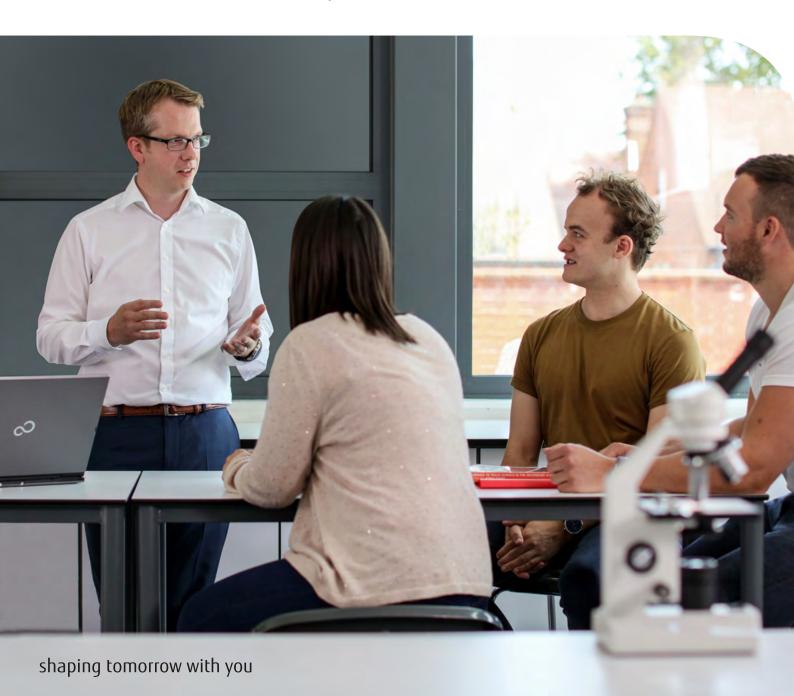




Research report: UK The road to digital learning

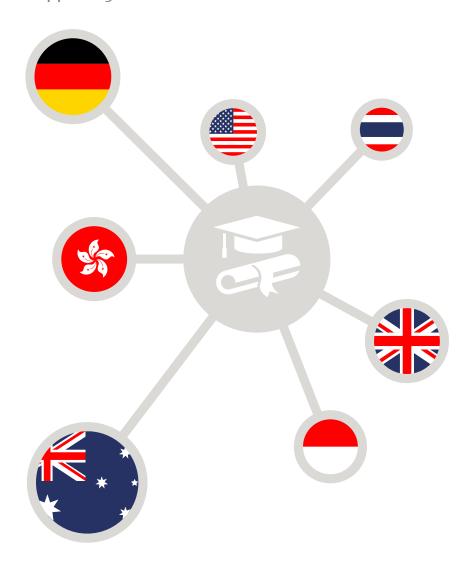
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Preface

Welcome to our latest research report, where we're exploring the challenges, opportunities and priorities in educational establishments around the world. We spoke to over 600 IT leaders in a mix of schools, colleges and universities from seven different countries. They revealed where their digital ambitions lie, and how far away their dreams are from their reality.

In this report, we're going to take a closer look at what's happening in the UK.



The research revealed that:



Digital learning and fully embracing innovative technology is much sought after by all in education, but for many, this is an aspiration – not a reality.



IT budgets – for the majority – are either staying the same or increasing, and teams are mainly investing at a foundation, practical level.



IT departments are relying more and more on business cases and provable ROI when it comes to investing in IT.



Digital literacy is quite low among teachers, and educational establishments face challenges with supporting teachers.



Poor connectivity and unsuitable and flimsy devices challenge IT departments, as does trying to find the right mix of devices, infrastructure and apps.



The main priorities for schools, colleges and universities around the world are balancing levels of access and security, and improving staff digital skills and the reliability of devices.

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Education around the world

Getting ready for a digital future

What do we mean when we say...

This study spans the world. And the words we use to talk about education, and how we group students, changes from country to country. So, here's a small glossary of the terms we'll be using in this report.

- Primary school: children aged 5 11
- Secondary school: pupils aged 11 18
- >> College/further education: students over 16
- >> University/higher education: students over 18



Getting ready for a digital future

Digital is infiltrating everything. From country to country, no part of society is left untouched. And education is no different. Digital learning paints a picture of personalised learning and tech-filled classrooms. But how close are we to this?

Well, as edtech providers, we're seeing huge amounts of change happening all across the sector. From changing infrastructure to a growing number of devices being used in classrooms, the effect of digital is increasing.

The UK's curriculum is focusing more and more on ICT, moving it away from a lesson in itself, and towards using technology to explore different subjects. However, a bigger emphasis is being put on teaching more in-depth ICT lessons, with students learning about coding, programming and developing.

Young people in the UK are technologically gifted. 97% of 15 to 24 year olds have basic digital skills – and 0% have none. And this success is reflected in the technology industry: over 1,000 edtech ventures are based in Britain.

In school, teachers are making technology more than a fun side-note. And as more and more children enter the education system already able to use technology, schools are preparing themselves to build on these native skills, and prepare students for a future where digital reigns.

As this new requirement lands in schools, colleges and universities, the pressure builds up. For example, higher and further education establishments may feel they need to provide distance learning – based on the popularity of the online Harvard courses, and similar. Plus, with students exploring and investigating their subjects in such minute detail, teachers and lecturers can use – and are using – technology to give a better experience. From accessing online, virtual textbooks, to watching recorded lectures as revision, every aspect of education can be supported by IT.

We wanted to discover what the real state of digital education is. We all know that personalised learning and digital classrooms are the dream – but how close is our reality? What do IT leaders in education think? Where are they spending money, and what are they prioritising?

So, we compiled this research to answer these questions.

² https://www.ft.com/content/6e73096a-7675-11e5-933d-efcdc3c11c89?mhq5j=e1



¹ Basic Digital Skills UK 2017 Findings https://www.thetechpartnership.com/globalassets/pdfs/basic-digital-skills-standards/basicdigitalskills2016_findingssummary.pdf

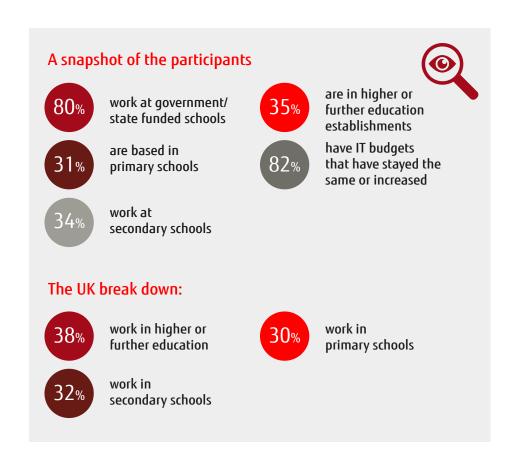


About the research

Alongside our research partner, we spoke to 602 IT leaders in educational establishments across the UK, the US, Germany, Australia, Hong Kong, Indonesia and Thailand, at the beginning of 2017.

We asked them their views on the current state of digital in their education establishments. We found out where they are now, and where they plan on taking their IT.

They gave their opinions on everything from augmented reality to attitudes towards digital. They've told us their main challenges and explained their ideal solutions. And above all, they've given us a window into how education is adopting digital – and why progress isn't as fast as some think it is, or want it to be.



Where are we now?

Personalised learning is the end goal. But education isn't quite there yet. The focus is still on putting the foundations in place: in the UK, 100% of IT leaders want to balance levels of access and security, and 83% want to improve their staff's digital skills.

Talk of personalised learning, automated services and other tech solutions are a low priority for some. Only **35%** globally, and 26% in the UK, regard provisioning cloud-based learning as a significant priority.

The reality is that most establishments are challenged by complex tech changes, limited resources, the mix of devices, and the digital skills of personnel.

But this doesn't mean digital education isn't wanted. **94%** want personalised learning. Just not all are ready for it yet. Those just starting their journey into digital must concentrate on getting the basics in place, before adopting more sophisticated digital learning technology.

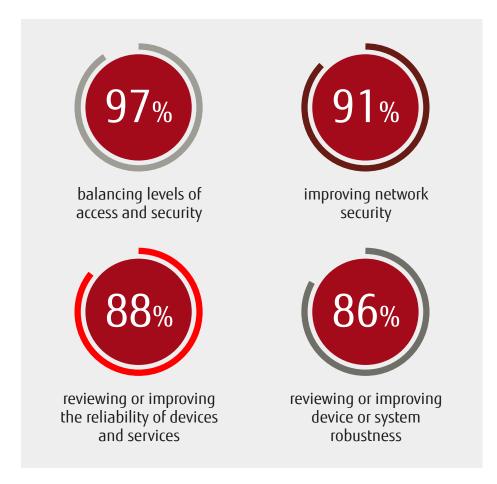


Putting the right foundations in place

When you've got big ideas, it's easy to get carried away. But in education, people are making sure they can walk before they can run. They're putting in the work to ensure digital success – and it's showing.

The global IT leaders we spoke to want remarkable things from digital, but they're getting the foundations right first. The most advanced, exciting solutions in education work, all because the basics were instilled at the beginning.

Top priorities for IT leaders in education



Before any grand visions of automated classrooms and personalised learning appear, the education sector needs to ensure they have the **right connection**, a **secure network** and **simple**, **robust devices**.

It's these three elements that make up the foundation of digital learning.

Is the speed of progress starting to lag?

The IT leaders we spoke to are keen to embrace digital: 79% of UK establishments want to be digital centres of excellence in the next five years. But achieving this won't be easy. Limited IT resources hold 54% of UK IT departments back. And 59% are challenged by the pace of technological change. When you consider how fast digital moves, it's almost a job in itself to keep up with the latest releases, solutions and updates. So, this is a huge task for an establishment's IT department, which will already have many other responsibilities and duties.

Only 44% of IT leaders in the UK think their Wi-Fi is good enough to support their digital learning aims.



27% say this in primary schools

28% say this in secondary schools

71% say this in higher and further education

Having excellent, fast Wi-Fi is vital in education. And it's not just a case of being irritated by slow loading web pages and buffering videos. In the UK, 66% say it's needed to create a flexible learning environment, and 58% say it improves their students' learning experience.

Upcoming priorities for UK establishments

Around the UK, IT leaders have certain priorities. They want to:



balance levels of access and security



monitor what is being accessed or apps being used by students



improve network security



implement good quality wireless coverage



review or improve the reliability of devices and systems



And luckily, leadership teams – on the whole – are behind this digital progress.

UK establishments with a leadership team highly focused on digital learning:



in FE and HE establishments



in secondary schools

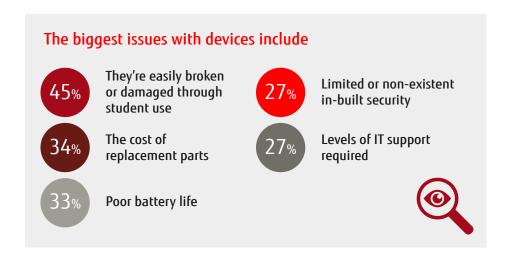


in primary schools

Devices that don't crack under pressure

Educational establishments are one of the most unforgiving environments for technology. From cracked smartphone screens, to laptops and tablets hurled around in rucksacks, devices are put to the test.

And a lot of the time, they aren't standing up to it. Only 46% of IT leaders think they have the best possible devices to support their digital learning goals.



Choosing devices isn't a vain attempt to deck schools out in cool technology. It's more than just having a popular brand in your classroom. 90% of our UK respondents – compared to 82% globally – believe that giving students high-quality devices positively affects their learning experience and results.

It's one thing to know that you need great devices and fast, reliable connectivity. But it's something else entirely to actually find them.

Globally, **65%** of IT leaders find it difficult to get the right mix of devices, infrastructure and apps to drive the best learning outcomes. In the UK, this figure is **71%**.

And while IT departments want to adopt the best and latest technology, complexity can scupper this desire. **53%** of UK respondents said if they understood where best to invest, they could accelerate digital learning progress.

In the UK:

32% don't have the in-house expertise to deal with increasing complexity.

Globally: 34%

In the UK:

27% are challenged by the need for training and support.

Globally: 31%

Closing the digital literacy gap

Around the world, education is having to change – and one of the influencing factors behind this is digital. Schools, colleges and universities are including new skills in their teaching plans, like giving students the tools and skills to survive and succeed in a predominantly digital world. And this is the catalyst for major change. Education establishments are updating their curriculums. Governments are updating policies and requirements. And teachers are learning new skills and teaching in new ways.

While many programs and policies are in place to help digital take a bigger role in education, there's one challenge schools, colleges and universities need to face: digital literacy.

Not all teachers and members of staff are comfortable using modern technology. It's likely that some of your teaching and support staff started their careers with just chalkboards and paper for support. So, bringing in new tech can be daunting – and sometimes met with hostility.

Globally, **78%** of our respondents said the level of technical skills varies widely across their teaching staff. And **34%** say one of their key challenges is digital skills in staff, lecturers and teachers.

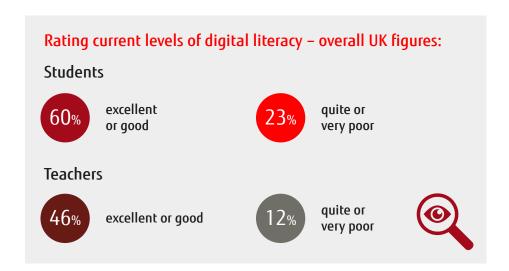
90% of our UK respondents say they have a duty to prepare their students for a digital future



Is digital causing a role-reversal?

It's not new that children are using technology at younger and younger ages. Even studies from 2013 report that **70%** of children can confidently use a laptop, smartphone or tablet before they start school³. And these digital natives are sometimes more confident at using technology than their teachers are.

If digital learning is going to succeed, teachers need to be tech-savvy. And this won't be easy: teaching teams have huge workloads and many responsibilities. So, the support needs to be in place to help staff and teachers with their questions, queries and development.



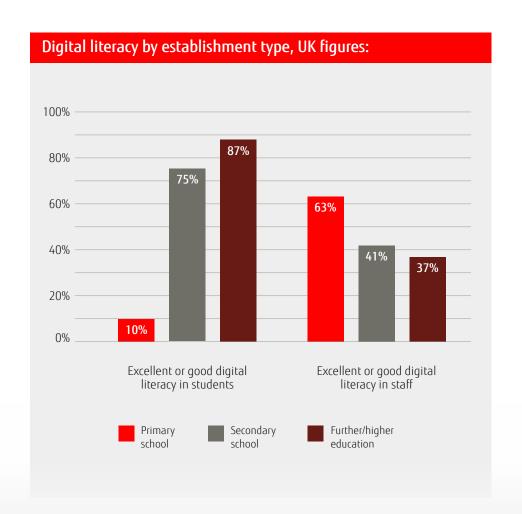
60% of students in the UK achieving an excellent or good status might not seem ground-breaking. And **23%** of students rated as poor is quite a surprise when you think of all the hype around digital natives. But when you break it down into establishment type, the figures become starker. For example, we can't expect children of primary school age to have excellent digital literacy.

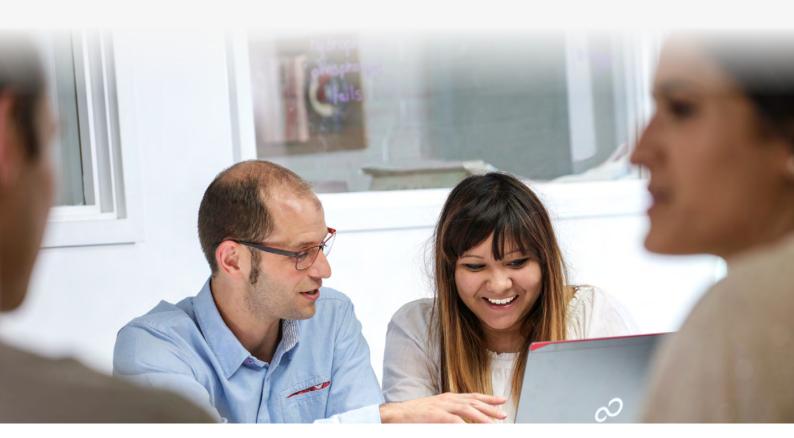
But when you look at higher and further education establishments, the digital literacy gap is clearer. 87% of students are excellent or good, compared to 37% of teachers. There are multiple factors behind this difference: everything from age and background, to hobbies and social activities plays a part.

So, education institutions need to continue improving the infrastructure around their staff and students, to ensure that both have the right environment to succeed and gain digital skills.

³ http://www.telegraph.co.uk/education/10488240/How-young-is-too-young-for-technology.html







Giving teachers and lecturers the support they need

When we asked our global IT leaders what factors – excluding funding – would accelerate their digital learning progress, 49% said improving digital skills in their teaching staff.

And when **79%** – **82%** in the UK – say that teachers and staff learn best from one another when it comes to tech, it's clear to see how establishments can close the digital literacy gap. By using teacher-leaders and peer support.

Globally, 61% of respondents have teacher-leaders in place to support the adoption of devices and integrating technology into the classroom, while 30% plan to implement this in the next 12 months. However, in the UK, 50% have teacher-leaders, but 32% plan to bring this in over the course of a year.

Teacher-leaders on a global scale					
	Primary school	Secondary school	Further/higher education		
Have teacher- leaders	56%	62%	66%		
Plan to implement in next 12 months	33%	29%	27%		

If teachers get the training and support to explore and use new technology in the classroom, their students will be ready for whatever the future brings.



Making a case for digital learning

It's all well and good saying that education needs better devices, stronger connectivity, and more support. But when it comes down to it, it all costs money. It's more 'must haves' to add to your budget. And in countries all over the world, funding is still a challenge.

While 82% of the global institutions surveyed have either seen their budgets increase or stay the same, money is never easy to find or easy to spend.

So, what's the answer?

Building a business case

Funding is getting harder and harder to find and unlock. So, when budgets are tight and money is scarce, you need a business case. 90% of our UK IT leaders say it's important to build one to secure technology funding.



Include heavy-hitting statistics and facts, and plenty of proof points and case studies. If you can back your claims up, you're far more likely to get the funding you need.

But 73% of UK respondents say they need support or advice to do this. And 71% think it's more difficult to do this now than two years ago.

Percentage of IT leaders in UK establishments that need support in building a business case for technology funding:



Primary schools



Secondary schools



Higher and further education

Raise the bar with ROI

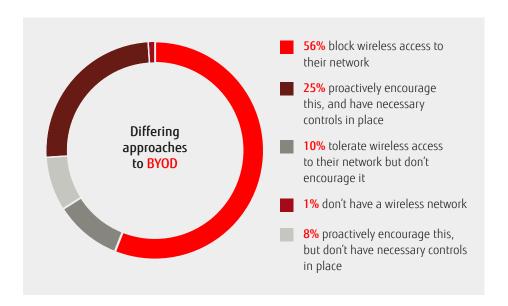
Part of a solid business case is proving your devices have a good return on investment (ROI). It's true, you could spend a minimal amount of money on new laptops – but if they only last a term, no one will be happy. 20% say that being able to show ROI on tech investments is a key factor in accelerating digital learning progress, while 44% of global HE and FE establishments say the same.



If you can prove that your investments are worth the money, you're onto a winner.

Could BYOD be the answer?

When budgets get tightened or funding gets delayed, what can you do? **68%** of our UK IT leaders say that due to limited budgets, they encourage students to use their own devices on site. And as **81%** feel their students have access to better devices at home, this isn't a bad move. A bring your own device (BYOD) strategy could give students the chance to use their own devices in an education environment. However, it raises many issues around security and management.



But even a BYOD route has its own set of challenges. While **37%** of respondents say that one of their key priorities is upholding their duty of care by monitoring what their students access, only a quarter have the necessary controls in place to do so.

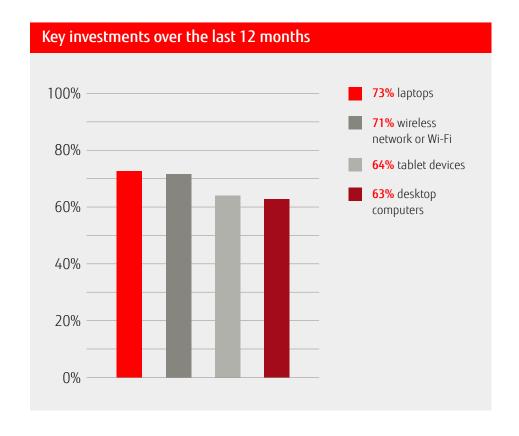
BYOD can be the answer, if education establishments have the necessary security and monitoring in place. But if not, it can cause more issues than it solves.

Investing in the practical, aiming for the aspirational

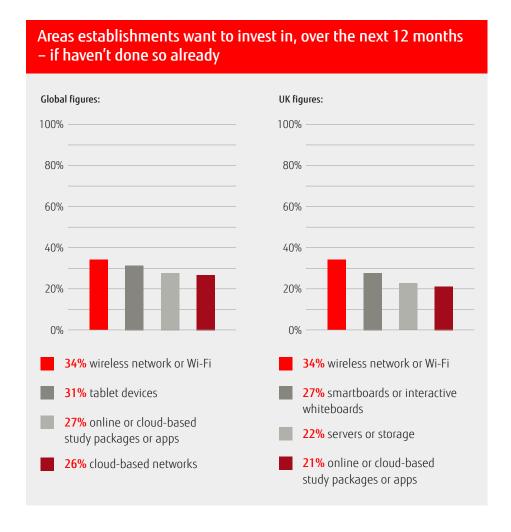
Most schools, colleges and universities around the world want to start exploring and investing in new technology, if they haven't already. 82% of the IT leaders we spoke to around the world said their IT budgets have either stayed the same, or increased between 2016 and 2017.

Practical investments, aspirational thoughts

Over the last 12 months, 80% of our respondents invested in Wi-Fi, with 71% doing so in the UK. Closing in on the UK, 51% invested in servers and storage, and 60% in cloud-based networks. These purchases show that education establishments are still concentrating on the practical. And these investments align with priorities over the next 12 months: 100% want to balance levels of access and security.

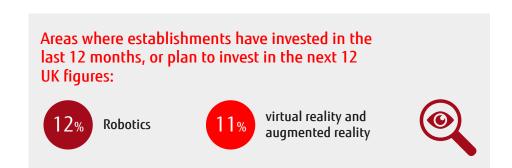


Securing the foundations of digital learning is still in progress in schools, colleges and universities around the world. And this is part of the long game. Looking forward to the next 12 months, all still want to invest in similar areas.



But they aren't just focusing on the practical. We know that in the UK, **79%** want to be regarded as a digital centre of excellence in the next five years. And slowly but surely, these aspirations are becoming a reality.

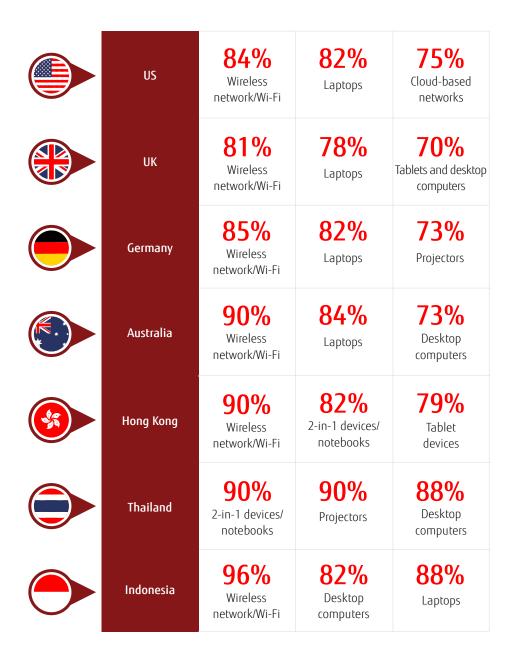
There's a small but steady growth in investing in more exciting, adventurous digital solutions.



The same story, the world over

Schools, colleges and universities around the world are all telling the same story when it comes to IT investments. While the details differ slightly, the main consensus with all countries is the same: they are mainly investing in network access and finding the right devices.

Here are the top three areas that schools, colleges and universities have invested in over the last 12 months, or plan to over the next 12



But does this change according to age?

When it comes to breaking this down across establishment type, many IT investments are practical. The top investment across all three establishment types – university and college, secondary schools, and primary schools – is Wi-Fi.

Investments in Wi-Fi or a wireless network over the last 12 months, or planned in the next 12, globally





plan to invest in VR and AR

Despite investment areas being at a foundation level – devices and Wi-Fi – we're seeing an increasing adoption of futuristic technologies. This is most prominent in universities and colleges around the world, with 21% having invested in, or planning to invest in virtual reality (VR) and augmented reality (AR). And 22% are doing the same with robotics.

In primary schools, these figures are much lower. Only 8% plan to invest, or have invested in AR, VR, or robotics.

But most exciting trends are in secondary schools, globally

plan to invest in robotics

Over the last 12 months: 5% invested in robotics 0% invested in AR or VR

This jump in adopting exciting digital technology is a promising step towards reaching those digital learning goals. Higher and further education establishments will need more sophisticated technology if they're going to attract the best students. So, it's not surprising that there's a higher uptake in these institutions. However, seeing these technologies start to emerge in secondary schools is hugely promising.

over the next

12 months:

Education in the future

Reaching digital excellence won't be a walk in the park. In fact, it's going to be more like tackling a thousand-piece puzzle. Before we can reach the big picture, there's hundreds of boxes to tick, and a foundation to build.

Schools, colleges and universities around the world know that technology is vital. In the UK, **87%** say that it has a key role in creating opportunities to learn that are available to all. And **93%** say their leadership team is focused on digital learning and using technology to support the learning experience.

Percentage of establishment types in the UK that have leaderships highly focused on digital learning:



primary education



secondary education



higher and further education

Aspirations are high, and schools want to be digital

In the UK, **79%** of respondents want to be regarded as a digital centre of excellence in five years, and **93%** think that personalised learning is important to a child's education. **91%** believe the same about interactive learning and **86%** about blended learning.

What factors – aside from funding – would accelerate digital learning progress, in the UK?

progress, in the UK?			
Primary schools	Secondary schools	Higher or further education	
 Improving staff digital skills Knowing where to invest Having technology to improve collaboration 	 Knowing where to invest Improving staff digital skills Having support from leadership teams 	 Improving staff digital skills Knowing where to invest Having support from leadership teams 	

Overcoming challenges

IT departments around the world face similar challenges



But these challenges aren't the end of the world. They aren't permanent blocks. They're easy to overcome, with the right support and knowledge.

So, if you can build business cases, if you can prove ROI, if you can improve digital literacy, if you can update infrastructure and devices – then you can move onto the next step of the digital learning ladder.

Creating a new world for education



Ash MerchantDirector of Education,
FUJITSU

Ash Merchant has 25 years' experience in IT and its role in education. He's advised multiple government bodies. And he's earned a Tech4Good award for his work helping children with disabilities get online. At Fujitsu, he leads our education strategy. This includes our Education Ambassador programme, which puts world-class IT in the hands of students. So, they can foster the digital skills that are key to our economy.

The majority of those in education say they want to start – or continue on – their digital journey. And they're all aware of how digitally literate their students are. But many people aren't sure how to define their journey, or know where to start.

Digital is affecting all levels of education, thanks to children using technology from a young age. Gamification from very early ages is an example of this, as are learning apps for numeracy that are embedded in learning and play toys.

This is having a significant impact on young people's expectations of what education should be like, from when they first learn to read, to when they leave with their qualifications. However, this puts enormous pressure on those who teach in traditional classroom environments. They have to embrace the curriculum and expectations of education. Then they must combine this with their students' expectations, many who want to learn with new tools, and develop skills that will set them up for the future.

It goes without saying that teachers and staff are the individuals in education who make a real difference: from supporting children to improving their establishments. And technology is giving them another route to support their students—and be supported in return.

Technology is an incredibly powerful tool we can use to help shape our young people's futures. With the right support and the right IT, students from all walks of life can access high-quality learning material. With technology, new opportunities are open to all.

So, our young people are digitally ready. And now our institutions are ready to help.



Technology is the enabling factor for education. It must be robust, reliable, secure, sustainable and flexible. And ultimately, it must meet the needs of students and staff. Personalising learning is a need, not a desire. To deliver this, establishments must balance a number of key factors — the first of which is having the right infrastructure in place.

Helping teachers get the support they need

It's easy to say that we need to invest in devices and technology, and the findings show this is needed. As tech moves at such a rapid rate, we have to make sure teachers and staff are comfortable with using these devices and systems.

By making technology accessible to all within education and helping to boost confidence, establishments will see a fundamental change. For example, in the UK, we've helped to give schools, colleges and universities the technology they need to improve their students' learning experiences. In these institutions, we've helped both students and staff to feel more empowered and confident.



If all teachers had support and training around new technology, they could improve learning, increase efficiency, and communicate in new, efficient ways. Then, their schools would embrace a digital environment without even realising it.

Building budget-securing business cases

At Fujitsu, we work in partnership with our customers. One of the main benefits of industry collaborating with education, is that we have access to this vast set of resources and skills. This, if channelled and used proactively within education, has a huge benefit.

Sharing knowledge and best practice across establishments is the foundation of success. One example is a primary school in the UK that didn't know which infrastructure to invest in. With the support of a digital college, they were able to choose the right system for their needs. We have many school leaders asking for our support, to help them deliver more innovative technologies.

We know, through our work in education, that all establishments are at different stages of the journey. For some, it's as simple as ensuring they have access to touchscreen tech or tablets. However, others see their students confidently use advanced technologies like artificial intelligence in their daily learning.

Nearly all industries across the world state that the skills people need are changing. Unless these skills are developed now and within education, then future economies will be significantly affected. Change will only happen if we can inspire young people to learn more than what's available to them. If they learn more, they can become more. And then they can achieve more.

Asking governing boards to invest in tech like augmented reality and artificial intelligence is now more important than ever before. These technologies are forming the foundations of a new and emerging digital economy. Establishments have a responsibility to ensure their students can both understand new tech, as well as use it confidently.

No one knows what the future of technology will be. The best way to adapt is to ensure that education and industry continue to collaborate, so that we're all fit for the future. Technology is inclusive by nature, and it's no longer just for the elite. Now, it's time to create a world where everyone can learn, innovate, and create the future they want.



Discover how we can help. Visit: **uk.fujitsu.com** Follow: **@AshMerchant1**

Education around the world

While many of the opinions given by our education IT leaders were similar across the seven countries, we thought you'd like to dig in deep and see what stats sit with your specific country.





What are the key challenges for IT departments?

57% Keeping up with technological advances

49% Increasing technology expectations from staff

38% Limited IT resources

What are the biggest problems with devices?

49% Easily broken/damaged through student use

50% Cost of replacement parts

32% Levels of IT support required

What's the current rating of digital literacy?

59% of students are excellent or good

35% of teachers are excellent or good

31% of students are poor

United Kingdom



What are the key challenges for IT departments?

59% Keeping up with technological advances

54% Limited IT resources

42% Government funding and investment

What are the biggest problems with devices?

45% Easily broken/damaged through student use

34% Cost of replacement parts

33% Poor battery life

What's the current rating of digital literacy?

60% of students are excellent or good

46% of teachers are excellent or good

23% of students are poor

Hong Kong



What are the key challenges for IT departments?

66% Limited IT resources

51% Government policy around education

50% Government funding and investment

What are the biggest problems with devices?

51% Cost of replacement parts

46% Easily broken/damaged through student use

38% Levels of IT support required

What's the current rating of digital literacy?

43% of students are excellent or good

39% of teachers are excellent or good

29% of students are poor



What are the key challenges for IT departments?

55% Limited IT resources

49% Keeping up with technological advances

39% Government policy around education

What are the biggest problems with devices?

36% Easily broken/damaged through student use

35% Levels of IT support required

32% Cost of replacement parts

What's the current rating of digital literacy?

54% of students are excellent or good

38% of teachers are excellent or good

33% of students are poor

Australia



What are the key challenges for IT departments?

52% Limited IT resources

45% Keeping up with technological advances

45% Government policy around education

What are the biggest problems with devices?

44% Cost of replacement parts

42% Levels of IT support required

39% Expensive

What's the current rating of digital literacy?

55% of students are excellent or good

48% of teachers are excellent or good

35% of students are poor



What are the key challenges for IT departments?

69% Government policy around education

46% Keeping up with technological advances

44% Time spent on maintenance/upkeep of equipment

What are the biggest problems with devices?

63% Easily broken/damaged through student use

50% Cost of replacement parts

50% Limited/non-existent in-built security

What's the current rating of digital literacy?

54% of students are excellent or good

17% of teachers are excellent or good

37% of students are poor



What are the key challenges for IT departments?

65% Limited IT resources

63% Government funding and investment

61% Keeping up with technological advances

What are the biggest problems with devices?

55% Easily broken/damaged through student use

55% Levels of IT support required

49% Cost of replacement parts

What's the current rating of digital literacy?

47% of students are excellent or good

35% of teachers are excellent or good

43% of students are poor



Insight Avenue, a specialist provider of thought leadership research, was commissioned by Fujitsu to undertake independent research with IT decision makers in educational establishments (higher, further, secondary and primary) across US, UK, Germany, Australia, Hong Kong, Indonesia and Thailand. 602 quantitative interviews were conducted online and by telephone during March/April 2017.





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