INDEX

IRISH NATIONAL DIGITAL EXPERIENCE SURVEY

INDEx FINDINGS FROM STUDENTS AND STAFF WHO TEACH IN HIGHER EDUCATION

National Forum for the Enhancement of Teaching and Learning in Higher Education

NATIONAL FORUM
FOR THE ENHANCEMENT OF TEACHING AND LEARNING IN HIGHER EDUCATION

Irish National Digital Experience (INDEx) Survey:

Findings from students and staff who teach in higher education

Survey completed: December 2019
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Minister's Welcome

I am thrilled to be in a position to welcome the findings of Ireland's National Digital Experience Survey. This report is the product of enormous commitment and collaboration and its contents provide valuable insights and evidence for the future. The report has implications for decision-making at every level of higher education and, indeed, other related sectors of Government and its recommended actions will be carefully attended to. Digital competence and agility have become crucial for all Irish citizens and their importance is likely to become even more pronounced in the coming years. It is therefore paramount that we optimise the digital provision and supports in our higher education institutions so that graduates may experience success in their future lives and work.

I commend the fact that the INDEx Survey features the input of both students and staff who teach. As the report mentions, developing the digital capabilities of students and staff is, without question, an interdependent endeavour and this is clear across all the INDEx findings. We cannot expect to enhance student learning without considering the perspectives and needs of those shaping that learning, and we cannot expect to enhance teaching without understanding the engagement and experiences of those being taught.

Another notable characteristic of the Survey is its timing. 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 findings demonstrate how much students in higher education value digital technologies in their learning. Both students and staff who teach have reported that they would like to see digital used more in teaching and learning. If use of digital is to be extended, we must leverage the insights in this report to ensure this is done in a deliberate, coherent manner and that all those engaging with technology, whether for teaching or learning, are well supported in terms of infrastructure, policies, pedagogies and skills development.

I thank the National Forum and the INDEx Steering Group and Digital Education Advisory Group, as well as the broader higher education community, for their stellar efforts in bringing this report to fruition. Its contents will be of interest to all in higher education and will no doubt resonate through national and institutional policy and practice in the years to come.

Mary Mitchell O'Connor

Minister of State for Higher Education

Foreword

On behalf of the Union of Students in Ireland [USI], I am delighted to endorse the findings of this report. The Irish National Digital Experiences Survey, conducted across October and November 2019 in 32 Irish higher education institutions, gives Ireland, for the first time, a national understanding of the digital experiences of students and staff who teach. As we read the report now, in spring 2020, we find ourselves in the midst of one of the most unprecedented and widespread health crises in modern times. A crisis that has provided an unparalleled challenge for just about every sector in society, as we seek to evolve our normal ways of working and to embrace remote working and learning as the 'new normal'.

As Irish higher education seeks to prepare for a new academic year, one that will no doubt be delivered in a manner like never before, all stakeholders within the sector will be keen to learn from the digital pivot we have undertaken over the last few months. The quick switch to digital teaching & learning over the course of just a matter of weeks is not in itself an example of best practice in online learning, but instead provides a good example of crisis management and resilience within the sector. In order to build on this, and to develop an enhanced digital teaching & learning environment for all, it is important that the sector listens to the experience of students and those who teach them, and combines this with expertise in pedagogy, digital innovation, and student engagement. The INDEx survey results provide an excellent foundation which the Irish sector can use to build a truly engaging and inclusive digital learning environment together.

When just under 50% of the 25,000+ students surveyed indicated that they would like digital technologies to be used in their course more than they are now, they could never have imagined what was to come. However, whilst the teaching arrangements of recent times might not in themselves exemplify the type of digital teaching students who filled in this survey would have been thinking of, they symbolize an almost universal experience that all learners and educators can refer to when engaging in conversations around the future of digital learning and teaching in Ireland.

The data contained in this report is no less relevant now that an increased number of staff and students have discovered the world of live online teaching, in fact, it now takes on an even greater significance. Those who had never previously been engaged in live online learning up until March 2020 now have added anecdotal experience which they can refer to when engaging in conversations around the findings of this survey, and how they can be used to improve the digital experience for all staff and students at an institutional level.

It is important, however, that we do not view this survey's findings as actionable only at an institutional level. Moreover, the fact that this report provides us with a national dataset underlines the need for it to be considered at this level, and for significant action to be undertaken across the sector. Firstly, if recent months, and some of the findings from this report demonstrate anything, it's that digital learning is only possible when adequate digital infrastructure is in place. We must therefore consider how broadband can be rolled out across all parts of the country, so that having adequate bandwidth to engage fully in online learning does not continue to be a postcode lottery.

Secondly, staff and students require support in developing the adequate digital literacy to be able to engage in digital teaching & learning. Existing initiatives aimed at exploring this area of practice, such as the IUA's Enhancing Digital Teaching & Learning, and the CUA's iNote project will add great value to national efforts to enhance digital literacy, but it's important also that professional development for staff

in the area of digital teaching & learning is a priority across the higher education sector, and institutional efforts are aided and championed by sectoral leaders. Furthermore, the needs of students and staff who require additional support must too be considered, and the principles of universal design for learning should be championed when we explore the creation of new digital teaching & learning initiatives.

Finally, it is important that conversations on 'what next' are not confined to senior committees, and board meetings, but cascaded to the almost 30,000 staff and students who engaged with this survey, and the rest of the higher educator population too. Almost one third of students, and nearly half of staff who were surveyed felt that they did not have the opportunity to be involved in discussions about digital services at their institutions. In order to enact meaningful change, and to build a digital environment that is engaging and accessible for all, this report must not become an agenda item on one committee, but rather, a conversation that starts today, and goes beyond the boardrooms, and into the heart of each and every (digital) classroom.

USI looks forward to continuing to engage with all stakeholders in building a Digital Future for all.

Kevin McStravock

Vice President for Academic Affairs
Union of Students in Ireland [USI]

Executive Summary

Across all countries and contexts, higher education institutions are confronted with the question of how to adapt and shape higher education in an increasingly digital, networked world. At a time of unprecedented global challenge, the importance of confident, supported engagement with digital technology has become clear. The findings of the Irish National Digital Experience (INDEx) Survey, presented in this report, provide a comprehensive and nuanced understanding of the digital engagement, experiences and expectations of students and staff who teach across our sector.

Overall, the INDEx Survey stands as an important benchmark for Irish higher education, recorded at a key moment in time. Ireland is the only country with national data representative of all students and staff who subsequently experienced the sudden shift to online teaching and learning resulting from the COVID-19 pandemic. The data reflect a sector in which digital technology was considered valuable for learning, and both students and staff who teach were eager for more use of digital technology and additional support to develop their digital skills. The potential, both latent and manifest, which allowed the higher education community to move to teaching and learning online and to transfer, re-purpose and re-imagine existing knowledge and experience reflects the significant Government investment in teaching and learning over the past several years and the sustained efforts of institutions and all those who support staff and students.

The INDEx Survey has deep roots in the policy and practice contexts of Irish higher education. The publication of the *National Strategy for Higher Education to 2030*[1] and subsequent establishment of the National Forum in 2013 accelerated the momentum of teaching and learning enhancement in Ireland, with a distinct focus on building digital capacity that has carried forward to this day. A nationwide consultation conducted by the National Forum in 2013-15 to explore the perspectives and experiences of senior managers, staff and students regarding teaching and learning in a digital world indicated that we could all be using technology more effectively to improve the way we teach, and to transform the ways in which students are enabled to engage with their learning. This consultation resulted in the development of the *Roadmap for Enhancement in a Digital World*[2], which identified key drivers for capacity building, encouraged purposeful dialogue between stakeholders, and presented focused, action-orientated ways in which digital learning and digital innovation could be fostered across the sector. The shared vision for building digital capacity that emerged from the Roadmap led to the establishment and implementation of the INDEx Survey and will be an important touchstone as we continue to interrogate the survey findings and look to the future.

1 Department of Education and Skills (2019). National Strategy for Higher Education to 2030 https://www.gov.ie/en/publication/072a65-national-strategy-for-higher-education-to-2030/

2 National Forum (2015). Roadmap for Enhancement in a Digital World https://www.teachingandlearning.ie/publication/teaching-and-learning-in-irish-higher-education-a-roadmap-for-enhancement-in-a-digital-world-2015-2017/

The INDEx Survey

The INDEx Survey was undertaken in autumn 2019 to explore the digital experiences of students and staff who teach in Irish higher education. Data was collected from 25,484 students and 4,445 staff who teach at 32 higher education institutions. The survey was coordinated and managed by the National Forum in partnership with members of the higher education community. The aim was to highlight what makes a difference to students and staff who teach in Irish higher education, providing an evidence base to inform decision-making and future enhancement of digital teaching and learning.

The INDEx Survey was composed of two separate online survey instruments: the INDEx Student Survey, open to all students enrolled on taught programmes of study, both undergraduate and postgraduate, aged 18 and over, and the INDEx Survey of Staff Who Teach, open to all staff who teach and all who support teaching and learning, including academic, professional and technical staff. Students and staff shared their digital practices, attitudes, preferences and recommendations, as well as their experiences of digital infrastructure, digital skills and support provision, and digital environment and culture within their institutions.

Key strengths of the INDEx Survey were its breadth in terms of the range and diversity of students and staff who participated, its reach across the sector, its consideration of digital capabilities in different domains, both individual and institutional, and its enabling of national and international benchmarking. The INDEx dataset is benchmarked with three national datasets available to us via published findings from similar digital experience surveys conducted in the UK (for both students and teaching staff) and Australia and New Zealand (for students).

Consolidated key findings

Importance of digital to student learning in Irish higher education

A majority of students agreed that when digital technologies are used on their course, they understand things better, enjoy learning more, are more independent in their learning and can fit learning into their life more easily. Indeed, half of students indicated that they would like digital technologies to be used on their course more than they are now. Almost three-quarters of students rated the overall quality of digital teaching and learning on their course as above average. Interestingly, given student reporting of the benefits of digital technologies, over two-thirds of staff who teach also indicated that they would like digital technologies to be used in their teaching practice more than they are at present.

Supporting student and staff digital capabilities

Four in ten students said they had regular opportunities to review and update their digital skills. When asked to describe what their institution could do to improve their experience of digital teaching and learning, students requested more interactivity in teaching, in both lectures and online, and emphasised the need for ongoing support for themselves and the staff who teach them in developing digital skills, knowledge and confidence. It is clear that the digital capabilities of students and staff who teach are interdependent and that participatory, co-creative digital pedagogies are valued by students. Indeed, students cited lecturers on their course as their primary support in using digital technology in their learning.

The vast majority of staff who teach engaged in development of their digital teaching skills either formally or informally and more than a third reported that their institution regularly provided opportunities for them to develop their digital skills. There was a relatively even split between the sources of support staff most

relied on to use digital technology in their teaching: online videos and resources, teaching colleagues, and support staff. Close to half of all staff who teach rated as above average the support they received from their institution to develop the digital aspects of their role. When asked to describe what their institution could do to support them in their use of technology for teaching, the most popular response from staff who teach was more and dedicated time to develop digital teaching and learning. This was reinforced by separate findings that half of all staff who teach did not feel that their institution provided them with time and support to innovate or reward/recognition when they developed the digital aspects of their role.

A new understanding of which digital tools and activities are valued

We have never before had such robust national data telling us which digital tools and digital teaching and learning activities students and staff use and value. For example, we know that the digital tool found most useful by students and staff is the virtual learning environment (VLE), and that universal, effective and consistent use of the VLE and provision of lecture recordings were two of students' top requests for improving their experience of digital teaching and learning. Regarding digital activities, the course-related digital activity most students found useful was polling/quizzing. This new knowledge about what is valued can be combined with related findings regarding support and provision to inform future decision-making. At the time of the INDEx Survey, for example, one-quarter of students reported having access to lecture recordings and just under a third of staff who teach reported having access to lecture capture; two-thirds of students reported having access to polling/quizzing on their course, while half of all staff who teach had never carried out live polls or quizzes in class.

Access to wifi, devices and digitally-enabled teaching and learning spaces

Overall, four in five students and two-thirds of staff who teach rated the quality of their institution's digital provision (software, hardware, learning environment) as above average. Although access to reliable institutional wifi was available to most students and staff who teach, one in five student and staff respondents reported that they lacked such access. When asked how their institution could improve their experience of digital teaching and learning, students' top suggestion was access to better, faster, more stable wifi.

Student device ownership and use for learning was high overall, but it was not universal. Eight out of ten students used a personally-owned smartphone to support their learning, with one-third of students reporting that they regularly accessed the VLE on a mobile device. While nine out of ten students owned and used a laptop, over one-quarter of students indicated that they would find it useful to have more laptops/tablets on long-term loan. These findings suggest caution in assuming that all student devices are equally suitable or reliable, particularly during the current period of institutional closures with students relying on access to personal devices, software and wifi in order to take part in learning and assessment.

Nearly half of all students but just under a third of staff agreed that teaching spaces were well-designed for digital technologies. Priorities for students, in addition to access to reliable wifi, included adequate access to reliable, up-to-date computers, devices and printers (in classrooms, lecture halls, computer labs, libraries, etc.) and access to adequate power and seating to support learning and wellbeing. Staff who teach described a variety of ways that teaching spaces could better support their use of digital technologies for teaching, mostly by facilitating seamless use of devices and technologies across different teaching spaces. As infrastructure and needs vary across institutions and discipline areas, it will be important to explore the specific needs of students and staff within each institution.

Online teaching and learning

Until the recent sudden shift to remote/online learning, teaching and learning in a live online environment was largely considered the purview of those who taught or were enrolled in online programmes, or those who support them. At the time of the INDEx Survey, 70% of staff who teach had never taught in a live online environment; looking at the benchmarking data, this compares with 74% in the UK. This proportion will have changed dramatically since March 2020. Many who had never taught or learned online now have done so and understanding their experiences and how their attitudes and expectations with regard to online teaching and learning have been affected will be essential in order to make sure that the evidence of the INDEx Survey and of recent experience both inform future decision-making.

Supporting the needs of all students

One in ten students reported that assistive technologies were vital to meet their learning needs. Students' largely positive assessments re digital teaching and learning were consistent across almost all cohorts of students. Some differences in engagement and attitudes were evident, however, and these may point to differing needs that can be taken into account in ensuring equitable provision and support for all students. For example, full-time students were more likely to want digital technology to be used more for learning; postgraduate students were more likely to have created an e-portfolio; online students were less likely to access the VLE on a mobile device; mature students were more likely to use assistive technologies; and international students were more likely to regularly work online with others as part of their course. In addition, students in their institution for less than one year were more likely to have used polling/quizzing, to have had opportunities to update their digital skills, and to be involved in digital decision-making.

Digital workplace readiness

The importance of digital skills and digital competence for higher education students is widely acknowledged, but INDEx findings shed further light on this. Three-quarters of all students agreed that digital skills are important for their chosen career; while there were some disciplinary differences, a majority of students in all discipline areas agreed. In contrast with this perceived need, however, fewer than half of all students believed that their course prepared them for the digital workplace. Detailed analysis and discussion of INDEx data within institutions, and within specific disciplines/departments, will be helpful in designing, adapting and implementing initiatives to address these gaps. Examples of findings that relate to workplace readiness and may be worth interrogating at institutional and programme level are the degree to which students collaborate online, produce work in digital formats other than Word/PowerPoint, or feel that the software used on their course is industry standard and up-to-date.

Importance of professional identity to staff engagement, experiences and expectations

The INDEx Survey definition of staff who teach was 'all staff who teach and all who support teaching and learning'. Staff respondents encompassed a range of roles including, for example, lecturer, academic dean, education developer, instructional designer, learning technologist, library staff, manager, technician and tutor. The findings indicate that professional identity may be relevant to engagement, experiences and expectations related to digital technologies, with responses varying somewhat across roles. For example, findings indicate that: lecturers are close to the overall average for all staff who teach in practices such as use of polling/quizzing, creating learning materials using digital media, and teaching live online; librarians and managers are most likely to have time to innovate; learning technologists and deans are most likely to have an opportunity to be involved in decisions about digital services; and managers are most likely to be informed about their responsibilities re students' online safety.

Digital policies

Underpinning digital capabilities and pedagogical practices are the digital strategies, environment, culture and policies within each institution. It is these organisational digital capabilities that motivate, enable and support the individual digital capabilities and digital practices of students and staff. While each institution may have a range of policies in place regarding digital teaching and learning, many students and staff indicated that they were unaware of these policies or the related guidelines. Only half of all students said their institution protected their data privacy and just over a quarter said they were informed about how their personal data was stored and used, while half of staff respondents said they were informed about their responsibilities with regard to managing learner data securely. Four in ten students said their institution helped them to stay safe online, while fewer than two in ten staff said they were informed about their responsibilities with respect to ensuring students' online safety. Additional findings indicate further areas where awareness of existing policy-related guidelines was low, e.g., use of assistive technologies, copyright and licensing. These findings indicate a need to increase student and staff awareness of and engagement with policy development and implementation.

Digital decision-making

INDEx findings show that almost one-third of students and nearly half of all staff who teach reported they did not have the opportunity to be involved in decisions about digital services at their institution. It is not possible to ascertain from this data if this is because respondents did not have such opportunities or were unaware of the opportunities available to them. However, in their responses regarding how their institution could better support their use of technology for teaching, several staff requested that institutions consult with staff when making decisions about new technology, tools and platforms. Reflection on these student and staff findings from an institutional perspective may help individual institutions to enhance communications and engagement with respect to current and future digital decisions. Engaging and partnering with students and staff can ensure that digital strategies, policies and initiatives will complement and support the diverse needs of students and staff across the institution.

Differences across institution types

In the main, INDEx findings were largely similar across all institution types, although there were some differences. For example, students at technological higher education institutions (THEIs) were most likely to agree that their course prepared them for the digital workplace; staff at THEIs were most likely to have taught live online. Students at universities gave the highest ratings for their institution's overall digital provision; university staff were most likely to have access to lecture capture. Students at private colleges had the highest access to recorded lectures and staff who teach at private colleges were most likely to be involved in digital decisions. At other institutions, students and staff were most likely to say they had access to reliable wifi and students reported the highest access to digital resources.

Differences between countries

The INDEx dataset is benchmarked with three national datasets available to us via published findings from similar digital experience surveys conducted in the UK (for both students and teaching staff) and Australia and New Zealand (for students only). Overall, the generally similar expectations and experiences in the four countries highlight the structural and cultural similarities across these higher education sectors. Differences were observed in a few areas. For example, compared with students in the UK, Australia and New Zealand, students in Ireland were more likely to access the VLE on a mobile device and less likely to have access to recorded lectures. Students in Australia and New Zealand were more likely to have created a digital record or portfolio of their learning than students in the UK or Ireland. Compared with staff who teach in the UK, staff who teach in Ireland were more likely to use the VLE for student collaboration and

have regular opportunities to develop their digital skills, but only half as likely to have access to lecture capture.

A unique characteristic of the INDEx Survey was its combined focus, nationally, on both students and staff who teach. Across the findings, the multiple interdependencies between students and staff who teach were evident, most notably with respect to digital capabilities. Students and staff often make assumptions about one another's digital capabilities, for example, students relying primarily on lecturers for support in using technology for learning, and staff assuming that students are aware of and know how to use (and make the most of) various digital tools. Critically, the digital capabilities of staff who teach enable them to use digital technologies to enhance pedagogic practice as well as to support learners to actively develop their own digital capabilities. Developing the digital capabilities of students and staff must be viewed as an interdependent endeavour, informed by the evidence of research and practice and supported by knowledgeable decision-making regarding institutional supports and provisions.

Building a future together

INDEx findings reflect a higher education community that has progressed significantly with respect to engagement with digital technologies since the Digital Roadmap was first developed. None of this would have been possible without the foundations that had been laid for effective community and collaborative working, including willingness to collaborate, experience of collaborative project management and implementation, the availability of the infrastructure for collaboration, and commitment to collaboration. From initial contact with registrars and policy partners to the convening of a national steering group, through all steps involved in collectively mobilising students and staff to encourage participation in the survey among their colleagues and peers, collaboration was crucial.

There is work to be done at every level of higher education in raising awareness of, and engagement with, existing provision and supports and in addressing identified gaps. The sense of shared purpose and cross-cutting ambition that underpinned the INDEx Survey will now need to carry through to the realisation of the potential of its findings. A rich picture of the needs and priorities of students and staff who teach with respect to the digital dimension of their lives in education is available to us. It supplements existing evidence and comes at a time when the potential and the commitment of the sector to work together for the good of all students have never been more evident. We need to determine, together, how we can channel this energy and leverage existing potential to identify areas where focused effort may accomplish relevant, specific, positive outcomes for all students and staff.

With much of the Digital Roadmap purposefully navigated, and this new evidence base of the digital engagement, experiences and expectations of students and staff now available, Irish higher education is primed to consider a re-articulated vision for digital teaching and learning. We can move from the original Digital Roadmap to a mapping of enhanced pathways to student success underpinned by robust digital infrastructures, policies and pedagogical approaches. Collaboration, responsiveness and adaptability to institutional contexts will be prioritised as we re-articulate a national vision for digital teaching and learning[3]. This will require openness at institutional and system levels, meaningful partnership between students and staff, and structures that enable ongoing communication and problem-solving, at local and national levels, as the digital terrain continues to evolve.

3 National Forum Strategy 2019-21 https://www.teachingandlearning.ie/publication/strategy-2019-2021-leading-enhancement-and-innovation-in-teaching-and-learning/

Since the closure of all higher education institutions in March 2020, staff and students across the sector have made enormous efforts to continue teaching and learning remotely and online. This has been accomplished in the context of a continuing global health crisis and myriad individual and family challenges. While the exact contours of our future are not yet known, capable and critical engagement with digital technology remains central to our mission in higher education. Now particularly, we recognise that 'digital' does not only relate to those with 'digital' in their titles and is not just an individual endeavour. Student-staff partnership and equitable, holistic approaches will help us to move towards becoming truly digitally capable institutions and a digitally capable sector – helping students and staff to thrive as they live, learn and work in a rapidly changing and increasingly digital world: building our future together.

At-a-Glance Findings

- A majority of students agreed that when digital technologies are used on their course, they understand things better, enjoy learning more, are more independent in their learning and can fit learning into their life more easily.
- 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).
- 71% of students rated as above average the overall quality of digital teaching and learning on their course. The report provides detail about the digital tools and digital activities that students found most valuable.
- When asked to describe what one thing their institution could do, or do better, to improve their experience of digital teaching and learning, students' top suggestion was access to better, faster, more stable wifi. The next three most popular suggestions were effective and consistent use of the VLE by staff who teach, availability of lecture recordings, and access to reliable, up-to-date hardware and software.
- When asked to describe one thing their institution could do, or do better, to support them in their use of technology for teaching, the three most popular responses from staff were more and dedicated time to develop digital teaching and learning, improved digital infrastructure, and more support and professional development re digital skills, digital literacies and the use of educational technologies; 46% of staff who teach rated the support they received from their institution to develop the digital aspects of their role as above average.
- Lecturers were seen by students as their main source of support to use digital technology in their learning; there was a relatively even split between the sources of support staff most relied on to use digital technology in their teaching: online videos and resources, teaching colleagues, and support staff.
- 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.
- There are some differences in INDEx findings across student cohorts (e.g., discipline area, mode of study) and institution type, as well as a small number of differences between INDEx findings and equivalent Digital Experience Insights findings from the UK, Australia and New Zealand. These will be valuable for institutions to interrogate to inform decision-making and to ensure equitable opportunities for all.
- Across the findings, multiple interdependencies between students and staff who teach were evident, most notably with respect to digital capabilities. Both students and staff who teach requested additional and ongoing support in developing their digital skills and knowledge, digital literacies, and digital confidence.

Rationale

The INDEx Survey has deep roots in the policy and practice contexts of Irish higher education. The publication of the National Strategy for Higher Education to 2030 and subsequent establishment of the National Forum by the Minister for Education and Skills in 2013 accelerated the momentum of teaching and learning enhancement in Ireland, with a distinct focus on building digital capacity which has carried forward to this day.

A nationwide consultation conducted by the National Forum in 2013-15 to explore the perspectives and experiences of senior managers, staff and students regarding teaching and learning in a digital world indicated that we could all be using technology more effectively to improve the way we teach, and to transform the ways in which students are enabled to engage with their learning. This consultation resulted in the development of the Roadmap for Enhancement in a Digital World[4], which identified key drivers for capacity building, encouraged purposeful dialogue between stakeholders, and presented focused, action-orientated ways in which digital learning and digital innovation could be fostered across the sector:

> Building digital capacity is about much more than developing a capacity for online course provision and the use of digital tools. It is about developing new ways of dealing with information, working and learning in a digital environment, using time and information differently, and developing new versatility when it comes to interaction in learning environments. Embracing the full potential of digital technology poses a challenge to many of our basic structures, our assumptions, our policies and procedures, not least regarding our beliefs and attitudes about the role and nature of higher education itself.
>
> Roadmap for Enhancement in a Digital World, 2015, p. 4

The subsequent implementation of the Roadmap recommendations informed and shaped recent advances in engagement with digital in higher education, creating a sense of shared purpose and strategic coherence. The National Forum supported large-scale inter-institutional collaborative projects and local practice seminars and worked in partnership with the sector to conduct national reviews mapping the technological infrastructure of higher education, the digital policy landscape, institutional engagement with learner data, and initial insights into the experience and support of the digital dimension of higher education[5].

The knowledge and understandings emerging from this work interacted with policy development in real time. Action Plans for Education and System Performance Frameworks[6] published by the Department of Education and Skills, and related national funding calls[7], responded to the evidence gathered and encouraged individual and institutional engagement with resulting frameworks and structures that

4 National Forum (2015) Roadmap for Enhancement in a Digital World 2015-17: https://www.teachingandlearning.ie/publication/teaching-and-learning-in-irish-higher-education-a-roadmap-for-enhancement-in-a-digital-world-2015-2017/

5 National Forum (2018) Building Digital Capacity in Irish Higher Education 2013–18: https://www.teachingandlearning.ie/publication/building-digital-capacity-in-irish-higher-education-2013-18-national-developments-and-key-perspectives/

6 See the Action Plan for Education 2016-19: https://www.education.ie/en/Publications/Corporate-Reports/Strategy-Statement/Department-of-Education-and-Skills-Strategy-Statement-2016-2019.pdf and the Higher Education System Performance Framework 2018-20: https://www.education.ie/en/Publications/Education-Reports/higher-education-system-performance-framework-2018-2020.pdf

7 See, for example, the 2018 Innovation and Transformation Fund (https://hea.ie/funding-governance-performance/funding/innovation-call/https:/hea.ie/funding-governance-performance/funding/innovation-call/) and the 2019 Strategic Alignment of Teaching and Learning Enhancement Funding in Higher Education (https://www.teachingandlearning.ie/funding/strategic-alignment-of-teaching-and-learning-enhancement-funding-in-higher-education-2019/)

leverage the potential of digital technology to optimise the learning and development opportunities for each student.

The development of the 2019-21 Strategy of the National Forum in late 2018 provided a timely opportunity to reflect on the achievements by the higher education community to date and to consider how the high-level ambitions of the Digital Roadmap could continue to be realised systemically over the longer term. The Strategy emphasised the need for a re-articulated vision for digital teaching and learning in Irish higher education, informed by the experiences of recent years and developed in partnership with policy partners and sectoral stakeholders. There was an acknowledgement, however, that before outlining a new vision for digital teaching and learning it would be important to gather evidence on how those who teach and learn in higher education are engaging with and experiencing digital.

The INDEx findings represent a unique and timely record of the digital engagement, experiences and expectations of those who teach and learn in higher education nationally and an important benchmark for our sector nationally and internationally. The findings will allow national-level developments, such as the upcoming Digital Transformation Framework, and the realisation of the ambitions laid out in key documents, such as the Charter for Irish Universities and the recent report of the Technological Universities Research Network[8], to be well informed so that Ireland continues to lead in digital teaching and learning within the European higher education context. They will also underpin cross-sectoral innovation projects such as the Enhancing Digital Teaching and Learning (IUADigEd) project[9] currently ongoing across Irish universities and the Innovative Opportunities Transforming Education (iNOTE) project[10] being undertaken across institutions in the Connaught Ulster Alliance.

At institutional level, collaborative interrogation of the findings and consideration of their meaning will ensure that future policy and practice decisions at individual, departmental or institutional levels that impact on teaching approaches and student learning experiences are grounded in what is known to be true; to build a future together, we must first know where we are.

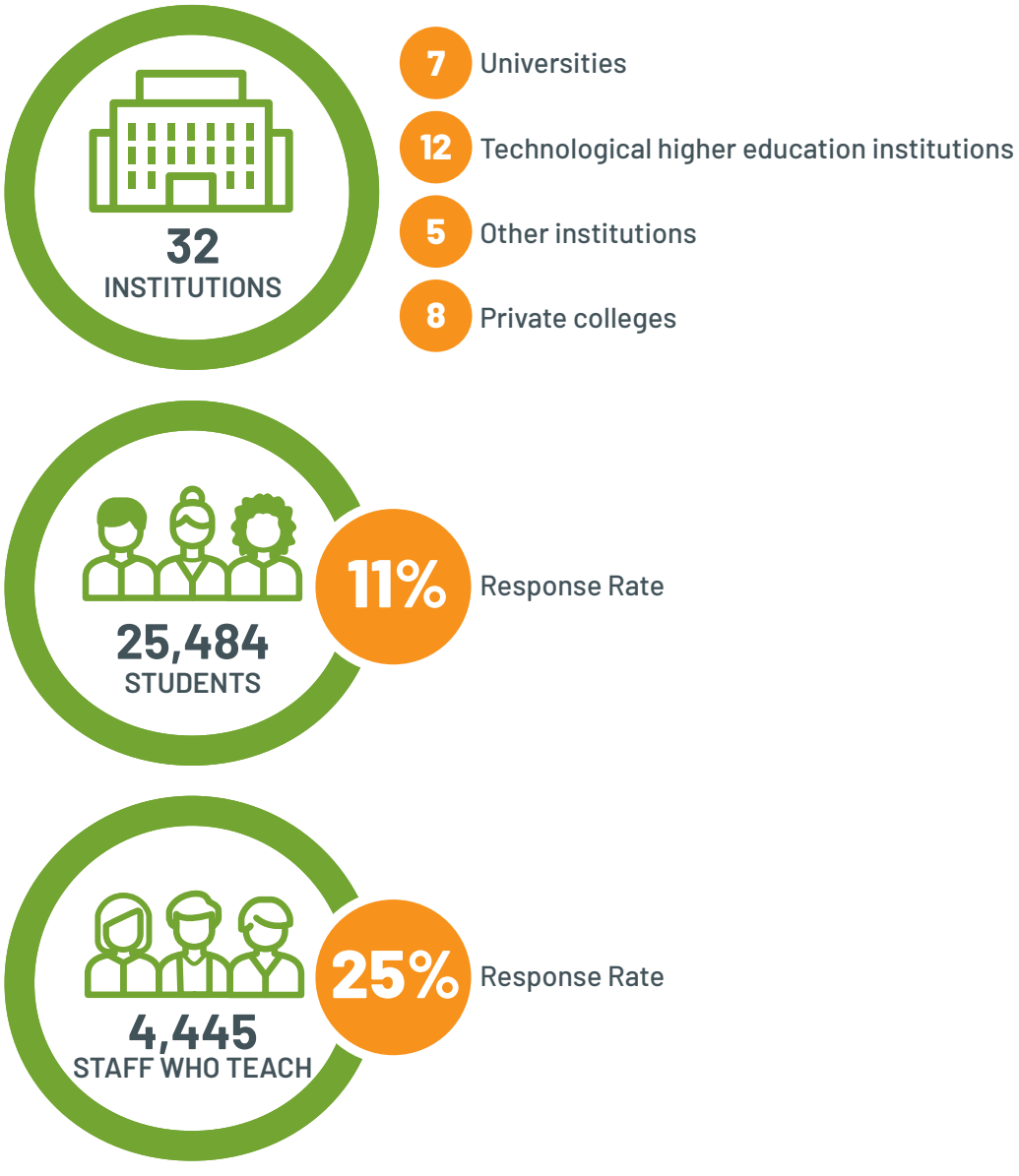
8 See information on the upcoming Digital Transformation Framework here: https://hea.ie/assets/uploads/2017/04/190621_Digital-transformation_Proceedings.pdf; See the Charter for Irish Universities here: https://www.iua.ie/wp-content/uploads/2019/08/IUA_Charter_2018_v16.pdf; See the TURN Report here: https://www.education.ie/en/Publications/Education-Reports/connectedness-collaboration-through-connectivity.pdf

9 See here: https://www.iua.ie/ourwork/learning-teaching/digital-learning/

10 See here: https://digitaled.ie/

Who Responded to the Survey

A key strength of the INDEx Survey is the breadth of participation – across the entire higher education sector, including the perspectives of students and those who teach. The tagline for the survey was "Let's see where we are, so we can build our future together."



Methodology

The INDEx Survey

The Irish National Digital Experience (INDEx) Survey was undertaken in autumn 2019 to explore the digital experiences of students and staff who teach in Irish higher education. Data was collected from 25,484 students and 4,445 staff who teach at 32 higher education institutions[11], with each institution administering the online survey during a selected three-week period between 14 October and 1 December 2019. The INDEx Survey was coordinated and managed by the National Forum for the Enhancement of Teaching and Learning in Higher Education in partnership with staff and students across the Irish higher education sector. The INDEx Steering Group, comprising institutional leads at each participating institution and key student and staff stakeholders, played a central role in this partnership.

The aim of the INDEx Survey was to gather quantitative and qualitative data from students and staff who teach in Irish higher education, at one point in time, about their digital experiences, engagement and expectations. The specific objectives were to enable higher education institutions and the higher education sector more broadly to:

- Understand more about students' digital experiences and create opportunities for meaningful collaborative engagement
- Explore the perspectives of staff who teach on the institutional digital environment and the use of technology for teaching, learning and assessment
- Identify and highlight what makes a difference to students and staff who teach with respect to digital infrastructure, digital skills, digital tools and digital literacies
- Gather current empirical evidence upon which strategic decisions about digital interventions and investments can be based, as part of the process of building digital capacity
- Enable international benchmarking with other countries that have completed a similar survey (i.e., the UK, Australia, New Zealand)

An overarching motive for the survey was to enable students and staff who teach to share their perspectives, together, in order to inform and influence the future enhancement of digital teaching and learning across the Irish higher education sector.

The INDEx Survey was composed of two separate online survey instruments. The INDEx Student Survey was open to all students enrolled on taught programmes of study, both undergraduate and postgraduate, aged 18 and over. The INDEx Survey of Staff Who Teach was open to all staff who teach and all who support teaching and learning, including academic, professional and technical staff. Both surveys were approved by the National Forum Research Ethics Committee and equivalent bodies in each participating institution. Both INDEx survey instruments can be found on the INDEx website of the National Forum (www.teachingandlearning.ie/index) and complete sets of responses for the two surveys can be found in Appendices 5 and 6.

11 A list of participating institutions can be found in Appendix 2.

The INDEx Survey was based on an existing survey and survey platform developed by Jisc. The Digital Experience Insights[12] surveys have been well-tested and optimised for accessibility and usability based on their use in the UK since 2013 and Australia and New Zealand since 2017. The National Forum worked closely with the INDEx Steering Group to tailor the INDEx Survey specifically for students and staff who teach in Irish higher education while also endeavouring to retain the validity of the original survey instruments. As a result, INDEx Survey results can be benchmarked with Digital Experience Insights survey results from the UK, Australia and New Zealand (see Appendices 5 and 6).

Participants, response rates and representativeness

A total of 32 higher education institutions[13] in Ireland participated in the INDEx Survey, including all universities, all technological higher education institutions, most other institutions and several private colleges (a full list is available in Appendix 2). The number of each type of institution and the proportion of total student and staff responses from each is shown in Table 1.

Table 1. Institution types and proportion of student and staff responses from each

Institution type	Count	% Student responses	% Staff responses
University	7	46%	37%
Technological higher education institution	12	38%	45%
Other institution	5	4%	6%
Private college	8	12%	11%
Total	**32**	**100%**	**100%**

A total of 25,484 students participated in the INDEx Survey. The student response rate was 11% nationally. Response rates varied across institutions and institution types, as summarised in Table 2. On average, institutions collected responses from their students at the following rates: private colleges 17%, universities 11%, technological higher education institutions 10%, and other institutions 8%.

Table 2. Response rate for students

Institution type	Total student population[14]	No. of student responses	Student response rate
University	107,883	11,707	11%
Technological higher education institution	96,831	9,802	10%
Other institution	11,471	927	8%
Private college	17,788	3,048	17%
Total	**233, 973**	**25,484**	**11%**

12 https://www.jisc.ac.uk/digital-experience-insights

13 At the start of the INDEx Survey project, the three campuses of Technological University Dublin (City, Blanchardstown and Tallaght), recently merged, were categorised as three separate institutions. However, for the purposes of data analysis and this final report, these are recognised as Technological University Dublin.

14 Student population figures for 2019-20 were obtained directly from individual institutions.

A total of 4,445 staff who teach participated in the INDEx Survey. The response rate for staff who teach was 25% nationally. Response rates varied across institutions and institution types, as summarised in Table 3. On average, private colleges collected responses from 36% of staff who teach, technological higher education institutions collected responses from 30% of staff who teach, and universities and other institutions 21%.

Table 3. Response rate for staff who teach

Institution type	Total staff who teach population[15]	No. of staff who teach responses	Staff who teach response rate
University	8,025	1,653	21%
Technological higher education institution	6,824	2,022	30%
Other institution	1 ,302	272	21%
Private college	1,370	498	36%
Total	**17,521**	**4,445**	**25%**

Each participating institution aimed to achieve at least a minimum number of responses from students and staff who teach in order for these datasets to be representative of the population of students and staff who teach at each institution. This was easier for larger institutions where a valid and reliable sample could be achieved with a smaller proportion of the whole. All but one institution (one of the smallest) achieved at least the minimum number of responses to ensure they had representative samples for both surveys, assuming a 5% margin of error. The national samples of students and staff who teach each exceeded the minimum number of responses required for each to be representative of these populations nationally.[16] The data gathered comprise a valid national dataset.

Table 4 shows a profile of student respondents.[17] At each participating institution, all registered students aged 18 and over[18] were invited by the registrar (or equivalent) to participate in the INDEx Survey. The participants span a wide range of student demographics, course types and study modes. Efforts were made to reduce non-response bias, i.e., to ensure that survey responses were spread relatively evenly among the entire population, both in the design of the survey and in efforts nationally and institutionally to engage students. Comparing the profile of student respondents with data about the national higher education sector[19] enables an assessment of the representativeness of the INDEx student dataset. Using the latest data available from the Higher Education Authority (2018-19), the INDEx student dataset over-represents students aged 18 and slightly under-represents students aged 19-21 and 30 plus. The student dataset over-represents female and under-represents male students. Regarding course level (undergraduate, postgraduate taught and access), the student dataset reflects the higher education sectoral data. The INDEx dataset over-represents full-time and under-represents part-time students, over-represents international students and slightly under-represents mature students in comparison with other students. These variances should be taken into account when interpreting the findings.

15 Population figures for staff who teach were obtained directly from participating institutions; each identified the number of staff within their institution who fit the INDEx Survey definition of 'staff who teach', i.e., all staff who teach and all who support teaching and learning (see The Index Survey, above). No comparable sectoral dataset is available as this definition of 'staff who teach' spans multiple staff categories, i.e., academic, professional and technical.

16 Details for calculating valid sample sizes was provided by the National Forum to all participating institutions and can be found on the INDEx website: www.teachingandlearning.ie/index

17 Further details about student respondents can be found in Appendix 5.

18 Ethics approval for the study was obtained for students ages 18 and older. Learners under age 18 are considered to be a vulnerable group; while including this group would have been preferable, the timeframe did not allow for the added complexity of gaining consent from parents/guardians.

19 Profile comparison was made to the most recent national student dataset (2018-19) available from the Higher Education Authority

Table 4. Profile of student respondents

	Student respondents
Age	
18	14%
19 to 21	41%
22 to 24	16%
25 to 29	10%
30 plus	18%
Gender	
Female	59%
Male	40%
Other	1%
Level	
Access, preparatory or foundation course	1%
Undergraduate	80%
Postgraduate taught	19%
FT/PT	
Full-time	86%
Part-time	14%
Mature	
Yes	32%
No	68%
International	
Yes	19%
No	81%

Table 5 shows a profile of staff respondents, i.e., staff who teach who completed the INDEx Survey. The National Forum uses an inclusive definition of learners and teachers, i.e., all those who learn and all those who teach in Irish higher education. The INDEx 'staff who teach' definition mirrors the National Forum definition, explicitly including all staff who teach and all who support teaching and learning[20]. This inclusive definition recognises that many who teach are not categorised as lecturers or academic staff, and thus spans multiple job roles and staff categories (e.g., academic, professional, technical). Unlike the INDEx student data, there is no equivalent sectoral data to which the INDEx staff data can be compared.

Table 5 shows the range of roles of staff respondents. 71% of respondents were lecturers, 6% were tutors, 5% managers, 4% library staff, and smaller proportions were technicians, deans, educational developers, learning technologists and instructional designers. Another 6% were classified as 'Other' which included roles such as registrar, equality officer, head of department, professor, library staff, administrator, digital skills trainer, careers advisor, student services staff and researcher. While all supported teaching and learning, several respondents in these categories explicitly noted that their roles included teaching. Despite the challenge of engaging staff across multiple roles and categories, concerted efforts were made to communicate the value of the survey widely and to engage and encourage all staff who teach to complete it.

20 https://www.teachingandlearning.ie/publication/national-professional-development-framework-for-all-staff-who-teach-in-higher-education/

Table 5. Profile of staff respondents

	Staff respondents
Gender	
Female	53%
Male	46%
Other	1%
Years at institution	
Less than a year	8%
1 to 3 years	16%
4 to 9 years	23%
Ten years or more	53%
Years teaching	
Less than a year	6%
1 to 3 years	11%
4 to 9 years	19%
Ten years or more	64%
Role	
Academic dean	2%
Educational developer	1%
Instructional designer	<1%
Learning technologist	1%
Lecturer	71%
Library staff	4%
Manager	5%
Technician	3%
Tutor	6%
Other	6%

Analysis

This initial report, published in May 2020, presents findings based on a broad descriptive analysis of the national datasets for students and staff who teach. The report describes the national INDEx data overall, differences observed in the data, and key findings. Some detailed qualitative analysis of free-text questions which was undertaken is not included in this report but will be available in due course on the INDEx website (www.teachingandlearning.ie/index)[21]. There is scope for further quantitative and qualitative analysis including additional partitioning of the data, testing for statistical significance, additional qualitative analysis and focus groups to explore specific findings. Decisions on further analysis will follow consultation across the sector. All further analysis and reports (e.g., National Forum Insights) will be available on the National Forum's INDEx website.

In addition to the mutually agreed core questions on the student and staff surveys, each participating institution had the option of adding up to four supplementary questions to each survey to reflect local

21 Specific references to additional qualitative analysis are included where relevant, see Findings chapter, Section 1.1.

institution priorities. The national-level analysis of INDEx Survey findings, summarised in this report, was based on core survey questions only.

The national datasets were analysed as a whole, filtering each by relevant demographic variables (age, gender), individual student descriptors (mature student, international student, years at institution), individual staff descriptors (time in teaching role, time in institution, role), course descriptors (level of course, mode of study) and discipline area.

The national dataset is also benchmarked with three national datasets available to us via published findings from Digital Experience Insights (DEI) surveys conducted in the UK, Australia and New Zealand. These datasets are briefly described in Table 6. DEI findings from higher education students and staff in the UK are available for academic year 2018-19[22], allowing INDEx data to be benchmarked for both students and staff. DEI findings from higher education students in a combined study in Australia and New Zealand are available for academic year 2017-18[23], enabling INDEx data to be benchmarked for students. The full survey results for the INDEx Survey in Ireland and related DEI surveys in the UK, Australia and New Zealand are available in Appendices 5 and 6.

Overall, regarding international benchmarking, the findings from the digital experience surveys in Ireland, the UK, Australia and New Zealand are broadly similar. The generally similar expectations and experiences in the four countries highlight the structural and cultural similarities across these higher education sectors. Where there are differences, these are highlighted in the Findings chapter and in the Conclusion.

Table 6. Benchmarking data: UK, Australia and New Zealand

Abbreviation used in report	Country	Survey year	No. HEIs	Participants
UK	United Kingdom	2018-19	32	15,962 students
UK	United Kingdom	2018-19	26	3,485 staff
ANZ	Australia and New Zealand	2017-18	12	21,095 students

22 Jisc Digital Experience Insights: Findings from UK Students https://www.jisc.ac.uk/reports/digital-experience-insights-survey-2019-students-uk and Jisc Digital Experience Insights: Findings from UK Teaching Staff https://www.jisc.ac.uk/reports/digital-experience-insights-survey-2019-staff-uk

23 Jisc Digital Experience Insights: Findings from ANZ students https://www.jisc.ac.uk/reports/digital-experience-insights-survey-2018-students-anz

Findings

The INDEx Survey was completed by students and staff who teach at most higher education institutions in Ireland. The findings provide a unique record of the digital experiences of a diverse range of students and staff in higher education nationally at a particular point in time, autumn 2019. The survey design enables some comparison of findings across the two surveys, i.e., comparing student and staff perspectives on digital experiences such as use of the virtual learning environment (VLE), use of assistive technologies, development of digital skills, digital support, data privacy, wellbeing and more. In addition, because the INDEx Survey was adapted from a validated and widely-used instrument, the Digital Experience Insights survey, it is possible to compare findings from the Irish higher education sector with equivalent recent findings from the UK, Australia and New Zealand.

From the time of its launch, the tagline for the INDEx Survey has been: "Let's see where we are so we can build our future together". Thus, in this national report, student and staff findings are presented together. It is hoped that this will facilitate mutual consideration of these findings across the sector.

Five themes

The interrogation of the substantial INDEx dataset resulted in the identification of five themes which offer specific lenses through which to view and understand the data collected (see Figure 1 and Table 7). Themes One and Five are the linchpins, and thus the start and endpoint: the voices of students and staff sharing their practices, attitudes, preferences and recommendations. Theme One findings outline the specific digital teaching and learning practices of students and staff. Theme Five findings present student and staff attitudes to (digital) teaching and learning, their assessments of digital provision at their institutions, and their specific recommendations for enhancing digital teaching and learning. Findings for Themes One and Five are thus indicators of the *individual digital capabilities* of students and staff who teach. These can be enabled and supported by the *organisational digital capabilities* of the institutions within which they learn and teach. Findings in Themes Two through Four are indicators of these organisational digital capabilities: student and staff experiences of digital infrastructure, digital skills and support provision, and digital environment and culture.

THEME ONE	Digital Teaching and Learning Practices
THEME TWO	Digital Infrastructure
THEME THREE	Digital Skills Development and Support
THEME FOUR	Digital Environment and Culture
THEME FIVE	Attitudes to Digital

Figure 1. Five themes of INDEx Survey findings

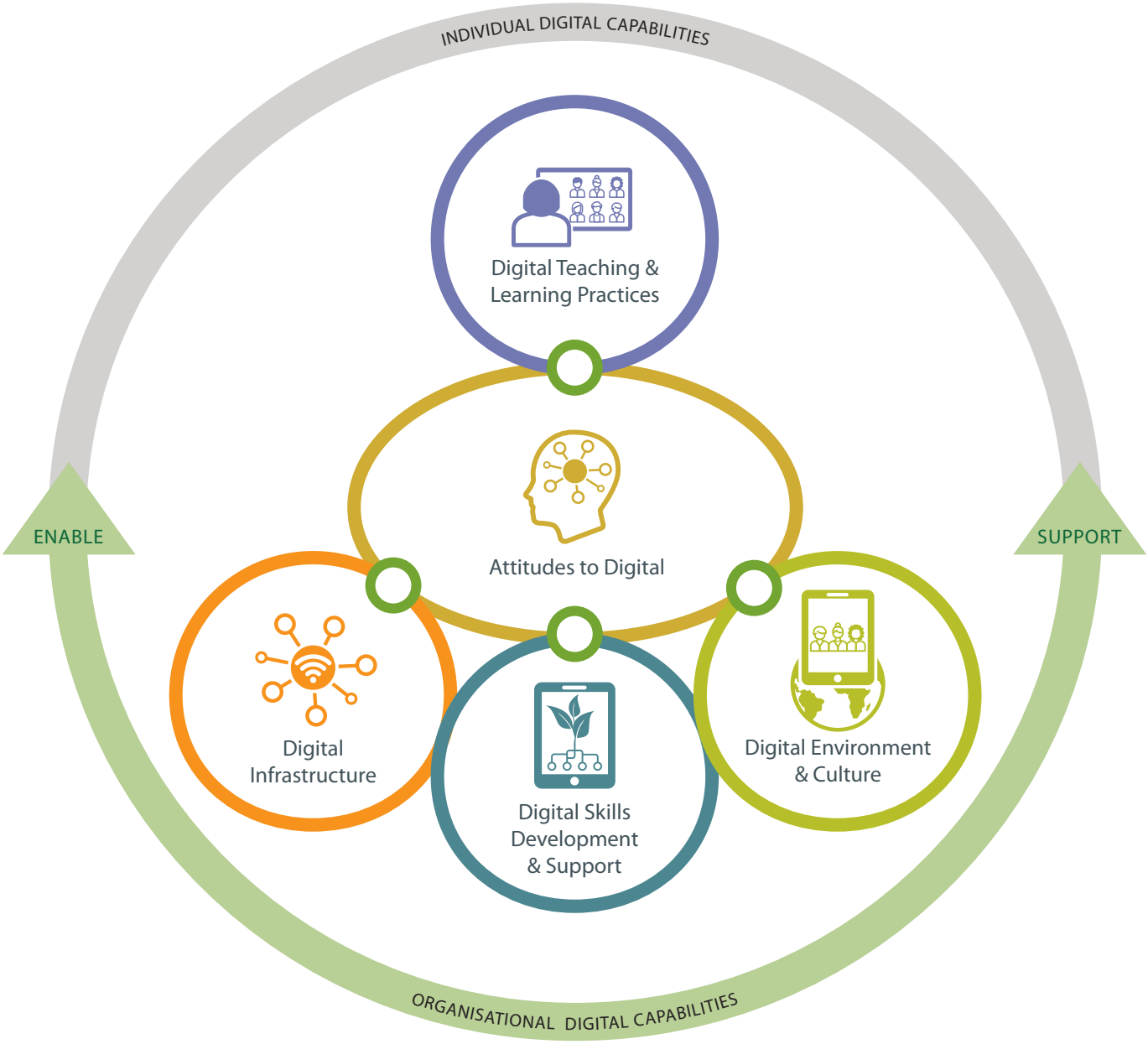


Table 7. Description of five themes of INDEx Survey findings

Theme	Findings within theme	Digital capabilities
Theme One. Digital Teaching and Learning Practices	Digital teaching and learning activities; Use of digital tools; Online assessment and feedback; Creation of digital media; Use of the VLE	Findings within Theme One are indicators of the *individual digital capabilities* of students and staff who teach, i.e., those capabilities which prepare individuals for living, learning and working in a continually evolving digital society[24]
ThemeTwo: Digital Infrastructure	Institutional digital infrastructure; Access to digital resources; Use of personal devices; Use of assistive technologies	Findings within Themes Two through Four are indicators of the *organisational digital capabilities* of higher education institutions, i.e., the extent to which the infrastructure and culture of an institution enable, motivate and support the digital practices of students and staff[25]
Theme Three: Digital Skills Development and Support	Guidance regarding digital skills provided; Digital skills development; Digital workplace readiness; Support	
Theme Four: Digital Environment and Culture	Student and staff wellbeing; Student data protection; Information for staff regarding digital responsibilities; Student/ staff roles in digital decision-making	
Theme Five: Attitudes to Digital	Attitudes to use of digital for teaching and learning; Student preferences for learning; Student and staff assessment of digital at institution	Findings within Theme Five are broad and include indicators of *individual* and *organisational digital capabilities*

A thematic coding framework can be found in Appendix 3, showing how individual questions on the student and staff surveys map to each of the five themes.

24 Beetham, H. (2015) Revisiting digital capability https://digitalcapability.jiscinvolve.org/wp/2015/06/11/revisiting-digital-capability-for-2015/; Dore, L., Geraghty, A., & O'Riordan, G. (2015). Towards a national digital skills framework for Irish higher education https://www.teachingandlearning.ie/wp-content/uploads/NF-2016-Towards-a-National-Digital-Skills-Framework-for-Irish-Higher-Education.pdf; Jisc (2016) What is digital capability? https://digitalcapability.jisc.ac.uk/what-is-digital-capability/individual-digital-capabilities/

25 Jisc (2017) Developing digital capability: An organisational framework http://repository.jisc.ac.uk/6610/1/JFL0066F_DIGICAP_MOD_ORG_FRAME.PDF

A note on digital capabilities and digital competence

Enhancing digital capacity and building digital literacy are essential to realising the potential of digital transformation in Irish higher education[26]. The concept of *digital capabilities*, encompassing digital capacity, skills and literacies, is used in the presentation of INDEx Survey findings as, like the survey, it relates to students, staff and institutions. 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[27].

The specific concept of 'individual digital capabilities' encompasses an individual's digital skills as well as critical use of digital technologies, creative digital production, digital communication, collaboration and partnership, digital learning and development, and digital identity and wellbeing[28]. What it means to be digitally capable varies for each person and will depend on their specific role and discipline, as well as their personal circumstances, experience and other contextual factors. Within the Irish higher education context, work in the area of digital skills and digital literacies has been influenced by and has built on this conceptualisation of digital capabilities, e.g., the All Aboard framework[29].

The concept of individual digital capabilities aligns closely with that of digital competences as defined in the European Digital Competence Framework for Citizens (DigComp)[30]. In the context of the INDEx Survey findings, both concepts are applicable to students and to staff who teach. The concept of individual digital capabilities of staff who teach, specifically, maps directly to the concept of digital competences for educators as defined in the European Digital Competence Framework for Educators (DigCompEdu)[31]. Such digital capabilities/competences are recognised as an important foundation for enhancing pedagogic practice and helping to develop students' digital capabilities.

The concept of 'organisational digital capabilities' moves beyond the realm of the individual, recognising that digital capability goes beyond the capabilities of individuals, even senior leaders. It requires consideration of institutional strategies, academic and administrative structures and processes, and cultural features such as leadership, governance, communication and engagement. Overall, an organisation's digital culture determines its approach to key issues such as digital safety and wellbeing, openness, data privacy and digital inclusion and equity[32].

26 See Department of Education and Skills (2019) National Strategy for Higher Education to 2030 https://www.gov.ie/en/publication/072a65-national-strategy-for-higher-education-to-2030/; Higher Education Authority (2018), Higher Education System Performance Framework 2018-20 https://www.education.ie/en/Publications/Education-Reports/higher-education-system-performance-framework-2018-2020.pdf; National Forum Strategy 2019-21 https://www.teachingandlearning.ie/publication/strategy-2019-2021-leading-enhancement-and-innovation-in-teaching-and-learning/

27 Nussbaum, M.C. (2011) Creating Capabilities: The Human Development Approach. Harvard University Press; Beetham, H. (2016) What is digital wellbeing? https://helenbeetham.com/2016/07/09/blog-post-title-2/

28 Beetham, H. (2015) Revisiting digital capability https://digitalcapability.jiscinvolve.org/wp/2015/06/11/revisiting-digital-capability-for-2015/; Jisc (2016) What is digital capability? https://digitalcapability.jisc.ac.uk/what-is-digital-capability/individual-digital-capabilities/

29 See https://www.allaboardhe.ie/ and National Forum for the Enhancement of Teaching and Learning in Ireland (2016) Towards a National Digital Skills Framework for Higher Education https://www.teachingandlearning.ie/resource/towards-a-national-digital-skills-framework-for-irish-higher-education/

30 European Commission (2013) DigComp: Digital Competence Framework for Citizens https://ec.europa.eu/jrc/en/digcomp

31 European Commission (2017) DigCompEdu: Digital Competence Framework for Educators https://ec.europa.eu/jrc/en/digcompedu

32 Jisc (2017) Developing digital capability: An organisational framework http://repository.jisc.ac.uk/6610/1/JFL0066F_DIGICAP_MOD_ORG_FRAME.PDF

Structure of this chapter

Findings within each of the five themes are presented in this chapter, in sequence.

- Theme One contains findings from students and staff about their specific digital teaching and learning practices, i.e., what they do and how they do it
- Themes Two through Four contain reports from students and staff about digital at their institutions: digital infrastructure, provision of digital skills and support, and digital environment and culture
- Theme Five contains findings related to student and staff attitudes to digital as well as their assessments about digital at their institutions, including specific suggestions for improvements

Each set of findings is presented under the following four headings and accompanied by relevant figures:

Students – summary of student findings

Staff who teach – summary of staff findings

Further observations – observations within the national dataset (e.g., differences across institution type, discipline area, type of course, staff role, etc.) and with international benchmarks

Student/Staff comparisons – comparisons between student and staff findings

The four institution types referred to in the Findings chapter are universities, technological higher education institutions (THEIs), other institutions and private colleges. A list of participating institutions in each of these categories can be found in Appendix 2.

Please refer to Appendix 4 for definitions of all the terms used in this report.

Theme One.

Digital Teaching and Learning Practices

Findings related to the first theme describe the digital teaching and learning practices of students and staff who teach. The findings are discussed in the following six sections:

1.1 Digital learning activities and tools

Students were asked about some of their specific digital learning activities and tools, i.e., how often they found information online as part of their course, how often they used digital tools or apps for specific purposes, and which digital tools they found most useful for learning. Staff who teach were asked how often they engaged in specific digital learning activities to support their teaching. In both cases, respondents could specify 'weekly or more', 'monthly or less' or 'never'. Summary results are shown in Figures 2 and 3.

Students (Q12, Q17)

- 93% of students searched online weekly or more for information as part of their course
- Most students used digital tools weekly or more to access lecture notes (89%)
- Two-thirds of students used digital tools weekly or more to look for additional resources (67%), and two-thirds to make notes or recordings (66%)
- In terms of managing their learning, 63% of students used digital tools weekly or more to manage links or references, and 48% to organise their study time
- Over one-quarter of students never used digital tools to organise their study time (27%)
- The top four digital tools used by students for learning were: the VLE, Google, basic MS Office apps, and YouTube

Staff who teach (Q17)

- Approximately half of all staff who teach searched online weekly or more for digital teaching resources to support their teaching (49%); 42% searched online monthly or less; 9% never searched online for digital teaching resources
- 85% of staff who teach said that they developed their digital teaching skills (formally or informally) to support their teaching; 20% of staff who teach did this frequently (weekly or more) and 65% occasionally (monthly or less); 15% of staff who teach said that they never developed their digital teaching skills
- Reading up on developments relating to digital education was an occasional activity for most staff who teach: 55% did this monthly or less, while 18% did this weekly or more
- 27% of staff who teach never read up on developments in digital education

Figure 2. Responses from students (digital learning activities)

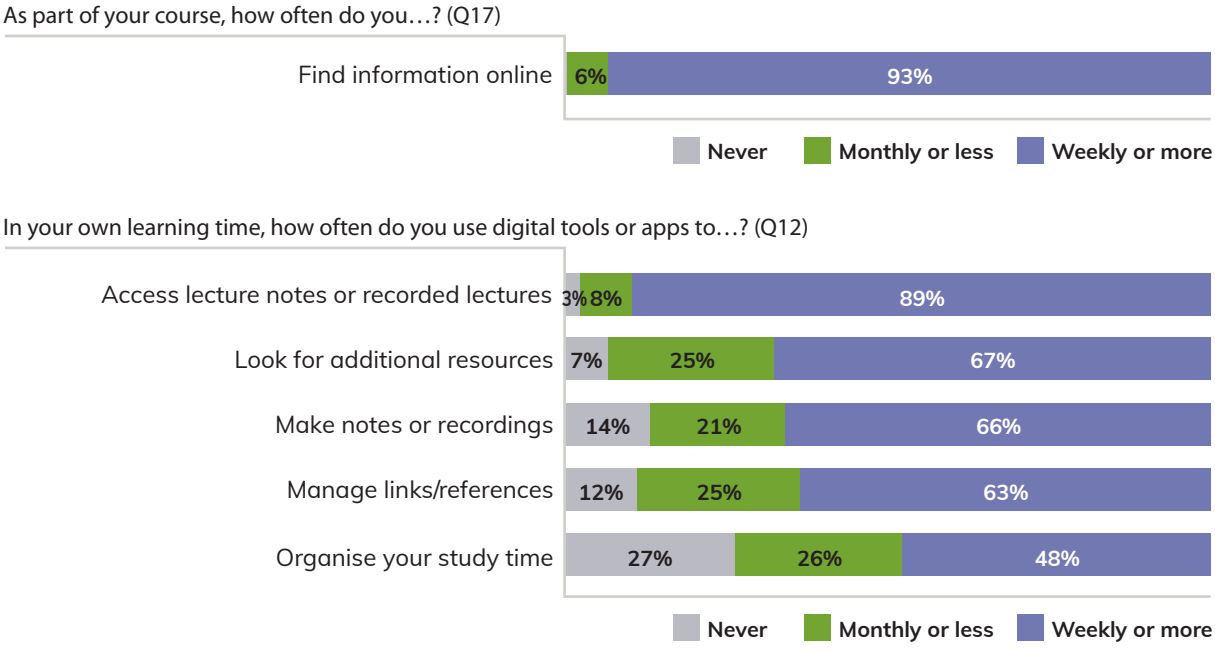
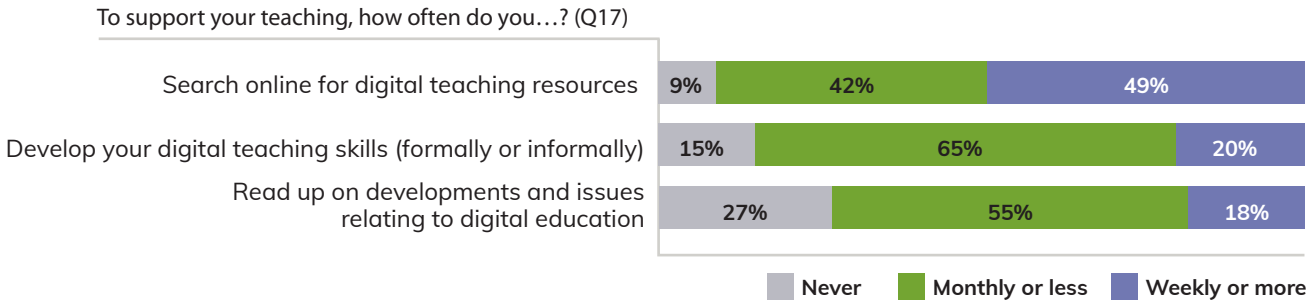


Figure 3. Responses from staff who teach (digital learning activities)



FURTHER OBSERVATIONS

- Part-time students were more likely than full-time students to frequently (weekly or more) use digital tools to look for additional resources not recommended by their lecturer (74% to 66%) and manage links/references (71% to 62%)
- Students in private colleges, universities and other institutions (72%, 71%, 71%, respectively) were more likely than students in THEIs (62%) to frequently (weekly or more) use digital tools to look for additional resources not recommended by their lecturer
- International students were more likely than non-international students to frequently (weekly or more) use digital tools to organise their study time (62% to 44%) and also to look for additional resources not recommended by their lecturer (73% to 66%) and manage links/references (72% to 60%)
- International benchmarking: Students in ANZ were more likely than students in the UK and Ireland to manage links or references online (70%, 64%, 63%, respectively)

STUDENT/STAFF COMPARISONS

- Searching for course-related information online was a regular activity for most students; searching online for teaching resources was a regular activity for just half of all staff who teach

Optional free text questions

In addition to the multiple choice questions described above, students and staff who teach were asked optional free text questions to find out more about their digital teaching and learning practices:

Students were asked to give an example of a digital tool or app they found really useful for learning (Q12a); a total of 18,511 students answered this question (73% of all respondents). Over 600 unique tools and apps were identified demonstrating the wide range of technologies students use to support their learning. Figure 4 shows a weighted word cloud of the top 200 tools used by students. The digital tool that most students found useful was their VLE; almost one-third of respondents to this question identified this. Other commonly mentioned tools were Google, Microsoft Office applications and YouTube. A full list of all tools identified and a more detailed thematic analysis will be available in due course on the INDEx website (www.teachingandlearning.ie/index).

Students were asked to give an example of a digital activity they found really useful on their course (Q17a); a total of 13,807 students answered this question (54% of all respondents). Table 8 shows the top digital activities mentioned.

Staff who teach were asked to give an example of a digital tool or app they found really useful in their job role (Q17a); a total of 2,627 staff answered this question (59% of all respondents), identifying over 300 different tools. Figure 5 shows a weighted word cloud of the top 200 tools used by staff who teach. The range of tools identified by staff supported multiple activities: digital content creation, communication, quizzing and polling, resources for learning, collaboration, and discipline-specific use. A full list of all tools identified and a more detailed thematic analysis will be available in due course on the INDEx website (www.teachingandlearning.ie/index).

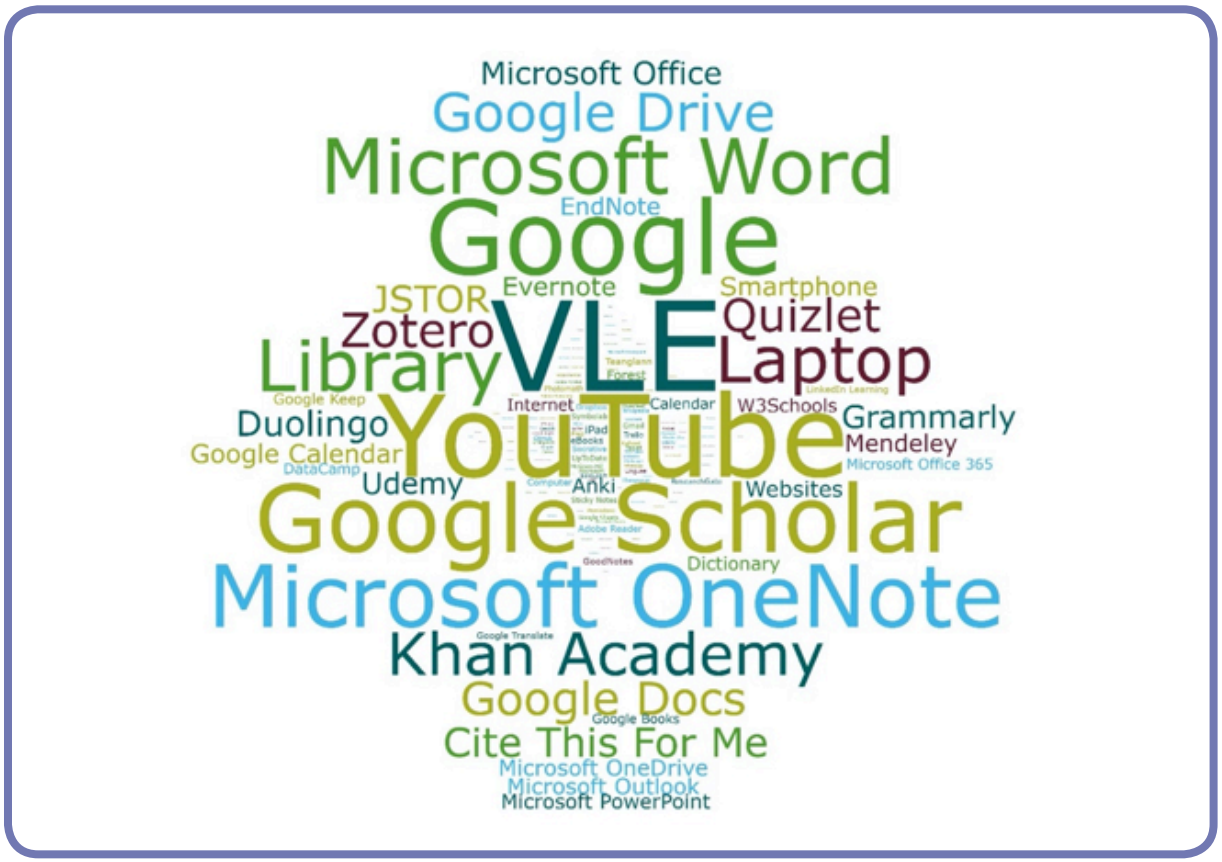


Figure 4. Weighted word cloud based on student responses: 'Digital tool or app you find really useful for learning'[33] (Q12a)

33 For the purposes of the word cloud, all individual institutional VLE tools were coded into the term 'VLE'.

Table 8. Top digital activities that students found really useful on their course (Q17a)

Theme	% Responses	Digital activities
Polling/quizzing	24%	Nearly a quarter of students highlighted the use of polling devices in class or knowledge check style quizzes as part of their course as being really useful. Students liked the ability to be engaged in class through such interaction, with some saying they liked the ability to participate anonymously. Students used quizzes to check their progress in a topic when assigned to do so and also as part of revision practices, e.g., to make flashcards.[34]
Using core programmes	14%	Learning how to use and using core Microsoft programmes such as Excel, Word and PowerPoint featured strongly as digital activities which students found useful on their course. Some students described them as 'essential'. [35]
Accessing the VLE	13%	Many students highlighted accessing their VLE as a really useful digital activity, e.g., to complete quizzes, to access lecture notes, recordings or other course material, to share work or to submit assignments.[36]
Using discipline-specific software	12%	Using discipline-specific software was mentioned as a useful digital activity, particularly by students in science, technology, engineering and mathematics. Students studying media or design described 'news editing and writing on mobile' and 'sound development' as useful activities. Few mentions of specific software were made for other disciplines. [37]
Other activities which did not appear as frequently are those in the following categories: accessing learning material; collaborating with others; creating content; researching; communicating with others; organising time and resources; and making notes		

34 Polling/quizzing tools mentioned by students when describing useful digital activities: Canva, Classmarker, Classroom, Clicker, Clickers, Kahoot!, Kubicle, Logger Pro, Mentimeter, Poll Everywhere, Quizlet, Qwickly, Responseware, Slido, Socrative, Survey123, Surveymonkey, TurningPoint

35 Core programmes mentioned by students when describing useful digital activities: Microsoft applications: 365, Access, Excel, Forms, Office, Outlook, PowerPoint, Project, Teams, Word

36 VLE applications mentioned by students when describing useful digital activities: Blackboard, Brightspace, Canvas, Moodle, Loop, Sulis

37 Discipline-specific tools mentioned by students when describing useful digital activities: Adobe Illustrator, AutoCAD, Autodesk, Belbin, BIM, BLS Simulations, CAD, ChemDraw, Circuit Simulation, Codeacademy, Codeblocks, Codesandbox, Collaborate Ultra, Dart fish, DaVinci Resolve, Duolingo, Eclipse, Eviews, Falstad circuit simulator, Geany, GIS, GitHub, GraphPad, GX, Works, Hotpots, Hotts, HSELanD, HubSpot, IBM SPSS, Java, Jupyter, Leica Airlab, Mastering Biology, MATLAB, Minitab, Mule, NetAnatomy, OxCal, p5, Packet, Packet Tracer, Power World, Proteus, PSpice, Python, R, R Markdown, R Studio, RedCap, Repl.it, Revit, Rosetta Stone, Rstudio, Scrum, SedLog, SEED Labs, Sibelius, SimuText, Socrative, SolidWorks, SoloLearn, SPSS, STATA, Tableau, Terminal, Vectorworks, WebGoat, Webwork

Figure 5. Weighted word cloud based on staff responses: 'Example of a digital tool or app you find really useful in your job role' (Q17a)

1.2 Online interaction and online teaching

Students and staff who teach were asked related questions about whether and how often they took part in specific interactive online teaching and learning activities, e.g., using online polling or quizzes in class and engaging online with others. Staff who teach also were asked how often they taught in a live online environment such as a webinar. In both cases, respondents could specify 'weekly or more', 'monthly or less' or 'never'. Summary results are shown in Figures 6 and 7.

Students (Q17)

- Regarding online interaction, 78% of students worked online with others as part of their course, at least occasionally: 38% did so weekly or more, 40% did so monthly or less
- Almost one-quarter of students had never worked online with others as part of their course (22%)
- 61% of students used polling devices or online quizzes to give answers in class at least occasionally; 21% did this weekly or more; another 40% did so monthly or less
- 39% of students had never used polling devices or online quizzes to give answers in class
- 52% of students had never used an educational game or simulation for learning; 31% did so occasionally (monthly or less) and 17% did so weekly or more

Staff who teach (Q15, Q17)

- Half of staff who teach said they never carried out live polls or quizzes in class; 40% conducted online polls or quizzes occasionally (monthly or less) and 10% weekly or more
- Over half of staff said they never discussed teaching with peers in an online network or forum (57%); 33% engaged in these networked discussions occasionally (monthly or less) and 10% weekly or more
- 70% of staff who teach said they never taught in a live online environment such as a webinar; 20% taught live online occasionally (monthly or less) and 9% frequently (weekly or more)

Figure 6. Responses from students (online interaction)

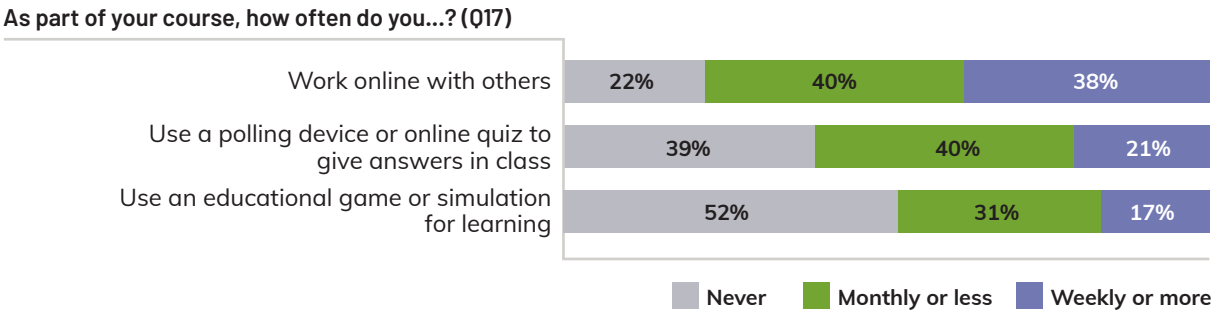
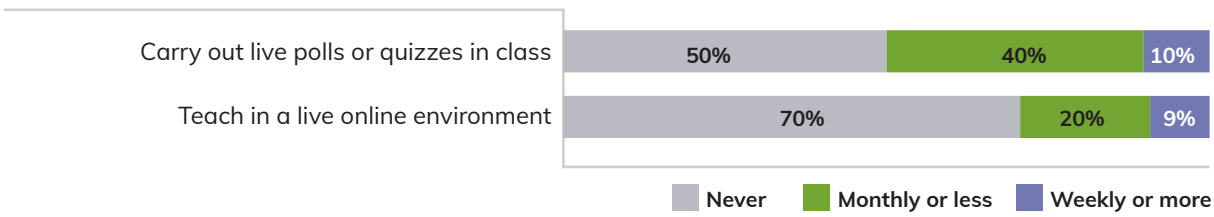


Figure 7. Responses from staff who teach (online interaction and online teaching)



To support your teaching, how often do you...? (Q17)

FURTHER OBSERVATIONS

- Students in some discipline areas were more likely to work online with others as part of their course, at least occasionally: most likely were students in Computing (87%), Business/Administration/Law (82%) and Engineering (82%); least likely were students in Arts/Humanities/Languages (67%)
- Postgraduate students were more likely than undergraduate students to work online with others regularly (weekly or more) as part of their course (49% to 35%)
- International students were more likely than non-international students to work online with others regularly (weekly or more) as part of their course (48% to 36%)
- Students in private colleges (46%) were more likely to work online with others regularly (weekly or more) than students in THEIs, universities and other institutions (39%, 36%, 30%, respectively)
- Students in their institution for less than one year were more likely to have frequent opportunities to use polling devices or online quizzes to give answers in class (28%) than students who were in their institution for one to two years (18%), two to three years (14%), or more than three years (13%)
- Full-time students were more likely than part-time students to have frequent opportunities to use polling devices in class (23% to 14%) and less likely to have never used them (37% to 53%)
- Among staff who identified as lecturers, the proportions who carried out live polls or quizzes, discussed teaching with peers in online networks, and taught live online were nearly identical to that of all staff who teach
- The staff role most likely to use online polling or quizzes in class were learning technologists, 23% of whom reported that they used these weekly or more (compared to 10% of all staff who teach)
- Staff in private colleges were the most likely to teach live online in general: proportions of staff who taught online at least occasionally in each sector were: 38% in private colleges and 29% in universities, THEIs and other institutions
- Staff in THEIs were the most likely to teach live online regularly: proportions of staff who taught online regularly (weekly or more) in each sector were: 13% in THEIs, 10% in private colleges, and 6% in both universities and other institutions
- International benchmarking: Students in ANZ were more likely than students in Ireland or the UK to work with their peers online weekly or more (50%, 38%, 31%, respectively) | Polling devices and online quizzes were more likely to be used by students in class in ANZ than in the UK or Ireland (73%, 62%, 61%, respectively) | Staff who teach in the UK were less likely to teach live online than staff in Ireland; 74% of UK staff had never taught live online compared with 70% of staff who teach in Ireland

STUDENT/STAFF COMPARISONS

- 78% of students worked online with others, at least occasionally, as part of their course; however, a majority of staff did not regularly engage in online teaching or online peer discussion in relation to their teaching

1.3 Online assessment and feedback

Students and staff who teach were asked related questions about their experiences of online assessment and feedback. Students were asked if online assessments were delivered and managed well. Staff who teach were asked if the system for online marking and giving feedback was easy for them to use. Respondents could choose to agree, remain neutral or disagree. In addition, staff who teach were asked about whether and how often they provided personalised feedback using a digital system. They were given the options of replying 'weekly or more', 'monthly or less' or 'never'. Summary results are shown in Figures 8 and 9.

Students (Q19)

- Just over half of all students agreed that online assessments were delivered and managed well (56%); 8% disagreed; 36% were neutral

Staff who teach (Q13, Q15)

- Approximately one-third of staff who teach agreed that the online system for marking and giving feedback was easy to use (36%), another 22% of staff disagreed, and the most common response was neutral (42%)
- When asked about using a digital system to give personalised feedback, 46% of staff who teach said that they did this occasionally (monthly or less); 18% did this regularly (weekly or more)
- 36% of staff who teach never gave personalised feedback online

Figure 8. Responses from students (online assessment and feedback)

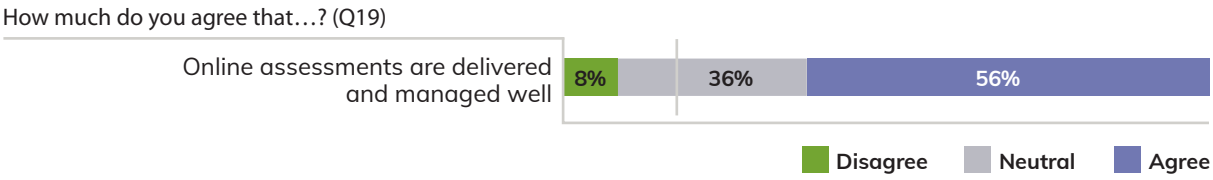
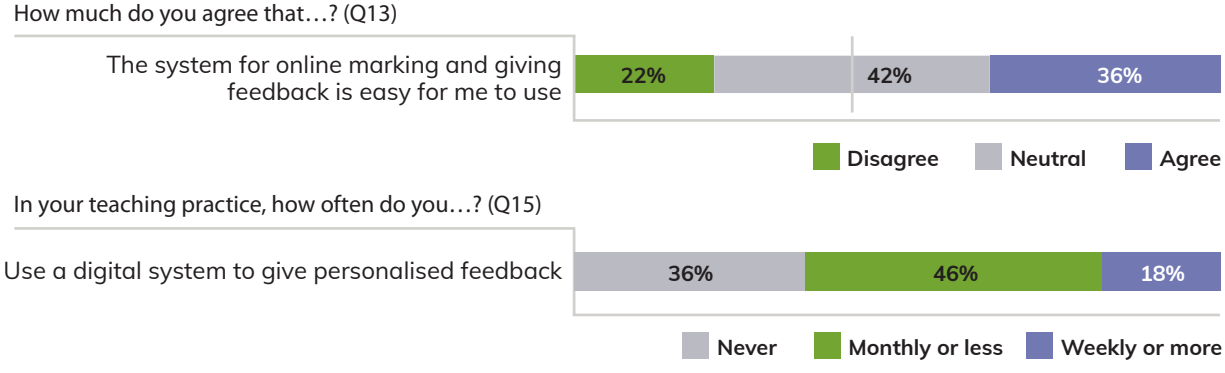


Figure 9. Responses from staff who teach (online assessment and feedback)



FURTHER OBSERVATIONS

- Among staff who identified as lecturers: 36% agreed that the online system for marking and giving feedback was easy to use (25% disagreed); 48% used a digital system to give personalised feedback occasionally (monthly or less) and 19% did this regularly (weekly or more)
- International benchmarking: Students in Ireland were less likely to agree that online assessments were delivered and managed well than students in the UK or ANZ (56%, 60%, 63%, respectively), although there was little difference in the proportions of students who disagreed | Staff who teach in Ireland were less likely to use a digital system to give personalised feedback than UK staff (36% and 22%, respectively, responded they 'never' did this) | Staff who teach in Ireland were less likely to agree that the online system for marking and giving feedback was easy for them to use compared with staff teaching in the UK (36% and 42%, respectively)

STUDENT/STAFF COMPARISONS

- Although not directly comparable, the student perspective of the quality of online assessment delivery and management was more positive than the staff perspective on the ease of use of online marking and feedback systems (56% to 36%)

1.4 Creating digital media

Students and staff who teach were asked how often they created work in digital formats other than text/Word or PowerPoint. Students also were asked how often they created a digital record or portfolio of their learning. In both cases, respondents could specify 'weekly or more', 'monthly or less' or 'never'. Summary results are shown in Figures 10 and 11.

Students (Q17)

- As part of their course experience, 40% of students produced work in digital formats other than Word and PowerPoint regularly (weekly or more); another 31% did this occasionally (monthly or less)
- 29% of students never produced work in digital formats other than Word or PowerPoint as part of their course
- One-quarter of students regularly created a digital record or portfolio of their learning (weekly or more); a further one-third did this occasionally (monthly or less)
- Four out of ten students had never created a digital record or portfolio of their learning (41%)

Staff who teach (Q15)

- As part of their teaching practice, 26% of staff who teach regularly (weekly or more) created learning materials in digital formats other than text or PowerPoint; a further 41% did this occasionally (monthly or less)
- One-third of staff who teach never created learning materials in digital formats other than text or PowerPoint

Figure 10. Responses from students (creating digital media)

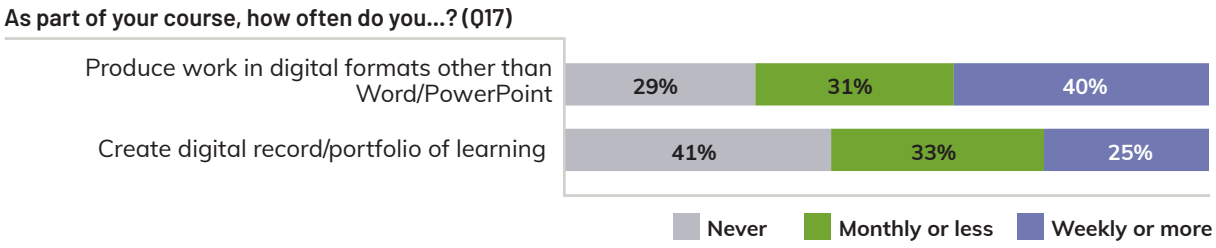
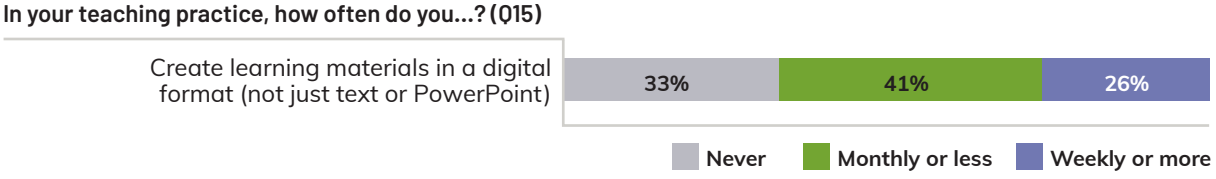


Figure 11. Responses from staff who teach (creating digital media)



FURTHER OBSERVATIONS

- Students in their institution for less than one year were more likely to have created a digital record or portfolio of their learning weekly or more (28%) than students who were in their institution for one to two years (24%), two to three years (23%), or more than three years (23%)
- Postgraduate students were more likely than undergraduate students to have created a digital record or portfolio of their learning weekly or more (31% to 24%)
- Students in THEIs (45%) were more likely to produce work in digital formats other than Word or PowerPoint compared with students in private colleges (39%), universities (36%) and other institutions (30%)
- Part-time students were less likely than full-time students to produce work in digital formats other than Word or PowerPoint: 36% of part-time students had never produced work in other formats, compared with 28% of full-time students
- Among staff who identified as lecturers, the proportions who created and had never created learning materials in digital formats other than text or PowerPoint were nearly identical to that of all staff who teach
- International benchmarking: Students in ANZ were more likely to have created a digital record or portfolio of their learning than students in the UK or Ireland (70%, 63%, 58%, respectively)

STUDENT/STAFF COMPARISONS

- A large proportion of both students (29%) and staff who teach (33%) had never created learning or teaching materials, respectively, in digital formats other than text/Word or PowerPoint

1.5 Using the VLE

Students and staff who teach were asked how much they agreed with various statements about their VLE. They could choose to agree, remain neutral or disagree. Summary results are shown in Figures 12 and 13.

Students (Q18)

- Nearly three-quarters of students relied on the VLE to do their coursework (71%)
- Nearly two-thirds of students regularly accessed their VLE on a mobile device (64%)
- Over half of students agreed that they could easily find things on the VLE (58%)
- Just under half of students would like the VLE to be used more by their tutors and instructors (48%)
- In a separate free text question on the survey, where students were asked to name a digital tool or app that they found really useful for learning, the top choice was students' own VLE, with one-third of responses to this question specifying this (see Figure 4, Section 1.1)

Staff who teach (Q12)

- 69% of staff who teach relied on the VLE for their teaching
- Over half of staff who teach found it easy to design and organise course materials on the VLE (58%)
- 37% of staff who teach agreed that they regularly used the VLE for student collaboration; 28% disagreed
- 36% of staff who teach agreed that the VLE encouraged them to try different activities; 24% disagreed
- One-quarter of staff regularly accessed the VLE on a mobile device
- As with students, staff who teach highlighted the VLE as a really useful tool in their job role (see Figure 5, Section 1.1)

Figure 12. Responses from students (using the VLE)

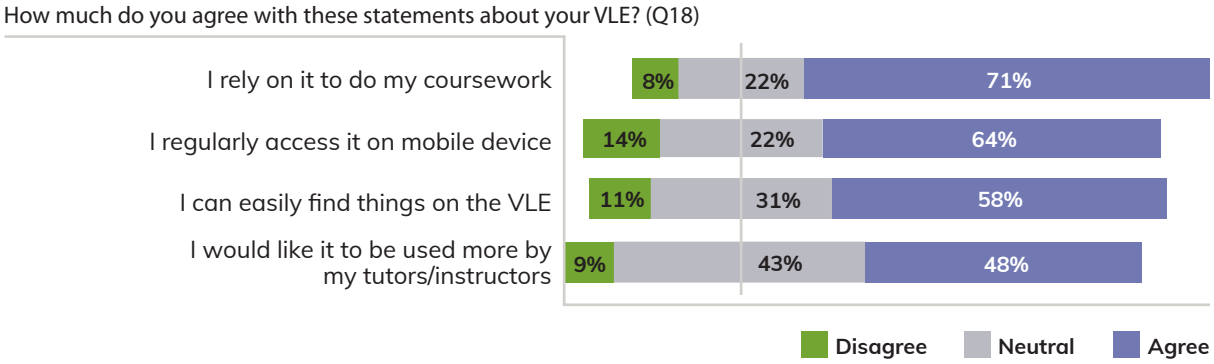
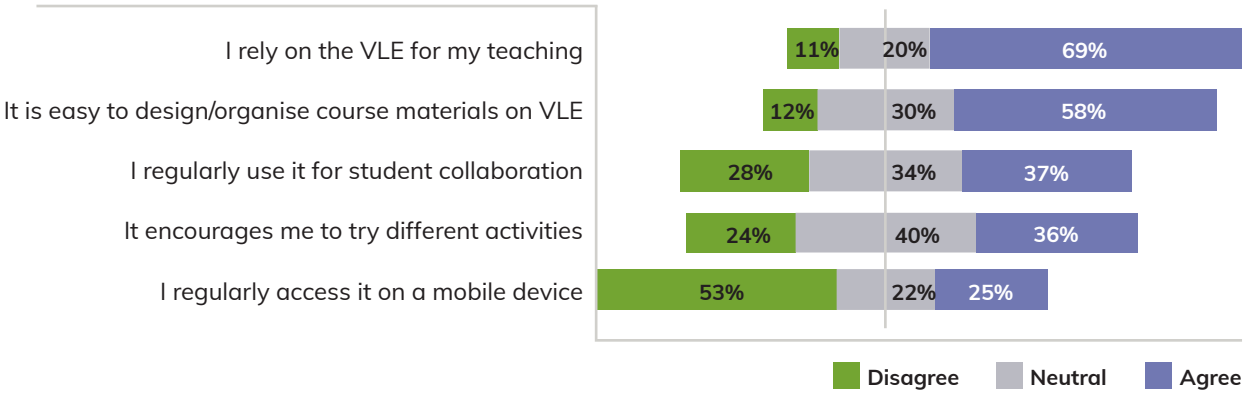


Figure 13. Responses from staff who teach (using the VLE)



FURTHER OBSERVATIONS

- Across different types of institutions, student reliance on the VLE varied: proportions of students who relied on the VLE to do their coursework were: 79% at other institutions, 76% at universities, 72% at private colleges and 63% at THEIs
- Higher proportions of undergraduate than postgraduate students (66% to 56%), full-time than part-time students (66% to 54%), and on-campus than online students (65% to 51%) reported regularly accessing their VLE on a mobile device
- A smaller proportion of mature students than younger students reported regularly accessing their VLE on a mobile device (58% to 67%)
- Among staff who identified as lecturers: 73% relied on the VLE for their teaching, 61% found it easy to design and organise course materials on the VLE, 38% regularly used the VLE for student collaboration, 35% agreed that the VLE encouraged them to try different activities, and 25% regularly accessed the VLE on a mobile device
- International benchmarking: Students in ANZ were more likely to rely on the VLE to do their coursework than students in the UK or Ireland (86%, 72%, 71%, respectively) | Students in Ireland were more likely to regularly access the VLE on a mobile device compared with students in the UK or ANZ (64%, 61%, 53%, respectively) | Staff who teach in Ireland were more likely to regularly use the VLE for student collaboration than UK staff (37% and 27%, respectively) | Staff who teach in Ireland were more likely than UK staff to regularly access the VLE using a mobile device (25% and 18%, respectively)

STUDENT/STAFF COMPARISONS

- There was a considerable disparity between student and staff use of the VLE on mobile devices: 64% of students, compared with 25% of staff who teach, regularly accessed their VLE on a mobile device

1.6 Theme One: Concluding comments

The online world, with its associated tools and apps, has become the backdrop for much of the higher education student learning experience. According to students and staff who teach, the VLE remains a central pillar of teaching and learning in higher education. Cited most often by students as a digital tool they found useful for learning and also cited by many staff as a digital tool they found useful in their role, the VLE deserves much focus. This finding supports previous research on use of the VLE in higher education in Ireland (e.g., Farrell, Raftery & Harding[38], 2018; Raftery & Rizquez, 2018[39]). Detailed INDEx findings on how and why students and staff access the VLE will be helpful in ensuring this key resource is optimised for student learning. 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. Students engage in a diverse range of digital learning practices and use many digital tools and apps to create their own personal learning environments. A key message for staff and institutions is that the VLE is essential, but it is important to acknowledge students' use of a diverse range of learning and collaboration tools and, where possible and appropriate, to support students in assessing and making the most of these.

Pedagogies underpinning teaching and learning in a digital world were also illuminated through the INDEx findings. We now have a rich picture of the digital activities that students find most useful for their learning, the degree to which students and staff who teach leverage the organisational, collaborative and creative potential of digital technologies and how technology-enhanced assessment is experienced across our institutions. Findings focused on the ways and degree to which staff support their own engagement with digital pedagogies, when combined with findings regarding the digital tools and activities students find useful for their learning, will be interesting both to the community of staff who teach and those who support their valuable work.

An example of this relates to collaboration and interactivity. Collaborative and interactive pedagogical practices are widely recognised as important for enhanced student learning and for student success beyond higher education. With digital pervading teaching and learning practices, it is not surprising that collaborative and interactive digital activities and tools, such as polling/online quizzes, are also valued by students. INDEx findings revealed mixed results, however, regarding the extent to which staff made use of interactive technologies in their teaching. This may be worth considering in more detail at institutional level to determine the level of and motivation for engagement by staff with digital interactive and collaborative opportunities. Open-ended responses from students regarding the ways in which such activities and tools are valued may be of interest to staff as they consider learning design and digital pedagogies.

Collectively, the survey findings regarding Theme One point to areas where digital capabilities for students and for staff who teach can most usefully be enhanced. The effects of recent institutional closures, with many more staff and students moving to learning and teaching online, will have exposed learners and teachers to new digital tools, pedagogies and ways of interacting. Many of the high proportion of staff who had never before taught online will since have embarked on this new practice, resulting in new learning experiences for themselves and their students. These experiences are likely to have engendered new perspectives that will be worthy of exploration in combination with the INDEx findings.

38 See: Farrelly, T., Raftery, D., & Harding, N. (2018). Exploring lecturer engagement with the VLE: Findings from a multi-college staff survey. Irish Journal of Technology Enhanced Learning, 3(2), 11-23. https://doi.org/10.22554/ijtel.v3i2.41

39 See: Raftery, D., & Rizquez, A. (2018). Engaging students through the VLE: Comparing like with like using the #VLEIreland student survey. Irish Journal of Technology Enhanced Learning, 3(2), 24-34. https://doi.org/10.22554/ijtel.v3i2.42

Theme Two.

Digital Infrastructure

Findings related to the second theme describe the experiences of students and staff who teach with respect to the digital infrastructure of the higher education institutions within which they learn and teach. These findings are discussed in the following five sections:

2.1 Basics of digital infrastructure

Two key aspects of digital infrastructure are reliable wifi and digitally-enabled spaces for teaching and learning. Students and staff who teach were asked whether they had reliable access to wifi at their institution whenever they needed it and whether teaching spaces were well designed for digital technology use. In addition, staff who teach were asked about the access, ease of use and reliability of specific facilities for digital teaching. They could choose to agree, remain neutral or disagree. Summary results are shown in Figures 14, 15 and 16.

Students (Q13, Q19)

- 77% of students said they had access to reliable wifi
- 49% of students agreed that teaching spaces were well designed for the technologies they used; 14% disagreed

Staff who teach (Q11, Q13)

- Reliable wifi was accessible to 79% of staff who teach
- 35% of staff who teach disagreed that teaching spaces were well designed for digital technologies; 29% agreed
- Half of staff who teach agreed that audio visual equipment was reliable and easy to use (51%); 17% disagreed
- 39% of staff who teach agreed that digital media production facilities were available if they needed them; 23% disagreed

Figure 14. Responses from students and staff who teach (access to reliable wifi)

Do you have access to reliable wifi at your institution whenever you need it? (Students Q13, Staff Q11)

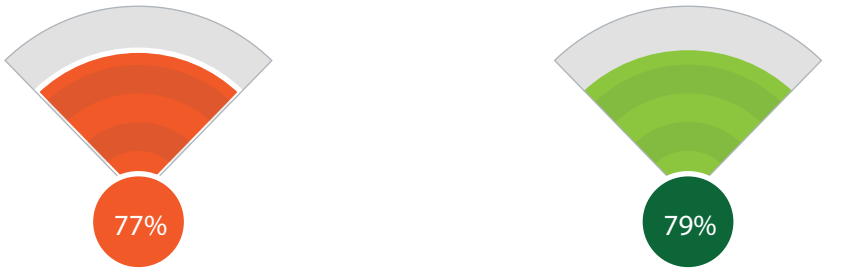


Figure 15. Responses from students and staff who teach (digitally-enabled teaching spaces)

How much do you agree that teaching spaces are well designed for digital technology use? (Students Q19, Staff Q13)

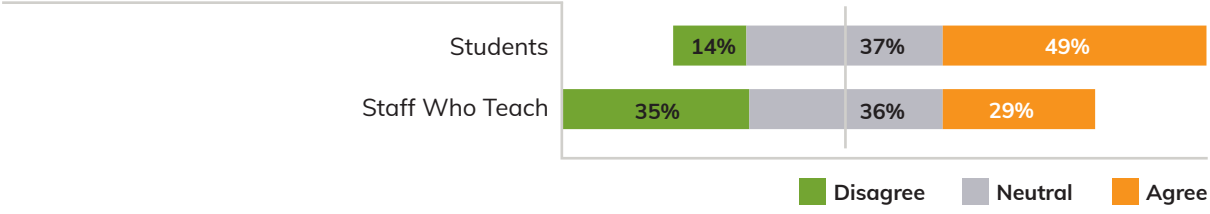


Figure 16. Responses from staff who teach (digital infrastructure for teaching)

FURTHER OBSERVATIONS

- Students in other institutions (85%) and universities (83%) responded most positively about having access to reliable wifi, compared with students in private colleges (72%) and THEIs (71%)
- Staff in THEIs (71%) were less likely to have reliable wifi than staff in private colleges (82%), universities (86%) and other institutions (87%)
- Students in their institution for less than one year were more likely to agree that teaching spaces were well designed for the technologies they use (56%) than students who were in their institution for one to two years (47%), two to three years (41%), or more than three years (38%)
- There was variability among staff who teach in different institution types about the adequacy of teaching spaces for teaching with digital technologies – 45% of staff in private colleges and 43% in other institutions agreed that teaching spaces were well designed for digital technologies, while 28% of staff who teach in universities and 24% of staff who teach in THEIs agreed; there were no observable differences in student views across the sectors
- International benchmarking: Students in Ireland were somewhat less likely to have access to reliable wifi than students in the UK and ANZ (77%, 82%, 84%, respectively) | Staff who teach in Ireland were more likely to agree that audio visual equipment was reliable and easy to use than staff who teach in the UK (51% and 43%, respectively)

STUDENT/STAFF COMPARISONS

- Comparable proportions of students and staff had access to reliable wifi (77% and 79%), meaning that one-fifth of students and staff who teach did not have access to reliable wifi
- Staff were markedly more dissatisfied than students with the design of teaching spaces for digital technology use (35% to 14%)

2.2 Access to digital resources

Students and staff require access to a range of digital resources for different purposes at different times. Students and staff who teach were asked about their access to specific sets of digital resources. Summary results are shown in Figures 17 and 18.

Students (Q13)

- Most students said that they had access to online course materials whenever they needed them (84%)
- Two-thirds of students said that they had access to e-books and e-journals whenever they needed them (65%)
- Fewer than half of all students said that they had access to file storage and back-up whenever they needed them (44%)
- One-quarter of students said that they had access to recorded lectures whenever they needed them (25%)

Staff who teach (Q11)

- A majority of staff who teach had access to e-books and e-journals (78%), file storage and back-up (77%), and a VLE (75%) whenever they needed them
- Half of staff who teach said they had access to their own social media at their institution whenever they needed it
- 29% of staff who teach said they had access to lecture capture whenever they needed it

Figure 17. Responses from students (access to digital resources)

Which of these do you have access to at your institution whenever you need them? (Q13)

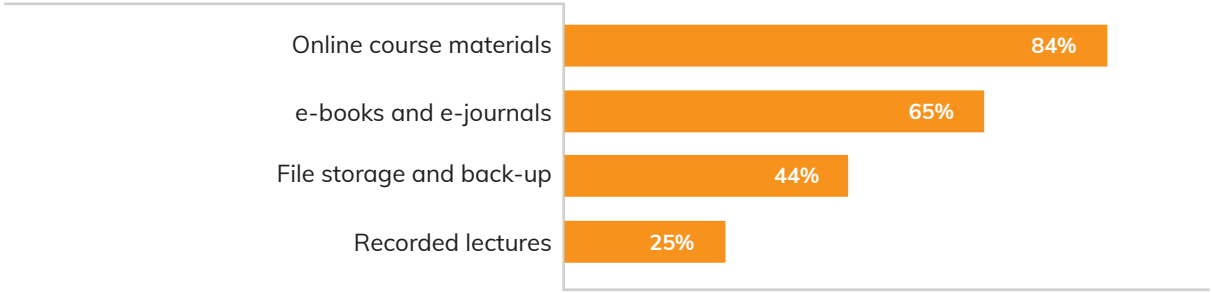
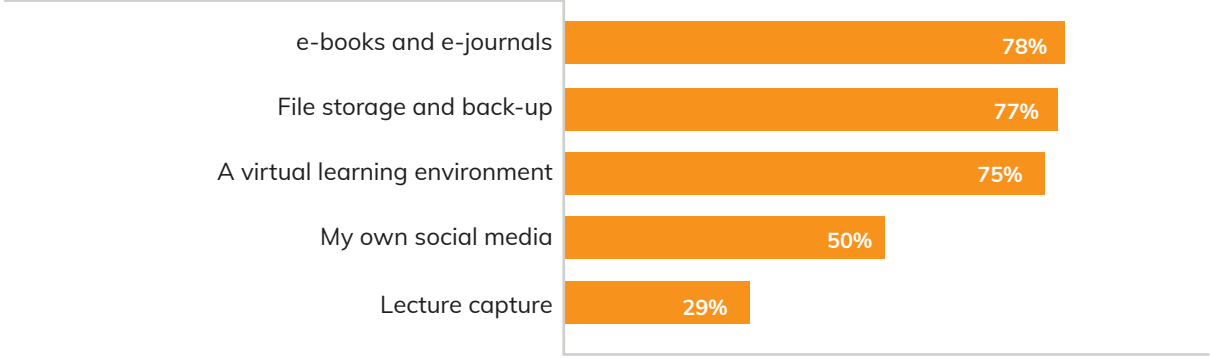


Figure 18. Responses from staff who teach (access to digital resources)

Which of these do you have access to at your institution whenever you need them? (Q11)



FURTHER OBSERVATIONS

- Across different types of institutions, access to digital resources 'whenever needed' varied: students at other institutions and universities reported the highest level of access to online course materials (99% and 88%, respectively); students at other institutions reported the highest level of access to e-books and e-journals (86%); students at THEIs reported the highest level of access to file storage and back-up (50%)
- Students at private colleges reported the highest level of access to recorded lectures (42%); students at THEIs had the lowest (21%)
- Responses from staff also varied by institution type: staff who teach at other institutions reported the highest level of access to the VLE (84%), e-books and e-journals (89%) and file storage and back-up (86%) whenever they needed it; staff who teach at universities reported the highest level of access to lecture capture (36%) and access to their own social media (58%)
- International benchmarking: Students in the UK were twice as likely to have access to recorded lectures when they needed them as students in Ireland (49% and 25%, respectively) | Staff teaching in the UK were more than twice as likely to have access to lecture capture (65% and 29%, respectively) | Staff teaching in the UK were more likely than those teaching in Ireland to have access to e-books and e-journals when they needed it (90% and 78%, respectively)

STUDENT/STAFF COMPARISONS

- Low proportions of students and staff who teach said they had access to recorded lectures (25%) and lecture capture (29%), respectively, whenever they needed these
- Two questions regarding access to digital resources were identical on the student and staff surveys, and in both cases students responded less positively than staff – lower proportions of students than staff who teach said that they had access to e-books and e-journals (65% to 78%) and access to file storage/back-up (44% to 77%)

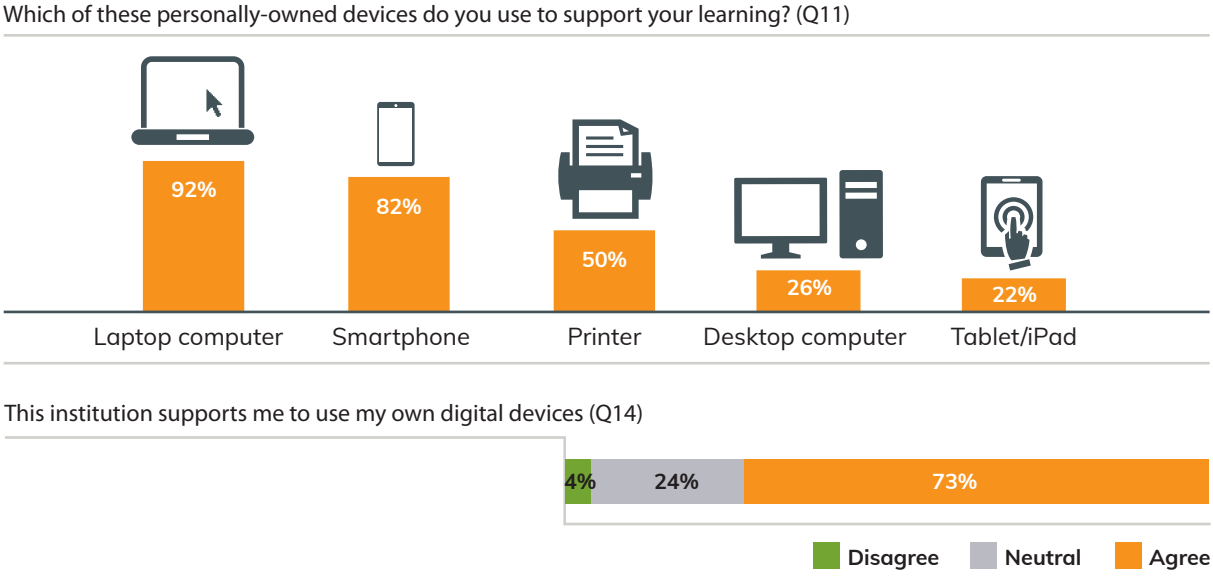
2.3 Students' own devices

As a means of understanding which devices students had access to away from campus, students were asked which personally-owned devices they used to support their learning, choosing from the following list: desktop computer, laptop computer, tablet/iPad, smartphone and printer. Students also were asked if their institution supported them to use their own digital devices. They could choose to agree, remain neutral or disagree. Summary results are shown in Figure 19.

Students (Q11, Q14)

- Nine out of ten students owned and used a laptop computer to support their learning (92%)
- Eight out of ten students owned and used a smartphone (82%)
- Half of all students owned and used a printer (50%)
- Smaller proportions of students reported owning and using a desktop computer (26%) and tablet/iPad (22%)
- With respect to using their own digital devices at their institution, 73% of all students agreed that their institution supported this; 4% disagreed

Figure 19. Responses from students (personally-owned devices)



FURTHER OBSERVATIONS

- The most common personally-owned device reported by students as used for learning was a laptop
- 4 out of 5 reported that they owned and used a smartphone, with some variability across institution type: 86% at universities, 84% at other institutions, 80% at THEIs and 77% at private colleges
- A greater proportion of mature students than younger students owned and used a tablet/iPad (28% to 19%) but fewer owned and used a smartphone (79% to 84%)
- Approximately three out of four students reported that their institutions supported them to use their own digital devices, with some variability across institution type: 77% at universities, 76% at private colleges, 73% at other institutions and 66% at THEIs
- International benchmarking: Similar numbers of students in Ireland and the UK owned and used laptops, smartphones, printers and desktop computers, however fewer students in Ireland than in the UK used tablets/iPads (22% and 33%, respectively)

2.4 Assistive technologies

Students were asked three questions regarding assistive technologies. First they were asked whether they used assistive technologies to meet their learning needs (e.g., screen readers, voice recognition, switches). They could choose to answer 'Yes, vital to my learning needs', 'Yes, optional choice' or 'No'. Students who answered affirmatively were asked two further questions: whether their institution provided them with support with assistive technologies, and then to provide an example of an assistive technology, app or adaptation that they found useful. Staff who teach also were asked whether they personally used assistive technologies. They could choose to answer 'Yes, vital to my work', 'Yes, optional choice' or 'No'. Staff who answered affirmatively were asked whether their institution provided them with support with assistive technologies. Summary results are shown in Figures 20, 21, 22 and 23.

For analysis of these results, the National Forum consulted AHEAD, Ireland's independent non-profit organisation working to create inclusive environments in education and employment for people with disabilities. AHEAD's expertise in the area of disability and inclusivity enabled a deeper analysis of this data than would otherwise have been possible. Firstly, it was noted that the examples of assistive technologies provided by students were diverse, including technologies both within and outside of the established definition of assistive technologies[40]. AHEAD suggested that some respondents may have broadly interpreted 'assistive technologies', i.e., as any technologies which assisted them, thus overrepresenting this population in the survey results. AHEAD concluded, however: "There are still useful and interesting findings arising from the analysis, in particular when comparing the reported assistive technology use of different cohorts and comparing them to the internationally benchmarked data." Survey findings are reported below for students and staff who teach. The Further Observations and Student/Staff Comparisons provide additional analysis by AHEAD, allowing the findings to be contextualised.

Students (Q8, Q9)

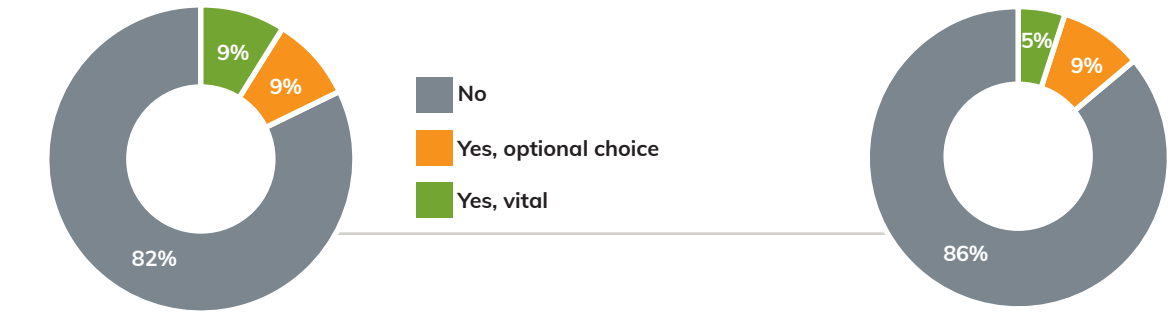
- 18% of students reported that they used assistive technologies: 9% reported that assistive technologies were vital to meet their learning needs and a further 9% reported using assistive technologies as an optional choice
- Of all students who reported that they used assistive technologies, 70% said that their institution provided them with support
- Students who used assistive technologies were asked to give an example of any assistive technologies, apps or adaptations that they found useful (Q10); a total of 4,533 students answered this question (18% of respondents); Figure 23 shows a weighted word cloud of the top 42 terms and Table 9 summarises the analysis of these responses by AHEAD.
- International benchmarking: Reported assistive technology use amongst students in Ireland was similar to reported use by students in the UK and slightly higher than in ANZ (18%, 19%, 15%, respectively) | A slightly higher proportion of students in Ireland than in the UK reported that they received institutional support with assistive technologies (70% and 67%, respectively)

Staff who teach (Q7, Q8, Q19)

- 14% of staff who teach reported that they used assistive technologies: 5% reported that assistive technologies were vital to their work and a further 9% used assistive technologies as an optional choice
- Of all staff who teach who reported that they used assistive technologies, 64% said their institution provided them with support
- Twice as many staff disagreed than agreed that they were informed about their responsibilities with regard to assistive and adaptive technologies (35% and 17%)
- International benchmarking: Reported assistive technology use amongst staff who teach in Ireland was similar to reported use by UK staff (14% and 15%, respectively) | A slightly higher proportion of staff who teach in Ireland reported that they received institutional support with assistive technologies compared with staff who teach in the UK (64% and 60%, respectively)

40 AHEAD definition of assistive technologies: technologies aimed at improving the functional capabilities of people with disabilities, or mainstream technologies with assistive features

Figure 20. Responses from students and staff who teach (use of assistive technologies)



Students:
Do you use any assistive technologies to meet your learning needs? (Q8)

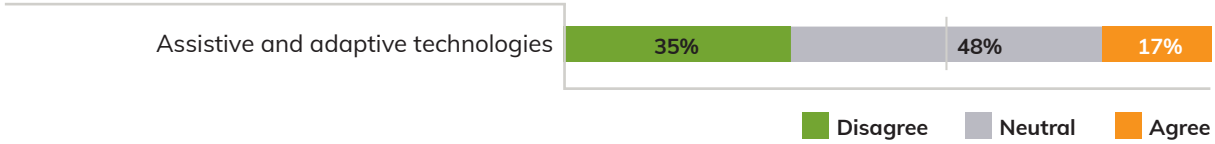
Staff who teach:
Do you personally use any assistive technologies? (Q7)

Figure 21. Responses from students and staff who teach who use assistive technologies (support from institution)

If YES to previous question, has your institution provided you with any support with assistive technologies?

Figure 22. Responses from staff who teach (guidance re assistive technologies)

How much do you agree that you are informed about your responsibilities with regard to...? (Q19)



FURTHER OBSERVATIONS

- Students in private colleges (23%) were more likely to report that they used assistive technologies, compared with students in THEIs (18%), universities (16%) and other institutions (16%)

  Analysis by AHEAD: Higher use of assistive technologies in private colleges may be explained by students in private colleges not being eligible for the Fund for Students with Disabilities (which funds paid personal supports for students with disabilities)

- Students studying on access, preparatory or foundation courses for higher education were twice as likely to report assistive technology use (33%) as students on undergraduate courses (17%)

  Analysis by AHEAD: This may be due to the inclusion of learning technology use on the curriculum of access and foundation courses as part of digital literacy/ information technology modules and the high rates of participation of students with disabilities on these courses

- The proportion of full-time students reporting that they used assistive technologies was higher than that of part-time students (19% and 12%, respectively)

  Analysis by AHEAD: This may be related to the Fund for Students with Disabilities (which funds paid personal supports for students with disabilities) only recently being made available to part-time students; limited out of hours access to institutional services that support the use of assistive technologies (such as disability and learning support services) for part-time students, studying at weekends and in the evening, is also likely to be a factor

- The highest usage of assistive technology by discipline area was reported by students in Business/ Administration/Law (22%) and Services[41] (22%); the lowest usage was reported by students in Natural Sciences/Mathematics (13%)

- Mature students were more likely to report assistive technology usage than younger students (21% and 16%, respectively)

- The highest percentage of reported assistive technology usage amongst students was reported in the 22-24 and 25-29 age ranges (22% and 24%, respectively); the lowest reported usage was in the 18 and 30+ age ranges (both 15%)

- International students were more than twice as likely to report assistive technology use as non-international students (36% and 13%, respectively)

- The less time staff had worked in a teaching role, the more likely they were to report assistive technology use, e.g., 18% of staff who had worked in a teaching role for less than one year reported using assistive technologies, compared with 14% who had worked in a teaching role for 10 years or more

  Analysis by AHEAD: One possible explanation for this is the increased likelihood that staff newer to teaching are more likely to have engaged with professional development covering learning technologies more recently than other staff

- Use of assistive technologies also varied by role: staff reporting the most assistive technology usage were instructional designers (23%), learning technologists (21%) and tutors (20%); staff reporting the least usage were lecturers (13%) and library staff (8%)

41 'Services' includes Travel, Tourism, Sports, Leisure, Community, Culinary Arts, Beauty, Occupational and Transport.

STUDENT/STAFF COMPARISONS

- 9% of students reported that assistive technologies were vital to meet their learning needs, 5% of staff who teach reported that assistive technologies were vital to their work, yet only 17% of staff who teach agreed that they were informed about their responsibilities with regard to assistive and adaptive technologies (and 35% of staff disagreed that they were informed)
- Across every institution type, reported student usage of assistive technologies was higher than reported usage by staff who teach

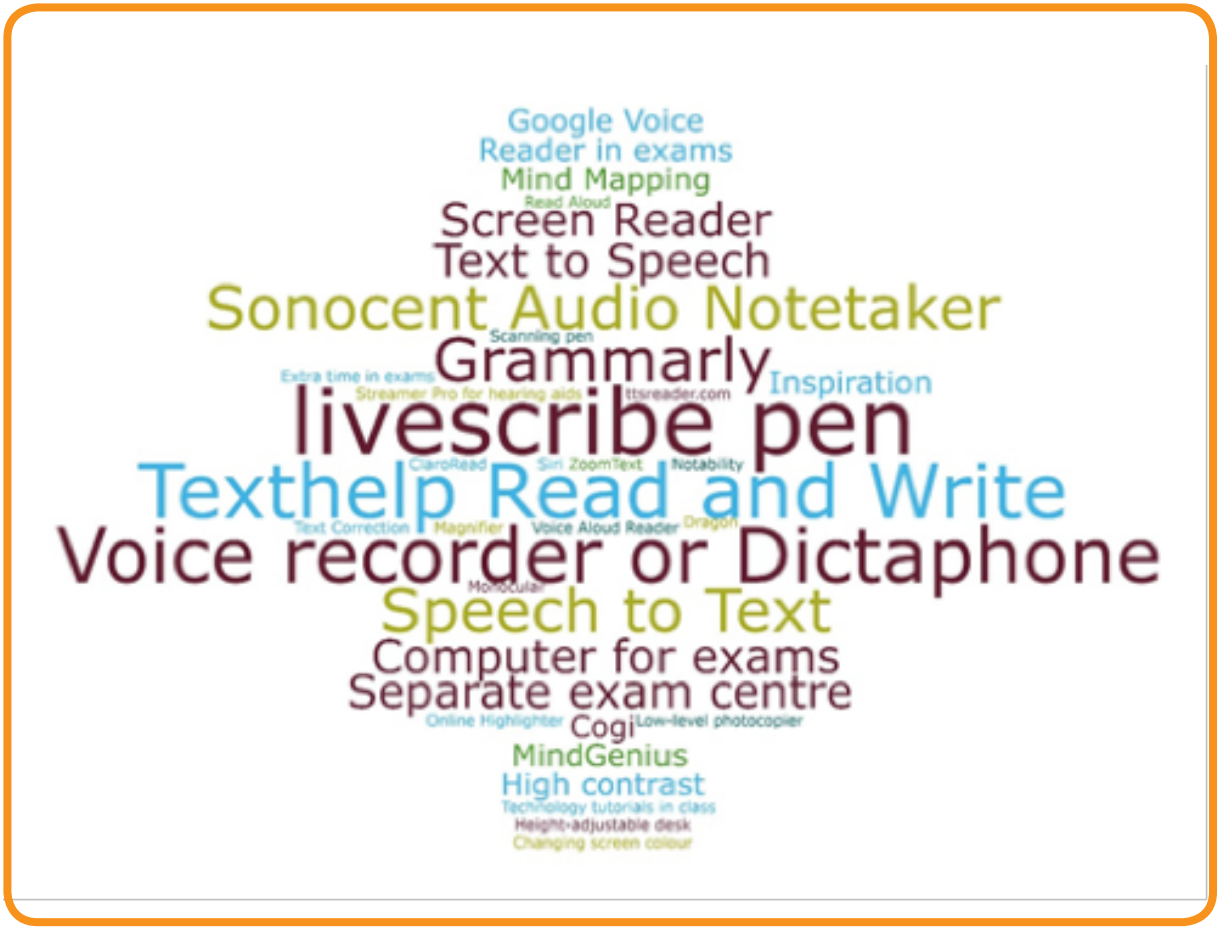


Figure 23. Analysis by AHEAD: Weighted word cloud of specialised assistive technologies, features or adaptations used by students, based on responses to: 'Example of an assistive technology, app or adaptation you found useful' (Q10)

Table 9. Analysis by AHEAD: Top assistive technologies/adaptations and key features of most commonly used assistive technology devices listed by students (Q10a)

All responses coded into three categories for analysis:	Three categories of student responses: 1. Specialised assistive technologies (or adaptations or technologies strongly associated with assistive features) (24%) 2. Mainstream technologies with potentially assistive features (53%) 3. Other technologies with no obvious assistive features / Non-relevant response (23%)
Analysis focused on first category to discover the most common specialised assistive technologies used by students:	Top four technologies or adaptations listed by students within Category 1: • Texthelp Read and Write (15%) • Voice recorder / dictaphone (13%) • Livescribe pen (12%) • Grammarly (8%)
Ten subcategories used to analyse key assistive features of each assistive technology/adaptation:	Subcategories used to analyse key assistive features of each assistive technology or adaptation • Audio recording / Notetaking (32%) • Literacy support[42] (18%) • Read aloud / Text to speech (16%) • Speech to text / Speech control (10%) • Mind mapping (6%) • Magnification / Visual adaptation (6%) • Screen reading aids (4%) • Audio aids (1%) • Scanning / Optical character recognition (OCR) (1%)
Key assistive features of most commonly used Category 1 technologies/ adaptations identified:	Key features of three most commonly used devices: • Audio recording / Notetaking features • Literacy support features • Read aloud / Speech to text features

42 Literacy support includes advanced spelling and grammar, screen masking and screen overlay.

2.5 Theme Two: Concluding comments

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 provide insights into how those who teach and learn view the suitability of teaching spaces for effective digital technology use and the degree to which key digital resources and facilities are available to them. These findings will be especially useful to consider in light of what has been learned in Theme One about the digital tools and activities valued by students and staff for teaching and learning and the findings presented in Theme Five regarding suggestions students and staff have for how their experience of digital teaching and learning could be improved. Access to lecture recordings is one of the few areas of the survey where there were large differences between Ireland and the UK; students in the UK were twice as likely to have access to recorded lectures and UK staff were more than twice as likely to have access to lecture capture. As will be seen in Theme Five, access to lecture recordings is one of the most commonly requested resources by students in Irish higher education.

Findings related to teaching and learning spaces and access to digital resources may be most valuable when considered in the institutional context, where actual provision can be compared with related student and staff responses, and any disparities can be explored. For example, where students and staff who teach were asked identical questions about access to digital resources, lower proportions of students than staff said that they had access to e-books, e-journals, file storage and back-up. Students and staff who teach are likely to have equal access to these digital resources at each institution; this finding points to a possible lack of awareness on the part of students, and a need for enhanced communication and support for both students and staff who teach regarding access to and use of important digital resources.

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.

Findings regarding student and staff use of assistive technologies provide useful, actionable information for individual institutions and for the sector. Nationally and across every institution type, the reported usage of assistive technologies was higher by students than by staff who teach: one in ten students reported that assistive technologies were vital to meet their learning needs; one in twenty staff who teach reported that assistive technologies were vital to their work. Despite this considerable usage, particularly by students, fewer than one in five staff who teach agreed that they were informed about their responsibilities regarding assistive technologies. The detailed analysis of these findings, informed by AHEAD, provides an important resource for all institutions and for the sector.

Of all the aspects of digital infrastructure, reliable wifi is arguably the most important. Indeed, this is confirmed by responses from students and staff who teach when asked about their suggestions for institutional improvements, described in Theme Five. INDEx Survey findings showed that access to reliable wifi was available to most students and staff who teach, but that this access is still a concern for more than one in five students and staff. Although this varies across contexts, improving access to reliable wifi must be a priority.

Key findings from previous research reinforce and provide useful explanatory detail to supplement the data emerging from the INDEx Survey. The National Forum review of technological infrastructure conducted in collaboration with IT managers and chief information officers across 25 institutions in 2017, for example, explains that while significant progress has been made in increasing the reach and reliability of wifi within institutions, one persistent barrier to complete coverage is the challenge posed by older buildings, where the wireless range is inhibited by the physical infrastructure[43]. This review also contains other useful supplementary information of relevance to the detailed findings of the INDEx Survey, including information on IT security, data storage, hardware, software and open access approaches, as well as senior management perspectives on top priorities for digital infrastructure. Among the key insights from this review, it was noted that strategies for developing digital infrastructure tended to be more emergent than deliberate. The INDEx Survey provides an evidence base which can facilitate the ongoing collaborative development of deliberate institutional and national digital infrastructure strategies requested by senior management across institutions.

43 See here: https://www.teachingandlearning.ie/publication/irelands-higher-education-technical-infrastructure-a-review-of-current-context-with-implications-for-teaching-and-learning-enhancement/

Theme Three.

Digital Skills Development and Support

Findings related to the third theme describe the experiences of students and staff who teach with respect to digital skills development and support within institutions. These findings are discussed in the following five sections:

3.1 Guidance regarding digital skills needed

Students and staff who teach were asked related questions about the guidance they received from their institutions about the digital skills they required. Students were asked if they had received guidance about what digital skills they would need prior to starting their course. Staff who teach were asked if they received guidance about the digital skills they needed as teachers. Respondents could choose to agree, remain neutral or disagree. Summary results are shown in Figures 24 and 25.

Students (Q20)

- One-quarter of all students agreed that they were advised about what digital skills they would need before they started their course (26%)
- 42% of students disagreed, i.e., said they did not receive guidance about what digital skills they would need on their course

Staff who teach (Q18)

- One-third of staff who teach agreed that they received guidance about the digital skills they needed as teachers (34%)
- One-quarter of staff who teach disagreed, i.e., said they did not receive guidance about what digital skills they needed as a teacher (23%)

Figure 24. Responses from students (guidance re digital skills needed)

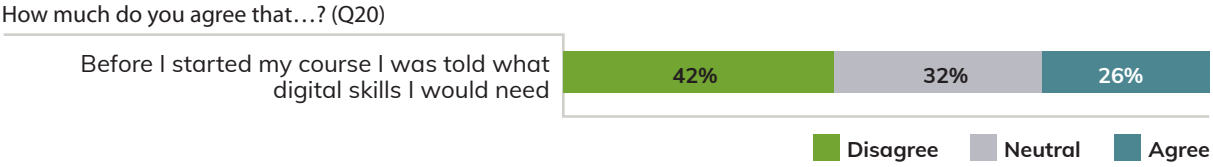
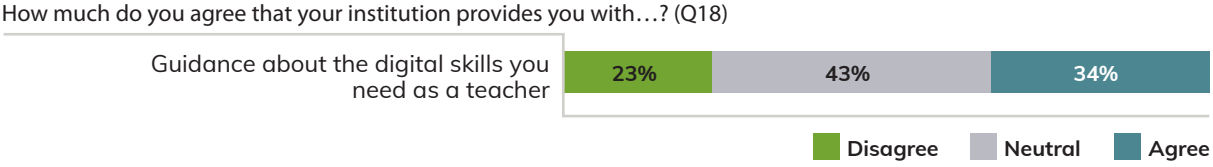


Figure 25. Responses from staff who teach (guidance re digital skills needed)



FURTHER OBSERVATIONS

- Across all discipline areas, Computing students were most informed about the digital skills they required: 42% agreed that they were advised about what digital skills they would need before they started their course; the proportion for all other discipline areas was between 30% and 17%
- Higher proportions of online than on-campus students (48% to 23%), part-time than full-time students (40% to 23%), and postgraduate than undergraduate students (36% to 23%) agreed that they were informed about what digital skills they would need before they started their course
- 38% of students in private colleges agreed that they were informed about what digital skills they would need before starting their course, compared with 28% of students in THEIs, 23% at other institutions and 21% at universities
- International benchmarking: In all four countries, many students disagreed that they were advised about what digital skills they would need before they started their course, but proportionally more students in Ireland disagreed that they had received guidance, compared with students in the UK and ANZ (42%, 36%, 33%)

STUDENT/STAFF COMPARISONS

- Findings from staff who teach and students indicated gaps in the digital guidance they had received from their institution, with just 34% and 26% reporting that they had received guidance regarding the digital skills they required for teaching and learning, respectively

3.2 Digital skills development

There are various ways that higher education institutions support the digital skills development of students and staff who teach. Students and staff who teach were asked if they had opportunities at their institution to develop their digital skills. Staff who teach also were asked whether their institution supported their digital teaching by providing time and support to innovate or reward/recognition for developing the digital aspects of their role. Respondents could choose to agree, remain neutral or disagree. In addition, students and staff who teach were asked to identify whether they had access to internet-based skills training at their institution whenever they needed it. Summary results are shown in Figures 26 and 27.

Students (Q13, Q20)

- 38% of students agreed that they had regular opportunities to review and update their digital skills; 23% disagreed
- One-quarter of students said they had access to internet-based skills training at their institution whenever they needed it (24%)

Staff who teach (Q11, Q18)

- 41% of staff who teach agreed that their institution provided them with regular opportunities to develop their digital skills; 22% disagreed
- 50% of staff who teach disagreed that their institution provided them with reward/recognition when they developed digital aspects of their role; 10% agreed
- 48% of staff who teach disagreed that their institution provided them with time and support to innovate; 16% agreed
- 47% of staff who teach said they had access to internet-based skills training at their institution whenever they needed it

Figure 26. Responses from students and staff who teach (digital skills development)

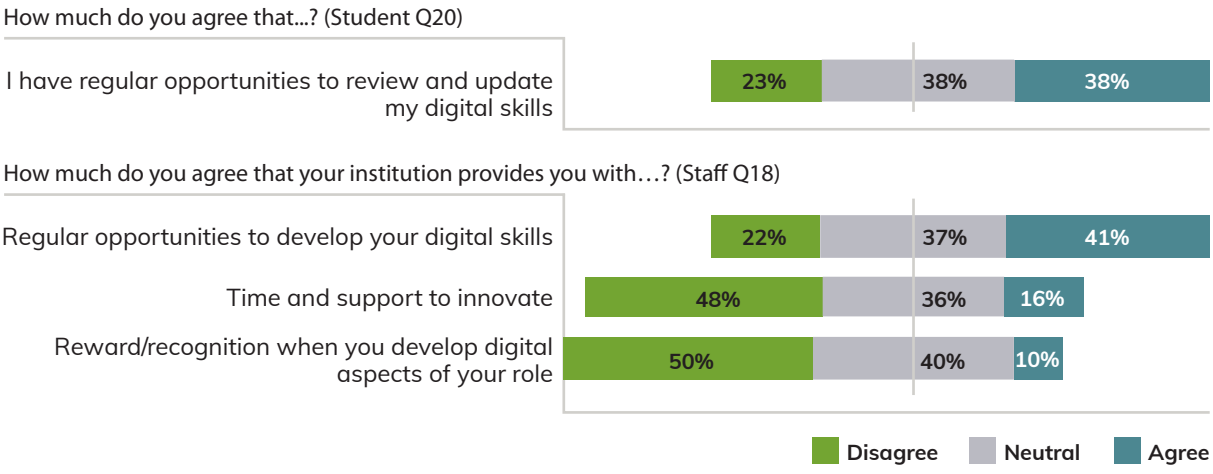
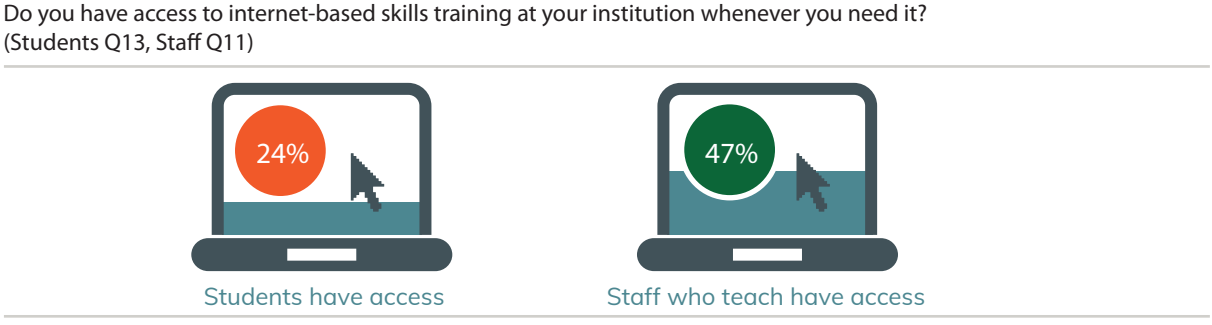


Figure 27. Responses from students and staff who teach (internet-based skills training)



FURTHER OBSERVATIONS

- There was variation across institution type in students' responses regarding opportunities to develop their digital skills: 31% of students at other institutions, 28% of university students, 19% of THEI students and 18% of private college students said they did not have regular opportunities to review and update their digital skills
- Students in their institution for less than one year were more likely to agree that they had regular opportunities to review and update their digital skills (42%) than students who were in their institution for one to two years (37%), two to three years (34%), or more than three years (32%)
- For staff who teach, there was little variation across institution type regarding institutional provision of opportunities to develop their digital skills and reward/recognition for developing the digital aspects of their role, however, staff who teach at private colleges and other institutions were more likely to report having time and support to innovate (24% and 23%, respectively) than staff who teach at THEIs and universities (15% and 14%, respectively)
- Regarding institutional provision of time and support to innovate for staff who teach, there was wide variability across roles, ranging from instructional designers (50% of whom agreed) to lecturers (13% of whom agreed)
- International benchmarking: Staff who teach in Ireland were more likely than UK staff to say they had regular opportunities to develop their digital skills (41% and 34%, respectively) | Staff who teach in the UK were more likely than staff who teach in Ireland to say they were not given time and support to innovate (57% and 48%, respectively) | About half of all staff in the UK and Ireland said their institution did not provide them with reward/recognition when developing the digital aspects of their role

STUDENT/STAFF COMPARISONS

- Nearly one-quarter of students and staff reported that they did not have regular opportunities to develop their digital skills (23% and 22%, respectively), while more than one-third of students and staff agreed that they had regular digital skills development opportunities (38% and 41%, respectively)

3.3 Digital workplace readiness

A particular aim of many higher education programmes (and reflected in the graduate attributes of many) is digital workplace readiness. Students were asked about the importance of digital skills to their chosen career and whether their course prepares them for the digital workplace. Students and staff were asked related questions about the currency and industry relevance of the software used on their courses. Respondents could choose to agree, remain neutral or disagree. Summary results are shown in Figures 28 and 29.

Students (Q19, Q20)

- Three-quarters of students agreed that digital skills were important in their chosen career (74%); only 5% disagreed
- 59% of students agreed that the software on their course was industry standard and up-to-date; 9% disagreed
- 46% of students agreed that their course prepared them for the digital workplace; 18% disagreed

Staff who teach (Q13)

- 40% of staff who teach agreed that the software available to teach with was industry standard and up-to-date; 19% disagreed; 41% were neutral

Figure 28. Responses from students (digital workplace readiness)

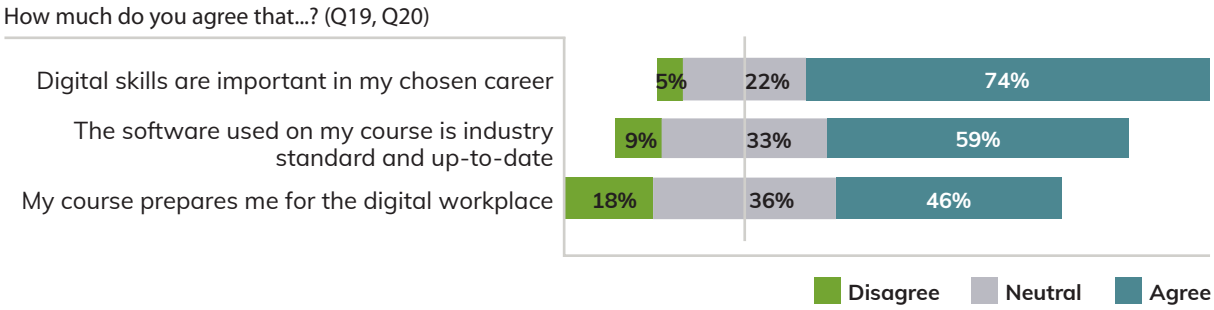
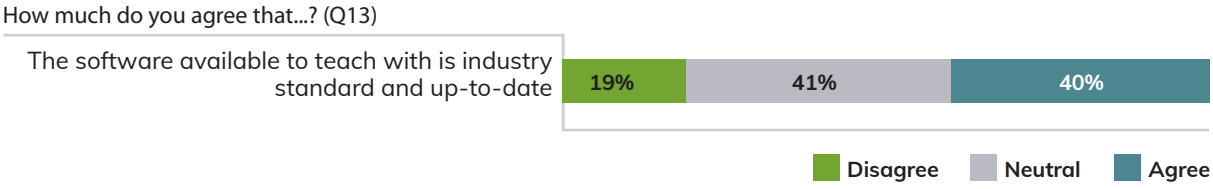


Figure 29. Responses from staff who teach (digital workplace readiness)



FURTHER OBSERVATIONS

- In every discipline area, the proportion of students who agreed with the statement 'Digital skills are important in my chosen career' was over 55%:
  - Students most likely to agree were in Computing (92%), Engineering/ Manufacturing/ Architecture/Construction (86%) and Business/Administration/Law (79%)
  - Students least likely to agree were in Social/Behavioural Sciences (60%), Health (58%) and Agriculture/Fisheries/Veterinary (56%)
- Nationally, there was a disparity in students' responses to two related questions: whether digital skills were important in their chosen career (74% agreed) and whether their course prepared them for the digital workplace (46% agreed); the disparity was most marked in the discipline areas of Natural Sciences/Mathematics, Business/Administration/Law, and Education
- Postgraduate students were more likely than undergraduate students to agree that digital skills are important in their future career (81% to 72%) and that their course prepared them for the digital workplace (49% to 45%)
- Students in THEIs were most likely to agree that their course prepared them for the digital workplace (53%), compared with students in private colleges (49%), other institutions (42%) and universities (39%)
- The more time students had spent in their institution, the less likely they were to agree that their course prepared them for the digital workplace:
  - Students in their institution for less than one year were more likely to agree that their course prepared them for the digital workplace (50%) than students who were in their institution for one to two years (46%), two to three years (41%), or more than three years (37%)
  - Students in their institution for less than one year were more likely to agree that software on their course was industry standard and up-to-date (65%) than students who were in their institution for one to two years (58%), two to three years (51%), or more than three years (49%)

STUDENT/STAFF COMPARISONS

- With respect to digital workplace readiness, responses from students and staff who teach can be compared for just one question, i.e., whether the software available for teaching and learning on their course is industry-standard and up-to-date; fewer than half of all students and staff agreed (46% and 40%, respectively)
- As with student/staff responses for the survey question about digital readiness of teaching spaces (Section 2.1), staff were more dissatisfied than students with the quality and currency of software available on their courses

3.4 Sources of support

Students and staff who teach were asked equivalent questions regarding their sources of support for using digital technology. Students were asked who supported them most to use digital technologies in their learning; staff who teach were asked who supported them most to use digital technologies in their teaching. Summary results are shown in Figures 30 and 31.

Students (Q15)

- Students' most likely source of digital support for learning by far was lecturers on their courses; 42% said lecturers supported them most to use digital technology in their learning
- The next most likely source of digital support was 'other students', selected by 26% of students
- After lecturers and fellow students, 20% of students selected 'online videos/resources' and 9% 'friends and family' as their main sources of digital support for learning
- The least likely support option was 'other support staff', cited by only 3% of students as their most relied-upon source of support regarding digital technology for learning

Staff who teach (Q10)

- For staff who teach, the most likely source of digital support for teaching was 'online videos and resources'; over one-third of staff selected this option (37%)
- The next most likely sources of digital support for teaching were 'teaching colleagues', selected by 31% of staff who teach, and 'support staff', selected by 28%
- Finally, 4% of staff who teach selected 'friends and family' as their most likely source of digital support for teaching

Figure 30. Responses from students (sources of support)

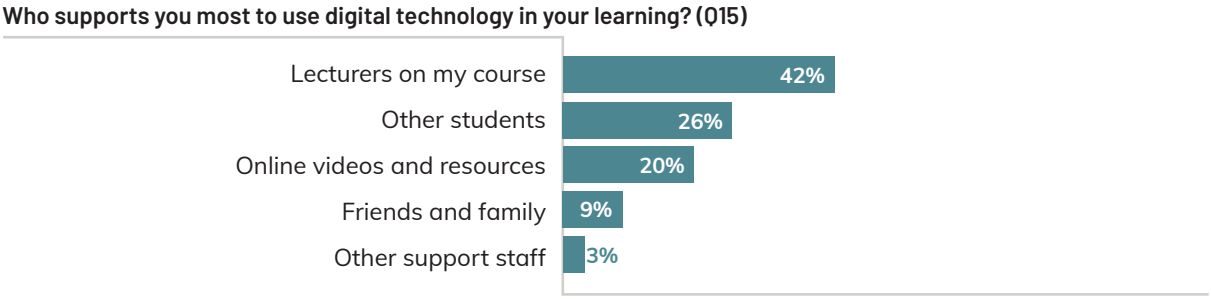
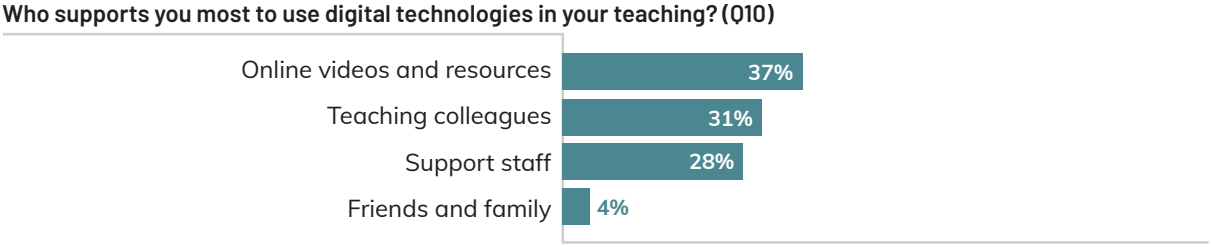


Figure 31. Responses from staff who teach (sources of support)



FURTHER OBSERVATIONS

- While students across all institution types relied mostly on their lecturers for help in using digital technology in their learning; this was most true for students in THEIs where 47% said their lecturers were their most likely source of support, followed by students in other institutions, private colleges and universities (40%, 40%, 38%, respectively)
- Although both part-time and full-time students relied mostly on their lecturers for support (41% and 42%), the next most likely sources of support for part-time students were online videos/resources and then other students (27% and 18%, respectively); for full-time students the next most likely sources of support were reversed, i.e., other students and then online videos/resources (27% and 19%, respectively)
- Newer students (in their institution for less than one year) were more likely than experienced students (in their institution for more than three years) to rely primarily on lecturers for support with digital technologies (45% to 36%) and less likely than experienced students to rely primarily on their peers (22% to 31%)
- Staff support came from online videos/resources, colleagues and support staff, with no appreciable differences across institution types
- International benchmarking: Students in ANZ were much more likely to use video and online resources to support their learning compared with students in the UK and Ireland (40%, 23%, 20%, respectively)

STUDENT/STAFF COMPARISONS

- For both students and staff, reliance on immediate sources of support for use of digital technologies was clear; for most students this was their lecturers, followed by peers; for staff who teach this was a range of sources, both online (videos and resources) and in-person (colleagues and support staff)

3.5 Theme Three: Concluding comments

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. Ideally, such support begins with guidance on the requisite digital skills needed for a given course or teaching role. For students, it then carries through their years of study and prepares them for their digital lives beyond higher education. For staff who teach, this support is at its best when it is ongoing, both formal and informal, context- and discipline-appropriate, and takes place in an environment in which the value of engaging in digital skills development is reflected in institutional decision-making and rewards structures.

INDEx findings shed light on a need to increase the focus and value placed on digital skills development and support and to ensure that existing supports are well communicated. Fewer than half of all students and staff who teach reported that they had opportunities at their institution to develop their digital skills, with little variation across institution type. In addition, findings suggest that many staff are not recognised or rewarded for developing the digital aspects of their role and many are also lacking the time and support to innovate. While these findings are in line with or slightly better than international benchmarks, they make clear the need for continuing and enhancing institutional and sectoral commitment to developing digital capabilities of students and staff, including structures that ensure that staff have the capacity, support and incentive to engage in digital development and innovation.

The acknowledgement by a large majority of students that digital skills are important to their chosen careers is in line with the focus on digital skills reflected in many institutional graduate attributes and in key national policy documents, such as the National Skills Strategy. With regard to digital workplace readiness, INDEx findings in Theme Three provide a broad sense of how students view their preparedness for the digital workplace and particular detail on student and staff views regarding the software available at their institutions. Findings from other themes are also relevant here. Findings from Theme One, for example, regarding the degree to which students collaborate online or engage with a variety of digital media in their learning have high relevance for digital workplace readiness. As with findings in several other areas, detailed analysis of INDEx data within institutions, and within specific disciplines/departments, will be helpful in designing, adapting and implementing initiatives to address any identified gap with regard to digital workplace readiness.

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. Knowledge of students' support expectations is important for individual staff and especially for institutions. Although student and staff responses varied, the findings regarding support for use of digital technologies for teaching and learning are clear in two respects. Both students and staff rely on immediate sources of support and person-to-person contact. With respect to enhancing support resources for students, a key factor is that these be immediately accessible, both to meet students' needs and so that the load on staff who teach is not unmanageable. With respect to support and professional development for staff, INDEx findings highlight the importance of peer networks in building digital capabilities, an important focus for all professional development and support initiatives.

Theme Four.

Digital Environment and Culture

Findings related to the fourth theme describe the experiences of students and staff who teach with respect to the digital environment and culture within institutions. These findings are discussed in the following four sections:

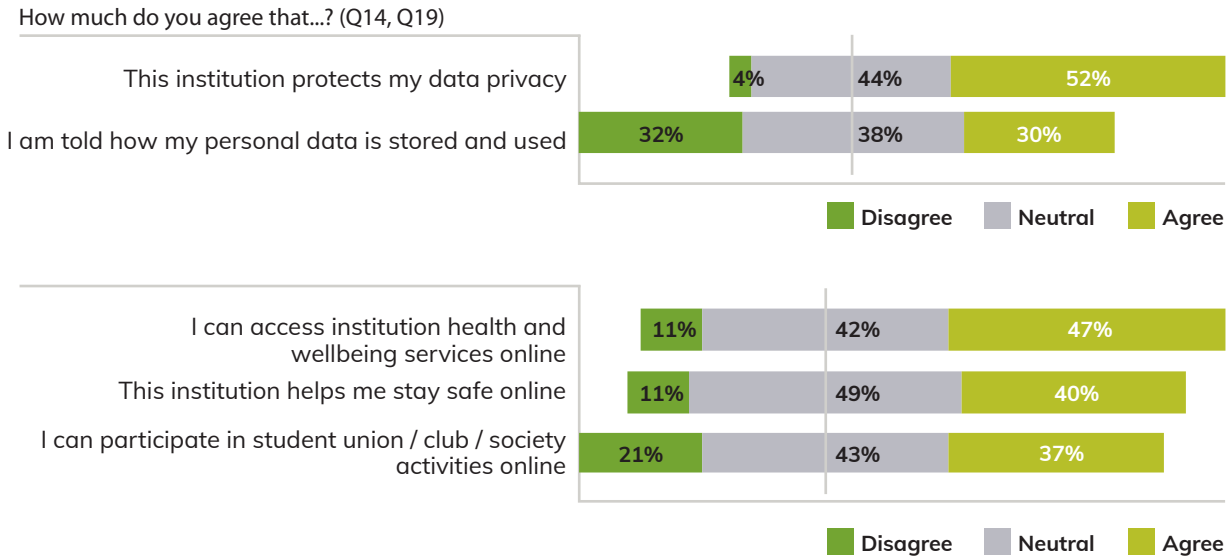
4.1 Student wellbeing and student data protection

Students were asked a series of questions about how their institution protected and managed their personal data and specific aspects of their health, safety and wellbeing. Students could choose to agree, remain neutral or disagree. Summary results are shown in Figure 32.

Students (Q14, Q19)

- Just over one-half of students (52%) agreed that their institution protected their data privacy; 4% disagreed; 44% were neutral
- There was a fairly even split in student responses to the statement 'I am told how my personal data is stored and used': 30% agreed, 32% disagreed and 38% were neutral
- Almost one-half of students (47%) agreed that they could access institution health and wellbeing services online; 11% disagreed; 42% were neutral
- 40% of students agreed that their institution helped them to stay safe online, 11% disagreed, and the most common response was neutral (49%)
- 37% of students agreed they could participate in student union/club/society activities online; one-fifth of students disagreed (21%); 43% were neutral

Figure 32. Responses from students (student data privacy and student wellbeing)



FURTHER OBSERVATIONS

- Newer students (in their institution for less than one year) were more likely than experienced students (in their institution for more than three years) to agree that the institution helped them to stay safe online (44% to 34%) and protected their data privacy (55% to 48%)
- 35% of students in private colleges agreed that they were told how their personal data was stored and used, compared with 33% of students in THEIs, 30% in other institutions and 26% at universities
- Students at universities were least likely to agree that their institution protected their data privacy (47%) compared with students at THEIs, private colleges and other institutions (56%, 57%, 57%, respectively)
- International benchmarking: Fewer than half of students in all four countries agreed that their institution helped them to stay safe online (Ireland 40%, UK 43%, ANZ 48%) | Students in ANZ were more likely to agreed that they could access institution health and wellbeing services online than students in the UK and Ireland (57%, 52%, 47%, respectively) | Students in the UK and Ireland were more likely to agree that were told how their personal data is stored and used compared with students in ANZ (31%, 30%, 24%)

4.2 Staff information regarding digital responsibilities

Staff who teach were asked whether they were informed about their responsibilities regarding a range of digital activities. Staff could choose to agree, remain neutral or disagree. Summary results are shown in Figure 33.

Staff who teach (Q19)

- Approximately half of all staff who teach agreed that they were informed about their responsibilities with regard to managing learner data securely (52%); 18% disagreed
- 37% of staff who teach agreed that they were informed about their responsibilities regarding digital copyright and licensing; one-quarter disagreed (25%)
- Regarding health and wellbeing, nearly half of staff who teach disagreed that they were informed about their responsibilities with respect to their own health and wellbeing in the digital workplace (46%); 15% agreed that they were informed
- Regarding students' online safety, nearly half of staff who teach disagreed that they were informed about their responsibilities regarding ensuring students behave safely online (45%); 15% agreed that they were informed

Figure 33. Responses from staff who teach (information re digital responsibilities)

FURTHER OBSERVATIONS

- Responses varied somewhat by institution type: staff teaching at other institutions and private colleges were more likely to agree that they were informed about their responsibilities with regard to managing learner data securely (70% and 67%, respectively) than staff teaching at THEIs and universities (53% and 44%, respectively)
- Staff teaching at private colleges and other institutions also were more likely to agree that they were informed about their responsibilities regarding digital copyright and licensing (47% and 46%, respectively) than staff teaching at THEIs and universities (38% and 33%, respectively)
- Nearly half of staff who teach at universities, THEIs and other institutions disagreed that they were informed about their responsibilities with respect to their own health and wellbeing in the digital workplace (49%, 46% and 44%, respectively), compared with about one-third of staff at private colleges (35%)
- Similarly, nearly half of staff who teach at universities and THEIs disagreed that they were informed about their responsibilities regarding ensuring students' online safety (49% and 46%, respectively), compared with 41% of staff who teach at other institutions and 32% of staff who teach at private colleges
- The staff role reporting that they were least informed about their responsibilities regarding ensuring students' online safety was lecturers: 50% disagreed that they were informed; 12% agreed
- International benchmarking: Staff teaching in the UK were more likely than those teaching in Ireland to agree that they were informed about their responsibilities regarding digital copyright and licensing (48% and 37%, respectively) and managing learner data securely (59% and 52%, respectively)

STUDENT/STAFF COMPARISONS [FOR SECTIONS 4.1 AND 4.2]

- Comparisons between student and staff responses in Sections 4.1 and 4.2 provide important information for individual institutions and for the sector
- Regarding data protection and privacy, 52% of students agreed that institutions protected their data privacy and 52% of staff who teach agreed that they were informed of their responsibilities re managing learner data securely
- Regarding staff and student health and wellbeing, just under half of all students (47%) agreed that they could access institution health and wellbeing services online, while fewer than 1 in 6 staff who teach (15%) agreed that they were informed about their responsibilities with respect to their own health and wellbeing in the digital workplace
- Regarding students' online safety, 40% of students agreed that their institution helped them to stay safe online, while just 15% of staff who teach agreed that they were informed about their responsibilities regarding ensuring students' online safety

4.3 Student and staff roles in digital decision-making

Students and staff who teach were asked whether their institution provided them with opportunities to be involved in decisions about digital services. They could choose to agree, remain neutral or disagree. Summary results are shown in Figures 34 and 35.

Students (Q20)

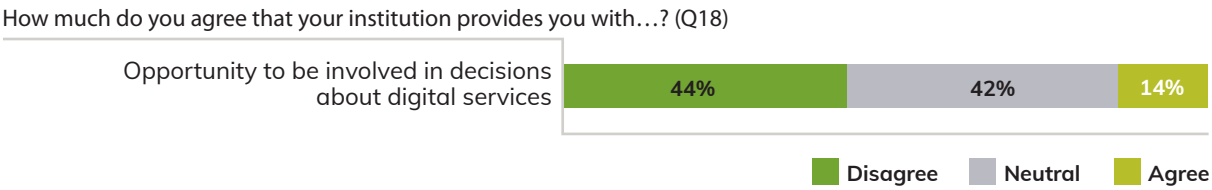
- 30% of students disagreed, and 27% agreed, that learners were given the chance to be involved in decisions about digital services; 43% were neutral

Staff who teach (Q18)

- 44% of staff who teach disagreed, and 14% agreed, that their institution provided them with the opportunity to be involved in decisions about digital services; 42% were neutral

Figure 34. Responses from students (role in digital decision-making)

Figure 35. Responses from staff who teach (role in digital decision-making)



FURTHER OBSERVATIONS

- Overall, a minority of students agreed that they were given the chance to be involved in decisions about digital services at their institutions, however, there were some differences among students:
  - A somewhat greater proportion of students in private colleges (32%) and THEIs (31%) agreed that they were given the chance to be involved in decisions about digital services, compared with students at other institutions (25%) and universities (24%)
  - Male students were more likely than female students to agree that they were given the chance to be involved in decisions about digital services (32% to 24%)
  - Proportionally more students in their institution for less than one year agreed that they were given the chance to be involved in digital decisions (32%) than students who were in their institution for one to two years (26%), two to three years (23%), or more than three years (20%)

- A very small minority of staff who teach agreed that they were given the chance to be involved in decisions about digital services at their institutions, however, there were some differences among staff:
  - Staff who teach at private colleges were somewhat more likely to be involved in decisions about digital services (22%) compared with staff who teach at other institutions (16%) and at universities and THEIs (both 13%)
  - Involvement in decisions about digital services varied by role: staff agreeing most that they were involved in these decisions were learning technologists (40%), academic deans (38%) and instructional designers (36%); staff agreeing least were technicians (16%), tutors (13%) and lecturers (11%)

STUDENT/STAFF COMPARISONS

- Across the sector, a majority of students and a large majority of staff who teach said they did not have the opportunity to be involved in decisions about digital services at their institutions.

4.4 Theme Four: Concluding comments

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. Within the scope of digital environment and culture, the INDEx Survey considered student and staff wellbeing, student data protection, staff information regarding digital responsibilities, and student and staff roles in digital decision-making.

Acknowledging the importance of student data privacy and protection, the INDEx Survey asked both students and staff about their experiences in this area. With just half of students agreeing that their institution protected their data privacy, fewer than a third agreeing that they were informed about how their personal data was stored and used, and half of all staff who teach agreeing that they were informed about their responsibilities with regard to managing learner data securely, the INDEx findings suggest that additional work is required on this issue. Considering the importance of institutions' GDPR obligations and concerns about personal data privacy more broadly[44], 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.

Students were somewhat positive about their ability to access health and wellbeing services online and to participate in student union/club/society activities online. Online safety is an area of concern for individuals within and beyond institutions, and for institutions themselves with regard to their duty of care for both students and staff. This is a topic which attracted mixed responses among students and staff who teach regarding students being supported to stay safe online and staff being informed about their responsibilities with respect to ensuring students' online safety and their own health and wellbeing in the digital workplace. Although the figures are largely in line with international benchmarks in the UK and ANZ, working to address these findings regarding students' and staff experiences of online safety and wellbeing is an ongoing and complex task for all, but vitally important.

The INDEx finding that a majority of students and a large majority of staff who teach reported not having the opportunity to be involved in decisions about digital services at their institution highlights the importance of such opportunities being both available and effectively communicated. A review of digital policies conducted across Irish higher education institutions in 2017 found that the digital policy landscape was somewhat fragmented[45]. The National Forum has since proactively addressed this concern, supporting institutions to develop enabling digital policies; this ongoing work will be further enhanced by the incorporation of insights from the INDEx findings. A key characteristic of enabling digital policies is that they incorporate opportunities for discussion and debate with all stakeholders. Given the significant influence policies can have on an institutional environment and culture, and thus the digital capabilities of all who learn and teach within the institution, this consultative approach is key to ensuring awareness of and input into policies among those who will be most affected by their implementation. Issues such as digital wellbeing, data protection, digital responsibilities and involvement in digital decision-making are mutual concerns for students and staff who teach and they can be addressed collaboratively. This may serve to foster a co-creative digital culture and an environment where the digital rights and wellbeing of all are protected.

44 See: Zuboff, S. (2019). The age of surveillance capitalism: The fight for a human future at the new frontier of power. Profile Books.

45 See: https://www.teachingandlearning.ie/publication/a-review-of-the-existing-higher-education-policy-landscape-for-digital-teaching-and-learning-in-ireland-2/

Theme Five.

Attitudes to Digital

Findings related to the fifth theme describe attitudes to the use of digital technologies, digital resources and learning of students and staff who teach, as well as their ratings of their institutions with respect to digital provision and digital support. The findings are discussed in the following four sections:

5.1 Attitudes to use of digital technologies

Students were asked to respond to four different statements about their attitudes towards digital technologies and learning on their course. They could choose to agree, remain neutral or disagree. Students and staff who teach were asked how much they would like digital technologies to be used on their course and in their teaching practice, respectively. They could reply 'less than they are now', 'the same as they are now' or 'more than they are now'. Finally, staff who teach were asked about their approach to adopting new technologies for teaching, identifying to what extent they were early, mid or late adopters. Summary results are shown in Figures 36 and 37.

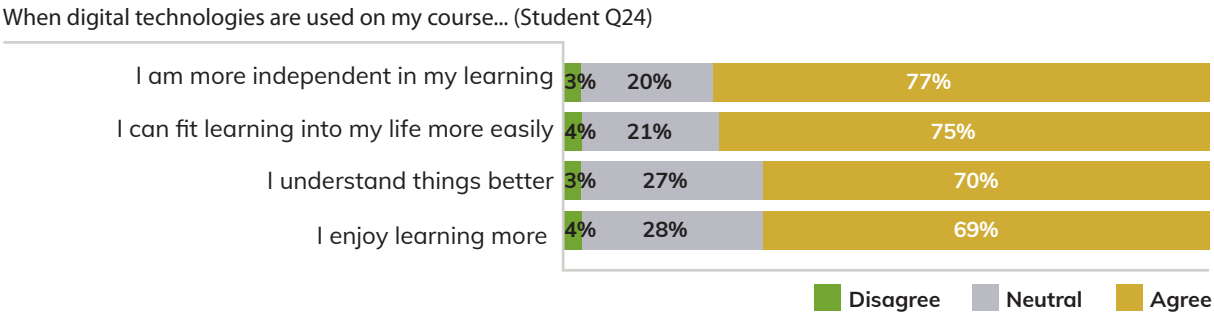
Students (Q24, Q28)

- Students were largely positive about the use of digital technologies on their course; very few (under 4%) disagreed with any of the four statements
- 77% agreed that they were more independent in their learning and 75% agreed that they could fit learning into their lives more easily when digital technologies were used on their course
- 70% agreed that they understood things better and 69% agreed that they enjoyed learning more when digital technologies were used on their course
- When asked how much they would like digital technologies to be used on their course, students were nearly equally divided between 'more than they are now' (48%) and 'the same as they are now' (49%); 3% responded 'less than they are now'

Staff who teach (Q9, Q16)

- 13% of staff who teach considered themselves 'usually among the first' to adopt new technologies for teaching, while a further 47% considered themselves to be early adopters where they saw clear benefits
- Thus, 60% of staff who teach considered themselves to be early adopters of new technologies for teaching, but three-quarters of these considered themselves to be so only where they saw clear benefits
- A further 31% of staff who teach said they tended to adopt new technologies at the pace of their peers; 9% tended to adopt new technologies after their peers
- When asked how much they would like digital technologies to be used in their teaching practice, 68% of staff who teach said 'more than they are now', 29% 'the same as they are now', and 3% 'less than they are now'

Figure 36. Responses from students and staff who teach (attitudes to use of digital technologies)



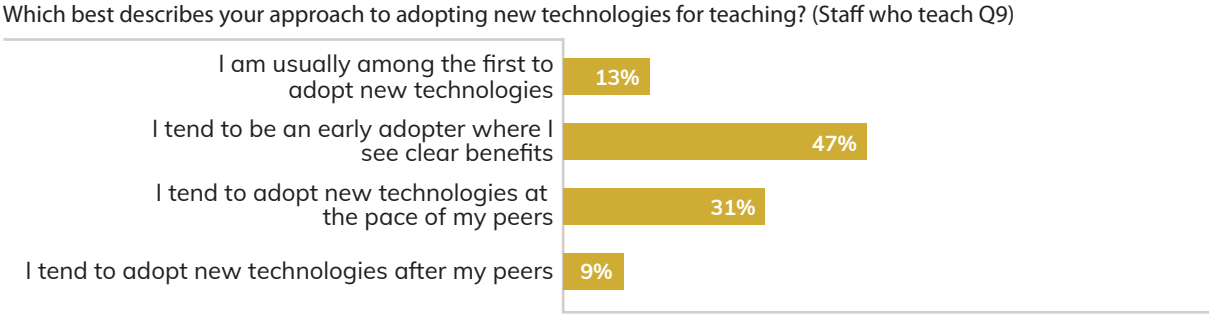
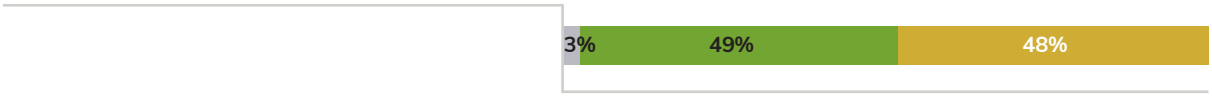
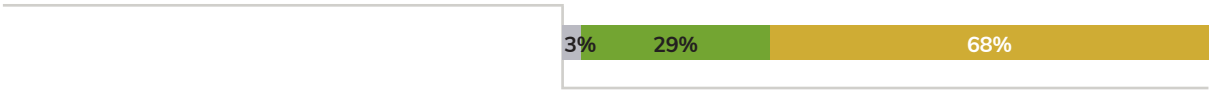


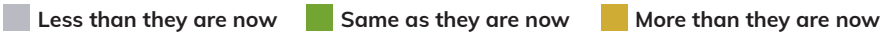
Figure 37. Responses from students and staff who teach (attitudes to use of digital technologies)

How much would you like digital technologies to be used on your course? (Students Q28)



Ideally, how much would you like digital technologies to be used in your teaching practice? (Staff who teach Q16)





FURTHER OBSERVATIONS

- Students' largely positive assessment regarding the use of digital technologies for learning were consistent across all cohorts of students and for students across all institution types; the only observed difference was that a higher proportion of part-time students than full-time students agreed that the use of digital technologies enabled them to fit learning into their lives more easily (81% to 74%)
- Nearly all students, nationally and across all categories and institution types, would like digital technologies to be used 'more than' or 'the same as' they are now, only a tiny minority would like digital technologies to be used less than they are now; these findings will be particularly useful at institution (and discipline) level, where students' responses can be compared with current usage of digital technologies for learning
- A greater proportion of full-time than part-time students would like digital technologies to be used more than they are now (49% to 39%)
- Staff approaches to adopting new technologies for teaching varied by role: staff agreeing most that they were early adopters[46] were learning technologists (93%), technicians (78%) and instructional designers (72%); staff agreeing least were lecturers (60%), tutors (59%) and library staff (55%)
- International benchmarking: Students in Ireland and the UK were more likely than students in ANZ to say they understood things better (70%, 69%, 63%, respectively) and enjoyed learning more (69%, 68%, 61%) when digital technologies were used on their course | Students in Ireland were more likely than students in the UK and ANZ to say they would like digital technologies to be used on their course more than they are now (48%, 44%, 31%, respectively) | Staff who teach in Ireland were more than twice as likely as staff who teach in the UK to say they would like digital technologies to be used in their teaching practice more than they are now (68% and 33%, respectively) | Staff who teach in Ireland and the UK had nearly identical responses regarding their approaches to adopting new technologies for teaching

STUDENT/STAFF COMPARISONS

- Nearly all students and staff who teach would like digital technologies to be used for teaching and learning: students were equally divided between 'more than' and 'the same as' they are now, while over twice as many staff said 'more than' (68%) as compared with 'the same as' they are now (29%)

46 Categorisation of early adopter here includes staff who replied 'I am usually among the first to adopt new technologies' and 'I tend to be an early adopter when I see clear benefits' (Q9)

5.2 Student preferences regarding digital resources and learning

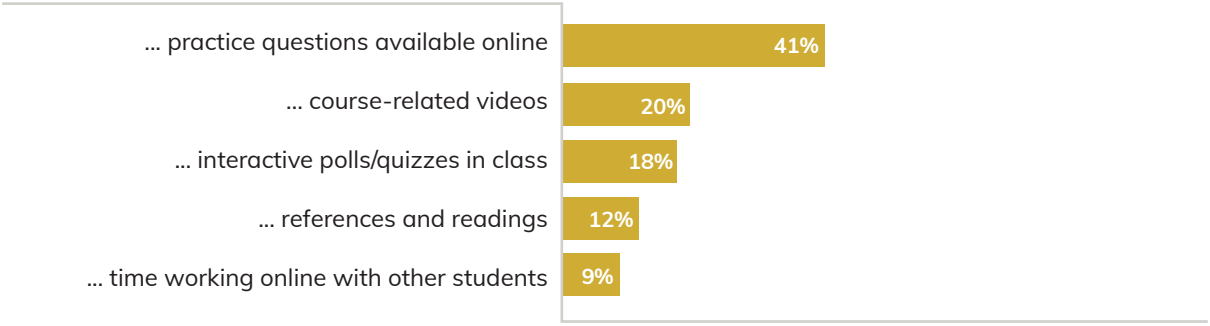
Students were asked to identify which digital resources and which computer devices would be most useful to them as learners. Students also were asked about their preferences regarding mobile device use in class. In addition to questions about digital resources and devices, students were asked to identify their preferences regarding individual and/or group learning. Summary results are shown in Figures 38, 39 and 40.

Students (Q23, Q25, Q26, Q27, Q28)

- Students were asked to identify, from a list of digital resources, which would be most useful to them as a learner: the top choice by far was 'practice questions available online', selected by 41% of students
- The second choice as a useful digital resource was 'course-related videos' (selected by 20% of students), followed by 'interactive polls/quizzes in class' (selected by 18%), 'references and readings' (selected by 12%) and 'working online with other students' (selected by 9%)
- When asked about which digital devices would be most useful to them as learners, there was a fairly even split in student responses: of three options provided, 37% selected 'more computers in computer rooms', 36% selected 'more laptops/tablets available in class', and 27% selected 'more laptops/tablets available on long-term loan'
- When asked their preferences regarding students' mobile device use in class, students were asked to select from three options: 47% thought mobile device use should be allowed at any time and 48% preferred that mobile device use be limited to class activities; 6% of students preferred no mobile device use in class at all
- Finally, students were asked their preferred mode of learning in general, i.e., learning on their own, learning in groups or a combination of the two: 44% of students preferred working on their own, 4% preferred working in groups, and the majority (52%) preferred a combination of individual and group work

Figure 38. Responses from students (preferences re digital resources)

Which of these would be most useful to you as a learner? More... (Q23)



Which of these would be most useful to you? (Q26)

Figure 39. Responses from students (preferences re mobile device use)

In class, would you prefer students to be allowed to use their own mobile devices... (Q27)

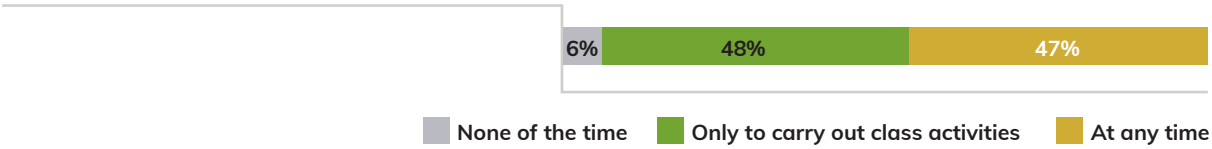


Figure 40: Responses from students (preferences re learning)

Which best describes your preferences as a learner? (Q25)

FURTHER OBSERVATIONS

- Preferences for digital resources varied considerably among students:
  - While students across all institution types chose 'practice questions available online' as their top choice, the proportion of students choosing this varied somewhat: 45% at universities and other institutions, 38% at THEIs and 32% at private colleges
  - The top three choices for undergraduate students were online practice questions, course-related videos and interactive polls/quizzes in class (44%, 19%, 19%, respectively); the top three choices for postgraduate students were online practice questions, course-related videos and references/readings (27%, 27%, 21%, respectively)
  - The top three choices for mature students were online practice questions, course-related videos and references/readings (32%, 26%, 17%, respectively); the top three choices for younger students were online practice questions, interactive polls/quizzes in class and course-related videos (45%, 20%, 17%, respectively)
- Context is also important in considering students' responses to questions about which digital devices would be most useful to them as learners:
  - THEI and university students' top choice was 'more computers in computer rooms' while the most common response from students in other institutions and private colleges was 'more laptops and tablets available in class'
  - Undergraduate students' top choice was 'more computers in computer rooms' while postgraduate students' top choice was 'more laptops and tablets available in class'
  - Full-time students' top choice was 'more computers in computer rooms' while part-time students' top choice was 'more laptops and tablets available on long-term loan'
- Regarding mobile device use in class, there was a nearly even split nationally between students who preferred that devices be allowed at any time (47%) and those who preferred that their use be limited to class activities (48%); amongst all categories of students there also was an even split, with the exception of part-time students and mature students: part-time students preferred class-only use to any-time use of mobile devices (52% to 39%); likewise, mature students preferred class-only use to any-time use of mobile devices, and in the same proportions (52% to 39%)
- Regarding their preferred mode of learning (i.e., on their own, in groups or a combination), all categories of students marginally preferred a combination of individual/group learning with the exception of online students, who marginally preferred learning on their own to combined individual/group learning (49% to 47%)
- Students who most preferred a combination of individual/group learning were part-time students, mature students, blended learning students, and students in private colleges

5.3 Student and staff assessment of digital at institution

At the end of each survey, students and staff who teach were asked to rate the quality of their institution's digital provision, i.e., software, hardware and learning environment. Students also were asked to rate the quality of digital teaching and learning on their course. Staff who teach were asked to rate the support they received from their institution to develop the digital aspects of their role. Summary results are shown in Figures 41, 42 and 43.

Students (Q16, Q21)

- Students were largely positive about their institution's digital provision: 80% gave an above average rating, 15% gave an average rating, and 5% gave a below average rating
- Students also were largely positive about the quality of digital teaching and learning on their course: 71% gave an above average rating, 21% gave an average rating, and 7% gave a below average rating

Staff who teach (Q14, Q20)

- Staff who teach were somewhat positive about the quality of their institution's digital provision: 64% gave an above average rating, 25% gave an average rating, and 12% gave a below average rating
- Staff who teach gave mixed responses when rating the support they received from their institution to develop the digital aspects of their role: 46% gave an above average rating, 33% gave an average rating, and 22% gave a below average rating

Figure 41. Responses from students and staff who teach (digital at institution)

Overall, how would you rate the quality of this institution's digital provision (software, hardware, learning environment)? (Students Q16, Staff Q14))

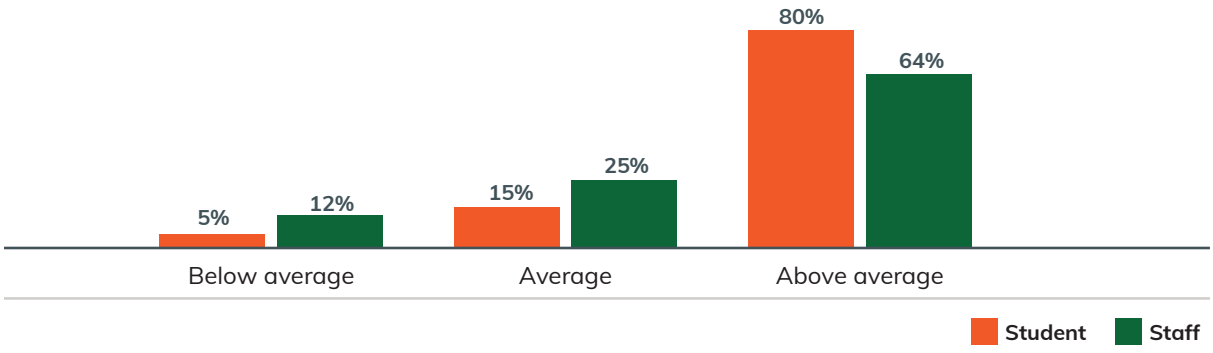


Figure 42. Responses from students (digital teaching and learning on course)

Overall, how would you rate the quality of digital teaching and learning on your course? (Q21)

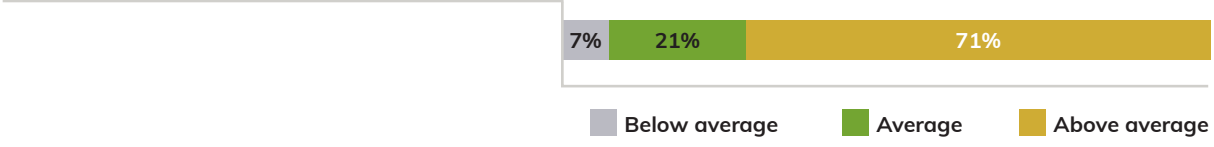
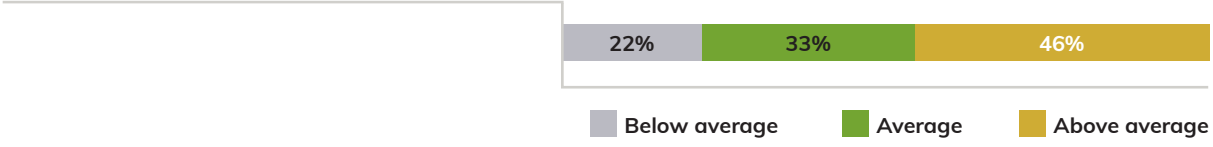


Figure 43. Responses from staff who teach (digital support from institution)

Overall, how would you rate the support you receive from your institution to develop the digital aspects of your role? (Q20)



FURTHER OBSERVATIONS

- The quality of their institution's digital provision (software, hardware and learning environment) was rated as above average by 82% of university students, 79% of private college students, 78% of students at other institutions, and 76% of students at THEIs
- The quality of their institution's digital provision was rated more highly by students in the institution less than one year (86%) than by students in the institution for one to two years (78%), two to three years (70%), or more than three years (70%)
- Staff who teach in private colleges were more likely to rate as above average the support they received from their institution to develop the digital aspects of their role (58%), compared with staff who teach in other institutions (52%), THEIs (45%) and universities (43%)
- International benchmarking: Collectively, students in Ireland, compared with students in the UK and ANZ, gave a less favourable rating to the quality of their institutions' digital provision (80%, 86%, 90%, respectively) and to the quality of digital teaching and learning on their courses (71%, 75%, 77%, respectively) | Collectively, staff who teach in Ireland gave a more favourable rating to the quality of their institutions' digital provision than staff in the UK (64% and 58% giving above average ratings, respectively)

Optional free text questions

In addition to the rating questions described above, students and staff who teach were asked optional free text questions to enable them to suggest improvements to digital teaching and learning at their institution[47]:

- Students were asked to describe one thing their institution could do, or do better, to improve their experience of digital teaching and learning (Q22); a total of 13,495 students completed this question (53% of all respondents). While this free text question was designed to yield specific actionable information for participating institutions, a broad consideration of all students' responses nationally provides a useful overview for the sector; Table 10 shows the main areas of student responses
- Four main areas for improvement were identified by students: (i) better, reliable wifi; (ii) universal, effective and consistent use of the VLE by staff who teach; (iii) availability of lecture recordings; and (iv) widespread availability of working, up-to-date computer hardware and software for learning and assessment
- Staff who teach were asked to describe one thing the institution should do, or do better, to support them in their use of technology for teaching (Q21); a total of 2,892 staff who teach completed this question (65% of all respondents). As with the related student question, this free text question was designed to yield specific information for participating institutions, however a broad consideration of all staff responses nationally provides a useful overview; Table 11 shows the main areas of staff responses
- Three main areas for improvement were identified by staff who teach: (i) more and dedicated time to develop digital teaching and learning; (ii) improved digital infrastructure; and (iii) additional support and professional development

47 Note on qualitative analysis method for free text questions: In each case, a word search was carried out on the top ten terms to gather meaning in context; further searches were conducted to identify key areas identified by students and staff who teach.

Table 10. Main areas of student responses: 'One thing the institution could do, or do better, to improve your experience of digital teaching and learning' (Q22)

The majority of student responses were in these four areas:	
Wifi	The greatest number of consistent responses for any one issue were in relation to wifi. Overwhelmingly, students would like better, faster, more stable, good quality, reliable wifi.
Use of the VLE	Many responses referring to 'lectures', 'lecturers' and specific VLEs focused specifically on lecturers' use of the VLE. Among these responses, students asked that the VLE be used by all lecturers. Students would like the VLE to be used effectively and consistently across all modules. Timeliness of uploads to the VLE was requested by many, e.g., posting learning materials to the VLE before class or soon afterward. Students also would like courses in the VLE to be structured to facilitate navigation, particularly where there are many learning and assessment resources posted. And according to some students, some valuable features of the VLE are underused by lecturers, e.g., calendar and announcements.
Lecture recordings	Students would like lectures to be recorded. While many responses simply stated 'record lectures' or 'lecture recordings', some students provided context to explain their need for lecture recordings, e.g., as working students, mature students, students living far from the institution, students with caring responsibilities, students who want to review lectures – while some said that lecture recordings should simply be available to all.
Hardware/software	Many responses related to broken, slow and/or outdated computer equipment (laptops, workstations) and software. Overall, students requested more up-to-date computers, and greater availability of computers and printers, in various locations (e.g., computer rooms, labs library) as well as up-to-date software.
While the four areas above accounted for the majority of student responses, additional clusters of responses from students highlighted the following issues:	
Physical spaces	Students would like well-designed, comfortable and digitally-enabled teaching and learning spaces, both to prioritise health and wellbeing and to facilitate learning. Items highlighted for improvement include additional comfortable seating, good lighting, and easy accessibility of electrical sockets in all classrooms and libraries.
Teaching and learning	Several students requested more interactivity in teaching, in both lectures and online (e.g., interactive games, polling). Students would like learning/teaching materials in forms beyond Word, PowerPoint and YouTube. And a few students suggested that digital submissions, not printed, be standard for all submitted work.
Digital skills	Some students explicitly highlighted the need to support students and staff who teach in developing their digital skills, knowledge and confidence. Students need to develop digital skills, use of tools, and a greater awareness of the tools available to them (e.g., some students were unaware of the software/resources available to them or how to use them properly). Classes for students should start in year one and continue regularly. Students also requested that staff who teach have better training in how to use the VLE and other tools (e.g., AV equipment).

Table 11. Main areas of responses from staff who teach: 'One thing the institution should do, or do better, to support you in your use of technology for teaching' (Q21)

The majority of responses from staff who teach were in these 3 areas:	
Time	The most-cited suggestion across all staff responses was to address the lack of time for digital innovation and developing digital teaching and learning. Effective use of technology for teaching requires that staff have time for: learning about digital tools and approaches, applying digital tools to teaching in their own discipline/context, developing digital resources, and enhancing pedagogical approaches for digital learning. Staff described multiple barriers to getting the time required for this work, most notably large and increasing workloads (i.e., teaching, assessment and related administrative work). Staff recommended that management demonstrate their recognition of the time commitment required by addressing workload issues and by ensuring dedicated time for digital learning and development. A related issue was timing, with many staff requesting more digital training/support and sessions available at multiple times to accommodate various teaching schedules
Digital infrastructure	Staff outlined many improvements to digital infrastructure that would support their use of technology in teaching. As with students, this included access to reliable wifi in all teaching spaces. In addition, staff suggested eliminating barriers such as: overly-restrictive firewalls, unavailable/unreliable hardware (e.g., presentation systems), hardware incompatibilities (e.g., Apple devices, VGA/HDMI connectors) and inconsistent tech setup across different teaching rooms/facilities. Staff also requested that it be easier to record lectures, upload recorded lectures and enable closed captioning, and requested functional media labs for use by staff and students and better software for online teaching. Finally, several staff explicitly requested that institutions consult with staff who teach when making decisions about new technology tools and platforms, i.e., "ask staff".
Support and professional development	Staff requested more support and professional development in multiple areas including: how and why to include technology to improve learning; effective/consistent use of the VLE; designing/delivering online teaching and learning (e.g., webinars); creating videos; new educational technologies; digital skills; and digital literacy. In addition, many simply requested more training and in a greater variety of formats, e.g., in-person, recorded, online, hands-on, one-on-one, small groups, and most importantly, as needed. Lunchtime seminars, while useful for some, are impossible to attend for many who teach, so multiple engagement options are necessary. A few staff acknowledged that good support/training exists at their institution (e.g., in centres for teaching and learning) but said there were too few resources and that more are needed.

A smaller number of clusters of responses from staff who teach highlighted the following two issues:	
Reward and recognition	In addition to the need for dedicated time to develop digital teaching and learning, as noted above, some staff acknowledged the importance of reward and recognition. These were noted as especially important for early adopters of technology for teaching, who provide encouragement and models for their peers, and for staff who are not on permanent contracts and typically do not get paid for time spent on class preparation.
Digital strategy and policies	In addition to practical support, some staff highlighted the need for a clearly defined institutional strategy regarding digital teaching and learning, based on widespread consultation across the institution. Consultation with a diverse range of students and staff is important to be sure that the digital services complement and support their needs. In addition, some staff also highlighted the need for clear and accessible digital policies regarding e.g., the use of assistive technologies, student data management and protection, digital copyright, students' online safety, and student/staff digital wellbeing[48].

48 These issues are explored elsewhere this report: see Sections 2.4, 4.1 and 4.2.

5.4 Theme Five: Concluding comments

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. It is perhaps unsurprising, therefore, that a large proportion of both students and staff indicated that they would like to see digital technologies used more than they are now in teaching and learning.

Diving into more detail about students' preferences regarding digital learning, there are connections with other themes. The findings in Theme Five provide detail on which digital resources and which computer devices students rate as most useful to them as learners; these findings will be useful to explore in combination with findings related to infrastructure in Theme Two. The fact that almost one third of students would like more laptops/tablets available on long-term loan, for example, is relevant when considering student use of personal devices. Similarly, students' preferences regarding mobile device use in class and collaborative learning will be useful to explore in combination with findings related to teaching and learning practices in Theme One.

Overall reflections on current institutional digital provision and supports were largely positive, with the majority of students rating both general digital provision and the quality of digital teaching and learning in their institution as above average. 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.

While, these general questions are useful as high-level indicators of attitudes towards provision and support, the open-ended responses in Theme Five provide a wide-reaching source of explanatory data that is helpful in understanding responses across all themes in the survey. There is potential among these responses, focused on what students and staff suggest institutions could do to enhance current provision, to gain much deeper insights to inform action.

Digital infrastructure and resources loomed large in the priorities of students, who were most likely to suggest enhancements related to reliable wifi, consistent use of the VLE by staff who teach, availability of lecture recordings and availability of working, up-to-date computer hardware and software. Additional responses gave detail on the importance of digitally-enabled teaching and learning spaces, more interactivity in teaching and more use of digital media, and supporting students and staff who teach in developing their digital skills, knowledge and confidence. Staff, on the other hand, emphasised addressing the severe deficit of time for digital learning, development and pedagogical innovation as their top priority; large and increasing workloads were seen to constrain opportunities for development. Staff also sought improved digital infrastructure and additional support and professional development in the areas of digital skills, digital literacies and the use of educational technologies. Some staff responses reinforced the importance of reward and recognition for digital innovation, and clear institutional strategies for digital teaching and learning, and related digital policies, all based on widespread consultation across the institution.

INDEx findings in Theme Five provide a rich resource for all engaged in leading and delivering higher education in Ireland. As with the findings from other themes, they will benefit from further analysis and discussion within programme teams, discipline units, institutions, representative bodies and at national policy level. These findings will be considered in the context of all other findings from the INDEx Survey in the next and final chapter of the report.

Summary of Key Findings

Importance of digital to student learning in Irish higher education

A majority of students agreed that when digital technologies are used on their course, they understand things better, enjoy learning more, are more independent in their learning and can fit learning into their life more easily. Indeed, half of students indicated that they would like digital technologies to be used on their course more than they are now. Almost three-quarters of students rated the overall quality of digital teaching and learning on their course as above average. Interestingly, given student reporting of the benefits of digital technologies, over two-thirds of staff who teach also indicated that they would like digital technologies to be used in their teaching practice more than they are at present.

Supporting student and staff digital capabilities

Four in ten students said they had regular opportunities to review and update their digital skills. When asked to describe what their institution could do to improve their experience of digital teaching and learning, students requested more interactivity in teaching, in both lectures and online, and emphasised the need for ongoing support for themselves and the staff who teach them in developing digital skills, knowledge and confidence. It is clear that the digital capabilities of students and staff who teach are interdependent and that participatory, co-creative digital pedagogies are valued by students. Indeed, students cited lecturers on their course as their primary support in using digital technology in their learning.

The vast majority of staff who teach engaged in development of their digital teaching skills either formally or informally and more than a third reported that their institution regularly provided opportunities for them to develop their digital skills. There was a relatively even split between the sources of support staff most relied on to use digital technology in their teaching: online videos and resources, teaching colleagues, and support staff. Close to half of all staff who teach rated as above average the support they received from their institution to develop the digital aspects of their role. When asked to describe what their institution could do to support them in their use of technology for teaching, the most popular response from staff who teach was more and dedicated time to develop digital teaching and learning. This was reinforced by separate findings that half of all staff who teach did not feel that their institution provided them with time and support to innovate or reward/recognition when they developed the digital aspects of their role.

A new understanding of which digital tools and activities are valued

We have never before had such robust national data telling us which digital tools and digital teaching and learning activities students and staff use and value. For example, we know that the digital tool found most useful by students and staff is the VLE, and that universal, effective and consistent use of the VLE and provision of lecture recordings were two of students' top requests for improving their experience of digital teaching and learning. Regarding digital activities, the course-related digital activity most students found useful was polling/quizzing. This new knowledge about what is valued can be combined with related findings regarding support and provision to inform future decision-making. At the time of the INDEx Survey, for example, one-quarter of students reported having access to lecture recordings and just under a third of staff who teach reported having access to lecture capture; two-thirds of students reported having access to polling/quizzing on their course, while half of all staff who teach had never carried out live polls or quizzes in class.

Access to wifi, devices and digitally-enabled teaching and learning spaces

Overall, four in five students and two-thirds of staff who teach rated the quality of their institution's digital provision (software, hardware, learning environment) as above average. Although access to reliable institutional wifi was available to most students and staff who teach, one in five student and staff respondents reported that they lacked such access. When asked how their institution could improve their experience of digital teaching and learning, students' top suggestion was access to better, faster, more stable wifi.

Student device ownership and use for learning was high overall, but it was not universal. Eight out of ten students used a personally-owned smartphone to support their learning, with one-third of students reporting that they regularly accessed the VLE on a mobile device. While nine out of ten students owned and used a laptop, over one-quarter of students indicated that they would find it useful to have more laptops/tablets on long-term loan. These findings suggest caution in assuming that all student devices are equally suitable or reliable, particularly during the current period of institutional closures with students relying on access to personal devices, software and wifi in order to take part in learning and assessment.

Nearly half of all students but just under a third of staff agreed that teaching spaces were well-designed for digital technologies. Priorities for students, in addition to access to reliable wifi, included adequate access to reliable, up-to-date computers, devices and printers (in classrooms, lecture halls, computer labs, libraries, etc.) and access to adequate power and seating to support learning and wellbeing. Staff who teach described a variety of ways that teaching spaces could better support their use of digital technologies for teaching, mostly by facilitating seamless use of devices and technologies across different teaching spaces. As infrastructure and needs vary across institutions and discipline areas, it will be important to explore the specific needs of students and staff within each institution.

Online teaching and learning

Until the recent sudden shift to remote/online learning, teaching and learning in a live online environment was largely considered the purview of those who taught or were enrolled in online programmes, or those who support them. At the time of the INDEx Survey, 70% of staff who teach had never taught in a live online environment; looking at the benchmarking data, this compares with 74% in the UK. This proportion will have changed dramatically since March 2020. Many who had never taught or learned online now have done so and understanding their experiences and how their attitudes and expectations with regard

to online teaching and learning have been affected will be essential in order to make sure that the evidence of the INDEx Survey and of recent experience both inform future decision-making.

Supporting the needs of all students

One in ten students reported that assistive technologies were vital to meet their learning needs. Students' largely positive assessments re digital teaching and learning were consistent across almost all cohorts of students. Some differences in engagement and attitudes were evident, however, and these may point to differing needs that can be taken into account in ensuring equitable provision and support for all students. For example, full-time students were more likely to want digital technology to be used more for learning; postgraduate students were more likely to have created an e-portfolio; online students were less likely to access the VLE on a mobile device; mature students were more likely to use assistive technologies; and international students were more likely to regularly work online with others as part of their course. In addition, students in their institution for less than one year were more likely to have used polling/quizzing, to have had opportunities to update their digital skills, and to be involved in digital decision-making.

Digital workplace readiness

The importance of digital skills and digital competence for higher education students is widely acknowledged, but INDEx findings shed further light on this. Three-quarters of all students agreed that digital skills are important for their chosen career; while there were some disciplinary differences, a majority of students in all discipline areas agreed. In contrast with this perceived need, however, fewer than half of all students believed that their course prepared them for the digital workplace. Detailed analysis and discussion of INDEx data within institutions, and within specific disciplines/departments, will be helpful in designing, adapting and implementing initiatives to address these gaps. Examples of findings that relate to workplace readiness and may be worth interrogating at institutional and programme level are the degree to which students collaborate online, produce work in digital formats other than Word/PowerPoint, or feel that the software used on their course is industry standard and up-to-date.

Importance of professional identity to staff engagement, experiences and expectations

The INDEx Survey definition of staff who teach was 'all staff who teach and all who support teaching and learning'. Staff respondents encompassed a range of roles including, for example, lecturer, academic dean, education developer, instructional designer, learning technologist, library staff, manager, technician and tutor. The findings indicate that professional identity may be relevant to engagement, experiences and expectations related to digital technologies, with responses varying somewhat across roles. For example, findings indicate that: lecturers are close to the overall average for all staff who teach in practices such as use of polling/quizzing, creating learning materials using digital media, and teaching live online; librarians and managers are most likely to have time to innovate; learning technologists and deans are most likely to have an opportunity to be involved in decisions about digital services; and managers are most likely to be informed about their responsibilities re students' online safety.

Digital policies

Underpinning digital capabilities and pedagogical practices are the digital strategies, environment, culture and policies within each institution. It is these organisational digital capabilities that motivate, enable and support the individual digital capabilities and digital practices of students and staff. While each institution may have a range of policies in place regarding digital teaching and learning, many students and staff indicated that they were unaware of these policies or the related guidelines. Only half of all students said their institution protected their data privacy and just over a quarter said they were informed about how their personal data was stored and used, while half of staff respondents said they were informed about their responsibilities with regard to managing learner data securely. Four in ten students said their institution helped them to stay safe online, while fewer than two in ten staff said they were informed about their responsibilities with respect to ensuring students' online safety. Additional findings indicate further areas where awareness of existing policy-related guidelines was low, e.g., use of assistive technologies, copyright and licensing. These findings indicate a need to increase student and staff awareness of and engagement with policy development and implementation.

Digital decision-making

INDEx findings show that almost one-third of students and nearly half of all staff who teach reported they did not have the opportunity to be involved in decisions about digital services at their institution. It is not possible to ascertain from this data if this is because respondents did not have such opportunities or were unaware of the opportunities available to them. However, in their responses regarding how their institution could better support their use of technology for teaching, several staff requested that institutions consult with staff when making decisions about new technology, tools and platforms. Reflection on these student and staff findings from an institutional perspective may help individual institutions to enhance communications and engagement with respect to current and future digital decisions. Engaging and partnering with students and staff can ensure that digital strategies, policies and initiatives will complement and support the diverse needs of students and staff across the institution.

Differences across institution types

In the main, INDEx findings were largely similar across all institution types, although there were some differences. For example, students at THEIs were most likely to agree that their course prepared them for the digital workplace; staff at THEIs were most likely to have taught live online. Students at universities gave the highest ratings for their institution's overall digital provision; university staff were most likely to have access to lecture capture. Students at private colleges had the highest access to recorded lectures and staff who teach at private colleges were most likely to be involved in digital decisions. At other institutions, students and staff were most likely to say they had access to reliable wifi and students reported the highest access to digital resources.

Differences between countries

The INDEx dataset is benchmarked with three national datasets available to us via published findings from similar digital experience surveys conducted in the UK (for both students and teaching staff) and Australia and New Zealand (for students only). Overall, the generally similar expectations and experiences in the four countries highlight the structural and cultural similarities across these higher education sectors. Differences were observed in a few areas. For example, compared with students in the UK, Australia and

New Zealand, students in Ireland were more likely to access the VLE on a mobile device and less likely to have access to recorded lectures. Students in Australia and New Zealand were more likely to have created a digital record or portfolio of their learning than students in the UK or Ireland. Compared with staff who teach in the UK, staff who teach in Ireland were more likely to use the VLE for student collaboration and have regular opportunities to develop their digital skills, but only half as likely to have access to lecture capture.

A unique characteristic of the INDEx Survey was its combined focus, nationally, on both students and staff who teach. Across the findings, the multiple interdependencies between students and staff who teach were evident, most notably with respect to digital capabilities. Students and staff often make assumptions about one another's digital capabilities, for example, students relying primarily on lecturers for support in using technology for learning, and staff assuming that students are aware of and know how to use (and make the most of) various digital tools. Critically, the digital capabilities of staff who teach enable them to use digital technologies to enhance pedagogic practice as well as to support learners to actively develop their own digital capabilities. Developing the digital capabilities of students and staff must be viewed as an interdependent endeavour, informed by the evidence of research and practice and supported by knowledgeable decision-making regarding institutional supports and provisions.

Concluding Remarks

Across all countries and contexts, higher education institutions are confronted with the question of how to adapt and shape higher education in an increasingly digital, networked world. At a time of unprecedented global challenge, the importance of confident, supported engagement with digital technology has become clear. The aim of the INDEx Survey was to highlight what makes a difference to students and staff who teach in Irish higher education, providing an evidence base to inform decision-making and future enhancement of digital teaching and learning. The INDEx findings provide a comprehensive and nuanced understanding of the digital engagement, experiences and expectations of students and staff who teach, and are an important benchmark for our sector.

Looking back to see a way forward...

In looking to the future, where uncertainty is inevitable, understanding where you have been will guide choices of where you go next. The Roadmap for Enhancement in a Digital World, developed collaboratively by the sector during the first two years of the National Forum, provided a sense of direction with respect to the enhancement of digital teaching and learning in Irish higher education. The shared vision for building digital capacity that emerged from the Roadmap[49] remains salient. It led to the establishment and implementation of the INDEx Survey and will be an important touchstone as we continue to interrogate the survey findings and look to the future.

Vision Endorsed by the Sector in 2015

The Irish higher education sector will be characterised by providing a higher education learning experience and environment in which:

- There is a culture that fully embraces digital learning and digital innovation and its contribution to realising transformative goals articulated in the National Strategy for Higher Education to 2030
- Digital platforms, resources and tools are utilised to enhance teaching, learning and assessment, to connect teachers and students, and to increase the level and quality of learning-related communication
- Digital literacy and digital skills for teaching and learning are developed, supported and fully embedded
- Students will have access to a range of technological supports and resources to enhance their learning in a manner that enables them to become lifelong learners in the digital world
- Teachers will be fully enabled to use digital technologies/resources where appropriate, in order to enhance student learning within their disciplines

49 National Forum (2015) Teaching and Learning in Irish Higher Education: A Roadmap for Enhancement in a Digital World 2015-2017, p. vi https://www.teachingandlearning.ie/publication/teaching-and-learning-in-irish-higher-education-a-roadmap-for-enhancement-in-a-digital-world-2015-2017/

- Institutions collaborate with each other, and with the schools and further education sectors in order to build digital capacity for teaching and learning, with students as key partners in the process
- Institutions collaborate effectively at the international level in both research and practice relating to technology-enhanced learning, for example through the Erasmus+ and Horizon 2020 initiatives, enabling Irish higher education institutions to partner in a global landscape, building connections and developing a reputation internationally for innovation, digital fluency and cooperation

Building on a solid foundation...

Overall, the INDEx Survey stands as an important benchmark for Irish higher education, recorded at a key moment in time. Ireland is the only country with national data representative of all students and staff who subsequently experienced the sudden shift to online teaching and learning resulting from the COVID-19 pandemic. The data reflect a sector in which digital technology was considered valuable for learning, and both students and staff who teach were eager for more use of digital technology and additional support to develop their digital skills. The potential, both latent and manifest, which allowed the higher education community to move to teaching and learning online and to transfer, re-purpose and re-imagine existing knowledge and experience reflects the significant Government investment in teaching and learning over the past several years and the sustained efforts of institutions and all those who support staff and students.

A recent overview of developments in building digital capacity and capabilities across the sector in the years since the establishment of the National Forum provides a comprehensive picture of the significant advances that have resulted from the extensive investment of the time and energy of students and staff, as well as public finances[50]. Similarly, a review of the impact of large-scale collaborative projects conducted by teams of staff and students across the sector since 2014 revealed that staff confidence in engaging with digital technology had been enhanced and a more sophisticated understanding of the application of digital technology to teaching and learning had emerged[51]. Work ongoing on a number of projects funded recently by the National Forum and other projects funded under the HEA's 2018 Innovation and Transformation Fund[52] also did much to underpin Ireland's robust response to the unexpected move to online learning.

INDEx findings reinforce the importance of existing resources, tools and frameworks for developing student and staff digital skills, literacies and competences. Projects funded through the first three rounds of the National Forum's Teaching and Learning Enhancement Fund resulted in the development of 19 digital platforms/tools for enhanced teaching and learning and over 600 other resources, many of which are now embedded in programmes and VLEs across the sector. The National Digital Skills Framework[53] and the digital domain of the National Professional Development Framework[54] provide the impetus and

50 National Forum (2018) Building Digital Capacity in Higher Education 2013-2018 https://www.teachingandlearning.ie/publication/building-digital-capacity-in-irish-higher-education-2013-18-national-developments-and-key-perspectives/

51 National Forum (2020) Learning about Impact and Looking to the Future: Teaching and Learning Enhancement Fund Projects 2014-18 https://www.teachingandlearning.ie/publication/learning-about-impact-and-looking-to-the-future-teaching-and-learning-enhancement-fund-projects-2014-18/

52 Examples include the Irish Universities Association 'Enhancing Digital Teaching and Learning' project (IUADigED) https://www.iua.ie/ourwork/learning-teaching/digital-learning/ and the Connaught Ulster Alliance 'Innovative Opportunities Transforming Education' project (iNOTE) https://digitaled.ie/

53 All Aboard Digital Skills Framework https://www.teachingandlearning.ie/our-priorities/digital-transformation/national-digital-skills-framework/

54 National Professional Development Framework for all Staff Who Teach in Higher Education https://www.teachingandlearning.ie/publication/national-professional-development-framework-for-all-staff-who-teach-in-higher-education/

structure for students and staff to continually interrogate their knowledge, skills and understandings related to digital technologies; these have been informed by the European DigComp and DigCompEdu frameworks that are also in use across Irish higher education institutions.

The experiences and perspectives of close to 30,000 students and staff now available through the INDEx findings add to extensive existing evidence from Irish higher education including overviews of the technological infrastructure, digital policies, institutional use of data, staff use of technology, the professional lives and work of learning technologists, use of open educational resources, and staff engagement with technology-enhanced assessment[55]. While many future enhancements to digital teaching and learning may require additional investment and resources, several INDEx findings highlight a foundational need also: to increase awareness and engagement so that existing potential can be leveraged. Sharing and discussing INDEx findings with students and staff in the first instance will be useful in building collective understanding of the broad spectrum of digital experiences within each institution. Students may find value in seeing their own experiences reflected in a larger context, perhaps realising that some of their needs and concerns are shared. Staff who teach may find value in exploring the digital experiences and expectations of students, and considering how these relate to the students whom they teach. Teaching and learning staff may find value in exploring the digital experiences of students and staff, both institutionally and nationally, as part of their ongoing work to engage with and address these needs. And senior leaders and decision-makers can review INDEx findings to deepen their awareness of the digital experiences and needs of students and staff who teach – vital information for prioritising resources and leading change.

Building the future together...

Key strengths of the INDEx Survey include its breadth in terms of the range and diversity of students and staff who participated, its reach across the sector, its consideration of digital capabilities in different domains, both individual and institutional, and its enabling of national and international benchmarking. INDEx findings reflect a higher education community that has progressed significantly with respect to engagement with digital technologies since the Digital Roadmap was first developed. None of this would have been possible without the foundations that had been laid for effective community and collaborative working, including willingness to collaborate, experience of collaborative project management and implementation, the availability of the infrastructure for collaboration, and commitment to collaboration. From initial contact with registrars and policy partners to the convening of a national steering group, through all steps involved in collectively mobilising students and staff to encourage participation in the survey among their colleagues and peers, collaboration was crucial.

There is work to be done at every level of higher education in raising awareness of, and engagement with, existing provision and supports and in addressing identified gaps. The sense of shared purpose and cross-cutting ambition that underpinned the INDEx Survey will now need to carry through to the realisation of the potential of its findings. A rich picture of the needs and priorities of students and staff who teach with respect to the digital dimension of their lives in education is available to us. It supplements existing evidence and comes at a time when the potential and the commitment of the sector to work together for the good of all students has never been more evident. We need to determine, together, how we can channel this energy and leverage existing potential to identify specific areas where focused effort may accomplish relevant, specific, positive outcomes for all students and staff.

55 See www.teachingandlearning.ie/publications

With much of the Digital Roadmap purposefully navigated, and this new evidence base of the digital engagement, experiences and expectations of students and staff now available, Irish higher education is primed to consider a re-articulated vision for digital teaching and learning. We can move from the original Digital Roadmap to a mapping of enhanced pathways to student success underpinned by robust digital infrastructures, policies and pedagogical approaches. Collaboration, responsiveness and adaptability to institutional contexts will be prioritised as we re-articulate a national vision for digital teaching and learning[56]. This will require openness at institutional and system levels, meaningful partnership between students and staff, and structures that enable ongoing communication and problem-solving, at local and national levels, as the digital terrain continues to evolve.

Since the closure of all higher education institutions in March 2020, staff and students across the sector have made enormous efforts to continue teaching and learning remotely and online. This has been accomplished in the context of a continuing global health crisis and myriad individual and family challenges. While the exact contours of our future are not yet known, capable and critical engagement with digital technology remains central to our mission in higher education. Now particularly, we recognise that 'digital' does not only relate to those with 'digital' in their titles and is not just an individual endeavour. Student-staff partnership and equitable, holistic approaches will help us to move towards becoming truly digitally capable institutions and a digitally capable sector – helping students and staff to thrive as they live, learn and work in a rapidly changing and increasingly digital world: building our future together.

56 National Forum Strategy 2019-21 https://www.teachingandlearning.ie/publication/strategy-2019-2021-leading-enhancement-and-innovation-in-teaching-and-learning/

Actionable Next Steps

At system level

- Support gathering and dissemination of lessons learned following COVID-19. The unique national evidence base now available through the INDEx findings should be combined with the evidence of the experience of learners, teachers and leaders who have gained new perspectives, considered new approaches and shifted thinking with regard to teaching and learning in recent months. There is a need for a targeted national response to support the teaching and learning needs of institutions as they recover from the unforeseen effects of this crisis.
- Ensure that INDEx findings inform developments emanating from other related national work in the area of higher education, such as the development of the Digital Transformation Framework, the realisation of the potential of the Innovation and Transformation Fund and the Human Capital Initiative, and actions related to digital transformation and digital connectivity arising from the Charter for Irish Universities[57] and the recent report of the Technological Universities Research Network[58].
- Ensure INDEx findings inform the work of other relevant sectors of Government so that related infrastructure and shared services availed of by institutions, and their students and staff, can be optimised. The roll-out of the National Broadband Plan, for example, may impact on wifi in higher education institutions in the longer term.
- View INDEx findings in the context of other national reviews and datasets, such as previous National Forum reviews of digital policies and infrastructure and relevant aspects of the annual StudentSurvey.ie findings, to ensure a broad evidence base is drawn upon in national decision-making.
- Consider differences, or notable findings, within the comparative institutional data and what these may mean for equitable provision and supports at system level, to ensure the success of all higher education students across Ireland.
- Consider international INDEx Survey benchmark findings and engage in open dialogue with key policy and system representatives in benchmark countries to ensure a sharing of valuable lessons and practices across borders.
- Ensure that performance frameworks, and national decision-making processes take cognisance of INDEx findings and serve to support institutions in carrying out the institutional steps listed below.

57 See here: https://www.iua.ie/wp-content/uploads/2019/08/IUA_Charter_2018_v16.pdf

58 See here: https://www.education.ie/en/Publications/Education-Reports/connectedness-collaboration-through-connectivity.pdf

At institutional level

- Interrogate further, differences in engagement, experiences and expectations of different student cohorts and what these mean for ensuring equitable provision and support for all. Through all digital decisions – infrastructure, learning design, teaching, policies, etc. – it is vital to seek to understand equity and inclusivity needs and how these can be addressed.
- Ensure dedicated time, and recognition/reward, to support staff who teach as they engage in formal and informal professional development related to the digital aspects of their roles. This action will come to the fore in determining workload models and criteria for staff promotions.
- In addition to considering the national findings from open-ended questions, explore institutional open-ended responses regarding suggestions from staff and students to inform optimal engagement with digital technology in teaching and learning. Existing processes and structures for staff-student partnerships, such as the National Student Engagement Programme[59], may be useful in supporting constructive conversations on INDEx findings at institutional level.
- Ensure senior leaders and decision makers demonstrate and communicate, through their actions and decisions, their awareness of INDEx findings and the importance of a sustained, integrated approach to building digital capabilities for students, staff and the institution as a whole.
- Encourage, enable and capture systematic reflection from students, staff and decision makers about the recent rapid shift to remote/online teaching and learning. Such data gathering will honour the efforts in this space and will ensure that future decision-making can be based on both evidence from the INDEx Survey and evidence from experience.
- Consider the efficacy of institutional communication and engagement strategies in ensuring awareness among staff and students of existing opportunities, resources, policies and supports with respect to digital with a view to maximising the potential of current provision. Compare current provision with awareness of provision in the INDEx findings to inform targeted adjustments to such strategies.
- Take cognisance of INDEx findings within quality assurance and enhancement processes. The findings may be especially informative for quality review conversations and associated reporting.
- Continue to strive towards maximal wifi reliability and access for all in the institutional community and continue to examine and respond to the needs of students in respect of access to digital devices to support their learning.
- Consider the detailed data with regard to how and why students and staff access the institutional VLE and how the potential of the VLE can be maximised for student learning in light of the analysis of findings.
- Explore the digital tools and activities valued by students and staff who teach and consider how related supports and provision can be enhanced within the institution. Also, explore further within the institutional community why such tools and activities are valued so that this knowledge can inform further enhancements.
- Further interrogate differences in engagement, experiences and expectations among staff who teach in different roles and consider and discuss what differences in findings between roles within the institution may indicate with regard to communications, structures, approaches and priorities around digital.
- Develop/review/update policies to support digital teaching and learning. Important policy areas include: lecture recording, student data management and protection, use of assistive technologies, open access and open education, students' online safety, and student and staff digital wellbeing. Policy review and development should emerge from open, active and widespread consultation across the institution and student/staff partnership. Consider also how institutional digital strategies, policies and initiatives fit within, and can be integrated into, broader teaching, learning and other policies and strategies.

59 See www.studentengagement.ie

Appendices

Appendix 1. Report authors and sectoral partnership

Report authors

Report compiled by Catherine Cronin and Katherine McBride, in collaboration with the National Forum team

Sectoral partnership

As the national body responsible for leading and advising on the enhancement of teaching and learning in Irish higher education, the National Forum was uniquely placed to initiate and coordinate the INDEx Survey. The National Forum has always worked closely with those who teach, learn and shape policy and practice across Irish higher education. The INDEx Survey builds on a body of work that has been coordinated and led by the National Forum in the areas of digital education, technology enhanced learning and building digital capacity[60]. The National Forum consulted with its Board and with National Forum Associates as well as with the following key stakeholders in order to undertake the INDEx Survey:

- The INDEx Steering Group of staff and students, including institutional leads from each participating institution, worked with the National Forum to agree survey objectives, questions and procedures and to coordinate promotion, analysis and communication of findings.
- Student partnership was central to the INDEx Survey from its inception. Collaboration with the Union of Students of Ireland (USI), institutional students' unions and other student representatives, and the National Forum's Student Associate Interns was vital in encouraging engagement with the survey. This collaboration will continue in order to effectively communicate and respond to INDEx findings at institutional and national levels.
- The Digital Education Advisory Group worked closely with the National Forum from the idea through analysis phases of the INDEx Survey to provide valuable feedback and insights, particularly in providing context regarding digital and higher education issues and key considerations.
- The Higher Education Authority and the Department of Education and Skills endorsed and supported this national initiative.
- Countless individuals across all 32 institutions participated in the INDEx Survey by completing the survey and/or encouraging engagement by others. Our sincere thanks to all who helped to make the survey a success at their institutions, including registrars, human resources departments, staff in teaching and learning centres, and of course, students and staff who teach.
- Dara Ryder and his team from AHEAD provided expert advice and assistance in analysing INDEx results with respect to use of assistive technologies by students and staff who teach.

60 See National Forum (2018) Building Digital Capacity in Irish Higher Education 2013-18 https://www.teachingandlearning.ie/publication/building-digital-capacity-in-irish-higher-education-2013-18-national-developments-and-key-perspectives/

- Organisers of Ireland's annual student survey, StudentSurvey.ie, were helpful in sharing their national survey experience. The findings of StudentSurvey.ie and the INDEx Student Survey are complementary; institutions can consider these findings together in order to obtain a rich picture of students' overall engagement and digital experience.
- We kindly acknowledge the support of the steering groups of the Enhancing Digital Teaching and Learning (IUADigEd) and Innovative Opportunities Transforming Education (iNOTE) projects, both funded through the HEA Innovation and Transformation Fund, as well as the Digital Experience Insights team at Jisc, and Helen Beetham, during the survey and analysis periods.

Appendix 2. Participating institutions

UNIVERSITIES

Dublin City University
Maynooth University
National University of Ireland Galway
Trinity College Dublin
University College Cork
University College Dublin
University of Limerick

TECHNOLOGICAL HIGHER EDUCATION INSTITUTIONS

Athlone Institute of Technology
Cork Institute of Technology
Dundalk Institute of Technology
Galway-Mayo Institute of Technology
Institute of Art, Design and Technology
Institute of Technology Carlow
Institute of Technology Sligo
Institute of Technology Tralee
Letterkenny Institute of Technology
Limerick Institute of Technology
Technological University Dublin
Waterford Institute of Technology

OTHER INSTITUTIONS

Marino Institute of Education
Mary Immaculate College, Limerick
National College of Art and Design
Royal College of Surgeons in Ireland
St. Angela's College, Sligo

PRIVATE COLLEGES

Carlow College, St. Patrick's
CCT College
Dublin Business School
Griffith College
Hibernia College
Irish College of Humanities and Applied Sciences
National College of Ireland
St. Nicholas Montessori Society of Ireland

Appendix 3. Thematic coding framework

	INDEx Student Survey questions	INDEx Staff Survey questions
Demographics		
Demographics	2. Years at institution 3. Level of course 4. Part-time/full-time 4.1 Mode of study 4.2 Mature 4.3 International 5. Discipline 6. Age 7. Gender	2. Years in teaching role 3. Years at institution 4. Role 5. Discipline 6. Gender
Theme One. Digital Teaching and Learning Practices		
1.1 Digital learning activities and tools	12.1-5 Using digital tools for learning 12.a Examples of useful digital tools/apps 17.1 Find info online (on course) 17.a Example of useful digital activity (on course)	17.1 Search online for digital resources 17.3 Read re: developments in digital education 17.4 Develop digital teaching skills (formal/informal) 17.a Example of useful digital tools/apps
1.2 Online interaction and online teaching	17.2 Work with others online (on course) 17.3 Use edu game/simulation (on course) 17.4 Use polling/online quiz (on course)	15.1 Carry out polling/online quizzes (in class) 15.2 Teach live online 17.2 Discuss teaching with peers online
1.3 Online assessment and feedback	19.1 Online assessments delivered/managed well	13.5 Online marking/feedback system is easy to use 15.4 Give personalised feedback on digital system
1.4 Creating digital media	17.5. Create digital portfolio of learning (on course) 17.6 Produce digital media (on course)	15.3 Create learning materials as digital media
1.5 Using the VLE	18.1 Easily find things on VLE 18.2 Rely on VLE for learning 18.3 Access VLE on mobile device 18.4 Would like VLE to be used more	12.1 Rely on VLE for teaching 12.3 Regularly use VLE for student collaboration 12.5 Access VLE on mobile device 12.2 Easy to design/organise course on VLE 12.4 VLE encourages me to try different activities
Theme Two. Digital Infrastructure		
2.1 Basics of digital infrastructure	13.1 Access to reliable wifi 19.2 Teaching spaces well designed for tech	11.1 Access to reliable wifi 13.2 Teaching spaces well designed for tech
2.2 Access to digital resources	13.2-5 Access to digital resources	11.2-5, 11.7 Access to digital resources 13.1 AV equipment reliable & easy to use 13.4 Digital media production facilities available
2.3 Students' own devices	11. Devices used for learning 14.1 Students supported to use own devices	
2.4 Assistive technologies	8. Use assistive tech for learning 9. Assistive tech use supported/enabled 10. Examples of useful assistive tech/apps	7. Use assistive tech 8. Assistive tech use supported/enabled 19.3 Staff informed re: assistive tech responsibilities

	INDEx Student Survey questions	INDEx Staff Survey questions
Theme Three. Digital Skills Development and Support		
3.1 Guidance re: digital skills needed	20.1 Students informed re: digital skills needed	18.1 Staff receive guidance re: digital skills needed
3.2 Digital skills development	13.6 Access to internet-based skills training 20.2 Regular opportunities to develop digital skills	11.6 Access to internet-based skills training 18.2 Regular opportunities to develop digital skills 18.3 Staff have time/support to innovate 18.4 Staff rewarded for digital development
3.3 Digital workplace readiness	19.3 Software is industry standard & up-to-date 20.3 Digital skills important for career 20.4 Course prepares students for workplace	13.3 Software is industry standard & up-to-date
3.4 Sources of support	15. Sources of support for digital tech for learning	10. Sources of support for digital tech for teaching
Theme Four. Digital Environment and Culture		
4.1 Student wellbeing and student data protection	14.2 Student can access health/wellbeing services online 14.3 Students can participate in SU activities online 14.4 Online safety assurance for students 14.5 Student data privacy protection 19.4 Students informed re: personal data use	
4.2 Staff information re: digital responsibilities		19.1 Staff informed re: learner data responsibilities 19.2 Staff informed re: copyright & licensing 19.4 Staff informed re: online safety responsibilities 19.5 Staff informed re: own health/wellbeing
4.3 Student and staff roles in digital decision-making	20.5 Students involved in digital decisions	18.5 Staff involved in digital decisions
Theme Five. Attitudes to Digital		
5.1 Attitudes to use of digital technologies	24. Student attitudes to digital used for learning 28. Students would like digital tech in learning	9. Approach to adopting new tech 16. Staff attitude re: use of digital tech in teaching
5.2 Student preferences re: digital resources and learning	23. Identifying useful digital learning resources 25. Students preference re: ind/group learning 26. Students preference re: digital device/ computers 27. Students preference re: mobile device use	
5.3 Student and staff assessment of digital at institution	16. Student rating re: digital at institution 21. Student rating re: digital T+L on course 22. What should institution do to improve digital T+L	14. Staff rating re: digital at institution 20. Staff rating re: digital support from institution 17.1 Example of useful digital tools/apps

Appendix 4. Definitions used in the INDEx Report

Term	Definition
BLENDED LEARNING	Defined within the INDEx Survey as "integration of classroom face-to-face learning experiences with online learning experiences"
DISCIPLINE AREA	In most cases the INDEx Report uses the same terminology as used in StudentSurvey.ie. However, where the Student Survey uses 'field of study' the INDEx Report uses 'discipline area', enabling us to use the same term for both students and staff who teach. We have used the same groupings for discipline areas as for field of study, i.e., European ISCED codes[61]
INTERNATIONAL STUDENT	Defined within the INDEx Survey: "you are considered to be an international student if you are not an Irish citizen but you are lawfully in the State primarily to receive education and training"
MATURE STUDENT	Defined within the INDEx Survey: "you are considered to be a mature student if you are at least 23 years of age on January 1 of the year you enter your course"
STAFF WHO TEACH	The INDEx Survey was open to all who teach and all who support teaching and learning in Irish higher education, e.g., lecturers, tutors, librarians, educational developers, learning technologists, instructional designers, academic deans, etc.
STUDENT	The INDEx Survey was open to all students enrolled on taught programmes of study, both undergraduate and postgraduate in a higher education institution in Ireland, aged 18 and over

61 See here: https://ec.europa.eu/education/international-standard-classification-of-education-isced_en

Appendix 5. Student Survey: Summary results

	National	Universities	THEIs	Other Institutions	Private Colleges	UK	AUS/NZ
2. How many years have you studied at this institution?							
Less than 1 year	48%	50%	43%	52%	58%	46%	
1 to 2 years	21%	20%	22%	19%	24%	25%	
2 to 3 years	16%	14%	19%	14%	12%	18%	
More than 3 years	15%	16%	16%	15%	6%	11%	
3. What level is the course you're studying?							
Access/prep/foundation course	1%	1%	1%	2%	2%	4%	
Undergraduate	80%	77%	91%	84%	56%	72%	
Postgraduate taught	19%	23%	9%	14%	42%	23%	
4. Are you studying full or part-time?							
Full-time	86%	91%	87%	83%	66%		
Part-time	14%	9%	13%	17%	34%		
4.a What is your mode of studying?							
On-campus	71%	74%	73%	60%	60%		
Blended	25%	23%	22%	38%	36%		
Online	4%	3%	5%	1%	4%		
4.b. Are you a mature student?							
Yes	32%	25%	30%	28%	69%		
No	68%	75%	70%	72%	31%		
4.c. Are you an international student?							
Yes	19%	18%	13%	21%	36%		
No	81%	82%	87%	79%	64%		
5. In what area is your programme of study?							
Agriculture, Fisheries and Veterinary	2%	2%	2%	0%	0%		
Arts, Humanities and Languages	16%	22%	11%	14%	7%		
Business, Administration and Law	20%	18%	21%	0%	31%		
Computing, ICT	12%	7%	16%	0%	26%		
Education	8%	5%	3%	45%	20%		
Engineering, Manufacturing, Architecture and Construction	10%	9%	14%	0%	1%		
Health	11%	13%	9%	35%	1%		
Natural Sciences and Mathematics	10%	15%	9%	0%	0%		
Other	4%	2%	5%	5%	6%		
Service	2%	0%	5%	0%	0%		
Social and Behavioural Sciences	6%	7%	4%	1%	6%		
6. How old are you?							
18	14%	18%	13%	18%	3%	11%	
19 to 21	41%	44%	44%	44%	17%	46%	
22 to 24	16%	16%	16%	12%	21%	17%	
25 to 29	10%	8%	8%	7%	24%	10%	
30 plus	18%	13%	19%	20%	36%	16%	

	National	Universities	THEIs	Other Institutions	Private Colleges	UK	AUS/NZ
7. What gender do you identify as?							
Female	59%	64%	53%	77%	56%	63%	64%
Male	40%	35%	46%	22%	43%	36%	35%
Other	1%	1%	1%	1%	1%	1%	1%
8. Do you use any assistive technologies to meet your learning needs?							
Yes, vital to meet my learning needs	9%	7%	9%	7%	13%	10%	6%
Yes, optional choice	9%	9%	9%	9%	10%	9%	9%
No	82%	84%	82%	84%	77%	81%	85%
9. If YES, has your institution provided you with any support with assistive technologies?							
Yes	70%	68%	68%	75%	75%	67%	
No	30%	32%	32%	25%	25%	33%	
10. Please give an example of any assistive technologies, apps or adaptations that you've found useful. (see Qualitative Qs)							
11. Which of these personally-owned devices do you use to support your learning? (Tick all that apply)							
Laptop computer	92%	95%	88%	91%	95%	93%	
Smartphone	82%	86%	80%	84%	77%	86%	
Printer	50%	51%	49%	64%	47%	52%	
Desktop computer	26%	20%	34%	17%	25%	28%	
Tablet/iPad	22%	21%	21%	27%	25%	33%	
None of the above	1%	0%	1%	0%	0%	0%	
12. In your own learning time, how often do you use digital tools or apps to...							
12.1 Manage links or references							
Weekly or more	63%	63%	62%	62%	70%	64%	70%
Monthly or less	25%	25%	26%	27%	21%	26%	23%
Never	12%	12%	12%	11%	8%	10%	6%
12.2 Organise your study time							
Weekly or more	48%	49%	44%	45%	56%	52%	54%
Monthly or less	26%	24%	29%	26%	23%	25%	24%
Never	27%	27%	27%	30%	22%	23%	22%
12.3 Make notes or recordings							
Weekly or more	66%	67%	63%	68%	68%	69%	68%
Monthly or less	21%	20%	23%	18%	20%	19%	20%
Never	14%	13%	14%	14%	12%	12%	12%
12.4 Look for additional resources not recommended by your lecturer							
Weekly or more	67%	71%	62%	71%	72%	72%	72%
Monthly or less	25%	23%	29%	23%	22%	23%	25%
Never	7%	6%	9%	6%	6%	5%	4%
12.5 Access lecture notes or recorded lectures							
Weekly or more	89%	91%	87%	92%	87%	85%	84%
Monthly or less	8%	6%	10%	6%	10%	11%	12%
Never	3%	2%	3%	2%	3%	4%	4%
12.a Please give an example of a digital tool or app you find really useful for learning: (see Qualitative Qs)							
13. Which of these do you have access to at your institution whenever you need them? (Tick all that apply)							
Online course materials	84%	88%	80%	99%	82%	89%	90%
Reliable WiFi	77%	83%	71%	85%	72%	82%	84%
e-books and e-journals	65%	70%	58%	86%	65%	79%	78%
File storage and back-up	44%	42%	50%	40%	29%	44%	40%
Recorded lectures	25%	24%	20%	29%	42%	49%	

	National	Universities	THEIs	Other Institutions	Private Colleges	UK	AUS/NZ
Internet-based skills training	24%	24%	22%	29%	26%	16%	
None of the above	2%	1%	3%	1%	1%	1%	
14. How much do you agree with the following statements?							
14.1 This institution supports me to use my own digital devices							
Agree	73%	77%	66%	73%	76%	70%	80%
Neutral	24%	21%	29%	24%	21%	26%	18%
Disagree	4%	3%	5%	4%	3%	4%	2%
14.2 I can access institution health and wellbeing services online							
Agree	47%	50%	45%	46%	45%	52%	57%
Neutral	42%	40%	43%	39%	44%	40%	38%
Disagree	11%	10%	12%	15%	11%	7%	5%
14.3 I can participate in student union / club / society activities online							
Agree	37%	38%	35%	41%	35%	41%	46%
Neutral	43%	43%	44%	36%	43%	45%	45%
Disagree	21%	19%	21%	23%	22%	13%	9%
14.4 This institution helps me stay safe online							
Agree	40%	38%	41%	41%	43%	43%	48%
Neutral	49%	51%	48%	47%	46%	49%	47%
Disagree	11%	12%	11%	12%	11%	8%	6%
14.5 This institution protects my data privacy							
Agree	52%	47%	56%	57%	57%	54%	50%
Neutral	44%	48%	40%	39%	40%	43%	47%
Disagree	4%	5%	4%	4%	3%	3%	3%
15. Who supports you most to use digital technology in your learning?							
Friends and family	9%	8%	9%	9%	9%	9%	13%
Lecturers on my course	42%	38%	47%	40%	40%	37%	7%
Online videos and resources	20%	22%	17%	20%	24%	23%	40%
Other students	26%	27%	25%	27%	23%	26%	31%
Other support staff	3%	3%	3%	4%	5%	5%	9%
16. Overall, how would you rate the quality of this institution's digital provision (software, hardware, learning environment)?							
Best imaginable	4%	3%	4%	5%	4%	3%	4%
Excellent	32%	34%	29%	32%	32%	38%	43%
Good	44%	45%	43%	41%	43%	45%	43%
Average	15%	13%	17%	16%	15%	11%	9%
Awful	1%	1%	1%	1%	1%	2%	1%
Poor	4%	3%	6%	4%	4%	1%	0%
Worst imaginable	0%	0%	1%	1%	0%	0%	0%
17. As part of your course, how often do you...							
17.1 Find information online							
Weekly or more	93%	95%	91%	94%	94%	94%	96%
Monthly or less	6%	5%	9%	5%	6%	5%	4%
Never	1%	0%	1%	1%	0%	1%	0%
17.2 Work online with others							
Weekly or more	38%	36%	39%	30%	46%	31%	50%
Monthly or less	40%	41%	39%	45%	36%	45%	39%
Never	22%	24%	22%	25%	18%	24%	11%
17.3 Use an educational game or simulation for learning							
Weekly or more	17%	15%	16%	19%	21%	14%	20%

	National	Universities	THEIs	Other Institutions	Private Colleges	UK	AUS/NZ
Monthly or less	31%	32%	31%	36%	31%	31%	38%
Never	52%	53%	53%	46%	48%	55%	42%
17.4 Use a polling device or online quiz to give answers in class							
Weekly or more	21%	24%	18%	22%	20%	17%	31%
Monthly or less	40%	41%	39%	47%	37%	45%	42%
Never	39%	35%	43%	31%	44%	38%	27%
17.5 Create a digital record / portfolio of your learning							
Weekly or more	25%	25%	26%	23%	26%	28%	34%
Monthly or less	33%	32%	34%	37%	35%	35%	36%
Never	41%	43%	40%	40%	39%	38%	31%
17.6 Produce work in digital formats other than Word/PowerPoint							
Weekly or more	40%	36%	45%	30%	39%	36%	41%
Monthly or less	31%	31%	31%	36%	32%	33%	36%
Never	29%	33%	24%	35%	29%	30%	23%
17.a Please give an example of a digital activity you have found really useful on your course: (see Qualitative Qs)							
18. How much do you agree with the following statements?							
18.1 I can easily find things on the VLE							
Agree	58%	61%	54%	63%	60%	57%	59%
Neutral	31%	29%	35%	27%	31%	31%	32%
Disagree	11%	10%	11%	11%	9%	11%	9%
18.2 I rely on it to do my coursework							
Agree	71%	76%	63%	79%	72%	72%	86%
Neutral	22%	18%	27%	16%	22%	21%	11%
Disagree	8%	6%	10%	6%	6%	6%	3%
18.3 I regularly access it on a mobile device							
Agree	64%	67%	61%	71%	59%	61%	53%
Neutral	22%	19%	25%	17%	25%	22%	25%
Disagree	14%	14%	14%	12%	15%	16%	22%
18.4 I would like it to be used more by my tutors/instructors							
Agree	48%	48%	48%	46%	45%	41%	47%
Neutral	43%	42%	43%	45%	46%	49%	46%
Disagree	9%	9%	9%	9%	9%	10%	7%
19. How much do you agree with the following statements?							
19.1 Online assessments are delivered and managed well							
Agree	56%	57%	55%	49%	56%	60%	63%
Neutral	36%	35%	37%	41%	36%	34%	32%
Disagree	8%	7%	8%	11%	9%	7%	6%
19.2 Teaching spaces are well designed for the technologies we use							
Agree	49%	49%	48%	52%	53%	51%	54%
Neutral	37%	37%	39%	33%	37%	36%	36%
Disagree	14%	14%	13%	14%	11%	13%	10%
19.3 The software used on my course is industry standard and up-to-date							
Agree	59%	60%	56%	64%	60%	60%	59%
Neutral	33%	32%	34%	29%	33%	33%	35%
Disagree	9%	8%	10%	7%	7%	7%	5%

	National	Universities	THEIs	Other Institutions	Private Colleges	UK	AUS/NZ
19.4 I am told how my personal data is stored and used							
Agree	30%	26%	33%	30%	35%	31%	24%
Neutral	38%	38%	38%	36%	41%	39%	38%
Disagree	32%	37%	29%	34%	24%	30%	38%
20. ...and how much do you agree that...							
20.1 Before I started my course I was told what digital skills I would need							
Agree	26%	21%	28%	23%	38%	29%	30%
Neutral	32%	30%	35%	30%	34%	35%	37%
Disagree	42%	49%	38%	47%	27%	36%	33%
20.2 I have regular opportunities to review and update my digital skills							
Agree	38%	35%	42%	33%	42%	37%	39%
Neutral	38%	38%	38%	36%	40%	39%	41%
Disagree	23%	28%	19%	31%	18%	24%	20%
20.3 Digital skills are important in my chosen career							
Agree	74%	71%	74%	75%	81%	70%	74%
Neutral	22%	24%	21%	21%	16%	25%	23%
Disagree	5%	5%	4%	4%	3%	5%	4%
20.4 My course prepares me for the digital workplace							
Agree	46%	39%	53%	42%	49%	42%	44%
Neutral	36%	39%	33%	39%	38%	39%	42%
Disagree	18%	22%	14%	19%	13%	19%	15%
20.5 Learners are given the chance to be involved in decisions about digital services							
Agree	27%	24%	31%	25%	32%	29%	30%
Neutral	43%	42%	45%	41%	41%	45%	46%
Disagree	30%	34%	25%	34%	27%	27%	24%
21. Overall, how would you rate the quality of digital teaching and learning on your course?							
Best imaginable	3%	3%	4%	3%	4%	3%	3%
Excellent	24%	23%	25%	25%	27%	27%	29%
Good	44%	44%	43%	46%	44%	45%	45%
Average	21%	22%	20%	19%	18%	19%	18%
Poor	6%	7%	6%	6%	5%	5%	4%
Awful	1%	1%	1%	1%	1%	1%	1%
Worst imaginable	0%	0%	0%	0%	1%	0%	0%
22. What one thing should the institution do/do better to improve your experience of digital teaching and learning? (see Qualitative Qs)							
23. Which of these would be most useful to you as a learner? More ...							
... course-related videos	20%	19%	20%	19%	25%	23%	
... interactive polls/quizzes in class	18%	17%	21%	14%	18%	15%	
... practice questions available online	41%	45%	38%	45%	32%	35%	
... references and readings	12%	12%	10%	15%	13%	20%	
... time working online with other students	9%	7%	11%	7%	13%	8%	
24. When digital technologies are used on my course...							
24.1 I understand things better							
Agree	70%	71%	70%	67%	71%	69%	63%
Neutral	27%	26%	27%	28%	27%	28%	34%
Disagree	3%	3%	3%	4%	2%	3%	4%

	National	Universities	THEIs	Other Institutions	Private Colleges	UK	AUS/NZ
24.2 I enjoy learning more							
Agree	69%	68%	70%	68%	70%	68%	61%
Neutral	28%	28%	27%	27%	27%	28%	34%
Disagree	4%	4%	3%	6%	3%	4%	5%
24.3 I am more independent in my learning							
Agree	77%	79%	74%	77%	77%	75%	78%
Neutral	20%	18%	23%	20%	20%	22%	19%
Disagree	3%	3%	3%	4%	2%	3%	3%
24.4 I can fit learning into my life more easily							
Agree	75%	76%	73%	74%	79%	76%	75%
Neutral	21%	20%	24%	20%	19%	21%	21%
Disagree	4%	4%	3%	5%	2%	3%	4%
25. Which best describes your preferences as a learner?							
I prefer to learn on my own	44%	48%	42%	46%	36%	43%	39%
I like a mix of individual and group work	52%	50%	53%	50%	59%	54%	58%
I prefer to learn in a group	4%	2%	5%	3%	5%	3%	3%
26. Which of these would be most useful to you?							
More computers in computer rooms	37%	36%	42%	29%	22%	43%	
More laptops/tablets available in class	36%	34%	36%	41%	44%	32%	
More laptops/tablets on long-term loan	27%	29%	22%	30%	34%	25%	
27. In class, would you prefer students to be allowed to use their own mobile devices:							
At any time	47%	48%	46%	42%	44%	48%	
Only to carry out class activities	48%	46%	49%	51%	48%	47%	
None of the time	6%	6%	5%	7%	8%	6%	
28. How much would you like digital technologies to be used on your course?							
More than they are now	48%	45%	53%	40%	45%	44%	31%
The same as they are now	49%	52%	45%	56%	52%	53%	63%
Less than they are now	3%	3%	2%	4%	3%	2%	6%

Full dataset available at: www.teachingandlearning.ie/index/fulldata-students

Appendix 6. Survey of Staff Who Teach: Summary results

	National	Universities	THEIs	Other Institutions	Private Colleges	UK Teaching
2. How long have you worked in a teaching role?						
Less than a year	6%	5%	7%	4%	6%	4%
1 to 3 years	11%	12%	10%	10%	13%	11%
4 to 9 years	19%	18%	18%	20%	24%	21%
Ten years or more	64%	65%	65%	66%	56%	63%
3. How long have you worked at this institution?						
Less than a year	8%	8%	8%	9%	12%	8%
1 to 3 years	16%	16%	13%	22%	25%	19%
4 to 9 years	23%	23%	20%	22%	35%	29%
Ten years or more	53%	53%	60%	46%	28%	44%
4. What best describes your role?						
Academic dean	2%	1%	1%	4%	2%	
Educational developer	1%	1%	1%	3%	2%	
Instructional designer	0%	1%	0%	0%	1%	
Learning technologist	1%	2%	1%	2%	2%	
Lecturer	71%	71%	78%	65%	49%	
Library staff	4%	4%	4%	4%	4%	
Manager	5%	4%	5%	7%	8%	
Other	6%	7%	5%	8%	7%	
Technician	3%	3%	4%	2%	1%	
Tutor	6%	6%	2%	5%	24%	
5. In what discipline or unit do you teach or support learning and teaching?						
Agriculture, Fisheries and Veterinary	1%	1%	2%	0%	0%	
Arts, Humanities and Languages	15%	19%	12%	17%	14%	
Business, Administration and Law	15%	12%	16%	2%	24%	
Computing, ICT	11%	8%	15%	1%	13%	
Education	12%	9%	6%	30%	34%	
Engineering, Manufacturing, Architecture and Construction	10%	7%	16%	0%	0%	
Health	11%	15%	6%	38%	0%	
Natural Sciences and Mathematics	11%	14%	12%	4%	1%	
Services	2%	1%	4%	0%	1%	
Social and Behavioural Sciences	6%	10%	4%	4%	6%	
None of the above	6%	5%	7%	4%	7%	
6. What gender do you identify as?						
Female	53%	52%	51%	65%	60%	54%
Male	46%	46%	48%	35%	40%	45%
Other	1%	1%	1%	0%	0%	1%
7. Do you personally use any assistive technologies? (e.g. screen readers, voice recognition, switches)						
Yes, vital to my work	5%	5%	5%	4%	7%	5%
Yes, optional choice	9%	8%	10%	12%	11%	10%
No	86%	87%	86%	85%	82%	86%

	National	Universities	THEIs	Other Institutions	Private Colleges	UK Teaching
8. If YES, has your institution provided you with any support with assistive technologies?						
Yes	64%	64%	61%	64%	76%	60%
No	36%	36%	39%	36%	24%	40%
9. Which best describes your approach to adopting new technologies for teaching?						
I am usually among the first to adopt new technologies	13%	12%	14%	14%	12%	11%
I tend to be an early adopter where I see clear benefits	47%	50%	47%	48%	44%	48%
I tend to adopt new technologies at the pace of my peers	31%	30%	30%	31%	34%	32%
I tend to adopt new technologies after my peers	9%	8%	9%	7%	10%	10%
10. Who supports you most to use digital technologies in your teaching?						
Friends and family	4%	3%	3%	4%	8%	4%
Online videos and resources	37%	38%	37%	36%	34%	32%
Support staff	28%	29%	26%	29%	31%	31%
Teaching colleagues	31%	30%	33%	31%	28%	33%
11. Which of these do you have access to at your institution whenever you need them? (Tick all that apply)						
A virtual learning environment	75%	80%	71%	84%	74%	85%
e-books and e-journals	78%	85%	73%	89%	69%	90%
File storage and back-up	77%	79%	79%	86%	58%	82%
Internet-based skills training	47%	49%	44%	56%	49%	35%
Lecture capture	29%	36%	21%	30%	34%	65%
My own social media (e.g. Facebook, LinkedIn)	50%	58%	45%	56%	40%	56%
Reliable WiFi	79%	86%	71%	87%	82%	84%
12. How much do you agree with the following statements about your VLE (Virtual Learning Environment)?						
12.1 I rely on the VLE for my teaching						
Agree	69%	71%	66%	72%	69%	73%
Neutral	20%	18%	21%	21%	22%	17%
Disagree	11%	11%	13%	7%	9%	10%
12.2 It is easy to design and organise course materials						
Agree	58%	56%	58%	62%	64%	48%
Neutral	30%	31%	30%	25%	28%	32%
Disagree	12%	13%	12%	13%	8%	20%
12.3 I regularly use it for student collaboration						
Agree	37%	34%	38%	42%	43%	27%
Neutral	34%	33%	35%	31%	39%	32%
Disagree	28%	33%	27%	27%	19%	41%
12.4 It encourages me to try different activities						
Agree	36%	33%	37%	39%	40%	24%
Neutral	40%	39%	42%	33%	43%	37%
Disagree	24%	29%	21%	29%	17%	39%
12.5 I regularly access it on a mobile device						
Agree	25%	21%	27%	26%	31%	18%
Neutral	22%	19%	25%	20%	24%	19%
Disagree	53%	60%	48%	54%	45%	63%

	National	Universities	THEIs	Other Institutions	Private Colleges	UK Teaching
13. How much do you agree with the following statements?						
13.1 Audio visual equipment is reliable and easy to use						
Agree	51%	52%	47%	54%	58%	43%
Neutral	32%	30%	34%	33%	29%	37%
Disagree	17%	18%	19%	13%	13%	20%
13.2 Teaching spaces are well designed for digital technology use						
Agree	29%	28%	24%	43%	45%	29%
Neutral	36%	37%	36%	29%	38%	41%
Disagree	35%	35%	41%	29%	17%	30%
13.3 The software available to teach with is industry standard and up-to-date						
Agree	40%	37%	38%	45%	54%	35%
Neutral	41%	42%	42%	37%	37%	46%
Disagree	19%	21%	21%	18%	9%	19%
13.4 Digital media production facilities (e.g. video) are available if I need them						
Agree	39%	39%	34%	51%	48%	39%
Neutral	38%	38%	40%	28%	35%	43%
Disagree	23%	22%	26%	21%	16%	18%
13.5 The system for online marking and giving feedback is easy for me to use						
Agree	36%	35%	33%	31%	55%	42%
Neutral	42%	41%	45%	42%	35%	30%
Disagree	22%	24%	22%	26%	10%	28%
14. Overall, how would you rate the quality of this institution's digital provision (software, hardware, learning environment)?						
Best imaginable	1%	0%	1%	0%	1%	0%
Excellent	19%	16%	16%	29%	33%	15%
Good	44%	46%	43%	37%	46%	43%
Average	25%	26%	27%	24%	16%	28%
Poor	10%	10%	11%	7%	3%	10%
Awful	2%	2%	3%	3%	1%	3%
Worst imaginable	0%	0%	1%	1%	0%	1%
15. In your teaching practice, how often do you:						
15.1 Carry out live polls or quizzes in class						
Weekly or more	10%	11%	9%	10%	8%	11%
Monthly or less	40%	39%	40%	38%	40%	44%
Never	50%	50%	50%	52%	53%	45%
15.2 Teach in a live online environment e.g. a webinar						
Weekly or more	9%	6%	13%	6%	10%	3%
Monthly or less	20%	23%	16%	23%	28%	22%
Never	70%	71%	71%	71%	63%	74%
15.3 Create learning materials in a digital format (not just text or PowerPoint)						
Weekly or more	26%	25%	28%	25%	23%	24%
Monthly or less	41%	44%	37%	42%	42%	45%
Never	33%	31%	35%	33%	35%	31%
15.4 Use a digital system to give personalised feedback						
Weekly or more	18%	20%	18%	10%	16%	20%
Monthly or less	46%	47%	44%	43%	55%	58%
Never	36%	33%	38%	47%	29%	22%

	National	Universities	THEIs	Other Institutions	Private Colleges	UK Teaching
16. Ideally, how much would you like digital technologies to be used in your teaching practice?						
More than they are now	68%	65%	71%	73%	63%	33%
Same as they are now	29%	31%	26%	26%	34%	62%
Less than they are now	3%	4%	3%	1%	3%	5%
17. How often do you do the following to support your teaching?						
17.1 Search online for digital teaching resources						
Weekly or more	49%	45%	51%	48%	52%	45%
Monthly or less	42%	46%	40%	40%	41%	45%
Never	9%	9%	9%	11%	7%	10%
17.2 Discuss teaching with peers via an online network or forum						
Weekly or more	10%	9%	11%	9%	14%	11%
Monthly or less	33%	32%	32%	35%	37%	35%
Never	57%	59%	57%	56%	49%	54%
17.3 Read up on developments and issues relating to digital education						
Weekly or more	18%	16%	17%	17%	25%	13%
Monthly or less	55%	55%	55%	55%	53%	56%
Never	27%	29%	27%	28%	22%	30%
17.4 Develop your digital teaching skills (formally or informally)						
Weekly or more	20%	18%	21%	16%	21%	17%
Monthly or less	65%	68%	63%	69%	66%	69%
Never	15%	14%	16%	16%	13%	14%
17.a Please give an example of a digital tool or app you find really usefulin your job role: (see Qualitative Qs)						
18. How much do you agree that your institution provides you with ...						
18.1 Guidance about the digital skills you need as a teacher						
Agree	34%	32%	33%	34%	45%	27%
Neutral	43%	44%	44%	41%	38%	44%
Disagree	23%	23%	23%	25%	18%	30%
18.2 Regular opportunities to develop your digital skills						
Agree	41%	41%	42%	40%	39%	34%
Neutral	37%	38%	36%	35%	40%	41%
Disagree	22%	21%	22%	25%	21%	25%
18.3 Time and support to innovate						
Agree	16%	14%	15%	23%	24%	13%
Neutral	36%	34%	35%	37%	45%	31%
Disagree	48%	52%	50%	40%	30%	57%
18.4 Reward/recognition when you develop digital aspects of your role						
Agree	10%	11%	9%	11%	13%	9%
Neutral	40%	38%	39%	44%	52%	39%
Disagree	50%	51%	53%	45%	35%	52%
18.5. Opportunity to be involved in decisions about digital services						
Agree	14%	13%	13%	16%	22%	14%
Neutral	42%	41%	43%	41%	41%	40%
Disagree	44%	46%	44%	43%	38%	46%

	National	Universities	THEIs	Other Institutions	Private Colleges	UK Teaching
19. How much do you agree that you are informed about your responsibilities with regard to:						
19.1 Managing learner data securely						
Agree	52%	44%	53%	70%	67%	59%
Neutral	30%	33%	31%	20%	24%	28%
Disagree	18%	23%	16%	10%	9%	13%
19.2 Digital copyright and licensing						
Agree	37%	33%	38%	46%	47%	48%
Neutral	38%	38%	38%	35%	35%	37%
Disagree	25%	29%	24%	18%	18%	15%
19.3 Assistive and adaptive technologies						
Agree	17%	14%	17%	12%	25%	16%
Neutral	48%	48%	48%	55%	49%	52%
Disagree	35%	38%	35%	33%	26%	31%
19.4 Ensuring students behave safely online						
Agree	15%	13%	14%	18%	25%	18%
Neutral	40%	39%	40%	41%	43%	41%
Disagree	45%	49%	46%	41%	32%	40%
19.5 Your health and wellbeing in the digital workplace						
Agree	15%	13%	15%	21%	22%	20%
Neutral	39%	38%	39%	36%	43%	40%
Disagree	46%	49%	46%	44%	35%	40%
20. Overall, how would you rate the support you receive from your institution to develop the digital aspects of your role?						
Best imaginable	1%	1%	1%	0%	1%	1%
Excellent	11%	9%	10%	18%	18%	8%
Good	34%	33%	34%	34%	39%	32%
Average	33%	34%	32%	31%	28%	36%
Poor	18%	19%	19%	13%	11%	19%
Awful	3%	3%	4%	3%	2%	3%
Worst imaginable	1%	1%	1%	1%	1%	1%
21. What one thing should the institution do - or do better - to support you in your use of technology for teaching? (see Qualitative Qs)						

Full dataset available at: www.teachingandlearning.ie/index/fulldata-staff

INDEX

IRISH NATIONAL DIGITAL EXPERIENCE SURVEY

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