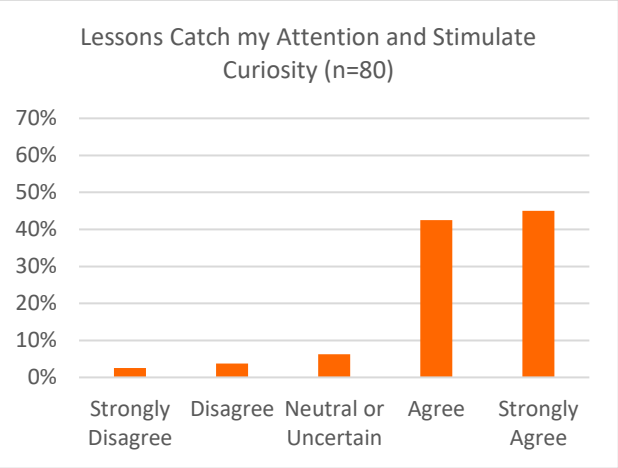
Figure 31: Summary of responses to Technological implementation within courses.

Table 8: Summary of responses to Technological implementation within courses.

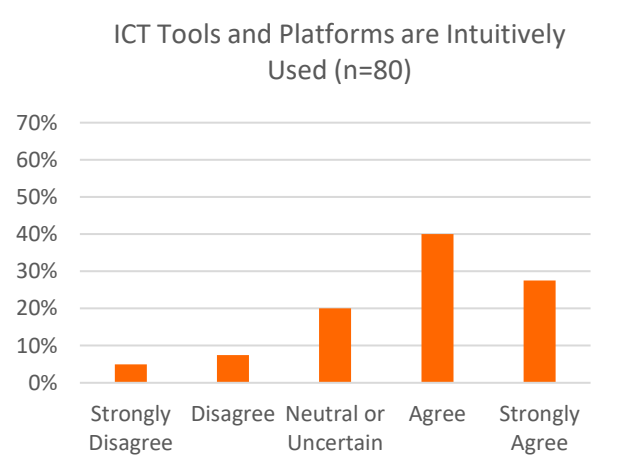
	Lessons are Available to Students Remotely on the Internet		Lessons Catch my Attention and Stimulate Curiosity		Technology and Learning Portals are Effectively Used		ICT Tools and Platforms are Intuitively Used	
	% Freq	n	% Freq	n	% Freq	n	% Freq	n
Strongly Disagree	2.5	2	2.5	2	5.0	4	5.0	4
Disagree	2.5	2	3.8	3	2.5	2	7.5	6
Neutral or Uncertain	2.5	2	6.3	5	16.3	13	20.0	16
Agree	33.8	27	42.5	34	41.3	33	40.0	32
Strongly Agree	58.8	47	45.0	36	35.0	28	27.5	22

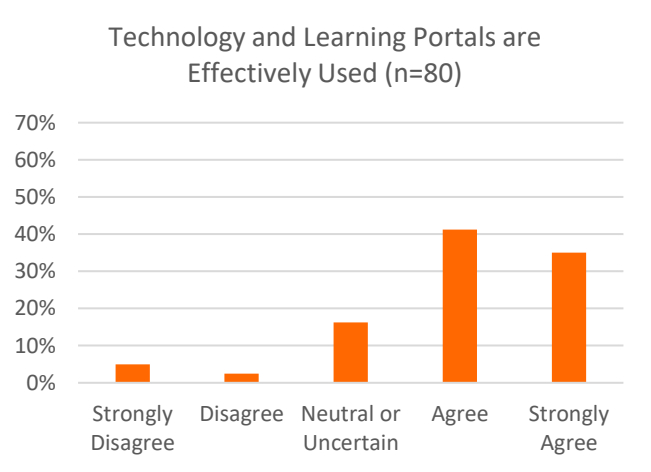
Total	100%	80	100%	80	100%	80	100%	80





Figures 32 and 33: Availability of lessons to students remotely and lessons catching attention and stimulating curiosity





Figures 34 and 35: Effective use of technology and learning portals and intuitive use of ICT tools and platforms

Lastly, the statistical measures for each survey question are outlined in Table 9.

Table 9: Summary of statistical measures for technological implementation within courses. [Where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree]

	Lessons are Available to Students Remotely on the Internet	Lessons Catch my Attention and Stimulate Curiosity	Technology and Learning Portals are Effectively Used	ICT Tools and Platforms are Intuitively Used
N	80	80	80	80
Missing	0	0	0	0
Mean	4.438	4.238	3.988	3.775
Std. Deviation	0.869	0.917	1.037	1.091
Minimum	1	1	1	1
Q1	4	4	4	3
Median	5	4	4	4
Q3	5	5	5	5
Maximum	5	5	5	5

Student Learning Outcomes and Overall Satisfaction

The following section explored the learning outcomes of the students and their overall satisfaction with their regard to studying at this University. Figure 34 and Table 10 provide a summary of frequency results. As evident, areas with significantly high 'strongly agree' or 'agree' responses include:

- Students' overall satisfaction with their choice to study at this University, 94%
- Studying at this University matches learning expectations, 91.3%
- Studying at this University is really enjoyable, 92.5%
- Studying at this University will help develop critical thinking, 90%

Over 40% of students responded with 'neutral or uncertain' to the statement 'Studying in this university is giving me the opportunity to find a job'. Other statements with high levels of uncertainty or neutrality from students include 'Studying at this university is giving me the opportunity to meet significant people for my life and my profession' (25%) and 'Studying in this university will help me in acquiring a job or career-related knowledge and

skills' (22.5%). While levels of uncertainty were relatively high in some areas, the frequency of those either strongly disagreeing or disagreeing remained below 11% for all statements. A further breakdown of each individual survey question response is provided in Figures 37-46.

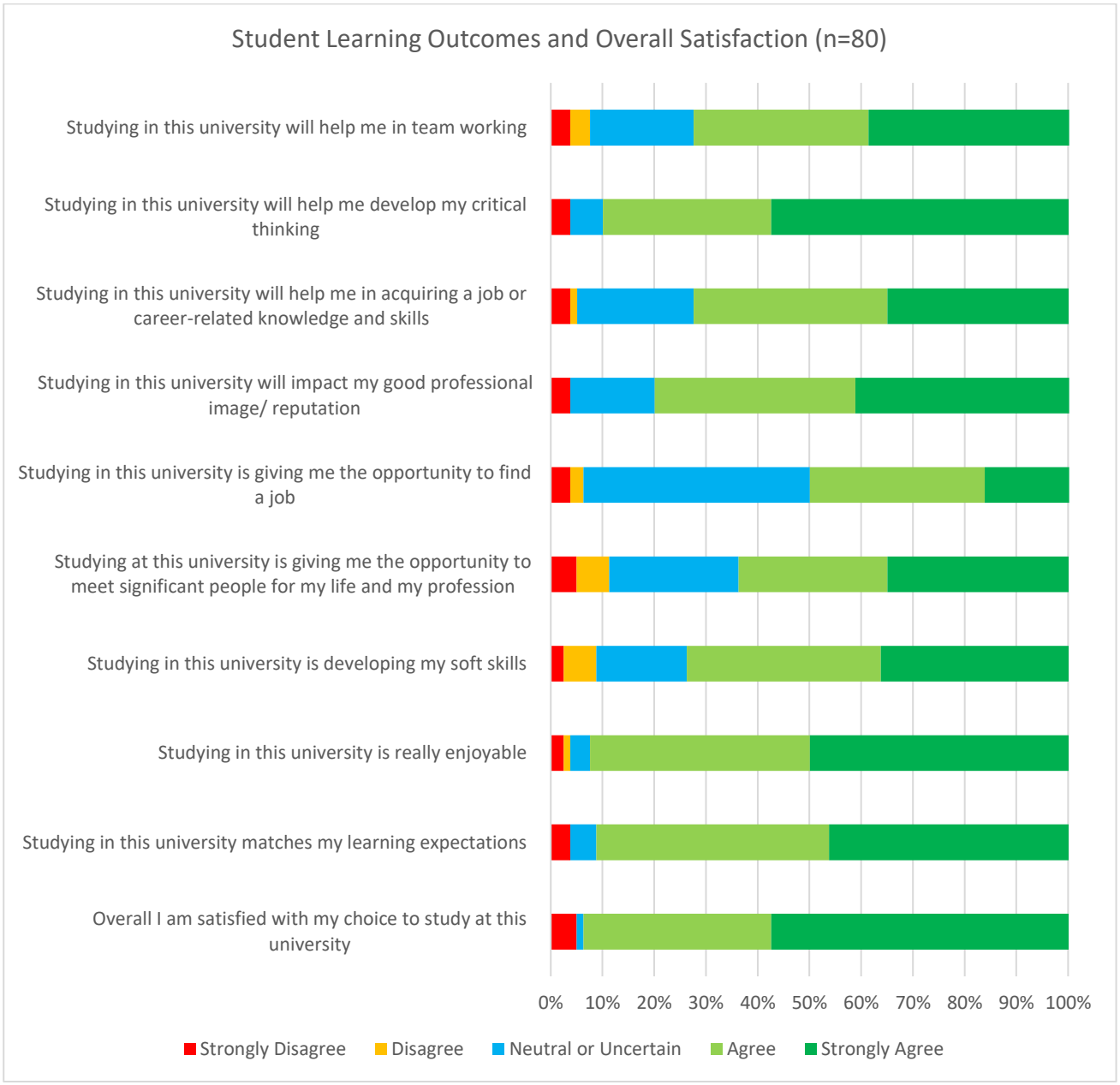
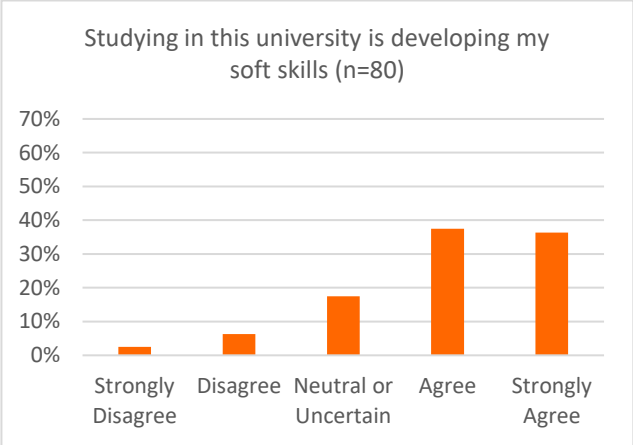
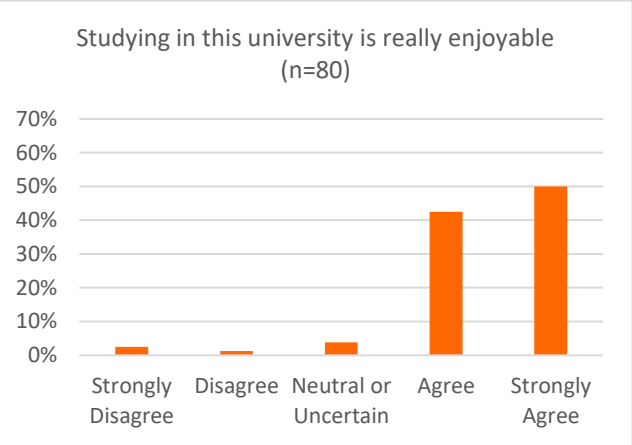


Figure 36: Summary of Student Learning Outcomes and Overall Satisfaction

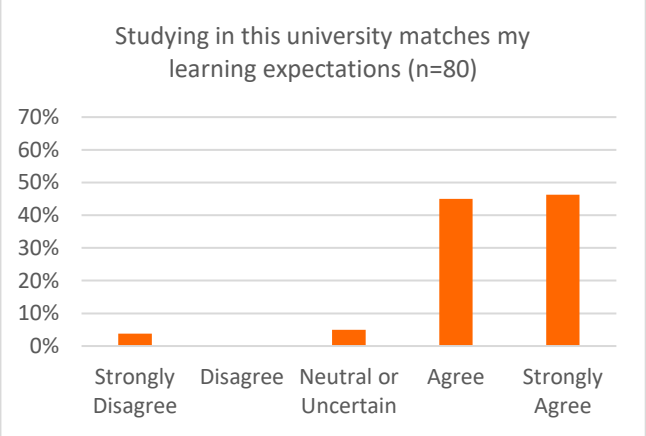
Table 10: Summary of Student Learning Outcomes and Overall Satisfaction

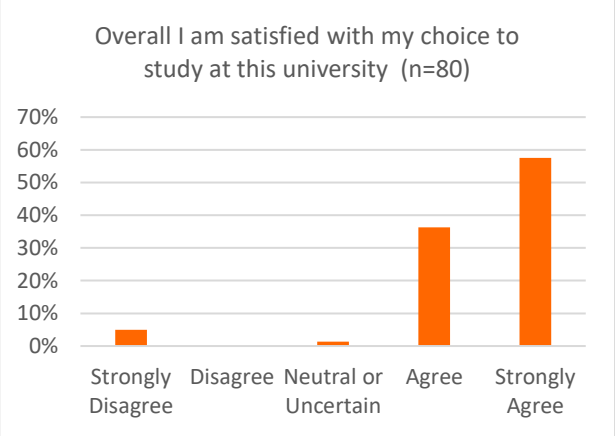
	Overall, I am satisfied with my choice to study at this university		Studying in this university matches my learning expectations		Studying in this university is really enjoyable		Studying in this university is developing my soft skills		Studying at this university is giving me the opportunity to meet significant people for my life and my profession		Studying in this university is giving me the opportunity to find a job		Studying in this university will impact my good professional image/ reputation		Studying in this university will help me in acquiring a job or career-related knowledge and skills		Studying in this university will help me develop my critical thinking		Studying in this university will help me in team working	
	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n	% Freq	n
Strongly Disagree	5	4	3.8	3	2.5	2	2.5	2	5	4	3.8	3	3.8	3	3.8	3	3.8	3	3.8	3
Disagree	0	0	0	0	1.3	1	6.3	5	6.3	5	2.5	2	0	0	1.3	1	0	0	3.8	3
Neutral or Uncertain	1.3	1	5	4	3.8	3	17.5	14	25	20	43.8	35	16.3	13	22.5	18	6.3	5	20	16
Agree	36.3	29	45	36	42.5	34	37.5	30	28.8	23	33.8	27	38.8	31	37.5	30	32.5	26	33.8	27
Strongly Agree	57.5	46	46.3	37	50	40	36.3	29	35	28	16.3	13	41.3	33	35	28	57.5	46	38.8	31
Total	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80



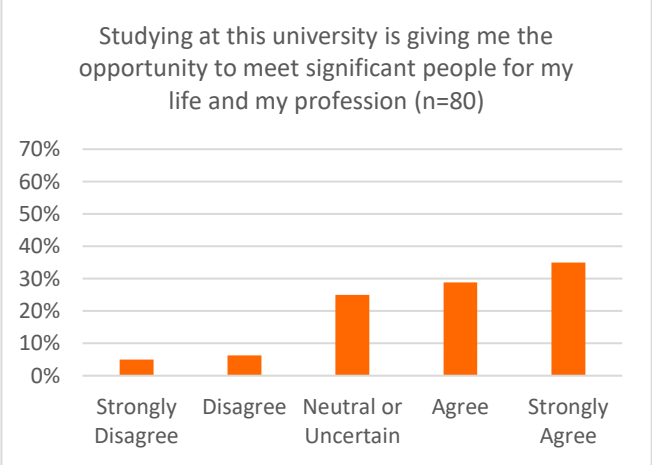


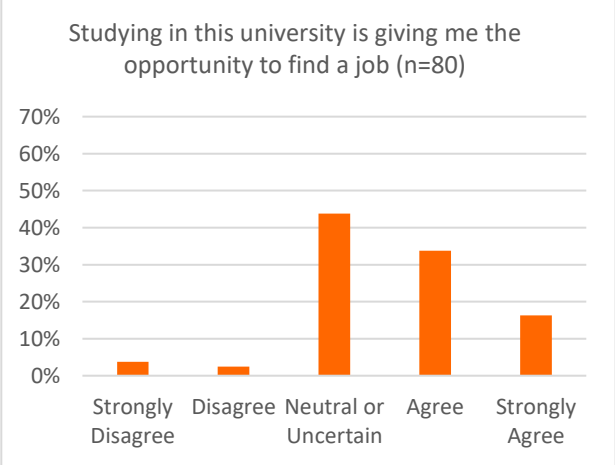
Figures 37 and 38: Student overall satisfaction with choice of University and University matching learning expectations



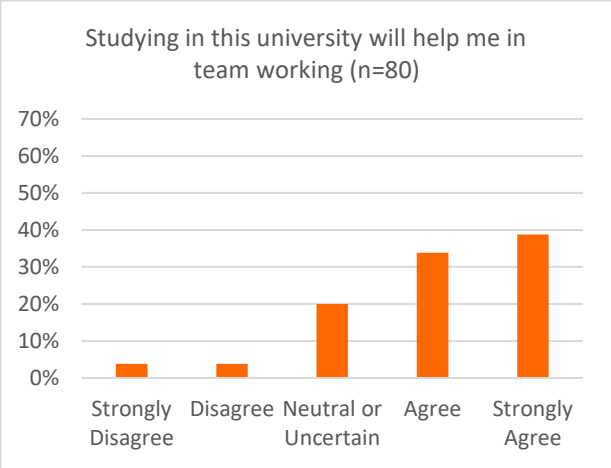


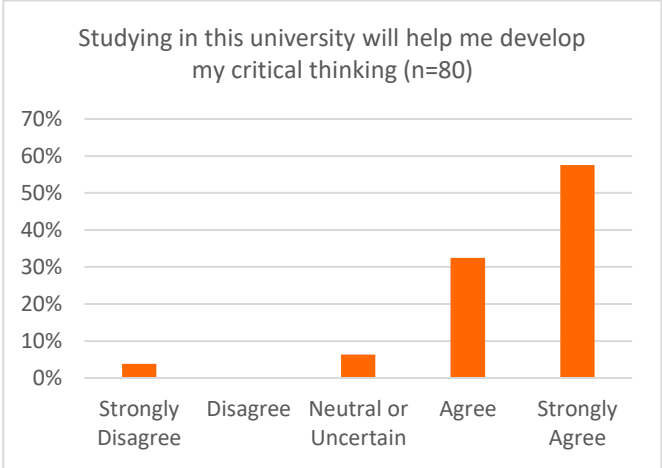
Figures 39 and 40: Studying at this University is enjoyable and is developing soft skills



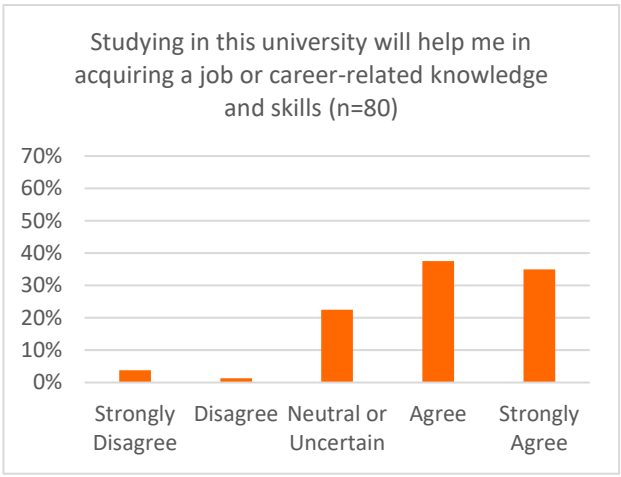


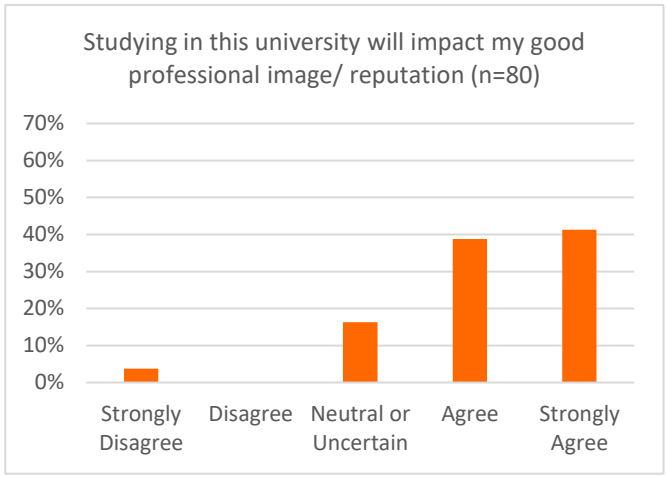
Figures 41 and 42: Studying at this University gives opportunities to meet significant people and to find a job





Figures 43 and 44: Studying at this University will impact professional image/ reputation and help acquiring a job or career-related knowledge





Figures 45 and 46: Studying at this University will help develop critical thinking skills and team working

Lastly, Table 11 provides a summary of the statistical measures for each question within the student learning outcomes and overall satisfaction section.

Table 11: Summary of statistical measures for student learning outcomes and overall satisfaction.
[Where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree]

	Overall, I am satisfied with my choice to study at this university	Studying in this university matches my learning expectations	Studying in this university is really enjoyable	Studying in this university is developing my soft skills	Studying at this university is giving me the opportunity to meet significant people for my life and my profession	Studying in this university is giving me the opportunity to find a job	Studying in this university will impact my good professional image/ reputation	Studying in this university will help me in acquiring a job or career-related knowledge and skills	Studying in this university will help me develop my critical thinking	Studying in this university will help me in team working
N	80	80	80	80	80	80	80	80	80	80
Missing	0	0	0	0	0	0	0	0	0	0
Mean	4.413	4.300	4.363	3.988	3.825	3.563	4.138	3.988	4.400	4.000
Std. Deviation	0.937	0.877	0.830	1.013	1.134	0.926	0.951	0.987	0.908	1.043
Minimum	1	1	1	1	1	1	1	1	1	1
Q1	4	4	4	3	3	3	4	3	4	3
Median	5	4	5	4	4	4	4	4	5	4
Q3	5	5	5	5	5	4	5	5	5	5
Maximum	5	5	5	5	5	5	5	5	5	5

Crosstabulations

Following on from a section by section analysis, further investigation was completed by means of crosstabulations in order to explore potential relationships between variables.

1) Students take innovative tests vs Year of study

The first relationship explored was that of students taking innovative tests and the year of study. As evident from Table 12 below, a slightly higher percentage of students in second year or other, positively agree with this statement than those in the first year of their studies. Similarly, a higher number of students in first year disagreed with this statement.

Table 12: Crosstabulation of responses for variables 'students take innovative tests' and year of study.

		Students Take Innovative Tests					
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Year of Study	First year	12.8%	25.5%	14.9%	27.7%	19.1%	100.0%
	Second Year	0.0%	23.5%	5.9%	41.2%	29.4%	100.0%
	Other	6.3%	6.3%	31.3%	37.5%	18.8%	100.0%
	Total	8.8%	21.3%	16.3%	32.5%	21.3%	100.0%

2) Students are at ease with each other vs Degree programme

Students perceived ease with each other was assessed in relation to their degree programme. As evident from the table below (Table 13), those in a master's programme are seen to feel that students are at ease with other students more so than those in a bachelor's degree.

Table 13: Crosstabulation of responses for variables 'students are at ease with each other' and degree programme

		Students are at ease with each other					
		Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**Total**
Degree Programme	**Bachelor's degree**	3.2%	4.8%	20.6%	38.1%	33.3%	100.0%
	Master's degree	0.0%	0.0%	11.8%	52.9%	35.3%	100.0%
	Total	2.5%	3.8%	18.8%	41.3%	33.8%	100.0%

3) Announcements from administrative staff are clear vs Year of study

Year of study was also examined with 'announcements from the administrative staff are clear', as evident from Table 14, a majority positive response was observed across all years with first year students having the highest numbers of students disagreeing with the statement.

Table 14: Crosstabulation of responses for variables 'announcements from the administrative staff are clear' and year of study.

		Announcements from the administrative staff are clear					
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Year of Study	First year	6.4%	4.3%	10.6%	48.9%	29.8%	100.0%
	Second Year	0.0%	5.9%	17.6%	41.2%	35.3%	100.0%
	Other	0.0%	6.3%	6.3%	50.0%	37.5%	100.0%
	Total	3.8%	5.0%	11.3%	47.5%	32.5%	100.0%

4) Teaching staff is empathic vs Gender

Whether students found teaching staff to be empathic was examined in relation to gender. While all genders found teaching staff to be empathic (Table 15) 6.2% of males either strongly disagreed or disagreed with the statement compared to only 2.1% of females disagreeing.

Table 15: Crosstabulation of responses for variables 'teaching staff is empathic' and gender

		Teaching Staff is Empathic					
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Gender	Male	3.1%	3.1%	3.1%	43.8%	46.9%	100.0%
	Female	0.0%	2.1%	4.3%	48.9%	44.7%	100.0%
	I do not want to declare	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
	Total	1.3%	2.5%	3.8%	47.5%	45.0%	100.0%

5) Use of ICT programmes and gender

The intuitive use of ICT programmes was assessed in relation to gender. As evident from the table below (Table 16), male students showed slightly higher levels of disagreement than females.

Table 16: Crosstabulation of responses for variables 'ICT tools and platforms are used intuitively' and gender

		ICT Tools and Platforms Are Used Intuitively					
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Gender	Male	6.3%	9.4%	25.0%	34.4%	25.0%	100.0%
	Female	4.3%	6.4%	14.9%	44.7%	29.8%	100.0%
	I do not want to declare	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
	Total	5.0%	7.5%	20.0%	40.0%	27.5%	100.0%

6) Overall satisfaction with choice of university vs gender, year of study and degree programme

Students' overall satisfaction with their choice of University was examined across a range of demographic variables including gender, year of study and degree programme. As evident from Table 17 below, satisfaction levels were not found to be significantly related to gender, while year of study did seem to have a mild relationship, with first years showing slightly higher levels of dissatisfaction. Finally, degree programme showed no significant relationship to level of satisfaction felt by students.

Table 17: Crosstabulation of responses for overall satisfaction with university of choice and gender, year of study and degree programme

		Overall Satisfaction with University of Choice				
		Strongly Disagree	Neutral	Agree	Strongly Agree	Total
Gender	Male	6.3%	3.1%	37.5%	53.1%	100.0%
	Female	4.3%	0.0%	34.0%	61.7%	100.0%
	I do not want to declare	0.0%	0.0%	100.0%	0.0%	100.0%
	Total	5.0%	1.3%	36.3%	57.5%	100.0%
Year of Study	First year	8.5%	2.1%	36.2%	53.2%	100.0%
	Second Year	0.0%	0.0%	41.2%	58.8%	100.0%
	Other	0.0%	0.0%	31.3%	68.8%	100.0%
	Total	5.0%	1.3%	36.3%	57.5%	100.0%
Degree Programme	Bachelor's degree	4.8%	1.6%	38.1%	55.6%	100.0%
	Master's degree	5.9%	0.0%	29.4%	64.7%	100.0%
	Total	5.0%	1.3%	36.3%	57.5%	100.0%

SWOT Analysis

The final section within the survey was 4 short open ended questions that asked students to complete a SWOT analysis, identifying strengths, weaknesses, opportunities and threats. Each response was categorised into appropriate themes and the number of occurrences of each response was counted.

Table 18 provides a summary of the SWOT analysis outlining key aspects identified in each SWOT category. A further analysis of the SWOT is provided in Figures 47-50.

Table 18: Summary of SWOT analysis findings, highlighting key aspects identified under each component

Strengths:	**Weaknesses:**
• Good lecturers (n=31) • Kind, empathic and caring lecturers/ staff (n=7) • Student support (n=5) • Campus facilities (n=4) • Availability of online/ remote learning (n=4)	• IT incompetency (n=8) • Online learning (n=7) • Communication (n=7) • Incompetent lecturers (n=2)
Opportunities:	**Threats:**
• Career enhancement (n=8) • Opportunity for further studies (n=7) • Ability of online learning to make accessible to more (n=5) • Skill development (n=5)	• Costs (n=3) • Online learning (n=2) • Mental health impacts on students (n=2) • Time pressure/ constraints (n=2)

[Note: Numbers of responses in each section vary due to 1) multiple responses listed by some and 2) some leaving the SWOT analysis or elements of it incomplete]

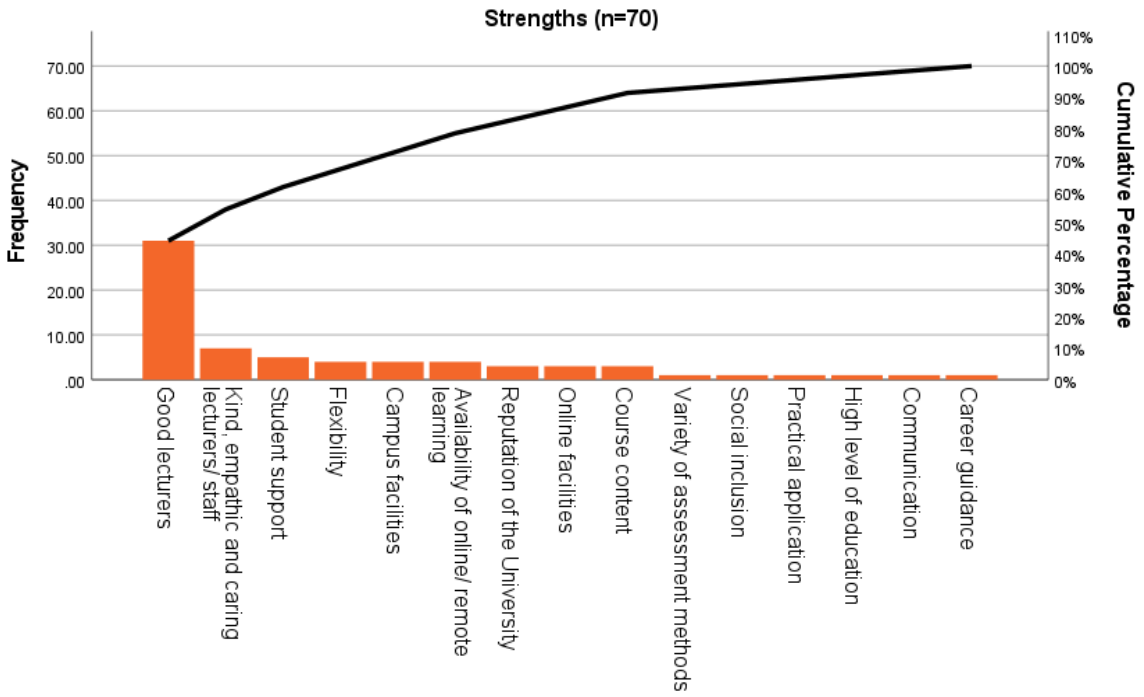


Figure 47: Strenghts identified during SWOT analysis

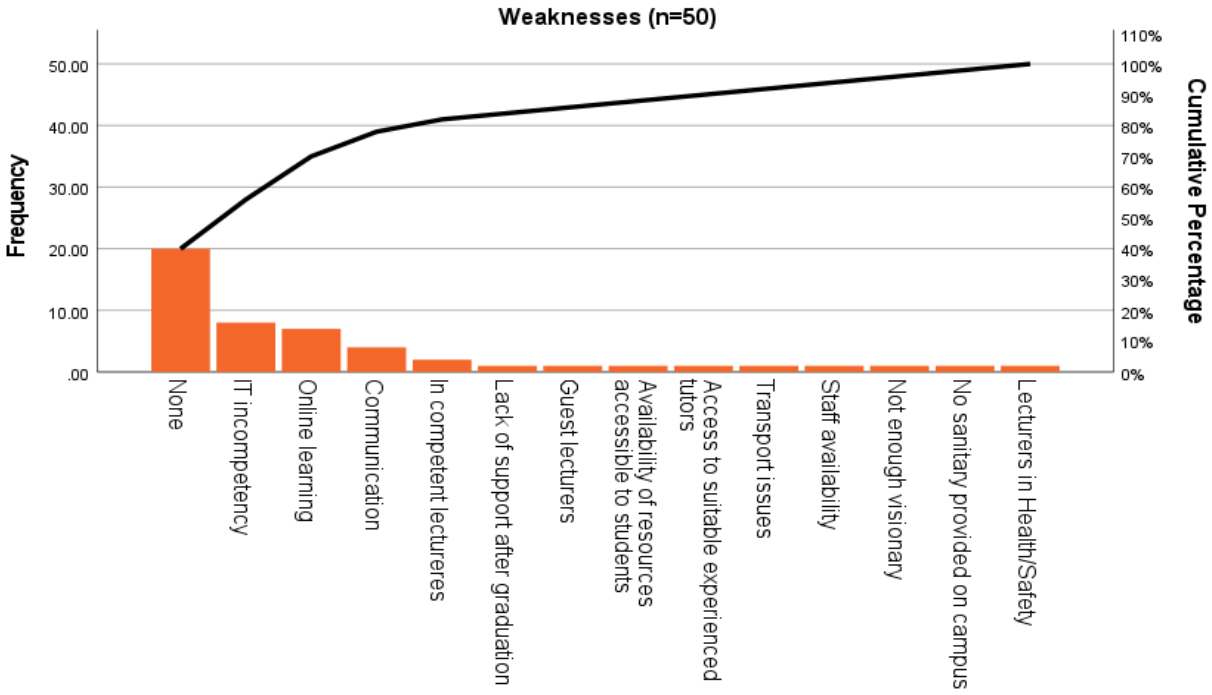


Figure 48: Weakness identified during SWOT analysis

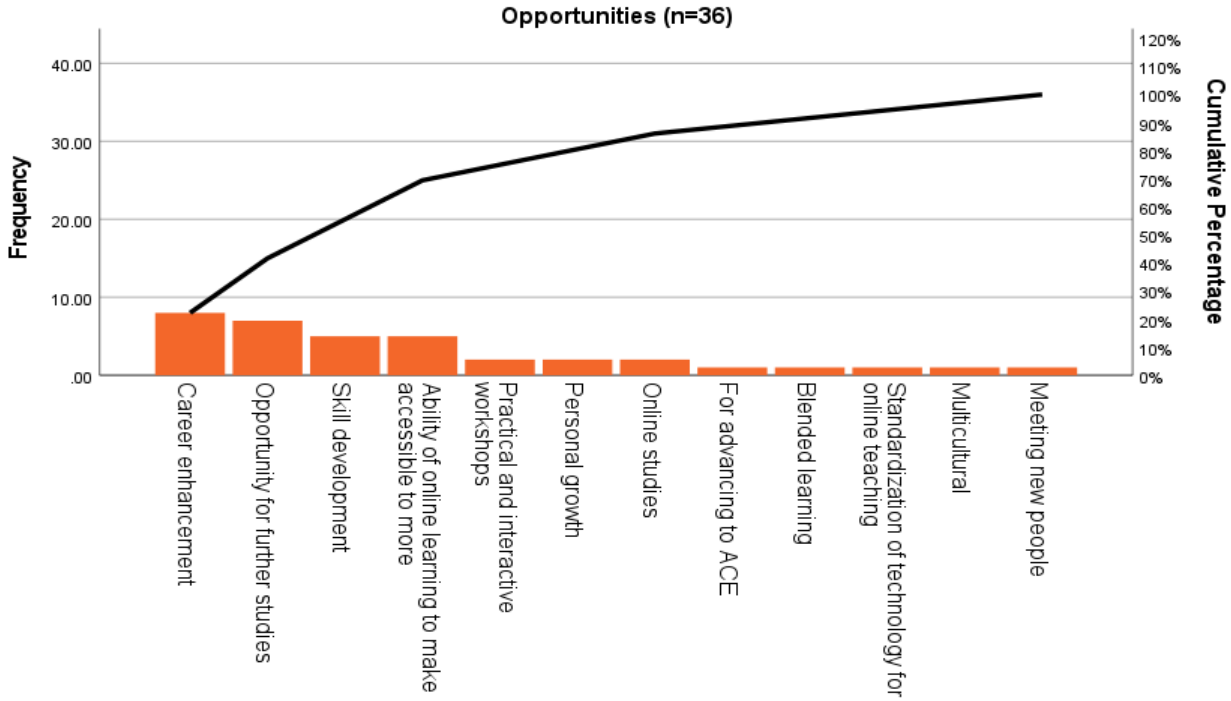


Figure 49: Opportunities identified during SWOT analysis

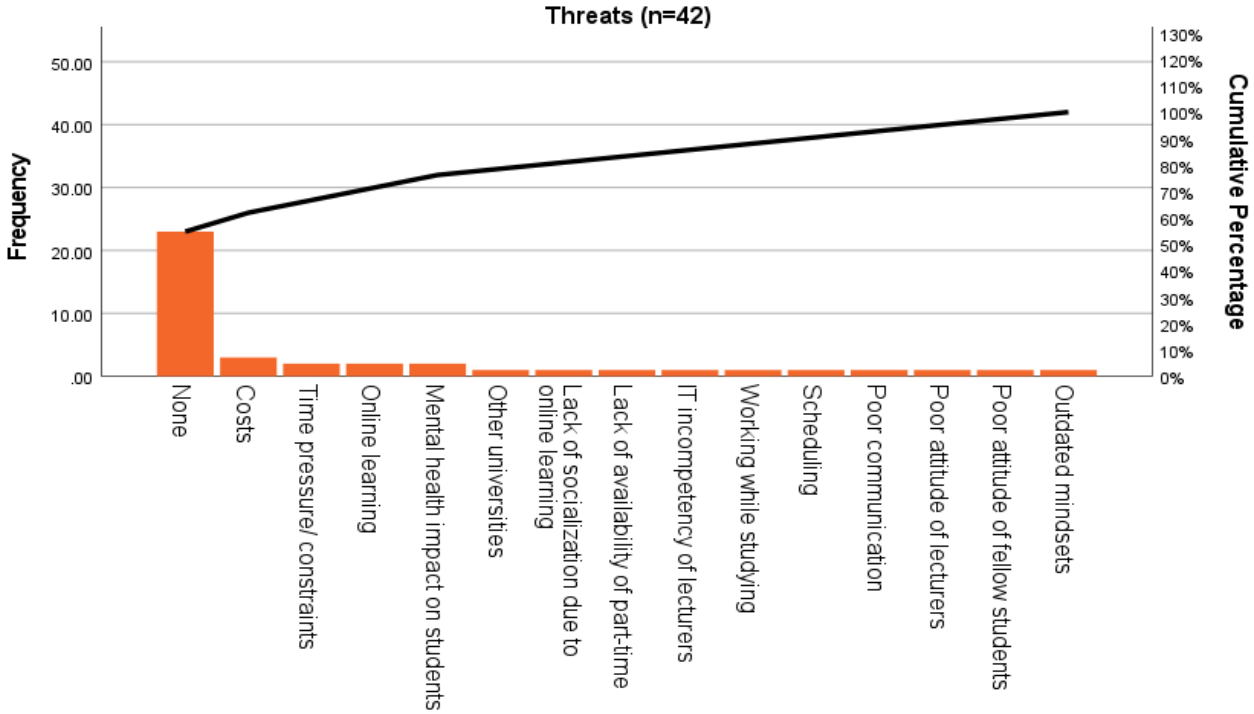


Figure 50: Threats identified during SWOT analysis

SUMMARY

A student survey was deployed in May and September of 2021 with a total of 80 responses being collected. The sample population consisted of 59% females and 40% males, 95% of which were 26 years of age or older. The majority of the sample (59%) was in their first year of study, with a smaller proportion in their second (21%) year. 78.8% of students were completing a bachelor's degree and 21.3% a master's degree.

Analysis from the student survey show that teaching methods most used include the use of case studies, digital or visual resources and tools and the stimulation of debate and peer assessment. Meanwhile, methods least used include the use of game elements of educational games, taking innovative tests within classes and the use of lab experiments or stimulations. Also showing low levels of agreement from students is the assessment of prior knowledge to orient personalised learning, this does however come with complications due to the inevitable variety of prior knowledge and experiences each student will have.

Students are largely positive in statements regarding student behaviour, with over 75% of responses being positive towards respect and level of ease amongst fellow peers. Some uncertainty and disagreement towards the clarity of faculty organisation/ structure and the functionality of locations was expressed. Meanwhile, just under 80% of responses were positive about the statements regarding the support provided by the administrative staff and the clarity of the announcements coming from administrative staff.

The characteristics and methods of the teaching staff was assessed through 6 statement questions which included an assessment of support provided to the students, empathy shown and engagement throughout the teaching process as well as the digital competency of the teacher, the difficulty and appeal of the teaching material. All of these statements garnered an overall positive response with 80% of students either stating 'strongly agree' or 'agree'. Disagreement within these statements was below 10% for all six.

Technological implementation within courses was examined with 4 statement questions. Over 85% of responses were positive towards statements regarding the availability of lessons to students remotely and the ability of lessons to catch attention and stimulate curiosity. The effective use of technology and learning portals and the intuitive use of ICT tools and platforms saw fewer positive responses and an increased number of neutral or disagreeing responses.

Student learning outcomes and overall satisfaction saw high levels of variety within responses. Several areas received levels of 90% or more stating either agree or strongly agree (including overall satisfaction, the University matching learning expectations, enjoyability of the University and the development of critical thinking). While levels of disagreement ranged from just 0-11%, levels of uncertainty or neutrality ranged from 1.3-43.8% in statements such as 'Studying in this university is giving me the opportunity to find a job', 'Studying at this university is giving me the opportunity to meet significant people for my life and my profession' and 'Studying in this university will help me in acquiring a job or career-related knowledge and skills'.

Following on from a section by section analysis, crosstabulations were derived to analyse any potential relationships between variables. While no major relationships were found, some finding of note include second year or 'other' students were more positive towards the statement 'students take innovative tests during classes'

than those in first year. Additionally, first year students saw a fractionally higher percentage of students feeling dissatisfied with their choice of University than those in second year or 'other'. Furthermore, students completing a master's degree felt students were at ease with each other more so than those completing a bachelor's degree. The relationship that gender had with variables was also assessed, with notable results showing that male students had a higher percentage of disagreement towards the statement 'ICT tools and platforms are used intuitively' and 'teaching staff is empathic'

Finally, the SWOT analysis highlighted the main strengths as outlined by students, including good teachers, kind, empathic and caring lecturers/ staff, and student supports. Weaknesses identified included IT incompetency, communication and online learning. Students identified career enhancement, the opportunity for further study and the ability of online studies to make courses accessible to more people are opportunities. Threats came in the form of student costs, online learning and the mental health impacts on students. Interesting to note, online learning came up at least once in all four of the SWOT categories, sometime in more than one form. Some note its ability to increase the accessibility to learning, some note it as a threat to socialization. IT competency seems to be intertwined with online learning, adding to frustrations with technical difficulties in terms of knowledge, skills and competency.

CONCLUSION

Enhancing digital capacity and building digital literacy are essential to realising the potential of digital transformation in Irish higher education and must happen in tandem. A great indicator of the developments in digitalisation in higher education in Ireland that have taken place over recent years is that UCC was already very well prepared for the move to 100% online teaching and learning when the pandemic occurred. It had the infrastructure, systems, and people in a position to move a campus-based university completely online. The national organisations have emphasized the professional development of staff in digital teaching and learning in all their strategies in recent years. UCC will remain a campus-based university but the potential for more blended learning programmes will change the nature and scope of what it can offer students in the future. At the time of writing this report the sector is still in a state of flux and data gathering due to the ongoing pandemic, however the changes to the practices of remote working, teaching, and learning will bring significant changes to the sector. The sentiment echoed in all the interviews and focus groups were that changes in digital teaching and learning have been accelerated and while there were challenges, it has re-ignited a passion for innovative teaching and learning design and provision. From the students surveyed it was perhaps most interesting to note, that online learning came up at least once in all four of the SWOT categories, sometime in more than one form. This points to the complexity of the digitalisation of teaching and learning and that best practice for ACE students is a flexible approach to its programme delivery, offering a mix of programmes that are face-to-face, online and/or blended, that offer the benefits of the campus experience of learning in a classroom and the flexibility of access to learning through recordings and materials on learning platforms. Throughout the focus groups the main concern was the danger to pastoral care for students so the challenges for ACE staff will be to design innovative online/blended that meets the support needs of their students.

Key Points

- Pedagogy first approach is best practice and digital transformation is in service to this.
- The digital structure and the individual's digital skills must develop in tandem.
- Digital transformation is not a strand of teaching and learning in higher education it is central to it now.
- The work done by teaching staff during the pandemic in the sector is unsustainable – it is not enough to move face-to-face learning online – resources for instructional design training and supports such as moderators is needed for the future if quality online provision is to be provided. Teaching staff already have a full load so resources (time and money) are needed if this is to happen.
- For some students online/blended suited them but for others they missed the relationship/networking/care/mentoring/peer support/study space etc. of the on-campus experience so fully online is not the way forward for ACE programmes – flexible offerings on a programme-by-programme basis.

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