Microsoft

In partnership with LinkedIn

DEGREE +DIGITAL

How today's UK academic institutions can equip students to thrive in tomorrow's workplace

Introduction

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The speed at which the world is changing makes it near impossible to predict exactly what skills workers will require in the next five to ten years, let alone over the span of their entire professional life. What is certain though, is that the list of capabilities demanded by employers is growing – and nowhere more so than when it comes to the level of digital expertise expected of graduates coming into the workforce. This presents a challenge for both students themselves and the academic institutions tasked with preparing them for a successful and rewarding career.

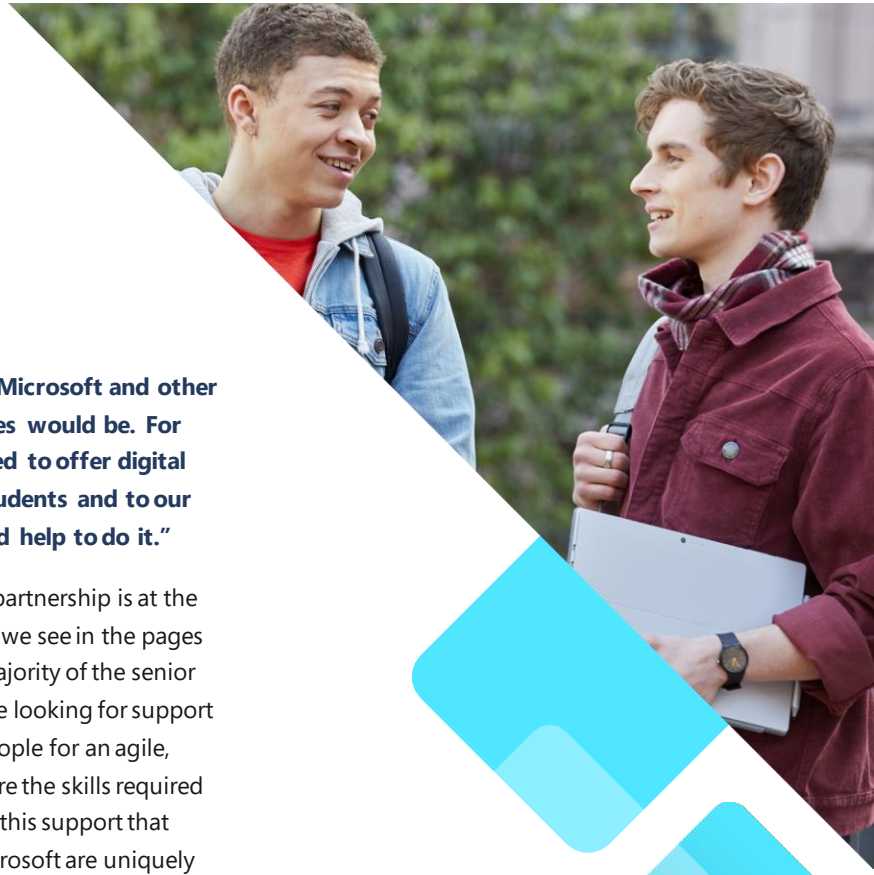
Microsoft recently sat down with ten Vice Chancellors, Principals and other senior leaders from an array of UK universities, colleges and Institutes of Technology. The aim was to understand more about the UK's digital capabilities conundrum before creating this report which, in partnership with LinkedIn Learning, looks to identify both short-term and long-term solutions to address it.

The good news is that the academic leaders we spoke to recognise the need for change. Whether it is teaching students to master tools like Teams, Word and Excel that are now vital to almost every job; showing them how to develop digital solutions that boost productivity by manipulating data and unlocking the opportunities of Cloud computing and AI; or providing personalised career coaching that helps them navigate a rapidly evolving world, our research found a strong desire to provide students with the knowledge and capabilities required to prepare them for a bright future.

Yet Vice Chancellors, Principals and the other senior leaders we spoke to are also feeling the pressure, with most admitting their institution still lacks the skills, resources and infrastructure to perform its new role effectively as a learning ground for degrees plus digital. As one university Deputy Vice Chancellor explained, **"The university trying to develop students' digital capabilities alone is not going to work; we are not going to be adept. Whereas the likes of Microsoft and other technology companies would be. For me, that is clear. I need to offer digital capabilities to our students and to our employees, but I need help to do it."**

Indeed, this theme of partnership is at the heart of this report. As we see in the pages that follow, the vast majority of the senior leaders we spoke to are looking for support in preparing young people for an agile, digital workplace, where the skills required are ever evolving – it's this support that businesses such as Microsoft are uniquely placed to provide.

There is also no time to lose. Change is rapid, competition for jobs is fierce and the onus is increasingly falling on higher and further education institutions to step up and help close the digital skills gap. By working together and combining the power of both industry and academia, I believe we can equip students today with the digital capabilities they need to thrive in their chosen career tomorrow.



The student skills gap

In the past, leaving university or college with a good qualification in their chosen subject was enough to put students on the path to career success. Now this is just the beginning. No matter what the job or sector, employers expect graduates to be able to navigate the recruitment process and arrive on their first day with the digital capabilities necessary to work in a modern, often hybrid or remote working environment. What's more, while that may be enough to start with, to truly capitalise on future opportunities, graduates will also need at least a working knowledge of technologies such as data, AI and Cloud.

The World Economic Forum's Future of Jobs Report 2020[1] states: "The pace of technology adoption is expected to remain unabated and may accelerate in some areas. The adoption of cloud computing, big data and e-commerce remain high priorities for business leaders." But, in the UK, the range and scale of expertise required to match these priorities is currently lacking.

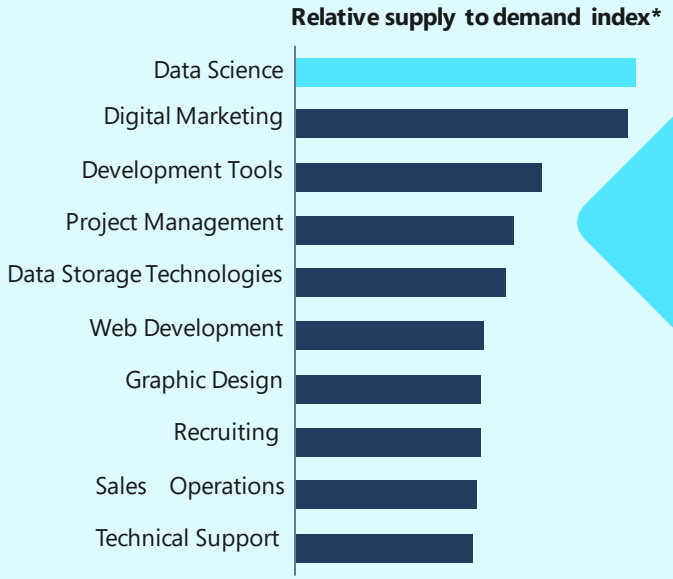
According to Microsoft research in partnership with Goldsmiths' University, 69% of leaders say their organisation is facing a digital skills gap.[2] This is supported by LinkedIn's data, which found that of the ten areas facing the biggest skills gap in the UK, six require advanced digital capabilities (see Figure 1).

69%

of leaders say their organisation is facing a digital skills gap[2]

Skill supply and demand in United Kingdom

The greatest mismatch surfaces in the 'Data Science' competency



*weighted supply to demand ration of skills – supply is the number of members with a skill, demand is based off the number of hires of members with that skill in the time period between 2020-05 and 2021-04. Furthermore, only full-time positions are considered as of May 2021

Figure 1.

Students of today are also under more pressure than ever to keep employability in mind when making decisions about where they continue their education and their elected programme of study. Yet, at the same time, the sheer pace of change is making it difficult for them to figure out what their career path is going to be, let alone determine what capabilities they will need to tread it successfully (see Figure 2).

There is also a stark mismatch between what employers are looking for and how students are being prepared for the workplace. Microsoft's research with Goldsmiths University revealed just 28% of UK business leaders believe the education system offers adequate digital training.[2] Similarly, the Chartered Management Institute's (CMI) recent report, '*Work Ready Graduates: Building employability skills for a hybrid world*', found that while 44% of employers prioritise digital skills as vital to employability, nearly 80% of them believe that graduates do not arrive fully equipped with the skills they need to be work ready.[3]

This situation must change – and quickly. Without digital capabilities young people won't be able to fulfil the roles employers are recruiting for and this will, in turn, negatively impact both their own future and the long-term competitiveness of the UK economy.

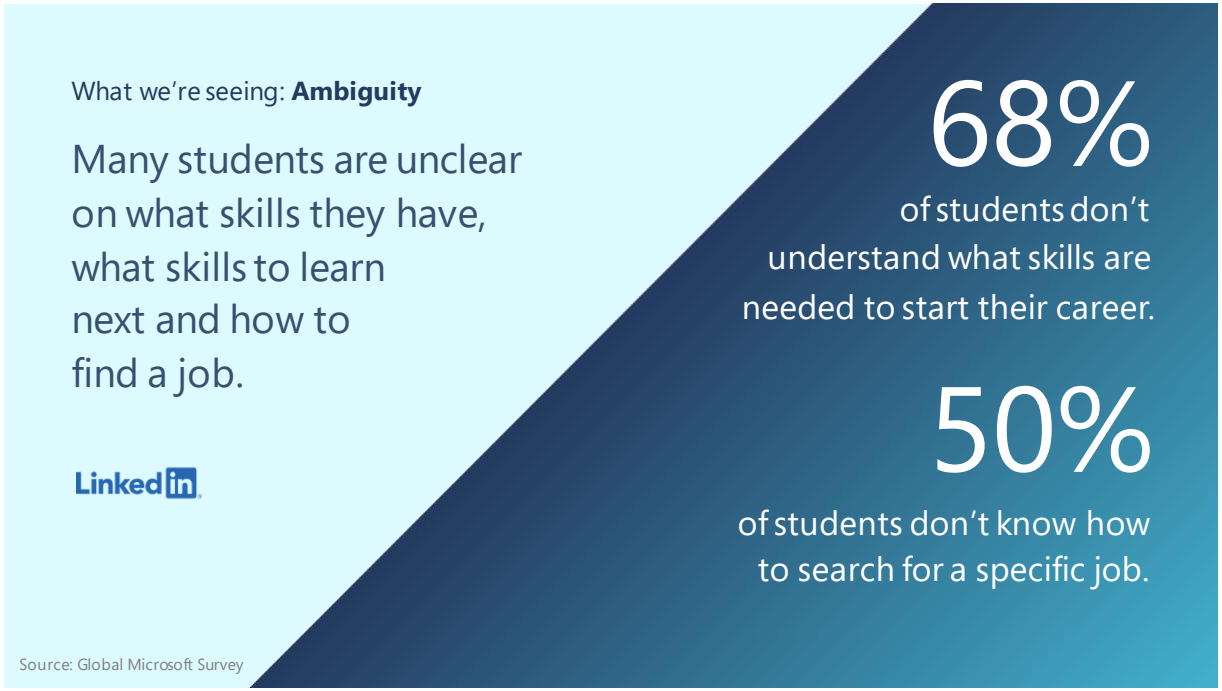


Figure 2.

Nearly **80%** of employers believe graduates do not arrive fully equipped with the skills they need to be work ready[3]

LinkedIn's data shows that even in today's workplace the most in demand occupations fall exclusively in the technology sector[4] and the World Economic Forum's Future of Jobs Report[5] forecasts a surging demand for workers who can fill jobs in the green, data and AI economy as well as new roles in engineering, cloud computing and product development. It also places 'Technology use, monitoring and control' and 'Technology design and planning' amongst its Top 10 Skills of Tomorrow.[5,6] Yet, Microsoft's research with Goldsmiths University found that only 17% of current employees currently feel able to create digital tools and systems for other workers to adopt.[2]

Digital Defined

Digital capabilities: the digital competencies crucial to future employability, allowing future generations of workers to gain the technology expertise they need to succeed in the workplace of the future.

- **Consumptive digital capabilities:** those which allow people to use existing digital tools and systems, such as Excel, PowerPoint, Teams and Office 365. For students, these are vital to ensure their workplace productivity.
- **Productive digital capabilities:** those that enable people to use tools like Cloud, data and AI to create solutions and processes for themselves and others, including training and developing AI, analysing and understanding data and databases or creating digital materials using coding. A foundational aptitude in these areas is increasingly important in every type of job.

Just 28%

of UK business leaders believe the education system offers adequate digital training[2]

Emphasising employability

It would be a mistake, however, to assume this trend impacts only roles traditionally seen as technical or IT related. Nearly every job in every sector now requires digital competencies as well as soft skills, like team working, critical-thinking, communication and leadership.

More than ever before all students need access to relevant, up-to-date advice on how to future proof their education by aligning their chosen area of study, alongside their skills development, to those that are required in the workplace. Tools like Microsoft **Career Coach** and LinkedIn Learning can help to boost student employability by growing real world skills, expanding networks and supporting students in discovering the right career path.

Vice Chancellors are well aware of the need to offer a broader range of learning opportunities to boost their students' employability. These include helping them develop workplace productivity competencies, such as confidently using documents, presentations and spreadsheets, along with more advanced capabilities in Cloud, data and AI, as well as building career management skills.

> We are increasingly thinking about how we can put more effort into careers and employability skills for students.
>
> UK UNIVERSITY,
> DEPUTY VICE CHANCELLOR

Personalised career guidance with Career Coach

Career Coach is an integrated employability solution designed to help students discover their goals, interests, and skills using an AI-based skills identifier and LinkedIn integration that aligns a student's comprehensive profile with job market trends. With a personalised experience, students can get inspired by different career options, connect with alumni, peers, and faculty, and learn with courses from the higher education institution, LinkedIn Learning, and Microsoft. Higher education institutions will be able to gain insight into the skills and career goals students have, as well as job market trends to drive curriculum, programs, and services to support student success.

> There is a huge pressure on younger students from their parents to make sure they are on a solid route to employment. I have never seen it so great as now.

PAUL PHILLIPS, PRINCIPAL AND CHIEF EXECUTIVE, WESTON COLLEGE

Aside from preparing students for future achievement at work, making changes to boost students' employability is increasingly critical to the success of academic institutions themselves. For example, the Government's introduction of a new Projected Completion and Employment from Entrant Data (PROCEED) methodology brings together information on the number of full-time first-degree students who complete their studies (completion rates) and the progression of recent graduates to employment, further study and other activities (graduate outcomes). This data is then used to rank universities against each other, in turn impacting everything from funding to recruitment.

Similarly, Vice Chancellors acknowledge that fuelled by a hugely competitive graduate job market, parents and students are laser-focused on employment outcomes when selecting where to continue their education, including the existence of any industry partnerships that may clear the path to a graduate job.

All of which means the burden on UK academic institutions to demonstrate how they will prepare students for work is acute.

Furthermore, most higher education establishments remain in recovery mode after the disruption of the last two years and admit they are struggling to keep up with the pace of change when it comes to skills and employability. This means they are simply not in a position on their own to equip students with the capabilities they require beyond their degree course to 'hit the ground running' when starting a job after graduating.

As one University Deputy Vice Chancellor explained, there is tension with the needs of industry: **"Industry basically say, 'Day one, off you go. Go and interrogate this data and tell us what the outcome is.' Most of our students probably could not do that."**

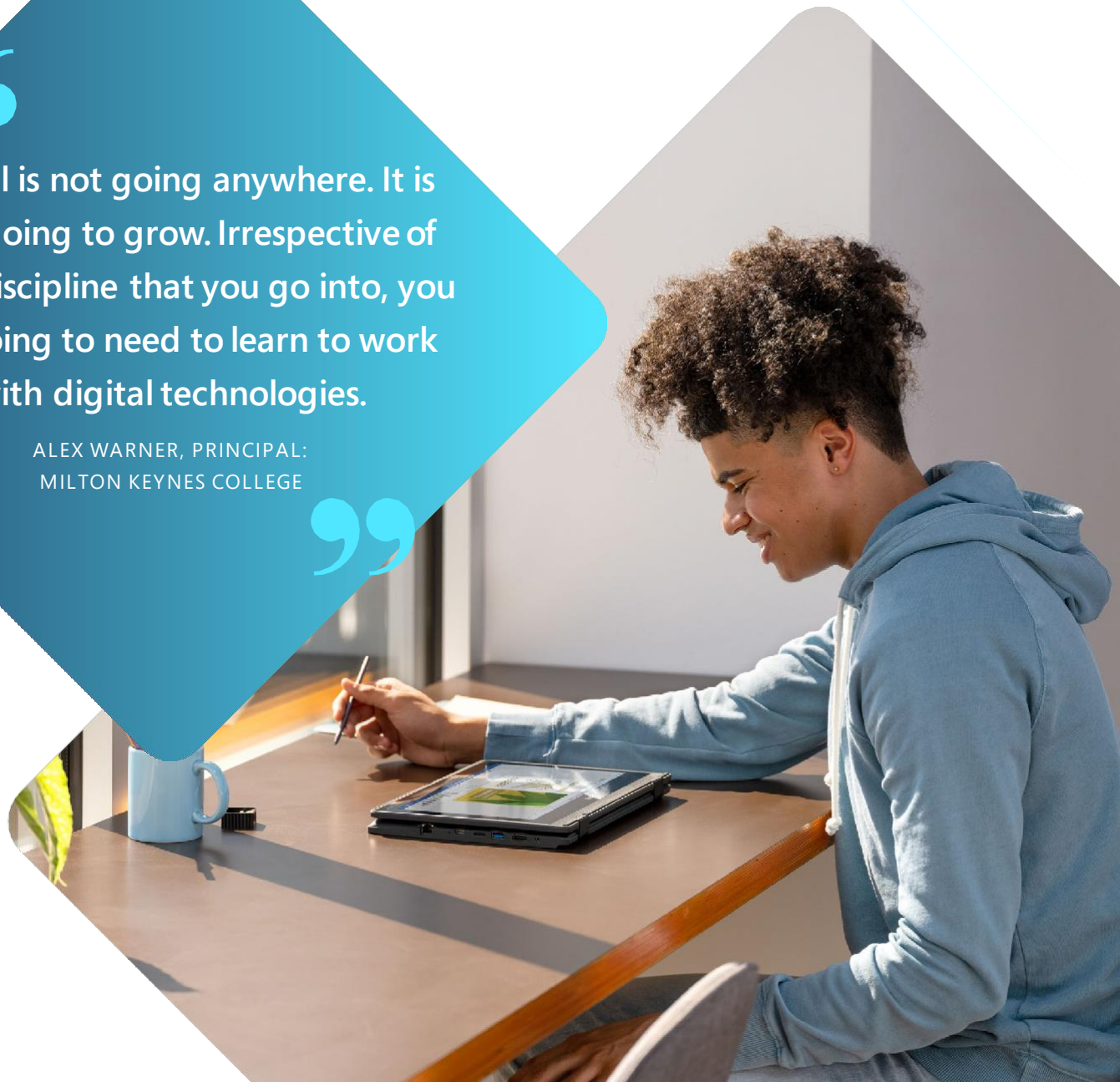
The tipping point

The result is a tipping point for higher and further education. To bolster their own recruitment efforts and prepare the next generation of UK workers for success, universities and colleges must go beyond traditional learning and support the growth of digital capabilities (see Digital Defined on Page 5) across all types of courses.

First and foremost, that begins with a mindset shift. Honing workplace productivity skills should become foundational elements of every further or higher education experience – then act as a platform from which students can learn more advanced capabilities in Cloud, data and AI.

The need for such opportunities to be pervasive across subjects and courses cannot be overestimated. Yes, not everyone will become a machine learning engineer or software analyst. But equally, anyone running or working in a business needs to understand the potential of AI, data and Cloud to impact critical areas such as efficiency, profitability and competitiveness.

> **Digital is not going anywhere. It is only going to grow. Irrespective of what discipline that you go into, you are going to need to learn to work with digital technologies.**
>
> ALEX WARNER, PRINCIPAL:
> MILTON KEYNES COLLEGE



CASE STUDY

Milton Keynes College – Augmented Reality in COVID-19 healthcare

An example of how digital skills are relevant to every student comes from Milton Keynes College. Its health and social care students will one day be responsible for caring for patients, a role which is traditionally associated with face-to-face contact. But as part of their course, they were shown how augmented reality technology was being used in a COVID ward to help healthcare teams experience what was happening with the patients, without having to expose themselves to infection. This is a great illustration of how digital disruption is empowering healthcare professionals.

As Alex Warner, Principal: Milton Keynes College, explains: **"Every sector is getting closer to the centre of that digital vortex. Is every nurse going to have to be a data scientist? Absolutely not. Is a nurse going to have to be able to read the warning signs, because actually the data that is informing their ward is saying that patient X is going to need more care than patient Y today? Yes."**

MK College Group

LinkedIn data also clearly illustrates the speed at which things are changing. In just the last two years, seven of the nine most in demand skills have changed, although almost all remain in the realm of technology (see Figure 3).

Baking both consumptive and productive capabilities into every student's university experience, and aligning specific skillsets on top of academic programmes, is the only way students can hope to meet these new expectations.

What we're seeing: **Rapid change**

The most in-demand skills are changing faster than most institutions can keep up with

	Skills Companies Need Most, 2018		Skills Companies Need Most, 2020	
1	Cloud computing	1	Blockchain	↑
2	Statistical Analysis and Data Mining	2	Cloud computing	↓
3	Middleware and Integration Software	3	Analytical Reasoning	↑
4	Web Architecture	4	Artificial Intelligence	↑
5	UX Design	5	UX Design	=
6	Software Revision Control Systems	6	Business Analysis	↑
7	Data Presentation	7	Affiliate Marketing	↑
8	SEO/SEM Marketing	8	Sales	↑
9	Mobile Development	9	Scientific Computing	↑

Source: LinkedIn Skills Companies Need Most, 2018 and 2020

Figure 3.

In the short-term, students can be supported in keeping their skills up-to-date by the provision of digital modules from Microsoft and LinkedIn Learning, as well as professional certifications from Microsoft. Students can undertake these in addition to their main degree subject (something for which Vice Chancellors recognise there is growing demand). However, looking longer-term, new curricula resources from industry could be integrated into every degree programme. Microsoft and LinkedIn can also support institutions with the pace of change by anticipating and understanding skills trends and needs for their students.

By ensuring such opportunities are available to all, higher education institutions can also help close the so-called digital poverty gap that has widened during the pandemic. This will be critical to the UK's efforts to foster social equity and retain its competitiveness on the global stage. Indeed, according to a Microsoft Report '*Unlocking the UK's potential with digital skills*', digital skills now hold the key to a minimum of 2.4% of a company's bottom line. To put that into context, for an organisation with an annual profit of £1 billion, this equates to £24 million every year.[2]

Yet challenges persist. During our research, Vice Chancellors cited various concerns holding them back (see Figure 4). These include budget restrictions, difficulty in creating and implementing a cohesive plan across the entire institution and a lack of staff with the knowledge to teach digital capabilities. Likewise, they are unsure about exactly what employers want.

Figure 4.
Principals and Vice Chancellors identified the following challenges as the key barrier to facilitating digital capabilities:

	Budget restrictions
	Difficulties in getting different functions to collaborate
	Finding the right teaching talent
	Knowing what employers are looking for
	Lack of government guidance
	Fast pace of digital change

The Digital Divide

At its most basic level, digital poverty refers to a lack of access to suitable devices and adequate broadband. These are both critical factors to allow students to attain the digital capabilities they need and to take advantage of online resources, including teaching, certification courses and careers support.

The pandemic shone a light on this problem, but it goes deeper than this. Too many young people are simply unaware of the opportunities available to them through higher education or mentoring and coaching. This means they miss out on developing the digital competencies and soft skills necessary to secure a role, let alone build a successful career. Others lack the confidence or support to take advantage of these opportunities.

This gives them the chance to gain digital capabilities and pursue meaningful careers, which delivers the diverse talent pool the UK needs to address the skills shortage.

Perhaps most importantly of all, many colleges and universities feel unable to evolve their curricula fast enough to match the speed of technological advances in industry. For example, while there is some agility, with one or two option modules being swapped out each year to develop students' skills in new areas, most degree courses tend to work on a two-to-four-year refresh/development cycle for larger wholesale changes, delaying the speed with which new digital modules can be added or amended. This makes it very difficult to keep up with the pace of change, let alone get ahead of it.

Indeed, according to the acclaimed book, *'A New Culture of Learning'*, the so-called half-life of a skill is five years, which means much of what anyone learned ten years ago is irrelevant.[7] In technical skills, this figure can reduce even further to just two and a half years. This reinforces the idea that the current university review process is simply not nimble enough to update digital and technical learning programmes before they become out of date.

These challenges are both real and commonplace. And just as everyone – students, academic institutions, businesses – are united in agreeing there is a problem to solve, the path to a solution lies in collaboration.

Solutions from Microsoft, such as Microsoft Learn, are great for individual users, including students and graduates, to advance their skills in the most in-demand technologies of Cloud, data and AI. Everyone has free access to learning paths and content, and additionally there's a rich portfolio of teaching material, to support lecturers in using Microsoft Learn alongside or within academic programmes.

> "[A key challenge is] the accelerating speed at which digital skills develop and the tech that develops. I think we have been facing this for years."
>
> UK UNIVERSITY DEPUTY VICE CHANCELLOR

Over 3,000 modules and learning paths with Microsoft Learn

Microsoft Learn is a free, interactive, hands-on training platform that helps people develop in-demand technical skills related to widely used Microsoft products and services including Azure, Microsoft 365, Power Platform, Microsoft Dynamics, and more. Microsoft Learn combines short step-by-step trainings, browser-based interactive coding and scripting environments, and task-based achievements to help learners advance their technical skills and prepare for Microsoft Certifications. Microsoft Learn now offers 583 learning paths and 2,500 modules, and is localised in dozens of languages.

> We all know there is a digital skills gap that must be closed to allow the UK economy to thrive. Industry can play a vital role in helping universities and colleges to prepare students for the jobs of tomorrow. We can ensure curricula are up-to-date, offer insights into how to find and secure roles, support teaching staff and encourage collaboration across functions through tools such as Microsoft Teams.

JEN WYATT, DIRECTOR OF EDUCATION, MICROSOFT UK

The new paradigm

The good news is Vice Chancellors are extremely open to the idea of building long-term relationships with industry partners that can help them improve the digital capabilities programmes they offer to students. They also recognise that leading employers, like Microsoft, are well placed to provide advice on the specific skills and traits that other employers are looking for in graduates.

There's a clear opportunity for private sector organisations to make a tangible and lasting contribution to solving the UK's digital capabilities challenges. Not only by helping institutions strategically plan how best to support students in developing critical skills and behaviours, but by supporting Vice Chancellors in garnering stakeholder buy-in and investment to implement changes.

Better still, the CMI's research shows that this willingness to collaborate works both ways with 61% of employers who are not currently involved in shaping employability skills with higher education institutions saying they would like to get involved.[3]

In many cases, the strength of industry partners' expertise, experience and credibility are well-recognised. As one university Vice Chancellor put it, **"companies like Microsoft have got multiple roles. First of all, they are an employer of students and they have got very complex supply chains. I would like to hear what their needs are as an employer, and what their supply chain needs are."**

To that end, Microsoft is already providing curricula that lead to gold-standard professional certifications across the tech sector and businesses worldwide, as well as for students. Indeed, according to LinkedIn, members with a Microsoft Professional Certification on their profile are 2.4 times more likely to be hired.

Similarly, candidates who complete a LinkedIn Skill Assessment and display a badge on their profile are up to 20% more likely to get hired than those who do not.

CASE STUDY

University of Lincoln: The case for Cloud certification

Employability is an important factor for the University of Lincoln. To ensure its Computer Science graduates are prepared with the latest cloud computing skills, they have integrated Microsoft Azure Fundamentals certification as part of the academic degree programme. **"We have to ensure that our students are best equipped when they graduate, not only with the degree programme, but [also] offering them employability opportunities around certification,"** explains Dr Derek Foster, Programme Leader, Computer Science, University of Lincoln.

Azure Fundamentals offers hands-on learning opportunities and the chance to gain certification in this in-demand area, which is very attractive to students.

"Employers look now at certification, especially for someone like me who wants to get into cybersecurity, certification is quite important," says computer science student Michal Pierzchalski.

Find out more.

UNIVERSITY OF LINCOLN

Despite the clear value of certification, many students need guidance to help them demonstrate their employability on digital platforms. Many also lack confidence in career management. CMI's research also reveals that less than a third (28%) of students are completely confident about how to search for jobs and only a quarter are completely confident about applying for jobs, whilst only 18% are confident about writing a CV.[3]

Nine out of 10 students (89%) also say they would welcome an 'employability bootcamp' to equip them will with key skills for the workplace.[3] This demonstrates the demand for industry to work with universities and colleges to provide a real-world perspective to help students plot a course ahead through the recruitment process.

Industry partners can – and must – help on the teaching side too, from providing materials, to keeping information current, to enhancing delivery methods through productivity tools. Involvement from companies such as Microsoft and LinkedIn can have a real impact on students, helping make learning more impactful and enjoyable.

> **A significant advantage of working with Microsoft is the psychological benefit of the association. When an organisation of such importance recognises that what we are doing at a College is not only very relevant, but is also of brilliant quality – that really is a boost. One student commented to me, 'I can't believe I'm in a class that Microsoft directly supports' .**
>
> PROFESSOR CHRISTOPHER MOORE,
> PRINCIPAL AND CHIEF EXECUTIVE, NEW COLLEGE LANARKSHIRE

Less than 1/3

of students are completely confident about how to search for jobs.[3]

Partnering with industry

Of course, all of this requires financial and human capital investment from academic institutions themselves. But perhaps the strongest message to come through is that academic institutions simply cannot tackle this alone.

So, with that in mind, here are three ways Microsoft and LinkedIn can work with further and higher education institutions to accelerate their digital transformation and augment the opportunities they offer their students – in both the short-term and long-term:

1

Personalised career coaching – To help students navigate the challenges of boosting their employability in a rapidly digitising world, Microsoft has developed **Career Coach** in partnership with LinkedIn. Through personalised career guidance it helps students identify employment goals aligned with their passions, interests, and strengths, then build the real-world skills and professional networks they need to increase their employability.

2

Provide world class curricula and professional certifications – In the near-term, Microsoft, through **Microsoft Learn**, along with LinkedIn Learning can help universities and colleges bolster their traditional subject courses with further modules and professional certifications centred around digital capabilities, including in credit-bearing employability awards. These focus on the real-world, industry-ready skills of Cloud, data and AI. Over time, as new tools and job requirements emerge, these modules can increasingly be embedded as a standard component of degree programmes across the campus, from computer science to business studies or from marketing to medicine.

3

Boost workplace productivity – Whether you are a lawyer, a geologist or a data scientist, every job now requires a level of digital understanding and competency. As part of Microsoft's professional certifications and learning curricula, we therefore aim to ensure every student leaves further or higher education armed with the ability to collaborate and communicate well, using the tools needed for the modern hybrid workplace. This includes a solid grounding in documents, presentations, spreadsheets – the absolute pre-requisites of success in nearly every job nowadays.

Of course, no-one can predict the future, least of all right now. But that does not mean we cannot prepare for it. Microsoft and LinkedIn want to work alongside academic institutions and their students to help reset the bar on digital literacy. This has the triple benefit of:

1. Helping to ensure digital curricula is up-to-date and imparting the workplace skills employers want
2. Equipping students with the productive digital capabilities they need for the jobs of tomorrow
3. Supporting the UK to thrive as a powerhouse of talent

Microsoft and LinkedIn's position in the tech sector provides a unique perspective on current and future market trends that can be shared with universities and colleges to help them gain an insight into the evolving requirements and expectations of modern employers. At the same time, practical advice and guidance can help academic institutions arm their students with the consumptive, productive and career management capabilities that both public and private sector organisations are looking for.

Now more than ever, the UK's ambition should be that every student who graduates here has the digital competence and confidence they need to successfully play their part in not only shaping the workplace of the future but achieving more for themselves during a long, rewarding and successful career.

Digital Defined

Digital capabilities: the digital competencies crucial to future employability, allowing future generations of workers to gain the technology expertise they need to succeed in the workplace of the future.

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Find practical skill-building tools and guidance for students, faculty and staff.

Discover more: https://aka.ms/UKEducationSkills

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