



Education Technology in Further Education Colleges

How are colleges
integrating digital
technologies into
their practice?

Dana Dabbous
Katherine Emms

July 2020



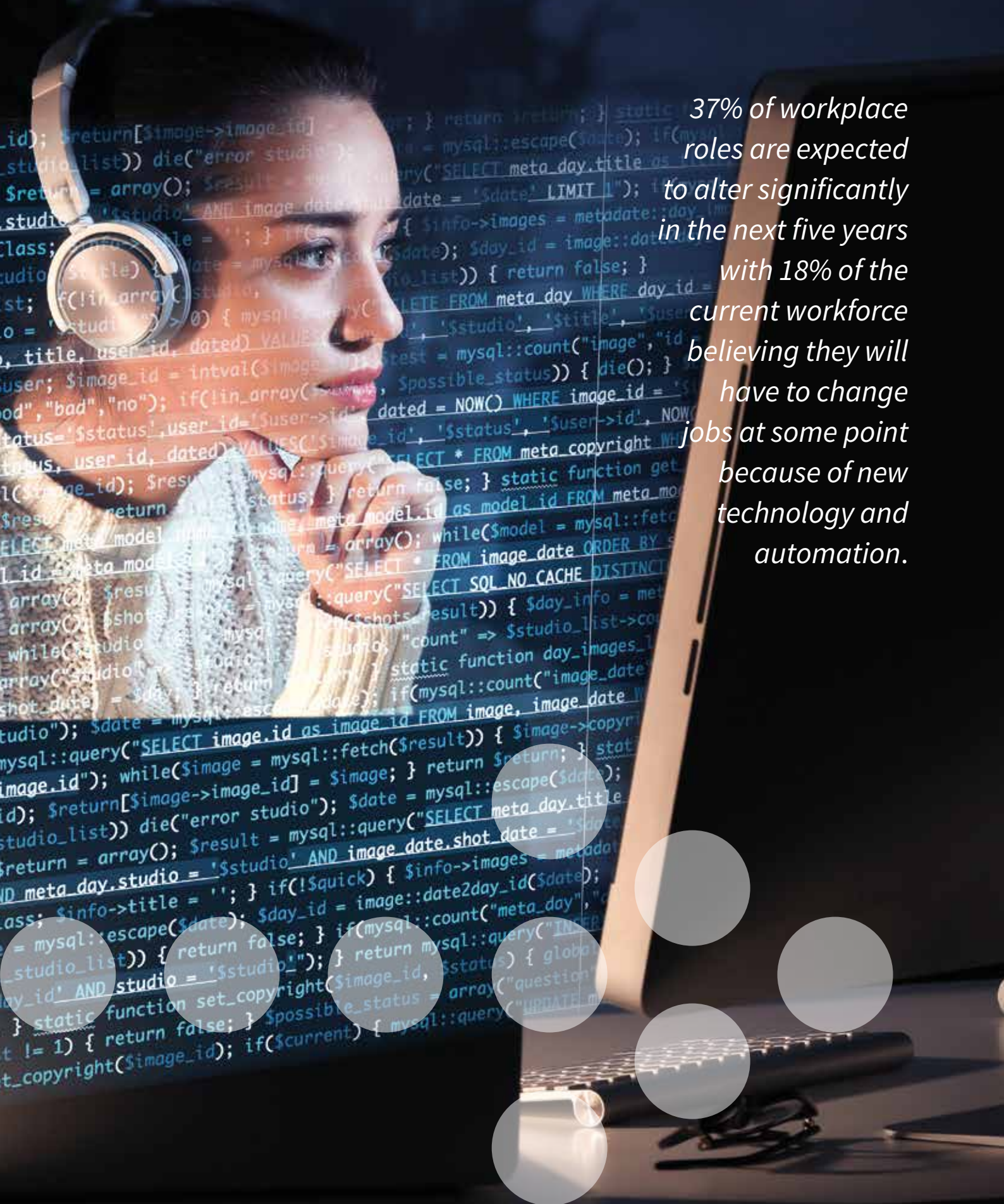
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Edge Foundation:
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37% of workplace roles are expected to alter significantly in the next five years with 18% of the current workforce believing they will have to change jobs at some point because of new technology and automation.

Foreword

Over the last few years, The Edge Foundation has published regular bulletins outlining growing skills shortages across the UK economy. One of the key factors behind the changing labour market is the fourth industrial revolution, with new technologies such as artificial intelligence and robotics beginning to rapidly change the nature of many industries.



In our last bulletin, we highlighted the latest research from the OECD showing that, in common with other countries, across the UK 13.7% of workers are in occupations at high risk of automation. Research by the ONS suggests that this will disproportionately impact jobs held by younger workers aged 18-24.

Even where roles are not fully automated, research by the Open University in *Bridging the Digital Divide* shows that more than a third (37%) of workplace roles are expected to alter significantly in the next five years, potentially affecting up to 12 million employees in the UK.

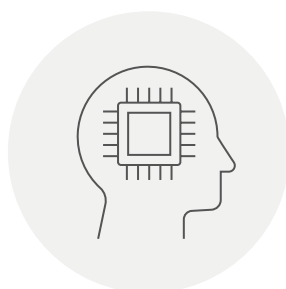
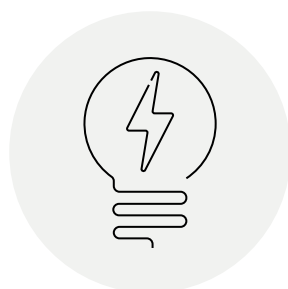
So, even before we had ever heard the word 'Covid', there was a strong imperative to support new entrants and existing workers to be fully up to date with emerging technology in their industries – not just in the tech sector itself, but across the labour market from pharmaceuticals to engineering to healthcare.

The impact of Covid and the handbrake turn it caused towards online learning has catapulted this issue to the top of the priority list. Hundreds of colleges across the UK have worked rapidly and innovatively to move towards online learning.

As they prepare for the 'new normal', we know that colleges want to preserve the key benefits of the new approaches that they have had to take during lockdown – the silver linings from this otherwise dark time. It may be that blended learning becomes the new norm, integrating the best of face to face and online opportunities.

This report brings together examples of excellent practice in the integration of education technology into further education witnessed prior to Covid-19. We hope that it will help colleges across the UK to build their confidence, develop and embed approaches that help to bridge the digital divide and best prepare young people and adults for the workplaces of the future.

Olly Newton, Executive Director, Edge Foundation



The findings of this qualitative research are crucial in providing an evidence-informed context to integrating education technology across colleges to promote digital skills among students and staff.



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Executive Summary

INTRODUCTION AND METHODOLOGY

There has been a dramatic rise in the use of education technology (EdTech) during the Covid-19 pandemic highlighting the importance of having accessible technology that can connect people and improve their lives, ultimately transforming the way we think of education as a whole. **The impact of the Covid-19 pandemic on education has helped us realise the potential of education technology to make learning more engaging and accessible.** The conversation needs to continue as to how digital tools can remain and be further encouraged and developed after social distancing measures are relaxed further – providing a small positive legacy from this challenging period.

Education Technology consists of using **technology to support teaching and learning**. According to the Department for Education (DfE) 2019 EdTech Strategy, EdTech includes ‘*hardware (such as tablets, laptops, Virtual Reality headsets (VR) or other digital devices), and digital resources, software and services that help aid teaching, meet specific needs and help the daily running of education institutions*’ (DfE, 2019, p.5). **Specific resources such as slide presentation software, tablet, mobile and computer applications and more that are used to help deliver instruction are often referred to as digital tools.**

The Edge Foundation’s latest Skills Shortages Bulletin illustrates the shifting labour market within the UK, where a significant proportion of workers are in occupations at risk of automation (The Edge Foundation, 2020a). Recent research has revealed a global digital skills gap. The World Economic Forum *Future of Jobs* report (2018) stated ‘*given the wave of new technologies and trends disrupting business models and the changing division of labour between workers and machines transforming current job profiles, the vast majority of employers surveyed for this report expect that, by 2022, the skills required to perform most jobs will have shifted significantly*’ (p.12). As we can see today, the pandemic has accelerated this shift in many ways. The Edge Foundation released a Covid-19 Bulletin in June summarising research conducted throughout the pandemic evidencing the early impacts of lockdown on education. The evidence shows how the pandemic has highlighted the ‘**importance of access to digital**

technology and connectivity to support all young people’s learning’ (The Edge Foundation, 2020b, p.22).

According to research by the Open University nine in ten organisations across Great Britain currently lack the digital skills needed, ‘*37% of workplace roles are expected to alter significantly in the next five years with 18% of the current workforce believing they will have to change jobs at some point because of new technology and automation*’ (Open University, 2019, p.9). Further affirming this skills gap, IBM research insights state there are **more than 120 million workers in the world’s 12 largest economies that may need to be retrained and/or reskilled in the next three years as a result of AI and automation** (IBM, 2018).

To address the digital skills gap, education institutions need to utilise the benefits of technology to prepare the future workforce to be equipped with the most up-to-date industry skills. Today, because of Covid-19, we are reminded of the essentiality of digital skills. Further education colleges are well placed to address the digital skills gap through preparing young people for the workplace. **A key characteristic of college provision is their ability to respond and adapt their provision to the changing labour market such as technological changes.** The pandemic has disrupted the traditional delivery of vocational, technical and professional education across the UK and colleges have had to adapt and transition their provision virtually with no time and preparation. **There will be many lessons learned when colleges return in September on how the use of education technology**

can play a key role in college delivery. Yet, prior to the pandemic many colleges have had the technological infrastructure in place and have been integrating EdTech in a majority of their provision. Therefore, this research was developed to explore the landscape of EdTech in further education (FE) colleges across the UK.

This research was conducted between November 2019 and January 2020, and therefore gives an insight into uses of EdTech in colleges prior to the Covid-19 pandemic. **The findings of this qualitative research are crucial in providing an evidence-informed context to integrating education technology across colleges to promote digital skills among students and staff.** The research adopted a case study methodology with four case studies of FE colleges in England (2), Scotland (1) and Northern Ireland (1). Unfortunately,

due to Covid-19 the Wales case study was disrupted. Semi-structured interviews were conducted with FE lecturers and senior leadership teams across the four colleges. Informal observations were carried out to witness some digital technologies in action across different courses at each college. These observations have helped construct the digital strategy viewed at the college and will be described in each case study.

The aim of this research conducted was to explore:

- **How Further Education (FE) colleges are using education technology across their college to equip students and staff with the digital skills they will need in their future careers; and**
- **The challenges college staff are facing in integrating education technology across their practice.**



Students became more engaged, creative and inspired through using different digital tools in and outside the classroom.

KEY FINDINGS

Using education technology in teaching allows students to view how digital skills will be needed in the workplace

College provision naturally showcases industry skills within a majority of learning environments. Each college saw the value in promoting digital skills across their provision. In some courses this was easier than others. However, staff members at each college in this study networked within the college to share their practices and illustrate across and within departments how they could use digital tools to create more blended learning such as uploading video feedback on virtual learning environments (VLE), and/or applications (e.g. Kahoot!, Padlet) to support lessons with students. Proactive research from both staff and the digital facilitators at the colleges in understanding what digital skills were needed within each industry sector helped tailor the digital tools across the college.

Staff are initially not as confident using new technologies and often feel discouraged when things go wrong

Staff confidence was the key challenge cited across colleges in adopting digital technologies. There was a fear factor associated with some staff who did not want to engage with new approaches. Many lecturers would feel discouraged when the use of digital tools would go wrong, especially if this occurred in front of their students. While this was an initial challenge across colleges, over time and through support from the digital team and colleagues, staff confidence would develop and their mindset in using technologies in the classroom shifted.

Constant and consistent support from the digital team at each college encourages staff to use existing and new technologies

Responsibility lies with individual lecturers to consistently use educational technology within the classroom. However, the digital team at each college was responsible for showing staff members how different digital tools can help solve many issues they were facing. The digital teams were very active in understanding how technologies can be applied to different courses and constantly encouraging staff to use them in different ways. They sent a clear message to make staff feel supported every step of the way. This was achieved through on-hand support with different tools, focused certified professional development (CPD) workshops, individualised training and other initiatives each digital team would run college-wide to help this process.

For both staff and students, it is necessary to show how embedding education technology can help enhance their experience in teaching and learning

All participants in this study expressed how integrating education technology in the classroom provided a more real-life learning experience for their students. Students became more engaged, creative and inspired through using different digital tools in and outside the classroom. Lecturers stated how they could see students enjoying their learning much more when interacting with education technology. Many lecturers were surprised that technology provided a positive shift in how they developed their activities and allowed for much more flexibility in their teaching styles. Embedding education technology has shown to improve digital literacy among both students and lecturers.

Introduction

POLICY BACKGROUND

This section sets out a brief overview of some of the policy developments across England, Scotland, Northern Ireland and Wales related to promoting education technologies and developing digital skills in the FE sector. These policies are not inclusive of all policies in each nation. Within each nation, the policies identified reflect three broad areas of integrating education technology:

1. Driving education technology in education at all levels
2. Developing digital skills among students
3. Preparing people for the changing labour market

ENGLAND

The 2019 Department for Education (DfE) [EdTech Strategy](#), announced by the then Education Secretary, Damien Hinds, outlined a series of commitments to support the education sector in England to embed technology to drive improvements in educational outcomes. **The rationale focused on how technology has become rooted across all parts of society and therefore it is expected that the education sector follow course and engage with technology to benefit from its potential.** The strategy committed to support both education and the EdTech industry in forming links to deliver good practice and drive innovation through five key areas: administration processes, assessment process, teaching practices, continuing professional development and learning throughout life (DfE, 2019).

There are various commitments outlined in the EdTech strategy including launching a network of [‘demonstrator schools and colleges’](#) who are using technology effectively to use their expertise within the sector to provide support for other schools and colleges. Successful applicants will receive between £75,000 and £150,000 in grant funding to support the delivery of this programme which will run until the end of the academic year in 2021. In April 2020 in response to Covid-19, the programme was refocussed to help remote teaching and working during the outbreak and allow new applicants to apply for funding.

During the Covid-19 outbreak in April 2020 the DfE launched the [‘Skills Toolkit’](#) a learning platform to signpost free online courses for individuals wanting to

upskill. These online courses centre around high quality digital and numeracy skills supported by a range of organisations including Google, Cisco and the Open University. **The platform states the importance of digital skills claiming 82% of all job vacancies require these skills.** The aim is to help furloughed workers improve their knowledge, confidence and enhance their digital skills in addition to supporting mental health at a time of uncertainty and change.

Employer-led [Institutes of Technologies \(IoTs\)](#) are another initiative announced in 2019 that could minimise the digital skills gap and shortage to help prepare the future UK workforce for their careers. IoTs are collaborations between further education (FE) providers, universities and employers. They will specialise in delivering higher technical education with a focus on STEM (science, technology, engineering and mathematics) subjects including digital. In April 2019, the 12 IoTs across England were announced backed by £170 million of government investment to fund equipment. From September 2020 the first three T-levels will be rolled out at selected colleges. One of these three T-levels will be *Digital Production, Design and Development*, further stressing the importance of these roles. These 2-year courses have been developed in collaboration with employers and businesses so that the content meets the needs of industry and prepares students for work. T Levels will offer students a mixture of classroom learning and ‘on-the-job’ experience during an industry placement of approximately 45 days.

Other initiatives include the [Nesta EdTech Innovation Testbed](#) supported by the DfE. This initiative helps schools and colleges try out technology products for free to help with formative assessment, essay marking,

parental engagement and timetabling. Additionally, [Jisc](#), the independent digital expert organisation is providing support with digital infrastructure for the higher and further education sector.

SCOTLAND

In 2014, Scotland launched the [ICT/Digital Technologies Investment Plan](#), a public and private sector partnership supported by £8.5 million of Scottish Government funding that will include a range of initiatives to ensure:

- **employers have the short and long-term pipeline of digital talent which they require; and**
- **individuals are equipped to access the many high-quality jobs which the digital technologies sector and wider economy can offer**

The initiatives within this investment are aimed to address the skills shortage in Scotland's expanding digital technologies industry by delivering work-ready tech talent. One of these initiatives is a new [Digital Skills Partnership](#) supported by Skills Development Scotland (SDS) and the Scottish Funding Council, which is a pilot programme to develop collaboration between industry and academia. This would deliver students with experience of real-world challenges in the software development process by bringing together learners with different levels of

experience and expertise in small teams to respond to an industry-style brief with very specific deliverables.

Within this investment plan, new vocational digital pathways such as digital Foundation and Graduate Apprenticeships will be developed to increase both the numbers of new entrants and educational routes into the sector. This involves schools, colleges and universities working in partnership with industry.

A further £1 million Digital Start Fund announced in May 2019 will support those furthest from the job market, such as individuals not in education or training (NEET) to retrain in digital sectors. It will help bridge the digital skills shortage in this key growth sector by encouraging more people into digital occupations. The fund is managed by Skills Development Scotland and applications are made through appointed colleges and training providers. Colleges and training providers for the Digital Start Fund include General Teaching Council Scotland (GTCS), Codeclan Digital Skills Academy, North Highland College and West College.



NORTHERN IRELAND

It has been challenging to locate a single national policy promoting education technology in further education for Northern Ireland. However, within the January 2016 Further Education strategy, [Further Education Means Success](#), there are policy commitments that support developing digital skills among Northern Ireland's existing and future workforce. **The curriculum delivery theme throughout the strategy highlights the importance of making imaginative and effective use of technology enhanced learning (TEL) to support both classroom teaching and blended and/or distance learning.**

The third policy commitment, *upskilling the existing workforce*, offers flexibility of delivery practices, such as the innovative use of technology within colleges to meet the upskilling needs of employers. Furthermore,

the seventh policy commitment, *improving literacy, numeracy and information communications technology (ICT)*, assures colleges will raise the level of literacy, numeracy and ICT in Northern Ireland by adopting new qualifications being developed.

Another initiative, known as Connected is an initiative between the six further education colleges across Northern Ireland, Queen's University Belfast, the Ulster University and the Open University in Northern Ireland to help businesses and the wider community to improve their performance by providing access to technology support services. Its aim is to encourage, ease and increase potential knowledge exchange links between academia and industry, particularly small and medium-sized enterprises (SMEs).

WALES

In 2010, Wales published their overall [digital strategy](#) for the nation in order to better prepare everyone for the future and make Wales a truly digital nation. The five broad objectives to deliver a 'digital Wales' covers inclusivity, skills, economy, public services and infrastructure. **By 2019 11% of the population were 'digitally excluded' and 60% still do not meet all five of their specified basic digital skills.**

In 2019, the Welsh Government launched their strategic framework for post-16 learning in Wales over the next decade – *Digital 2030*. Digital 2030 has been developed in close collaboration with stakeholders, including CollegesWales, Jisc, and with leaders and staff from across the post-16 sector. In Wales this 'post-16 sector' encompasses further education (FE), work-based learning, including apprenticeships and employability programmes, and adult and community learning.

The strategy itself delivers a flexible, non-prescriptive framework and package of support for providers to use, with actions required at a 'national' level (co-ordinated by the Welsh Government and/or by key stakeholders), 'collaborative' actions by learning providers, and actions at an 'organisational' level (co-ordinated by individual learning providers). The framework sets out objectives

around five key functions: leadership and management, curriculum delivery and assessment, widening participation and learning support, employer and community engagement, staff development, enterprise systems and infrastructure.

To support providers to deliver the 2030 strategy, the Welsh Government has funded a bilingual platform - [Hwb](#) - to support digital education in Wales. **The platform supports professional networking and virtual communities of practice; and the sharing of good practice and resources.** A new area of Hwb is also in development dedicated to the post-16 sector, with topics, resources and communities of practice that are directly relevant to the sector.

In 2020, an exciting new initiative is being piloted between leading companies and two Welsh colleges, designed to create new routes into tech careers for a new generation of digital learners. [Cyber College Cymru](#) is an initiative offering students hundreds of hours of industry input and a fresh curriculum developed with the colleges and the University of South Wales under the [Strategic Insight Programme](#) funded by HEFCW. If successful, the programme can be rolled out across Wales.

RESEARCH AIMS AND METHODOLOGY

The aim of this study was to understand how further education colleges were integrating EdTech across the college and within their teaching practices. The research questions are:

- **How are Further Education colleges using education technology across their college to equip students and staff with the digital skills they will need in the future?**
- **What are the challenges college staff are facing in integrating digital tools across their practice?**

This research adopted a qualitative methodology. Each college was adopted as a single case study, with semi-structured interviews used as the main method of data collection alongside informal observations during each college visit. A total of 25 semi-structured interviews were conducted across the four colleges. Interviews were recorded and participants were asked to sign an informed consent form outlining the study and how their recording would be used for the purpose of this research. Colleges were identified by conducting an initial search of colleges that have been in the news for their innovative digital initiatives and subsequently contacting those colleges. The research initially called for five colleges, however the fifth case study in Wales was interrupted during the Covid-19 lockdowns and therefore only four case studies are illustrated in this report.

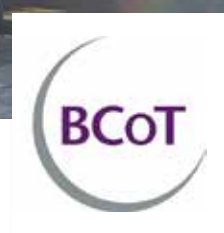
Edge follows the British Education Research Association ethical guidelines 2018, concerning issues such as informed consent, anonymity of interviewees, confidentiality of research data and data protection. Edge also adheres to the EU's GDPR introduced in May 2019. Each college was contacted separately and participation in the interviews were voluntary and at the college's discretion, therefore each college had different number of interviewees. Participants will stay anonymous throughout this report however, some members of their senior leadership team and digital team interviewed provided consent for their names to be used. Finally, the interviews for each college were analysed individually to develop a holistic description of each college's digital strategy and views of using education technology.

STRUCTURE OF THE REPORT

The report sets out each college as a separate case study outlining their digital strategy. The description of each college is based on the college visit and additional information can be found on each college website. The findings from the interviews in each case study are categorised as *benefits of using education technology* and *challenges using education technology* based on the research questions of this study. In addition, each college was contacted during college closures due to Covid-19 to ask how they have responded to these closures. The responses for the colleges who responded are set out at the end of each case study.

The aim of this study was to understand how further education colleges were integrating EdTech across the college and within their teaching practices.





Basingstoke College of Technology

Basingstoke College of Technology (BCoT) is a further education college based in Basingstoke, Hampshire. BCoT offers advanced technical and vocational qualifications that enables students to progress to university, employment or an apprenticeship. The college offers a wide range of provision including, public services, media and games design, engineering, art and design, hair and barbering, health and social care and much more. Within the college's 2016-2020 strategic vision the use of technology to enhance teaching, assessment and learning was a crucial priority in achieving their strategic aims, also known as technology enhanced learning (TEL). The vision for the college included engaging students in a technology rich learning environment. Additionally, in April 2020, the college was selected as one of the DfE's EdTech Demonstrator colleges based on their exceptional use of technology to enhance learning.

Aspiral Learning is the employer-focused and national provider arm of BCoT. Specialists in providing training services for businesses, Aspiral Learning offer apprenticeships to bespoke training solutions and short courses to professional qualifications. West Berkshire Training Consortium (WBTC) joined the BCoT group in 2018 for the delivery of their apprenticeship service. In 2017, the Future Skills Centre (FSC) in nearby Bordon opened to offer a wide range of specialist construction courses, designed to meet the needs of employers in the construction industry. The college has set up university partnerships with University for the Creative Arts, University of Portsmouth, and University of Reading to offer progression routes to students by providing Level 3 students a reduction in the UCAS points needed for entry onto a selection of their degree courses.

DIGITAL STRATEGY

BCoT has put digital technology at the heart of its college and this was visible during the visit. **The college has created a unique digital team** made up of creative specialists, subject specialists and learning technologists. The digital team's role is to train and develop the digital skills of staff and students across the college. **Students who have demonstrated technology skills were asked to become 'digital leader' volunteers.** The team then worked alongside lecturers to help them develop digital resources. Over time, the digital team has grown by bringing on two learning technologist apprentices to continue working with lecturers to develop digital lessons and assist students during their blended learning lessons. Sky Caves, initially

a learning technologist apprentice, then went into a full-time role in the digital team as a learning technologist.

In 2016, the college introduced an hour of blended learning for every course, where students visit blended learning zones to practice their digital skills. In this hour lecturers would have developed assignments on Google Classroom for students to work on. Additionally, the digital team work closely with industry to identify the current digital tools being used in the workplace and across sectors. This helps the team bring in digital tools into the classroom and guarantee students are learning the relevant technology needed in industry and become workplace-ready throughout their college experience.

In addition to the digital team, across the college there are spaces for students to develop their digital skills. A tour of the college's refurbished Learning Hub showed the integration of digital tools within the college. This space offered students a flexible and collaborative learning space with modern technology including latest VR headsets, Chrome books, an interactive whiteboard and many more tools. This range of technologies is aimed to be integrated across classrooms and for student to navigate independently.

FINDINGS FROM INTERVIEWS WITH COLLEGE STAFF

We conducted a total of six interviews across BCoT including two learning technologists and four lecturers. The following are the findings from the interviews.

Benefits of using education technology

All interviewees at the college acknowledged the wide-ranging benefits of integrating digital technologies in their practices. There is an element of self-reflection for both lecturers and students about the progress they make, effectiveness of the technologies they are using and skills they are developing. Lecturers can provide more real-life experiences for students when integrating digital tools that are used in workplace settings. Accessibility was a key benefit for lecturers, with the Course Director for Health and Social Care stating it was *'the small things such as the Padlet app that can make things more accessible'*. The Padlet app encourages students to contribute in the classroom anonymously and can therefore help remove the barrier for students who feel reluctant to participate because they are worried they will make a mistake.

Using technology in learning helps students be aware of the technology that they will encounter in their careers even in settings they wouldn't have expected. For example, in Early Years and Social Care. Lecturers pointed out that although students use technology in their everyday life, using these technologies may be different in the workplace and therefore EdTech tools in their future jobs can seem quite alien to them.

You have to give them different options because some of them are unbelievably quite scared of using different technologies – Early Years Lecturer



Additionally, all lecturers interviewed stated that integrating digital technologies didn't seem like anything new. They emphasised that it was important to train students in a way that shows how embedding digital technologies is the norm.

It is so embedded throughout the learning that it doesn't feel different or special...it's about training them to use these, setting expectations and the culture – Course Director for Education and Teaching

There was a lot of encouragement from the digital team for lecturers to test out different tools. **The digital team's main role is to aid lecturers in developing lessons through different EdTech tools and resources by understanding what they need.** They created a safe space for lecturers to trial different digital tools without the fear of failing through support that is readily available. This has provided a collaborative environment between the different support structures, rather than it being the role of one person. A lecturer might discover a type of technology to trial out and the digital team would be there to support and train all staff in its usage. It's a two-way approach between the digital team and staff.

It is important for teachers to know that they are not alone with the students...they have a support team who can help them if they have problems with the technology...and it's important for the students to see that and see that sometimes the teachers are out of their comfort zones...

– Course Director for Health and Social Care

Challenges of using education technology

Integrating EdTech across the college doesn't come without its challenges. From the perspective of both lecturers and the digital team there have been some difficulties. From an infrastructure side some cited unstable Wi-Fi connection, whitelisting of applications and home access limitations. Additionally, there are many problems that come with technologies, for example the distraction element, where students can get distracted or carried away using a specific EdTech tool not for the purpose of learning. However, lecturers stated that part of being an adult is learning how to manage that.

Confidence was cited as a barrier by some lecturers who may be coming from industry and don't have experience using technologies. However, with the right training



the digital team's support can boost their knowledge and experience and provide options for teaching using technology. **For the digital team it is key to show the lecturers that they are not alone in their learning.**

There was a bit of a breakthrough with vehicle mechanics as traditionally it's not very techy but very hands on...they have used an app called Wrench, a virtual tool that has allowed students to virtually dismantle a car – Learning Technologist

However, the digital team discusses how **in the end it is down to the individual lecturer and their level of engagement.** At first many staff members feared change because integrating technology was a completely different way of working and something they are not used to. Over time, **the digital team has received much more positive engagement, especially through the use of their collaborative approach** where they encourage staff to share best practice through Google+ and during inset days where different departments speak to one another. It comes down to the perspective the college adopted in encouraging staff to see the benefits of using digital tools.

Once they started seeing the team were there to help them and enrich their lessons, rather than replace them, that made a difference – Learning Technologist

CONCLUSION

Developing and integrating the digital strategy comes with its challenges including a long-term investment in time and money. As the digital team stated **it is an individual responsibility for staff to adopt different tools and utilise them in their practices.** The approach adopted by the digital team illustrated the support the lecturers had to trial different tools. The lectures interviewed at the college valued the support offered by the digital team and were comfortable with the digital tools they were using. It is clear that the staff viewed the benefits of the technologies when they were used effectively, specifically in terms of their applicability in the workplace. The college vision of openness and support in trying new things filters through the college.



BASINGSTOKE COLLEGE OF TECHNOLOGY'S RESPONSE TO COVID-19

Sky Caves, *Learning Technologist*

Before lockdown



In the weeks leading up to school/college closures, we put a plan in place so we could prepare staff and students if and when we closed. The college made a strategic decision to use Google Meet to host lessons. We chose this platform as all staff and students had Google for Education accounts already, so we wanted to make the adoption of a new tool as frictionless as possible. To ensure ease of access to lessons, our Information Services Team added the links for the video lessons to students' and staff members' timetables on the Dashboard, which is the college's in-house Electronic Individual Learning Platform (e-ILP). Students and staff are used to seeing the Dashboard every day when they log into computers on site, so we chose this as it is something everyone is familiar with and knows how to use. Having chosen the platform, the Digital Team created resources - including video walkthroughs and cheat sheets - which detailed how to use Google Meet and best practice for hosting lessons this way, such as loading up resources before lessons to save time when screen sharing and tips for troubleshooting common problems.

We repurposed the staff inset day the week before lockdown for contingency planning and every team around the college spent this time to agree how they would communicate as a team; what tasks would need to be prioritised when working from home and so on. In this sense, each team was given the freedom to choose what would work best for them. On the inset day and for the rest of the week, the Digital Team ran training sessions for teams across the college - primarily on how to use Google Meet but also on a needs basis, helping teams identify and get to grips with any tools or platforms which would assist their remote working. The Digital Team also created video walkthroughs for students to show them how to access their remote lessons, and once lockdown was inevitable, we went into classes to help lecturers do test-runs with students and address any questions or concerns.

During lockdown

Since lockdown began, the digital team has been supporting staff and students via phone, email and Google Hangouts, Meet and Chat with day-to-day technical issues. Lessons for the majority of courses still run to the same timetable as before lockdown, though this by no means needs to be all classroom delivery. Many lecturers do delivery on Meet to begin with, then send their students to Google Classroom to complete work, checking in again at the end of the allocated session time. Others utilise a flipped learning model or use the allocated lesson time to do one-to-ones in Meet, with students completing work set in Classroom in between their one-to-one.

Courses for our most vulnerable students are being run mostly on a basis of one-to-one support time with work otherwise set on Google Classroom, rather than whole class Meets. All students also have contact details for our Designated Safeguarding Officer and their tutors, as well as onsite time for the most vulnerable. We have also created a virtual staff room for all staff in Google Chat, as well as smaller departmental virtual staff rooms, where staff can share advice, questions, best practice and also just have a chat with one another, to foster a sense of community. Our principal, Anthony Bravo, records regular video updates for staff, and we also still host our weekly teacher briefing, just now virtually in Google Meet. All of these videos are then shared in the virtual staff room for those who were unable to attend live. Our Quality Team and other members of senior management regularly drop into virtual lessons, much alike informal walkthroughs in a physical environment, and then work with the Digital Team to find solutions to common issues or suggest new tools or ways of working which will make things easier for staff and students.



Dundee and Angus College

Dundee and Angus College (D&A) is one of the largest colleges in Scotland with approximately 23,000 enrolments. Located in the Tayside region, Dundee College completed a successful merger with Angus College in 2013 with three main campuses Gardyne Campus, Arbroath Campus and Kingsway Campus. The college delivers their provision to people aged 16 and over, encompassing introductory level courses to post-graduate level courses, work-based learning, vocational training and further and higher education programmes leading to nationally and internationally recognised qualifications. Additionally, the Future Talent initiative at the college is a collection of products, services and activities that support the employability and enterprise skills of all learners and supports businesses to recruit, retain and grow their workforce.

There is a college-wide STEM strategy for the Dundee City and Angus region due to the region's lower numbers of people in STEM occupations than the rest of Scotland, England and Wales. The strategy outlines how the Dundee City and Angus region can create a unique collaboration between D&A College, schools, government agencies, councils, regional bodies and universities to maximise STEM education and build capacity, ensuring a skilled STEM workforce aligned to industry demand.

The college has been looking ahead to improve all aspects of their work to define the way the college should operate towards 2020 and beyond. The Good to Great Strategy outlined in their 2018-2020 Regional Outcome Agreement was developed to ensure that D&A students benefit from higher levels of attainment and are better prepared and equipped for the world of work.

The three-year strategy is designed to take the college through a journey from 'Good to Great' underpinned by a college-wide digital strategy aimed at transforming the curriculum and taking '*learner experiences to the next digitally-focused level*'. The strategy aimed to revise the curriculum and adopt new subjects within STEM, as well as underpin their delivery systems with a digital strategy to deliver a 'College on Demand'.

If we are allowing people to come through the college and not getting that digital experience and not making it a part of their learning and not assuming they have to be digitally literate then we are not doing our jobs...we have to turn people into becoming digitally literate so they can take part in the democracy and understand what's going on – Principal

DIGITAL STRATEGY

Through a visit to D&A College we observed **the digitalisation of many aspects of the college** that allow students and staff to become digitally capable and confident. In 2018 D&A launched their digital strategy where learners will benefit from exciting digital curricula to prepare them for the digital age and new employment opportunities supported by digital practitioners. The college aimed to design and construct approaches and support mechanisms to create a culture where staff and students are active users of technology. The digital strategy was kicked off by understanding the staff digital baseline through self-assessment to measure what staff were digitally capable of and delivering, and what support they might need and how they can gain skills and confidence in their digital skills.

Through interviews and observations across the college it was apparent that the entire college was structured and underpinned by their digital strategy with multiple characteristics and initiatives running across the college to create a digital environment for learners to be surrounded with. After the college staff's digital baseline was defined, digitally-centred training was developed to support relevant needs of staff. The digital strategy followed Jisc's four practical steps to building organisational digital capabilities.

Key characteristics observed across the college illustrated a **holistic model underpinned by their digital strategy**, these include:

- **Learning hubs and Fujitsu sponsored innovation learning space** consisting of 3D printers, VR headsets and other gadgets. Different courses can use these rooms for teaching and students can book the rooms to learn about some of the tools;
- A 'digital mile' where each room is sponsored by an employer (Microsoft, Cisco, Oracle, Ninja Kiwi, MTC media and others). There is a lot of employer engagement from the sponsors with the classrooms set up in a similar format as offices. Employers also use this space to recruit students from the college;
- Staff e-learning resources are constantly developed, and staff can ask the learning and digital resources staff to introduce new tools or resources to support aspects of learning;
- A 'tech a minute' blog where a video is published every week to show how to do something digitally;
- A data visualisation tool called Power BI allowed staff to view current statistics of student data such as



what courses and levels students are dropping out of and at what time of year these drop outs occur. This allows the college to design different interventions based on this data.

These are some of the digital features witnessed across the college, however there were many more. **Across the college these different characteristics come together to surround learners with digital tools and resources to independently explore and develop their digital skills.** There was an awareness among staff that ways of working had to become more digitally set up to keep up with society. The Vice Principal of Curriculum and Attainment, claimed the college surrounds students with digital tools as much as possible, stating: *'we try to embed it within their day to day life but give them enough support to learn how to use them'*. This showed how the college did not force tools on lecturers but instead tried to illustrate how and where digital tools can be used to assist tasks. Interviews with college staff including learning and digital resources staff evidenced this further.

FINDINGS FROM INTERVIEWS WITH COLLEGE STAFF

We conducted interviews with nine lecturers, two members of the digital team and the college principal. The following are findings from the interviews with excerpts from lecturers.

Benefits of using education technology

Overall, staff found using digital technologies very efficient for their work and provided much more flexibility for the types of activities they developed in their classroom. They found it allowed them to save time doing administrative work and therefore had more time for other tasks. Staff had a keen interest in learning about digital tools that can be used in their teaching. Additionally, staff mentioned that it was necessary for digital technologies to play a larger role in teaching and learning. **With many primary and secondary schools adopting new technologies, they believed colleges have to be on the same track and the digital strategy and for D&A, the college has allowed this to happen.**

The importance of developing digital skills among students was expressed by all interviewees at the college. Staff expressed their views on how integrating digital resources in their lessons was necessary for themselves and learners. The use of education technologies engages them much more and provides more real-life learning experiences.

To do the digital part becomes the exciting part of a boring lesson and makes it real for our learners – Health Lecturer



It has also made more staff aware of what 'digital' can do for students and where it can take them. There were many positive examples of how using digital technologies was necessary for a college and for students to develop their digital capabilities. Using Cahoots and Padlet were cited as very fun apps that both staff and students enjoyed using. Specifically, showing students how workplace tasks are going to be digitalised. For example, the science lecturer interviewed said students have a go at DNA sequencing which involves them accessing a database, putting information into it and working out where the DNA comes from.

It's about making them digitally aware that everything they are going to do in life is going to be digital – Curriculum and Quality Leader for Science

All respondents at the college mentioned **that students have embraced all technology and that the college did a great job at illustrating a digital aspect in different parts of the college**. Students appeared to enjoy using the VR headsets, the learning labs and teaching one another how to use the digital tools. According to the learning and digital resources staff, there has been a cultural shift among staff with greater engagement and collaboration within their team. **The**

I love when people go into the learning lab and they use something and then just love it and you can hear them laughing because they're not expecting it – Learning and Digital Resources Manager

Staff upskilling in the use of technology across the college helps how information is being portrayed to students and it is not just death by PowerPoint. It is important to be industry relevant and using technology is seen as a key element in achieving this. For example, some platforms have been changed overtime, the apprenticeship assessment strategy at the college was on an old online platform to communicate with students and their employers and now it has been changed to OneNote for students to be able to use it on their phones.

Digital skills are in every single industry now regardless weather it's a mobile phone or an iPad...so this digital strategy would be able to explore possibilities in different sectors – Head of Sector for Creative Cultural and Digital

Moreover, **staff work across departments to view and share how different technologies are being used, and within each department there is a consistent**

... since students are more familiar with the technology, they feel they are contributing to planning some of their lessons.



use of digital tools. Some staff mentioned that they had initial assumptions that students were going to come with more knowledge on how to use digital tools. However, over time they have found that using digital tools is important for both students and lecturers learning. Lecturers have to embrace the technologies for both themselves and their students. Just like students, lecturers have a lot to learn and since students are more familiar with the technology, they feel they are contributing to planning some of their lessons. Using the digital tools for both staff and students has made processes much easier.

There has been easier access and submission of information, easier to share with students and across teams and get information to people quite easily – Workforce Development Leader for Computing and Creative Media

Challenges of using education technology

Some members of staff discussed the internet connection and access to resources as a small challenge in using the different technologies, especially in different places across the college. However, after being aware of some of the limitations staff were able to gauge the best time and tools to use. At first the learning and digital resources staff found it difficult to convince all staff to adopt digital tools in their teaching. In some courses it has not been integrated as much as others. For example, initially in Art and Design it was not integrated to its full capacity because of the nature of the course.

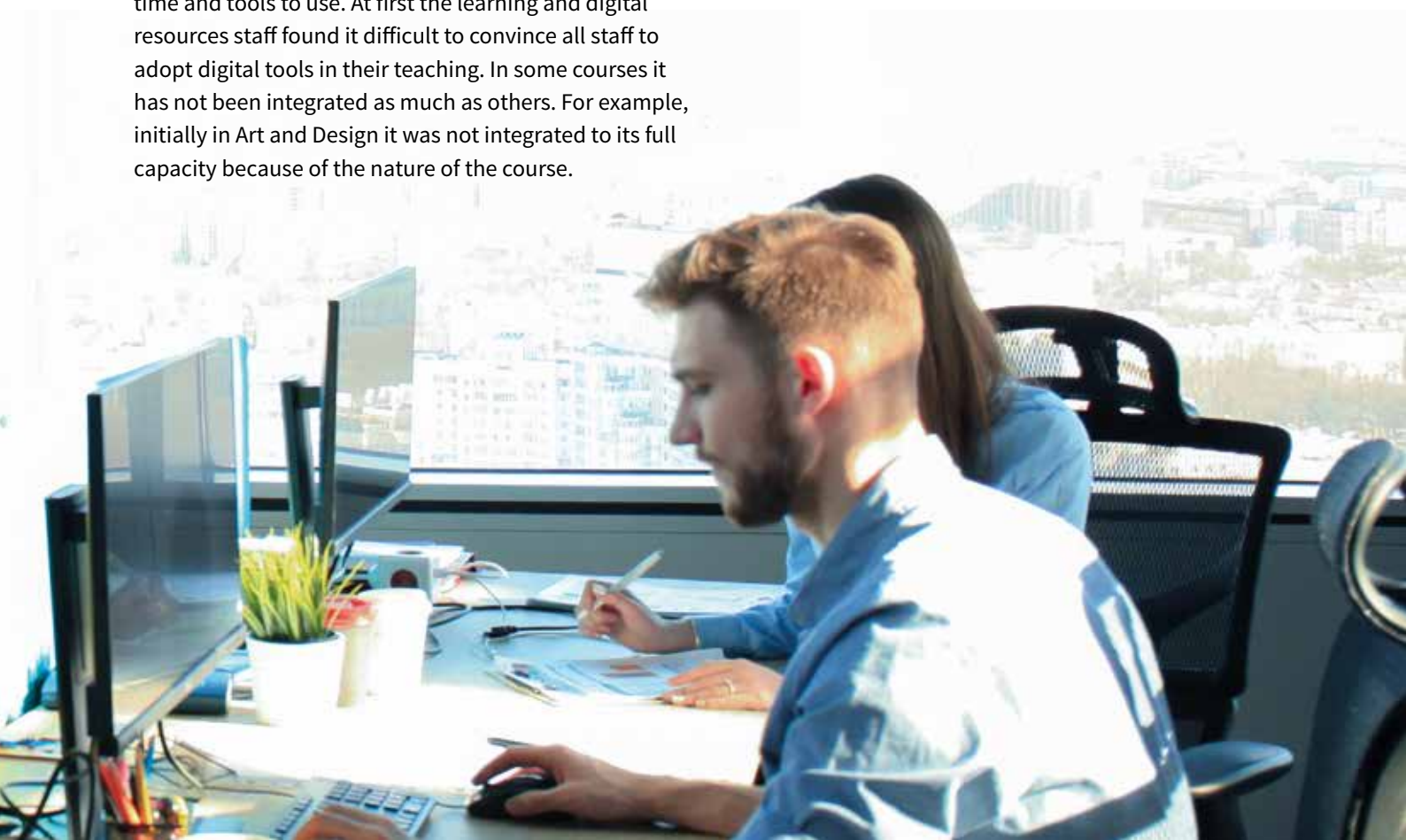
You need to make them feel that it's contributing to their course and showing what it can do

– Lecturer in Art and Design

Many lecturers were discouraged when they didn't understand the college online system. It was important for the learning and digital resources team to try and support staff and reduce the fear factor. Encouraging them to ask for help would make them more likely to continue using digital tools. Providing support beforehand or during lessons built up staff confidence much more.

That 'can't do' mindset would come in when teachers didn't know how to use tools, especially in front of students – Learning and Digital Resources Manager

However, with time the digital strategy has proved to be beneficial for the college in defining their focus and structure for the work being accomplished. **Also, it was seen as important to provide purpose for all staff as to why education technology is being disseminated across the college.** Modelling from different staff and constant training was key to developing teachers' confidence.



It's not talking about digital but talking to them about what problems they are facing...until you can relate it to something they can solve like I don't have time to do x,y,z and showing them, so flipping that model and talking about their challenges and digital solutions – Vice Principal Curriculum and Attainment

Although staff stated that many students were keen to use the technology at the college, the more mature learners were more fearful of using digital tools. However, there are younger students helping and encouraging older students to use the technologies which has helped. Some challenges lecturers expressed is that digital tools sometimes don't work. When a tool doesn't work it can be a large barrier for some lecturers to continue trying to use the technologies in the classroom. Many lecturers mentioned that through the use of new technologies such as Microsoft Teams they can overcome the challenges in a timely manner. This is through speaking to different members of staff in real-time and receiving instant support. In some cases, there are barriers to access, for example downloading and accessing journal articles. However, staff are encouraged to try different ways to access the articles.

The accessibility of it, sometimes you need a licence and you need to pay for it and that can make it quite difficult to continue using tools – Curriculum and Quality Leader for Science

It has been essential for the learning and digital resources team to remind staff that digital tools can help with almost everything, even with simple tasks such as room booking online can save time. The senior leadership team did not want staff to feel like technology is being imposed on them, but rather that staff understand the reasons and see the benefits of adopting digital tools.

That recognition that we've gone from tech holding all the power to the power being for everyone able to use digital to be able to upskill and improve their lives – Learning and Digital Resources Manager



CONCLUSION

It is apparent that the digital strategy has had a positive effect across the college with more staff integrating different digital tools day by day. With strong support from the leadership team and learning and digital resources staff there is an atmosphere of promoting digital skills to benefit students' future careers. However, the college reminds us that it **is not an easy task to embed digital tools across different parts of the college and it takes time and investment to do so.**

Dundee and Angus College believe that with excellent stakeholder engagement and industry partnerships their digital plans will support not only staff and students, but the wider community in the Dundee and Angus region. From 2020 onwards, the college aims to:

- In key economic areas, build the curriculum on a digital learning model that gives learners access to mobile learning on demand 24/7
- Underpin all college activity with STEM opportunities and career guidance
- Encompass 'real life' project-based and interdisciplinary learning in every subject
- Integrate commercial activity fully within their curriculum
- Achieve a 5% increase in commercial activities.



Suffolk New College

Suffolk New College is a further education college based in Ipswich with two further campuses in Leiston (On The Coast) and in Otley (Suffolk Rural). The areas of study at Suffolk New College align to the region's key sectors and industrial priorities specifically in STEM areas, which contribute towards the skilled workforce of the future. The total number of students enrolled in 2019/2020 is 5,185.

Developing 'work ready' skills is a fundamental aim of the study programmes and students develop key employability skills as part of their courses. Programmes contain transferable skills such as communication, IT and customer service -important elements that help students to remain employable in the changing job market.

In the college's [strategic plan](#), the college aims to promote local and regional priorities through:

- Developing provision to meet local education partnership (LEP) and local skills priorities in STEM subjects
- Working with partners to support national infrastructure projects within Engineering, Construction and Nuclear industries
- Developing and broadening the range of study programmes to align with the new technical routes
- Increasing the offer of the new Apprenticeship Standards and engaging new employers

- Ensuring that the offer at Otley Campus meets the needs of rural industries, agri-food/tech sectors and industries for the future.

In 2020 the college will become a T-level provider and will roll-out all T-levels in 2021. Over the past few years the college has grown their apprenticeship offer along with working closely with the University of Suffolk to expand their higher education provision. This partnership enables local access, raising aspirations particularly in Ipswich, an area that has been recognised by the government as an 'Opportunity Area', to help promote social mobility.

DIGITAL STRATEGY

Based on the interviews conducted across the college, technology has been viewed as a college-wide priority. For the past two years the college has focused on technology enhanced learning (TEL). In the first year of the digital strategy the college conducted a complex audit on digital literacy skills where staff members' digital skills were surveyed. An analysis of the audit in

July 2018 provided a baseline for the college to develop training. **A key feature witnessed at the college during Edge's visit was their CPD programme. Each week there is an evening dedicated to CPD, within this schedule there are six TEL related workshops.** Each of these sessions is developed according to the results of the digital survey. These workshops are delivered using both external experts and staff members who have experience in technology.

Since September 2019, the college as a whole decided to take an hour off the teaching timetable and turn it into a blended learning session for the students. This has forced everyone to put blended learning in their curriculum. Additionally, the college employs an E-learning Developer to help lecturers learn how to teach with different technologies and who offers unlimited support to staff.

Another standout practice at the college was their annual learning fair where staff would share how they have used technology to enhance their teaching and learning experience. Across the college there are digital hubs for staff and students to use to trial different digital tools. The vision of the college is to move towards a blended learning approach with an aim of approximately 20% online learning. Staff have the flexibility and freedom to do this in their own way, either through a flipped model where they give

students online material and come to the lesson ready for a practical lesson, a whole online approach where an entire unit is delivered online only, or a blended approach.

FINDINGS FROM THE INTERVIEWS WITH COLLEGE STAFF

A total of five members of staff were interviewed during Edge's visit to Suffolk New College, including three lecturers, an E-learning developer and a Development Coach.

Benefits of using education technology

Teaching staff interviewed at the college all believed that using technology in the classroom helped them with their preparation and organisation which allowed them to save time to do different things. Using applications such as Google Classroom helped with the preparation for large class sizes that consisted of different levels and needs.

As a teacher and teacher trainer the use of Cloud had made our lives so much easier in terms of sharing information in real time with mentors, external providers and between each other –
Development Coach and Teacher Trainer



Lecturers see the use of digital tools as improving both their own digital literacy and their students.

Using digital tools has also allowed for more student engagement in lessons. The E-learning Developer at the college stated that it was a mistaken assumption that students will not do the work through watching a video. Students' experience with technology tends to be what they do with their friends on their phone and this is different than learning technology, which they are less familiar with. However, by using the everyday technology students have access to such as their phones, staff show them how it can be used for their learning.

They are always on their phones, if I put [on] a quiz which they can access through their phones instead of a laptop then they are really engaged and happy to do that – Progress Tutor in Foundation Learning, Sport and Public Services

Staff believed it was very natural to use technology and saw it as threaded through their teaching rather than using separate tools. The Head of English felt her favourite part of using technology was seeing the unexpected ways it can be used, especially in a subject such as English, where it is assumed that it is difficult to integrate technologies. Some tools allow for text and concept visualisation.

Using the visualiser software tool has really helped with English because of the ability to model parts of the lesson. You have that permanent record and it is quite engaging for students because it is very visual – Head of English

Moreover, staff are provided with flexibility to use the different platforms available to them. One staff member shared that the best part of integrating technologies was experimenting with new digital tools. Staff are keen to share how they have used different tools among one another to try and build collaboration and confidence.

Sharing practice is key across the college both between staff and during the TEL CPD workshops.

During the CPD workshops new digital tools and resources are introduced to staff with an illustration of how they can be used by everyone.

Success stories and case studies are shared in the staff bulletin, so staff get to see what is going on around the college and in different areas – Teaching Development and Quality Improvement Lead

Challenges of using education technology

The college building is more than 10 years old which has caused some issues such as poor Wi-Fi infrastructure in some parts of the college, minimal IT facilities and old tools such as interactive whiteboards. However, the



The vision of the college is to move towards a blended learning approach with an aim of approximately 20% online learning.

development coach at the college assists in overcoming these issues by being creative with the tools that can be adopted. Yet, an issue is to develop confidence among staff. A problem cited by the E-Learning Developer is when the technology does not work, staff tend to give up on the first try. **It was crucial to try and eliminate the mind-set of giving up or the fear factor of trying new tools.**

Blended learning has been introduced into study programmes and a lot of work had been done to prepare staff...this was challenging as it was a very different approach to teaching

– Development Coach and Teacher Trainer

This led into many lecturers believing that there were too many tools being used and introduced to students. Staff worried that more students were getting distracted because of the range of tools available to them and therefore the main objectives of the lesson can become lost.

People say to me students get confused because there are too many tools. My argument is that they need to be learning different types of tools because when they get to the workplace, they are going to be expected to use those skills

– E-Learning Developer

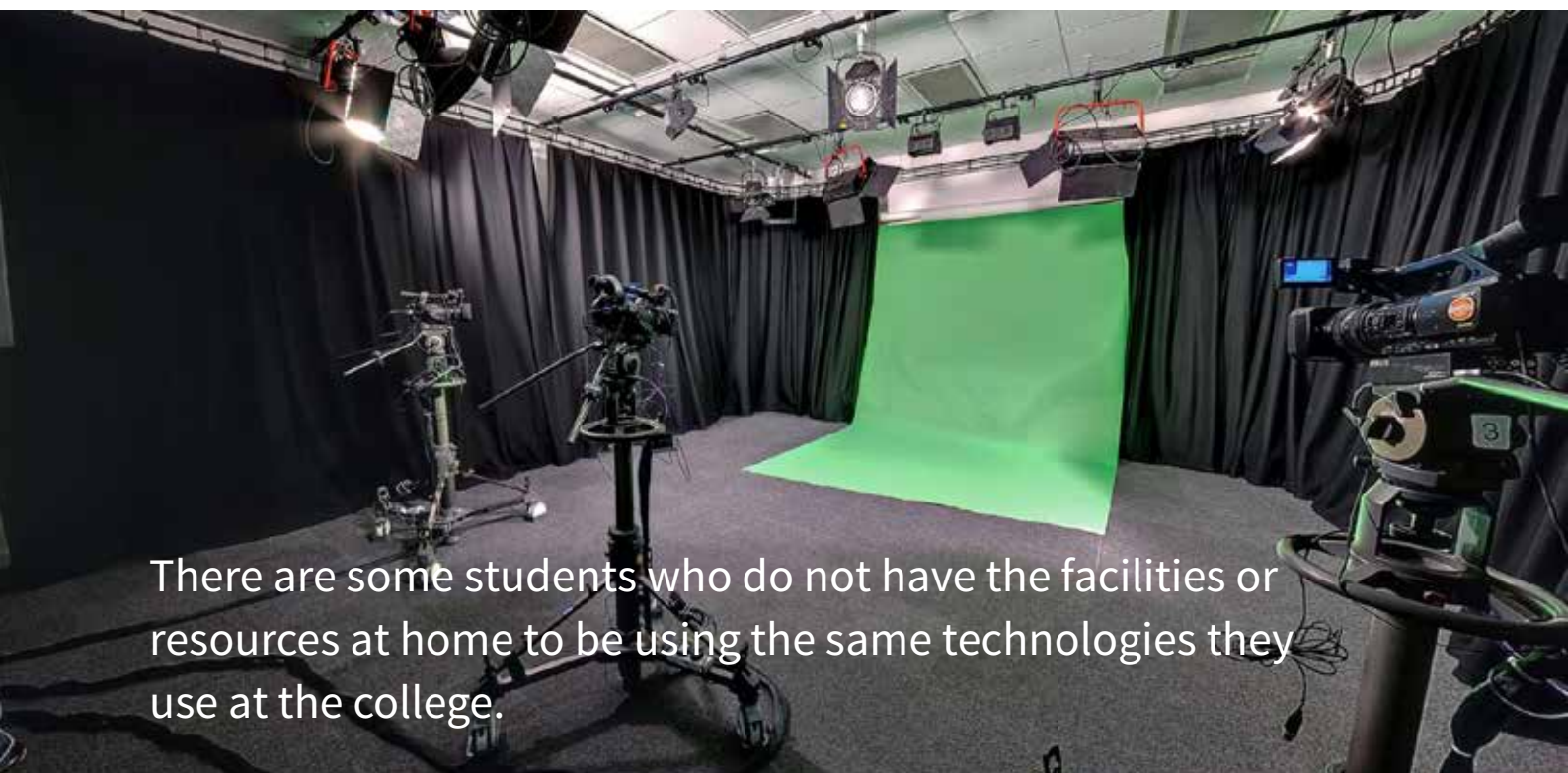
Staff noted that it is not only the reluctance from staff but also from students to try new things. When introducing something new even students can see it as a waste of time. **In an age where students are surrounded by technology it may be more difficult to engage them. However, staff continue to find ways to build student engagement.**

I had a student who found it really boring but then I told him give me a week and I'll change it up. They have turned around and that student is really enjoying it now – Progress Tutor in

Foundation Learning, Sport and Public Services

On the other hand, there are some students who do not have the facilities or resources at home to be using the same technologies they use at the college. Staff expressed their interest in finding more solutions to this barrier for some of their students.

According to the E-learning Developer at the college there are lecturers who are keen to sign up to the TEL CPD workshops and lecturers who are still reluctant to engage. However, **the college has witnessed these challenges slowly disappearing because the staff confidence in using technology has developed.**



There are some students who do not have the facilities or resources at home to be using the same technologies they use at the college.

It is down to the teacher to build digital literacy in their students and that does not happen until that teacher becomes literate in it themselves

– E-Learning Developer

CONCLUSION

The use of education technology at Suffolk New College can be seen in many different areas across the college. There are still challenges in getting staff and students comfortable using the tools, however once they are used effectively the benefits are witnessed. **The CPD programme has been one of the main focusses of the college to engage staff as much as possible with the technologies they can adopt.** Staff benefit from the TEL-focused workshops where discussions often emerge about a range of tools across different subject areas. The college plans to have greater investments in the future to trial more tools out and further thread education technology into teaching and learning.

SUFFOLK NEW COLLEGE'S RESPONSE TO COVID-19

Darren Simons,
Development Coach and Lecturer
for Teacher Training



The week before the college closures, a number of policies were written to support lecturers and students to move to remote learning. We created clear guidance and protocol for online learning for all lecturers. The minimum standards were to set work for students each week, assess the work and give feedback regularly. We also arranged for Progress Tutors to carry out wellbeing checks on students and record any issues on ProMonitor and raise any safeguarding concerns. We ensured that all our college systems were accessible externally and provided external remote access to college desktops. Plus we provided drop-in coaching sessions throughout the last week to support staff with their online delivery.

During the college closure, we continued to offer CPD for staff with their online learning, this was done via Google Meet and was run as Q&A sessions. We also set up a virtual staff room using Google Classroom where we shared online courses and tips for online

learning with our teaching staff. For all college staff, we created a new area on our intranet (Sharepoint) called Covid-19 for all policies and support documents. For disadvantaged students and staff without a device, we provided college equipment and additional equipment from the Government scheme so they were able to work remotely.

We have reviewed the college policies and guidance twice during the college closure through the TEL meetings, which includes staff from all aspects of the college. We have just conducted a review of all the teaching online tools used in the departments of the college and are currently mapping the use between levels and subjects. This will inform our plans moving into June/July and also for the new academic year in September.





Belfast Metropolitan College



Belfast Met College is one of the largest further and higher education colleges in Northern Ireland (NI) with over 37,000 enrolments per year. The college offers a range of courses for different needs from apprenticeship level 1 courses, to those undertaking degrees at post-graduate level. The college has developed a curriculum which mirrors priority growth industry areas in NI to support future job creations. It has a long history of partnerships with industry constantly contributing to the development of the curriculum to meet the skills demands of the economy.

Their corporate plan, *Leading the City to Work 2016-20* lays out both a vision and mission for the college and the priorities that will guide their future strategies and plans. There is a commitment to ensure deep-rooted connections with local, national and international employers, working with them to define their needs and designing and delivering the most relevant and effective skills solutions.

The Edge Foundation visited the Centre for Supported Learning at the college which delivers full-time and part-time further education, vocational training and skills and independent living skills programme at entry level 1 for students with severe, complex and moderate learning difficulties and disabilities (SLDD). The centre enables young people to transition and progress from Northern Ireland special schools or from mainstream secondary schools into further education where they will study alongside further and higher education students in a fully integrated and holistic college experience.

DIGITAL STRATEGY

The visit to Belfast Met College offers a unique perspective to the use of EdTech to help support students with a range of learning difficulties and disabilities. **Using technology enhanced learning (TEL) is at the heart of what the Centre for Supported Learning does to enable progression for their students.** It is embedded in the range of learning, teaching and assessment strategies used by lecturers with students and also the wider students experience. The curriculum school work closely with the college TEL support team and the college IT services department, as well as the learner services department to plan, resource and introduce relevant EdTech tools and support lecturing staff and students to develop the relevant skills and confidence to use it to best effect.

A range of tools used was witnessed across the centre that reflected the digital strategy applied at the college. EdTech tools are used to enhance the student induction

experience, for example a bespoke app was specifically designed to create an accessible tool for students with severe learning difficulties and mobility/ dexterity impairment. A bespoke 360° video technology was used to enhance students' transition from school to college by illustrating the campus, classrooms and assistive tools used at the college. Additionally, students and staff use a range of new EdTech equipment such as large portable SMART screens and iPads to support accessibility for students with severe learning and physical disabilities by catering learning to their needs through the technology. The centre has built a strong relationship with their tech suppliers to help get the adaptations they need. Students who have additional needs receive a detailed assessment and training on the range of tools available to them. **The college staff are committed to ensuring that SLDD students and the lecturers who teach them have access to the latest technologies and e-learning activities to illustrate to students they are not disadvantaged by their disabilities.**

FINDINGS FROM THE INTERVIEWS WITH COLLEGE STAFF

Three staff members at the centre for supported learning were interviewed: one lecturer, the head of Health, Wellbeing and Inclusion and the IT specialist.

Benefits of using education technology

Using technology in the Centre for Supported Learning has helped improve access to courses for SLDD students. Staff members interviewed voiced that it will provide the digital skills the students need to apply for jobs. **It has been a challenge to measure students' outcomes apart from their academic skills and therefore using more digital tools has helped showcase other skills SLDD students hold.** They have developed digital badges to help students track the skills they develop and can showcase in the workplace. Staff offer constant feedback to students who struggle with different aspects of the technologies being used. The use of videos was a key practice that helped students keep a record of feedback lecturers would have recorded for them.

We are keen to develop resources and help students create e-portfolios which can be used when applying for further learning and jobs

– Lecturer

Integrating digital tools in learning allows for inclusivity, each student is able to use the same technology with different adaptations of it. The team try to make sure that nothing looks different for the students from other parts of the college because staff believe once these students go into the real world, things will be the same rather than catered to their needs. Students can use a range of applications suitable for their needs and applicable to all levels. The digital tools lecturers decide to use are led by what is needed in the classroom, as well as some bespoke hardware developed for some students.

Some of the content can be more fun and act as a good aid for memory too, visually appealing for kinaesthetic learners – Head of School



After an induction process to the college's online system and how to use the technologies, students become more comfortable with the technologies available to them. Overall, the use of technology in the college has encouraged more students to participate in their learning, because the tools allowed for adaptability to their needs.

Learners are certainly more engaged and excited about learning with the introduction of these tools – Lecturer

Challenges using education technology

There are some specific issues for students with learning difficulties and disabilities when using the digital tools. For example, many students have had difficulty remembering passwords when logging-in to computers at the college. However, the team at the centre are always in search of solutions that can be adapted to their needs.

The team is trialling facial recognition as a way for students to log in as they struggle to remember long passwords – IT Specialist

The IT team at the centre visit local SEN schools to research the needs of the new students coming into the centre the following year to help cater their support. Other adaptations to technology at the centre include, screen masking which tints the computer screen to help make words more visible to some learning, braille keyboards which have allowed for some students to engage for the first time at the college and the use of a joystick with Yes and No buttons to help engage directly with the computer. It was clear that the team spends time and resources integrating and adapting the resources to be fit for the centre.

We realised that if we just dropped the technology in the classrooms it would never get used – Lecturer

The staff at the college expressed the need for greater support with the integration and introduction of new tools needed at the centre. The centre would like to utilise more technology and the team is proactive in looking for the latest technology that can be adapted to support learning for students at the centre.



CONCLUSION

The use of different education technologies is encouraged and illustrated at the Centre for Supported Learning. It is positive to witness that the centre is aiming to provide inclusivity for all students through the technology they have adopted. There is a range of hardware and software available to students and staff. The staff have found that students can benefit from the technologies brought in with additional assistance in mind. There are challenges in the use of the tools, however, the team at the centre are confident that the adaptations to the tools deliver the same functionality to students allowing them to receive a more enhanced learning experience.

BELFAST MET COLLEGE'S RESPONSE TO COVID-19

Michael Patterson, Lecturer



There is no doubt that lockdown has proven challenging for our learners with severe learning difficulties in individual provision. A summary of the activities we have been doing are:

We are conducting a minimum of a weekly telephone call to each learner or family to check on learning, health and wellbeing and just to keep in touch. We have had lovely feedback from families around this strategy. Workbooks and tasks have been sent to all learners either electronically or via post. Learners are responding via video or through photos to weekly challenges posed by the college. We are conducting weekly competitions and a weekly quiz for all entry level learners. We have trialled the use of flip grid and QR codes with level 1 learners with great success as well as the use of Microsoft Forms and the use of Zoom for some level 1 learners to connect with small groups

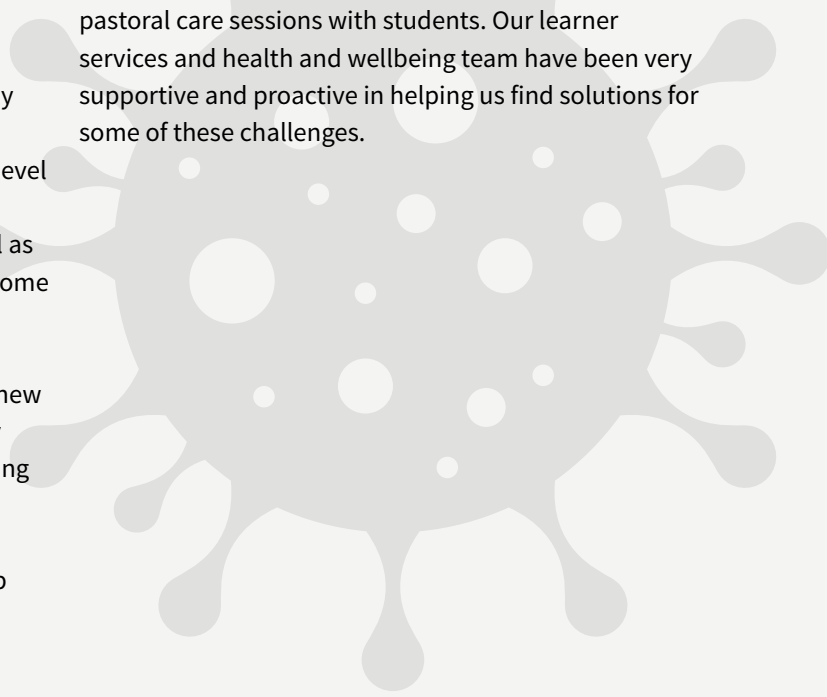
We have developed a [YouTube](#) site which uploads a new challenge or class every week. We are using industry experts for these such as a chef setting a simple baking task, or a renowned local artist taking an art class. Currently we are developing an app that will enable the students to complete workbooks online. The app

will provide a platform for communication between the student and tutors, this will be especially important if distance/blended learning continues into next year. It is also our hope that this app will enable students to safely connect with each other on a controlled online space. We hope to launch this app in September.

The biggest challenges have been keeping students engaged, although the engagement levels have increased as we have continued through lockdown as well as:

- Managing behaviour and pastoral issues through long distance
- Managing cyber bullying through long distance (to try and counteract this issue we are developing an interactive 'working safely online' learning package to be released to students over the summer period)
- Students lack of access to IT devices to complete the work assigned to them.

The lockdown has been challenging but the students and families have responded very positively to this. We have continued, via telephone and online, to provide support for some of our very vulnerable learners and families who are experiencing issues at home with behaviour, high levels of anxiety and those who are unable to access support from other agencies, due to lockdown. Where possible we have provided clear advice and guidance as well as holding telephone pastoral care sessions with students. Our learner services and health and wellbeing team have been very supportive and proactive in helping us find solutions for some of these challenges.



Conclusion

Each of the four colleges in this report have integrated education technology in a unique way:

- Basingstoke College of Technology has a **specialised digital team** run by learning technologists, apprentices and student volunteers that work alongside staff supporting them through any challenges they have using technology;
- Dundee and Angus College have linked their STEM strategy and digital strategy and created **a digital environment that surrounds learners and staff from the moment learners enter the college;**
- Suffolk New College **has a focused CPD programme with Technology Enhanced Learning sessions** running throughout the year for staff to learn, share and experience new technologies they can adopt in their courses;
- The Centre for Supported Learning at Belfast Metropolitan College has showcased how **education technologies can be valuable and an integral part of the learning experience for students with severe, complex and moderate learning difficulties and disabilities.**



There were commonalities across each college in terms of the benefits and challenges of integrating education technology in teaching and learning. **All staff expressed how using digital tools in teaching allows students and staff to become more digitally literate and see how digital skills will be needed in the workplace.**

This was witnessed even in industries or courses where digital technology may not lend itself naturally, such as an English course. At each college there was consistent support provided by the digital support staff. **A culture of encouragement was provided by the different staff members and senior leadership, with a key message in showing teaching staff how digital resources can help assist their teaching in many ways.** For both staff and students, it was necessary to integrate digital tools to enhance the teaching and learning experience. Teaching staff saw the outcomes and benefits of using digital tools, such as saving time, improved levels of participation, creativity and independent learning from students.

Nevertheless, integrating digital tools comes with its challenges. At each college there were some forms of infrastructure issues, such as poor Wi-Fi connection that sometimes made it discouraging to use digital resources. **The leading challenge was lack of confidence among staff in using digital tools at**

first. Some teaching staff were reluctant to try a new approach, feared failure in front of students and thought they were not digitally literate enough to integrate technologies. **However, in all four colleges over time and with the support of both a college-wide digital strategy and digital support staff, teaching staff became much more comfortable adopting and experimenting with new tools.**

This research was conducted prior to the Covid-19 school and college closures, and has investigated examples of good practices of how EdTech has been embedded in the college culture. The college responses to Covid-19 suggest that the support and enthusiasm for EdTech was instilled throughout lockdown through creative adaptations to online learning. **There is evidence, however, that the pandemic has posed challenges for colleges who may not have had the structures in place to support online and remote learning.** It will be valuable to view how colleges will retain some of their teaching approaches and digital tools used during lockdown when colleges re-open. Additionally, we are waiting to see what nation-wide and government support is provided to colleges to develop the digital infrastructure and tools needed to go further in integrating education technology across colleges.

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