TECHNOLOGY IN FE SPECIAL REPORT



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Kirstie Donnelly MBE, UK Managing Director City & Guilds

I'm really encouraged that at the heart of this report sits a clear indication that the further education (FE) sector is finally ready and willing to embrace technology. The sector has been playing catch up to other areas of education over the past few years but in 2014, the momentum behind digital adoption in FE has really picked up. We released a report at the start of the year, <u>Culture, Coaching and</u> <u>Collaboration: How to unlock the potential of digital technology in</u> <u>vocational teaching and learning</u>, which showed that there were pockets of innovation throughout the sector and that practitioners and organisations just needed the right support and encouragement to introduce more technology into teaching, learning and assessment.

This was followed by the Further Education Learning Technology Action Group's (FELTAG) recommendations, which we were a part of, that issued a call to Government, FE organisations and the funding and regulatory structure to make the right changes and investments that enable more take up of learning technology. The Government has responded to these recommendations and while it is too early to say whether their support will translate into action, it's good to see such recognition of the potential positive disruption that enabling technology can play in improving teaching and learning.

Ultimately, however, technology is an enabler not a replacement for great teaching and what this report highlights is a group of practitioners who recognise the importance of technology but need support to be able to properly embed it in their teaching alongside good and relevant content that sits behind the technology.

Many tutors surveyed told us that they would really value access to external and internal support networks to help them introduce technology into their lessons. At City & Guilds we feel we have a strong role to play in providing this support which is why we launched the <u>Think Out Loud Club</u> in February 2014 – an online and offline network for learning technology evangelists to share their experiences of using technology in their teaching, learning and assessment. The Think Out Loud Club provides information on latest technologies and hosts events where practitioners can come together and learn from each other.

I hope the momentum created in the first half of this year will continue to drive the sector forwards and that the Government and funding systems will provide the necessary investment and support to allow digital to flourish in FE, or rather FE to flourish enabled by digital!

TECHNOLOGY ATTITUDES AND USAGE

Overall, Further Education (FE) tutors have a positive attitude towards using technology within teaching, learning and assessment.

79% believe that technology has the power to positively impact teaching and learning

66% agree that technology improves teaching and learning

They are using a wide range of different technology for a variety of activities to support their practices.

75% see technology as useful for tracking student progress

74% see it as useful for tests or assessments

72% see it as useful for sharing resources with students outside of lessons

Although interactive whiteboards, virtual learning environments and online resources for students are still the most popular, newer technologies are available within the FE sector for a significant minority:



46% have access to smart screens such as interactive touchscreens in classrooms

25% have access to the Cloud

16% have access to virtual reality technology

ACCESS TO TECHNOLOGY

However, access to technology across the sector is inconsistent and tutors are not always able to use all the technology available within their organisation.

29% say they use all the technology available to them in their organisation

44% say the main reason they don't use more technology is because it is not available to their department

Funding and time are also recognised as big issues across the sector.

73% of tutors feel that a lack of finances to invest in the latest technology is one of the biggest barriers to its use

62% feel that tutors lack the time to investigate all options properly

TECHNOLOGY SUPPORT

Despite recognised support from senior management for using technology, when it comes to practice, tutors feel they lack the time and skills to embed technology as well as they could.

67% feel more time to experiment would encourage them to use more technology

would like specific training on how to use technology

A lack of subject-specific content is also felt to be a key factor working against tutors.

67% think more high quality and relevant digital learning resources to support their subject area would encourage them to use more technology



66% would like access to free, open source content to help organisations develop online learning materials internally

INFLUENCE OF AGE AND EXPERIENCE

Contrary to popular belief, older teachers are not less capable or less ready when it comes to technology than younger ones.

of tutors who qualified 15+ years ago say they use all the technology available to them in their organisation, compared to

of those who qualified three to four years ago.

of tutors aged 20–30 say that they would like to use more technology but lack the necessary training, compared to 17% overall

However, younger and less experienced teachers do have a more technology-focussed outlook on the future of teaching, learning and assessment.

30% of tutors aged between 20–40 see technology as the future and feel it should be the main focus for education organisations

> of tutors with less than 10 years' experience say the same thing

of tutors overall agree with this.

1 INTRODUCTION

This research was conducted by global leader in skills education, City & Guilds, in May 2014 to understand more about the digital capabilities within further education (FE) and attitudes towards using technology within teaching, learning and assessment at this level.

City & Guilds was keen to understand levels of interest, awareness and competence from a practitioner level and to gain insight into the pressures involved with implementing and embedding technology into organisations. The aim of the research was to better understand the changes needed within organisations and with the system as a whole to help encourage more experimentation and better adoption of learning technologies.

A survey was conducted with 613 FE practitioners, all involved in the delivery of teaching, training and/or assessment of vocational qualifications.¹ Some open box questions were included to gather verbatim feedback on particular issues, and these have been included as quotes in this report.

1 The survey was conducted by Toluna and respondents were reached via City & Guilds' own panel and EduBods, an education panel run by ResearchBods. Quotas were not set according to region, organisation type or sector, but a natural spread was achieved across the nine administrative regions of England, Wales, Scotland and Northern Ireland, and across City & Guilds' key vocational sectors.

ATTITUDES TO TECHNOLOGY 2

Overall, tutors in FE have a very positive attitude towards using technology as part of their teaching, learning and assessment; they are using a wide range of resources to meet a broad spectrum of needs.²

Technology is constantly evolving and as teaching practices evolve tutors are realising the benefits technology can bring. For three quarters of tutors, one of the main ways technology is felt to be useful is for tracking student progress (75%) or for tests and assessments (74%), both of which have been given increased importance in teaching over recent years (Fig. 2.1). A further 72% identify sharing resources outside of lessons as being a main benefit of technology, and 70% see technology as useful for demonstrations in particular.

These uses highlight the ways in which technology can potentially facilitate learning outside of the classroom and provide access to resources that may not otherwise be available within organisations. This is particularly pertinent in a sector where teaching often happens offsite where resources may be more limited.

Figure 2.1 below illustrates what tutors feel are the main benefits of using technology in teaching, learning and assessment.

Figure 2.1: Main uses for technology

79% believe that technology has the power to positively impact teaching and learning



66% agree that technology improves teaching and learning

24% believe technology is the future and should be where institutions place their main efforts

63% do not feel technology is a distraction in a learning environment

'Technology can be an excellent way for learners to acquire new skills and knowledge.' -FE tutor

'I think technology is great for the modern young learner. It is a great tool.'

-FE tutor

'Technology is the foundation.'

-FE tutor

Tracking student progress	75%
Tests/assessments	74%
Sharing digital resources with students outside lessons	72%
Demonstrations	70%
Revision exercises	68%
To increase student engagement in lessons	65%
Building student portfolios	59%
Linking up with other organisations, employers etc	48%
Collaborative/group work	48%
Practical assignments	48%
Ongoing or short-term project work	42%
Classroom management	37%
Percentage	

Q7. What are the main areas where technology could be useful to you personally? Base: All (n=613)

² Q6. Which of these best describes your attitude to using technology resources to support teaching, learning and assessment? Base: All (n=613)

Q14. How much do you agree or disagree with the following statements? Base: All (n=613)



However, perhaps unsurprisingly, not all sectors within FE are using technology in the same way. The following sectors in particular see it being most useful in the ways described, which differ from the overall picture:

- Construction: revision (80%); student engagement (81%)
- Building Services: revision (84%); student engagement (84%)
- Hairdressing: revision (80%)
- Health and Social Care: tracking student progress (84%)

Tutors appear to be choosing how to use technology that best fits their needs.

'We would like to use technology more for improved communication and support of learners when they are away from the centre.'

Figure 2.2: Technology in my organisation

Online resources for students 77% Interactive whiteboards 72% Intranet/VLF 66% E-assessment tools 52% Handheld smart devices (tablets, smart phones etc) 47% Smart screens (eg interactive touchscreens in classrooms) 46% Cloud computing 25% Digital textbooks 24% Mobile learning 24% Google Apps for education 20% Virtual reality technology 16% These technologies are not available in my organisation 5% Others 3% Percentage 20 40 60 Ω

Q2. Which of the following technology resources are available in your organisation for teaching, learning and assessment, whether you personally use them or not? Base: All (n=613)

To support the different ways technology is being applied to the FE environment, tutors are also using a wide spectrum of different technology – it is not only limited to more familiar, "traditional" interventions such as interactive whiteboards and digital online resources that have been in use for many years. Almost half (46%) of tutors have access to smart screens such as interactive touchscreens in classrooms, with a quarter (25%) having access to the Cloud, and 16% say their organisation has access to virtual reality technology (Fig. 2.2).

Figure 2.2 below demonstrates the range of technology available to tutors in the FE sector.

However, there is again some degree of variety by sector within this range of technologies. For example:

- Engineering tutors are the most likely to have access to virtual reality technology (33%);
- E-assessment tools feature most for Business Skills (68%) and IT (73%) tutors;
- Interactive whiteboards are most provided for Construction (85%) and Built Environment (83%) tutors.

It's clear from this evidence that the FE sector is embracing technology and trying to use it to enhance teaching, learning and assessment. However, it is also true that, while access is good, it is not consistent across the sector. The following section looks at this in more detail.

3 ACCESS TO TECHNOLOGY

Despite the enthusiasm for using technology, access to resources is not consistent even within organisations.

While 95% of tutors have access to the technology listed in our survey within their organisation (Fig. 2.2) – falling to 87% within private training provider organisations – only a third (29%) claim to use everything available to them in their own practice.³

Figure 3.1 below shows the overall ratio between availability and usage of specific types of technology in FE organisations.



We asked tutors why they do not use more of the technology available to them. Given the degree of variation in teaching styles, content and environment across the different sectors of FE, it could be assumed that technology that is not used is just not relevant to that subject or environment.

However, only 15% said they did not use more of the technology available to them because it was not relevant to their subject (Fig. 3.2). Instead, the most common reason by far for tutors not using more of the technology in their organisations was that it is not available to their department -44% said this, without any real significant difference by subject sector. This highlights a potential issue across the whole FE sector that technological resources are not being made consistently available to tutors within organisations, even where they might be relevant. This issue is exacerbated in private training provider organisations, where over half (53%) of tutors claim they don't use more technology because it is not available to their department, despite it being owned by the organisation.

'Some departments have more access to technology than others.'

-FE tutor

Intranet/VLE						20%
Online resources for students						21%
Interactive whiteboards						23%
E-assessment tools						32%
Smart screens (eg interactive touchscreens in classrooms)						36%
Handheld smart devices (tablets, smart phones etc)						44%
Digital textbooks					<u> </u>	45%
Cloud computing						49%
Virtual reality technology						51%
Mobile learning				<u> </u>	<u> </u>	56%
Google Apps for educations						56%
Percentage	0	20	40	60	80	
	Use				Have ava	ailable

Q3. Which of these resources do you personally use for teaching? Base: Those who have each technology available (n=variable)

Figure 3.2 illustrates the different reasons tutors give for not using more of the technology available in their organisation.

However, what we see in our results is an interesting and even greater difference between organisations that have less advanced, "traditional" technology (interactive whiteboards, online resources and/or intranet/VLEs only), and those that have invested in more advanced technology (such as smart screens, digital textbooks, virtual reality etc). Almost three quarters (71%) of tutors who work in organisations that only have access to "traditional" technology say that they do not have access to all this technology within their department, and this is the main reason they do not use more technology in their teaching. In contrast, only 37% of those working in organisations with the most advanced technology including smart screens and virtual reality say the same thing. This highlights an interesting gap between the institutions that have more recent technology and those that do not in terms of how well they are able to utilise that technology across their staff.

However, there are other factors that influence tutors' ability to access technology within their organisations, and cost is unsurprisingly an important one. Almost three quarters (73%) of tutors feel that lack of finances to invest in the latest technology is one of the biggest barriers to introducing more technology into teaching and learning. Another 62% feel it is the lack of time that tutors have to fully investigate what is out there.⁴

Figure 3.2: Reasons for not using more tech

The resources are not available to my department 44% I haven't had the right training to help me use 16% the technologies available The resources available are not relevant to my subject 15% I am unfamiliar with how to use the technologies available 14% I find technology very unreliable 5% I don't want to experiment with technology in front 3% of my students I don't believe technology aids teaching and learning, 3% and prefer to use traditional methods Percentage 20 30 40

Without the time to investigate what technology could serve them, and the budgets to pay for it once they do, access to technology is understandably difficult.

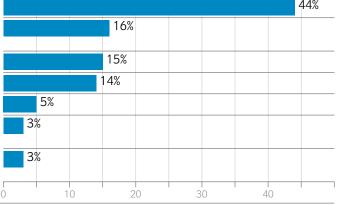
'I think the only drawback for our organisation is financial investments and training time. Our training days are literally crash courses. ie: 4hrs for a 2 day course and off you go expected to know how it all works. -FE tutor

The following section looks at some of these barriers further in relation to the support for technology tutors in FE institutions feel they are getting.

73% of tutors feel that a lack of finances to invest in the latest technology is one of the biggest barriers to introducing more technology into teaching and learning

62% feel it is the lack of time that tutors have to fully investigate what is out there

Q5. What is the main reason you don't use more of the technology resources available in your organisation? Base: All those who use some but not all tech available to them (n=398)



4 SUPPORT FOR TECHNOLOGY

Support for using technology is generally strong, but lack of time to experiment and get familiar with resources is impacting on how much it is used.

Overall, there is a good sense of support for using technology in teaching, learning and assessment at FE, with 71% of tutors claiming their leadership team are supportive of their using it. 5

'As an FE/HE college we embrace new technologies and know that many of our learners come from school with high ICT expectations' -FE tutor

Despite this, there is also a sense that more could be done externally to better support the use of technology. Less than half (47%) of tutors feel that the FE system itself encourages the use of technology, and 38% feel that the Government does not do enough to promote it.⁶ Coupled with the fact that awareness of external support organisations is low – 78% are not aware of any organisations or events aimed at encouraging better use of technology⁷ – and the fact there is strong recognition of tight budgets, there is a sense that tutors in FE can face an uphill struggle to embed technology into what they do. This is regardless of their willingness to do so.

There is also a strong awareness that, while technology can be beneficial, it needs to be used appropriately and alongside other things; over half (56%) of tutors agree with this sentiment.⁸

Figure 4.1: Ways to encourage more use of technology

However, tutors feel they do not have the adequate time or resources to familiarise themselves with the technology they have available and make sure it is being used appropriately. We have already seen that, after accessibility within their department, not having had the right training (16%) and not being familiar with how to use the technology available (14%) were the next most popular reasons not to use all the technology tutors have available to them (Fig. 3.2). Together, that makes up almost a third of tutors who feel they lack the skills to use the technology at their disposal to the best effect.

'Management encourage us to use technology but it is difficult to find the time to master it before using it in a classroom environment.'

Tutors were asked what, within their organisation, would best encourage them to use technology more. Figure 4.1 illustrates the results.

Sectors that would particularly highly value more time to experiment with the use of technology are:

- Construction: 74%
- Built Environment: 77%

We see here that familiarity with what is available – whether through just having time to experiment (67%) or through more formal training (59%) – is absolutely key.

More time to experiment with the use of technology 67% Availability of high quality and relevant digital learning 67% resources to support my subject area Training on how to use technology in teaching and learning 59% Information about the latest learning technology 43% Access to a peer network to experiment with 29% learning technology More encouragement from the leadership in my organisation 27% Percentage 20 40 60 80

Q8. Within your organisation, what would encourage you to use more technology in teaching and learning? Base: All (n=613)

⁵ Q9. How supportive is the leadership team in your organisation of using technology in teaching, learning and assessment? Base: All (n=613)

⁶ Q14. How much do you agree or disagree with the following statements? Base: All (n=613)

⁷ Q13. Are you aware of any organisations or events aimed at encouraging better use of technology in teaching, learning and assessment? Base: All (n=613)

⁸ Q6. Which of these best describes your attitude to using technology resources to support teaching, learning and assessment? Base: All (n=613)

Interestingly, what is also demonstrated here is that there is a sense of a lack of relevant content to use alongside technology facilities. 67% of tutors feel that better access to high quality digital learning resources aligned to their subject would encourage them to use more technology in their teaching practice – the same proportion as would value more time to experiment.

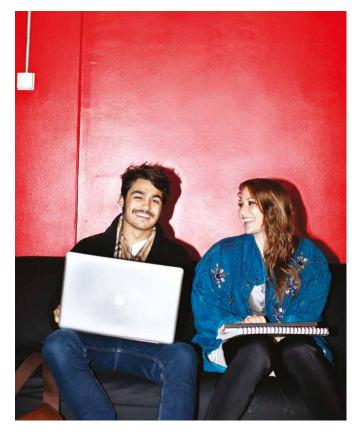
Sectors that would particularly value more digital resources relevant to their subject are:

- Building Services: 84%
- Skills for Work and Life: 79%

But how about external support that could be offered to tutors outside of their organisations? We asked tutors what kind of support they would like from external sources. Figure 4.2 below illustrates the results.

Interestingly, despite funding having been recognised as a key barrier to accessing technology, it is not seen as the most important external factor that could influence embedding technology into teaching, learning and assessment practice. 51% of FE tutors feel that changes to the funding system could help, but a much bigger majority -66% – feel that access to resources that will help organisations develop online materials internally will make a difference. Support from awarding organisations is also seen as important by more than half (52%) of tutors.

Across the different sectors, it is again the building services industry that stands out. Tutors within this sector are most likely to want sector-approved training (64%) and are also the most keen to see changes to the funding system (67%).



This indicates that, while training in the use of specific technology is an important issue for tutors, they are willing to take a proactive approach to ensure that the technology they use, and the way they use it, are fit for purpose. What they most need to better embed technology into their practice are the tools to be self-sufficient in doing so, whether this be through time to do their own research and experiments or through support that helps them develop materials.

But does this depend on the age and/ or level of experience of the tutors? The following, final section looks at this in more detail to understand how relevant age and experience are to the technology debate.

66%

80

Figure 4.2: External support required



Q12. What external support do you need to embed technology into teaching, learning and assessment? Base: All (n=613)

5 INFLUENCE OF AGE AND EXPERIENCE

Older tutors are not necessarily those who struggle most; younger tutors can be more enthusiastic but feel less confident with using technology to its best effect.

Our research uncovered some interesting points of note with relation to the influence of age and teaching experience on tutors' attitudes to using technology. What we saw was that older tutors are not necessarily the least-well equipped to use technology in their jobs, as popular belief may suggest. In fact, more experienced tutors can add great value in terms of understanding how to make the best use of technology for different tasks.

We found that more experienced tutors are more likely to use all of the technology available to them compared to their lesser-experienced counter-parts. Just over a third (35%) of tutors who qualified 15 years ago or more say they use all the technology available to them in their organisation, compared to just 17% of those who qualified three to four years ago.⁹

In line with this, younger tutors are the most likely to say that they would like to use more technology but lack the necessary training to use it to its best advantage: 34% of tutors aged 20–30 say this, compared to just 17% of tutors overall.¹⁰

Younger tutors are also more likely to feel that technology is a distraction in the classroom, with 16% of 20–30-year-old tutors strongly agreeing with this statement, compared to 5% overall.¹¹ This suggests there may be some lack of confidence among younger, less experienced tutors while older, more experienced tutors are more comfortable using a range of different teaching, learning and assessment tools.

However, tutors with more experience do seem to feel stronger about using technology only when appropriate:

- 61% of tutors with 10–15 years' experience advocate the use of technology as long as it is appropriate and used alongside other things. This is compared to 56% overall.
- In contrast to this, 29% of tutors with less than 10 years' experience (or 30% aged between 20 and 40) see technology as the future and feel it should be the main focus for education organisations. This is compared to an overall figure of 24%.¹²

What seems to be the case here is that older, more experienced tutors feel more at ease with the technology they use within their teaching, but younger less experienced tutors are keener to see this technology evolve and get better equipped at using it. This opens out the possibility for sharing knowledge and learning across the sector to support all tutors better in embedding technology in their teaching, learning and assessment.

'I feel it's important to share technology for teaching not only within your own organisation. The way forward I believe is to set up meetings with other colleges to share experiences and teaching methods, using the same methods City & Guilds have developed.'

-FE tutor



⁹ Q5. What is the main reason you don't use more of the technology resources available in your organisation? Base: All who use technology available (n=561)

¹⁰ Q6. Which of these best describes your attitude to using technology resources to support teaching, learning and assessment? Base: All (n=613)

¹¹ Q14. How much do you agree or disagree with the following statements? Base: All (n=613)

¹² Q6 (see footnote 10)

6 CONCLUSIONS

It's no longer possible to do without technology in teaching, learning and assessment, and our research has demonstrated the degree to which tutors in FE are keen to use it and embed it in their practices. There is a growing range of different resources being used, and a wide variety of ways in which these are being implemented to support teaching, learning and assessment across all subject sectors.

However, implementation across the sector is not consistent, and those organisations with less advanced technology struggle most to ensure full utilisation across all departments. Many staff are delivering teaching off site where access to particular resources is limited, but for most the main issue is having enough time to learn how to use what is available to the best effect.

There is also a slightly misguided perception that technology is not relevant or appropriate for all subjects and that this is holding some tutors back from experimenting and making full use of technology. Instead, our research shows that it is not the technology itself but the lack of subject-relevant content to use with this technology that is a bigger issue. Opportunities therefore exist to provide more content to support specific subjects and thus make it easier for tutors to embed technology in their practice.

Although access and implementation are not consistent across the FE sector, the issues surrounding the use of technology within teaching, learning and assessment are universal, regardless of age, experience or industry. There is huge opportunity, therefore, to leverage tutors' desire to embed technology better into their practice by helping them learn and share from each other, develop materials they can deliver through technology and afford the time to explore and experiment.

All tutors need to change. Change is good for the technology side of things in my sector. Scary at first but great fun once you have got to grips with it to learn and challenge.'
-FE tutor





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1 Giltspur Street, London EC1A 9DD. T +44 (0)20 7294 2468 F +44 (0)20 7294 2400 www.cityandguilds.com