

## Enhancing education and enriching the learning experience

**CoSector Digital** has a wide range of leading services and solutions to help learning institutions achieve their digital ambitions and offer all learners the best possible experience.

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# What's blocking edtech investment?

*Staying at the cutting edge of technology is a huge challenge for HE. Cathy Parnham talks to five key influencers about some of the biggest barriers to edtech adoption*

**E**dtech is big business: just take a look at Bett 2019 to see the scale of what is available. Yet, there is a perception that while university teaching staff would like more tech for the teaching environment, universities can be slow to embrace and roll out new technologies. Our panel of experts shares insight on some of the common challenges, from budgetary concerns and integration to cultural and attitudinal changes. →



**Q According to a recent report by Jisc, 61% of university teaching staff want more tech for use in the teaching environment. What are the key barriers to this and how can we address this?**

**CM:** For those who want to use and adopt new technology, one barrier could be simply not knowing how to implement it or who to ask for help to implement it. It's not an IT helpdesk issue, so where do they find the support they need? One way to overcome this barrier is to use learning technologists to help academics work through what they are trying to achieve and then suggest new tech solutions to achieve that result.

**PR:** The report finding requires some unpicking, which Jisc does via various focus groups and workshops. This indicates that, while a smaller group are keen to see whizzy new tech such as augmented and virtual reality (AR/VR) enrich teaching by providing a new immersive experience, there is a larger group that feels there is already plenty of tech out there and that it is now more a matter of seeing it properly used and embedded in curricula.

For the former group, funding is an issue because AR/VR kit and resources can be expensive. They will need to identify curriculum niches where the tech can add most value to learning and provide cost-effective routes for

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**“One barrier is the attractiveness of the high-profile tech initiative to certain politicians and vendors keen to generate a headline or sell expensive new kit”**

*Phil Richards, chief innovation officer, Jisc*

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developing or procuring AR/VR materials. Jisc is about to make some announcements here, so watch this space!

For the latter group, I think reducing 'friction' in processes around embedding can make a real difference. For example, digital assessments and marking should be streamlined as part of the new digital approach. It is always a shame to see great digital work printed

out, stuck into a portfolio book and marked with a pen, just because some assessment processes have not kept pace with technology.

**MM:** It's great to hear that staff are interested to integrate tech into their teaching but what often happens (not uncommonly with all tech) is that you have some early adopters and they start to integrate it a great deal while some late adopters don't at all. This can make for an uneven student experience and start to discourage staff from trying new things. It helps if there is an institutional approach to integrating technology in order to enhance teaching. You always need to start with a teaching problem or delivery issue that needs to be solved and see how technology can assist with this, rather than leading with the technology as this often isn't sustainable.

**NS:** The traditional education sector has typically been slow to adopt new technologies and, in some quarters, part of the challenge is to influence attitudinal changes towards online learning.

Where technology has been adopted, however, many universities have successfully utilised it for both student recruitment and blended learning and, in that respect, it is unsurprising that we're hearing from university teaching staff that they want to be using more technology in the teaching environment.

The adoption of any kind of disruptive technology requires a certain degree of faith. But it is important to remember that such technology has been adopted with great success elsewhere. FutureLearn, for example, partners with a quarter of the world's leading universities – including the likes of UCL, King's College London, Edinburgh, Bristol, and Monash in Australia – to deliver online learning content that can support traditional learning experiences.

That is an important point. Online learning is perceived by some as a threat to traditional education when in reality it can be a supplementary resource used alongside traditional learning. Online learning won't replace the modern day campus but that campus isn't an option for everyone, so online learning presents an opportunity for universities to broaden their target audience.

For some there also remains a certain amount of snobbery surrounding online learning and this idea that it is somehow a 'lesser' learning experience. We believe the strength of our partners, their online content, the pedagogy behind how that content is taught on our platform, and the fact that learners on FutureLearn can attain accredited qualifications and fully online degrees suggest otherwise.

**FH:** It's great that more teaching staff want to use tech in their teaching environment. Of course, this might not mean directly teaching with students but to enhance and facilitate their teaching. Despite these ambitions, there are inevitably barriers such as time, cost and practical use. It is not always straightforward to solve these issues as what works for one member of staff may not be useful for another, or part of their repertoire of experience. Time is no one's friend in education. Every new technology-enhanced learning

tool will need some time to get used to or time to explore. There are so many pressures on academic staff that having that time to 'play' isn't always an option.

As with costs, the budget could be set, but then there might be additional unseen costs that have an impact. Also, sometimes new software means upgrades to hardware, or functionality might be limited as the user gets used to the technology, so they might need more spend.

The last barrier that I noted was 'practical use'. Often, what might seem desirable might not be suitable for the context in which it is to be used. Various considerations need to be taken into account, such as equipment, licensing, amount of support and training required.

These have all been issues in my experience across UK institutions. A key to ensuring that the TEL gets applied effectively is staff development and with that support for developing and contributing to communities of practice. The sector has gone a long way to supporting each other to ensure that good practice gets shared and knowledge is updated. This can be invaluable to staff for both inspiration and practical application of their ideas.

**Q With rapid advances in technology, how can universities stay at the cutting edge, balancing budgetary concerns with student and staff needs?**

**CM:** Students have incredibly high expectations of their learning experience and have grown up with developing technology, so it is paramount that universities do make every effort to make sure they are up to date with new technology and their teaching staff are supported. To help balance budgetary concerns, universities should be looking at cloud-based solutions such as PaaS and IaaS, which offer scalability, security and business continuity. →



**PANEL**



**Clare McSheaffrey**, head of marketing and events, CoSector – University of London



**Phil Richards**, chief innovation officer, Jisc



**Dr Michele Milner**, director of learning and wellbeing, Royal Veterinary College



**Nigel Smith**, managing director courses and learning, FutureLearn



**Fiona Harvey**, director of digital education, University College of Estate Management

**PR:** Many recent advances are available at relatively low cost, or even free at the point of use. For example, Bolton College has championed the use of chatbot technology for student and learning support. Considerable progress has been made, without the need for up-front investment, because of ‘pay as you go’ cloud pricing models with relatively low cost per unit. Similarly, we are seeing universities and colleges start to question why a separate virtual learning environment is needed when tools like Microsoft Teams (integrated with Office 365) or Google Classroom (integrated with G Suite) do similar things and more – and provide direct experience and skills in use of tools that are widely used in the modern digital workplace.

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*Nigel Smith, managing director, FutureLearn*

**MM:** Universities need to ensure that students have the digital skills needed to be able to work in flexible ways, so that integrating technology is not really an extra but is part of the employability skills needed for students to work in most industries of the future.

**FH:** I mentioned communities of practice before, and it is an important factor in staying up to date. As a sector we learn from each other and are able to share our application of various tools for our own context through the networks that we belong to. We are stronger together that way and luckily we have some great communities, such as the Association for Learning Technology, Jisc and the Open Education communities.

**Q** How can universities ‘future-proof’ the investments they make in tech?

**CM:** As mentioned earlier, learning technologists collaborating with academics can make a big difference in the adoption of new and emerging technologies, ensuring they are used to maximum effect to achieve the desired outcome. AI can also help universities, not so much in future-proofing the technology, but in analytics and data – identifying at-risk students or forecasting drop-out rates, which is equally important as the technology itself.

**PR:** Universities should make sure their investments constitute a ‘blended portfolio’. First, they need to minimise the amount of computer hardware (or ‘tin’) within the portfolio, as its value can depreciate quickly. Of course, a certain amount of ‘tin’ is essential, for example to provide Wi-Fi connectivity in learning spaces at least on a par with what most students take for granted at home, as well as laptops, tablets or

other devices for student and staff use. Secondly, universities should leverage the connectivity (and the institution’s Janet network) to add to the portfolio lower-cost cloud services (such as Office 365 or chatbots as above), plus carefully invest in subscriptions for digital content that will be updated over time.

And thirdly, consideration should be given to investment in staff training and capability as a key part of the portfolio, as a proven way to maximise return on the whole.

**MM:** Working with technology companies to input into their roadmaps is useful, so that as the technology changes so does your relationship with that platform. Technology is not only about how we deliver learning but also about how staff across universities work, so ensuring that it is used in ways that help both students and staff work more flexibly and efficiently as well as interact in different ways is key to future-proofing.

**NS:** There is a widespread acknowledgement that online learning will play an important role in the future of education as part of a broader societal shift towards digital transformation.

Technology, however, will not make recruiting the right academic staff any less important. Technology in the wrong hands will fail: it’s not a people or technology scenario; both are essential.

Another way of viewing the question of future-proofing is in reverse: what are the implications for universities not keeping pace with changes in technology? Not adopting changes in the delivery of a university education is no guarantee of success, and by playing it supposedly ‘safe’, many universities risk looking out of touch and arguably irrelevant. It is hard to say with 100% certainty what the digital future will look like, but one hopefully reassuring point is that there is strong research to suggest that millions of people are already learning online. A recent Pearson study found that a majority of Generation Z children prefer learning from YouTube and videos rather than printed books. Nearly 60% of people aged 14 to 23 prefer YouTube as a learning tool, while 47% prefer printed books, according to the study. Fifty-five per cent of them also said that YouTube has contributed to their education. These children are future university students.

YouTube might not be the answer to all our education needs but the study does suggest that universities would do well to think about how they can incorporate digital into their offering, and online learning with trusted providers has to be part of the solution.

**FH:** Future-proofing to me means that our staff are able to be flexible and apply their skills to whatever the next technology is that comes along. The value for me in developing our staff





Illustration © freepik.com

with digital skills (identifying what their digital skills are as well as applying them) is essential in enabling an institution to survive. Your investment is only any good if your staff are able to use it.

**Q** How do universities cope with integrating new technology with legacy systems?

**CM:** You can integrate new technology with legacy systems, using standard industry methods, but the best way would be to maintain and upgrade to the latest version, using web services.

**PR:** Much money has been spent on enterprise service buses and the like, but they do not seem to be widely adopted. The recipe seems to be a small number of point interfaces or connectors between key administrative and learning systems (eg student records, VLE, timetabling) and some kind of central data hub that brings this key data together in a coherent way. This is the architecture of Jisc's Learning Data Hub, underpinning our learning analytics, intelligent campus tools and related work; we can help our members re-use and share experiences of connectors to more commonly used systems, which allows the whole sector to move forward together quicker.

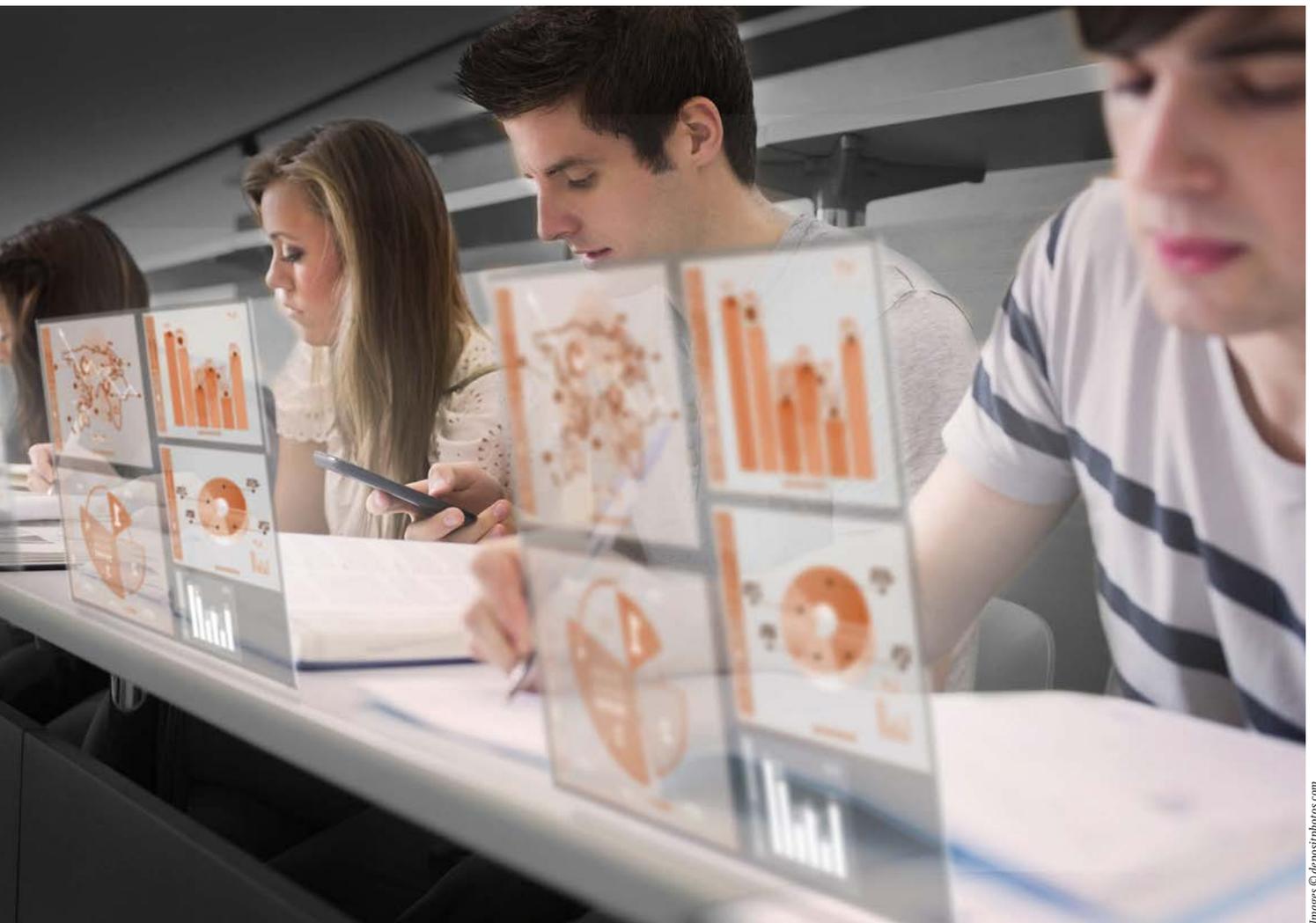
**Q** In your experience, is enough money allocated to tech and, if not, what are the biggest barriers to this? And how can this be addressed?

**CM:** It can be expensive to implement new technology, but one of the key things to take into consideration when an institution is researching new tech is to build a really good working relationship with your provider, so they can help you ensure the tech you are going to implement is sufficient for your current needs, but also scalable and flexible enough to meet your future needs for as long as possible. A good provider who can work with your team as a trusted partner and not just a supplier will make a big difference to future-proofing your technology.

**PR:** It is the case that more money would allow the sector to do more things, but I also have sympathy with the view that there is already plenty of tech out there that we are not yet fully exploiting in teaching and learning.

For me, one barrier is the attractiveness of the high-profile tech initiative to certain politicians and vendors keen to generate a headline or sell expensive new kit; the history of edtech is littered with such schemes that have delivered no enduring benefit. Instead, I feel what is needed is a more sustained approach where staff development is accompanied by changes in curriculum and process design and friction-reducing systems such as the Jisc Learning Data Hub, which allow the full value of the educational data held by institutions to be realised.

**MM:** I would say this varies widely. Usually not enough resource is allocated to staff development to use the tech or time for staff to innovate. →



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### Q Finally, what do you see as the biggest hurdle to overcome?

**CM:** There isn't one single hurdle to overcome – they are all part of the process with any new technology. For example, the realisation that your current system no longer meets your business requirements, should start the process of reassessing your needs, looking at what's out there in the marketplace that could meet those requirements, having budget conversations and then deciding what is the best way forward. So I would say there isn't one single hurdle; there are lots of factors to take into account.

**PR:** Looking further ahead, as the fourth industrial revolution (Industry 4.0) proceeds, and a new 'Education 4.0' emerges, I think the biggest hurdle will be how institutions retain sufficient control over their learner data and the need to train and fully utilise new AI-driven systems. People have been saying for a while that 'data is the new oil'; I am aware of many cases where institutions have handed over that valuable oil to commercial third parties as part of some wider service deal, often without realising its significance. Jisc is keen to help our members keep control over their data, and marshal it in one place, so the UK sector will be best placed in a global future education market to genuinely lead as Education 4.0 takes off.

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*Clare McSheaffrey, head of marketing and events, CoSector – University of London*

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**MM:** I would say rate of adoption, the actual roll-out and the teaching and development time required.

**FH:** The biggest hurdle to overcome is not the technology but the cultural change that goes with it. Technology moves fast, but change is a process that requires care and attention. Identifying and addressing the fears that technology can bring to the way that we teach our students is a huge factor in getting adoption to be successful, especially where mindsets are closed to new ideas and changes in practice. By developing the digital literacy skills for our staff, we can go a long way to support our students to become effective in their workplaces by using technology to its best advantage. 

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