iGOV SUrvey

The Classroom of the Future: Improving Digital Solutions in Education

SURVEY REPORT 2019

Windows10

Survey Partners





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INTRODUCTION

Today's world is digital. We see artificial intelligence (AI) being introduced into our day-to-day lives, we store all our information in the cloud, and schools are increasingly introducing the use of tablets and smart devices into the classroom.

With this increasingly dependence on digital technology comes a fundamental shift in the way we both live and work, and the challenge is now on the education sector to ensure that the next generation is prepared. As 'digitally native' children move through education, schools and colleges across the UK must ensure they are ready for the increasingly digitally dependent society of the outside world.

The challenge now is to make the most of resources under strict budgets. Recent analysis from the Institute for Fiscal Studies found that spending per pupil in England's schools had fallen in real-terms by 8% since 2010¹. This, the IFS said, was largely due to cuts to local authority and sixth form funding and a rising number of pupils entering education. In response, Geoff Barton, the leader of the ASCL Head Teacher's union, said that as a result of the fall in spending, schools had had no choice but to cut back on what they were able to offer pupils.

At the same time, schools and colleges must be ever mindful of the increasing cybersecurity challenge and the need to safeguard children and their data. In their updated guidance following the implementation of the General Data Protection Regulation (GDPR), the Information Commissioner's Office (ICO) has released specific guidelines on the protection of school and education data, including pupil's personal information, photography in school, exam results and crucially – considerations to take into account when implementing new technologies such as Cloud and Bring Your Own Device (BYOD)².

Yet the role of digital technology in not only preparing students for the future, but also improving the way in which they learn, is undisputed. A recent study has found that the vast majority of teachers (a staggering 96%) believe technology has had a positive impact on the way pupils participate and learn in their lessons, and a further 56% believe these pupils are noticeably more engaged when technology is used³.

With this in mind, iGov Survey have now partnered with leading technology experts, Dell EMC and Microsoft, to examine the nature of digital technology in education and how schools and colleges are moving toward the 'Classroom of the Future'. In this report, we consider:

the technology trends that are forming part of education strategies for the coming years;

how confident schools and colleges are that they are prepared and able to adopt the latest developments in technology; and

the barriers and challenges they face as they look to modernise, and crucially, the opportunities and benefits they expect to see as a result.

ABOUT DELL EMC

Dell EMC and Microsoft helps drive education transformation, from developing the vision to enabling the transformative process. Whether support is needed end to end, or with specific elements along the way, Dell EMC and Microsoft provide the educational products and services to help schools improve student outcomes.

Digital Transformation isn't just about technology, it's about empowering learning in ways never before imagined.

Visit: www.dellemc.com/gb/school





1. https://www.bbc.co.uk/news/education-44794205

2. https://ico.org.uk/for-organisations/education/

3. https://edtechnology.co.uk/Article/96-of-teachers-say-tech-has-a-positive-impact-on-education/

SURVEY METHODOLOGIES AND RESPONDENTS' PROFILE

This survey was conducted by iGov Survey in partnership with Dell EMC and Microsoft. The project ran from Tuesday 13 November 2018 to Thursday 7 December 2018.

Survey respondents represented a broad cross-section of roles across the education sector. This included: Business Development, Business Management, Chief Executive/Deputy, Customer Services, Digital, Education, Education, E-Government, Finance Management, General Manager, Head teacher, Head teacher, IT Management, IT Technical Lead, Marketing Communications, Operations, Public Relations, Quality Assurance, Senior Manager, Strategy, Technical Services, Technical Services, and Training. 166 individuals took part in our survey, representing 158 unique organisations across education. There was no inducement to take part in the survey, and Dell EMC and Microsoft were not introduced as the survey partners.

The results displayed throughout this report are based on those who fully completed the questionnaire and are displayed as a percentage of this group, unless explicitly stated otherwise.

KEY FINDINGS

1. Improving student outcomes

<u>1.1</u> Three-quarters of participants believe they can improve student outcomes by embracing newer, more modern digital technology in the classroom

There is a clear understanding across the education sector of the role that digital technology plays in improving student outcomes. When asked what benefits such technology could bring to their institutions, participants selected a wide variety of different areas they believe would be improved, including the flexibility to adapt to new ways of learning and teaching, higher levels of student engagement (81%), and an improved user experience for both staff and students (79%).

Figure 1:

What benefits do you believe your school could achieve by embracing newer, more modern digital technology in the classroom?

Improved student outcomes Higher levels of student engagement Reduced admin workloads for teaching staff Improved user experience for both staff and students Reputational gains Flexibility to adapt to new ways of learning and teaching Other – please specify



It is encouraging to see participants aware of such a diverse range of benefits that come hand in hand with the use of digital technology in the classroom, and even more so to note that these findings are further supported by 58% of participants who report that the use of IT and digital technology with their learning strategies is of either a top priority or high priority. Moreover, an additional 33% rank it as a mid-level priority.

Figure 2:

What level of priority is placed in your school on the use of IT and digital technology as part of your learning strategy?



<u>1.2</u> Schools are adopting various new technology trends as a means of modernising their education strategies

Over two-thirds of our participants (69%) are looking at introducing more personalised learning through technology, closely followed by a further 67% who aim to embrace mobile learning. Blended and flipped learning is also a highly ranked trend across participants (59%), whilst areas such as gamification (24%) and machine learning (11%) rank much lower.

Figure 3:

Of the following list, what technology trends currently form part of your education strategy? Please tick all that apply.



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Interestingly, despite the focus on mobile learning, it seems that many participants aren't prioritising a Bring Your Own Device (BYOD) policy. Just 31% operate a policy for both staff and students, with just 3% operating a policy for staff and 10% a policy for students.

Figure 4:

Does your school currently operate a Bring Your Own Device (BYOD) policy?

- Yes, for both staff and students
- Yes, for staff only
- Yes, for students only
- No, though we will be implementing a policy soon
- No plans to introduce
- Don't know



1.3 Collaboration is key area of focus for the majority of our survey participants, though many are still using more traditional methods

Collaboration amongst teaching staff is adopted almost universally across our survey participants (97%), closely followed by student collaboration (80%) and administration staff (72%). Whilst this is good to note, when we look at the ways in which this is being achieved, many are still using more traditional methods, such as email (87%). In fact, just 32% are using digitally enabled study rooms, whilst just 29% have adopted online forums or webinars, or live video chat sessions.

Figure 5:

For which of the following groups do you provide technology to enable collaboration?



Figure 6:

In which of the following ways do you currently enable collaboration? Please tick all that apply.



Furthermore, just 36% of participants are actively putting plans in place to redesign learning spaces with technology to enable collaborative learning within their schools. This suggests that many are missing out on a more effective and collaborative approach to teaching, with 52% not considering plans and a further 12% unsure.

Figure 7:

Does your school have any plans to redesign learning spaces with technology to enable collaborative learning?

86% Yes 52% No 12% Don't know

2. Meeting the challenge of security and budget

2.1 Budgets remain a key concern for those looking to embrace digital technology in the classroom

It is really no surprise that 84% of those who took part in the survey say that restricted budget is the main problem they are facing when it comes to digital technology being introduced into the classroom. Moreover, almost half (43%) record a lack of skills internally is a main concern, which suggests a need across the sector to look at training and recruitment needs when it comes to modernising their learning environments.

Figure 8:

Is your school experiencing any barriers to increasing the use of digital technology in the classroom? Please tick all that apply.



2.2 Just half of survey participants are confident that their sensitive data is secure

When we asked participants about their level of confidence when it comes to cyber security and their ability to effectively protect their data, less than half (47%) report that they are confident their data is safe. While it is good to see that 54% are very confident that student personal data is safe, this means that 46% are unsure. In fact, participants are most confident when it comes to school data, including HR and finance records (62%).

Figure 9: How confident are you that your school's data protection and cyber security strategy is able to effectively protect the following?



Interestingly, thinking about the way in which participants can improve data security, just over a third (35%) are thinking of adopting or migrating their solutions to the cloud. This is despite industry experts suggesting that school data could be moved to the cloud as a means of reducing the risk of data theft or hacking.

Figure 10:

For which of the following reasons is your school considering adopting or migrating to Cloud technology?



3. Preparing for the 'Classroom of the Future'

3.1 Schools are not confident that their infrastructure is prepared for the classroom of the future

Given an awareness across the sector regarding the importance of digital technology in the classroom, it is perhaps surprising to note that just 21% of participants strongly agree that their school's infrastructure is prepared to deliver tomorrow's technologies. 43% either disagree with this statement or are unsure of their school's preparation.

Figure 11:

Thinking about the way in which your school use digital technology to create the 'classroom of the future', to what extent do you agree with the following statement: I believe that our school's infrastructure is prepared to deliver tomorrow's technologies

Strongly agree
Disagree
Don't Know



Surprisingly, just 29% of participants state that they were currently using Windows 7 within their school, with the vast majority reporting that they use Windows 10 (86%). Whilst this is encouraging to see, it has been suggested by industry experts including Microsoft that the percentage of those still dependent on legacy operating systems such as Windows 7 is much higher than this, which in turn runs the risk of increased vulnerability to hacking as well as increased operational costs.

FIGURE 12:

Currently, which of the following operating systems does your school use? Please tick all that apply.



3.2 Cloud technology is seen as having the highest impact on schools of the future

When asked about the new technology they feel will have the largest impact on schools in the future, cloud technology is seen as being the most crucial – 61% believe this will have a high impact in the sector, with a further third (33%) stating there will be a mid-level impact. Interestingly, following this closely is remote and mobile learning or working, with 53% expecting a high-level impact and a further 32% a mid-level impact.

Figure 13:

Looking at the adoption of new technologies across the education sector, how much of an impact do you believe the following technologies will have on schools?



Thinking about the reasons for which schools are considering the adoption or migrating to cloud technology, the top ranked drivers are the ease of data storage and retrieval (68%) and the ability to better equip remote or mobile workers by enabling remote access (63%). In fact, just 10% of participants are not looking to migrate to cloud technology at all.

Figure 14:

For which of the following reasons is your school considering adopting or migrating to cloud technology?







Schools and colleges that adopt the latest digital technologies report an enhanced opportunity to deliver engaging learning experiences. Isn't that something we want all young people to benefit from? Other benefits included the flexibility to adapt to new ways of teaching, as well as the ability to improve the user experience for both teachers and students.

New generations should enter the workplace feeling ready to face the challenges and seize the potential of our increasingly digital world. And that starts in the classroom. The power of digital technology will only be realised when everyone is involved and, as we prepare to embrace the classroom of the future, it's never been more important to examine the role it plays in forming education strategies.

That's why educational institutions must work closely with IT leaders to build the infrastructure that's needed to deliver tomorrow's technologies. This survey found that access to modern digital technologies in the classroom boosts student engagement levels and outcomes. This is why it's essential that everyone keeps up with the rapid changes currently taking place.

Thankfully, education institutions are taking this seriously with the majority of survey respondents reporting that using IT and digital technology as part of their school's learning strategy was already a high priority.

Platforms such as Windows 10 – the most popular operating system according to the survey – provide students and teachers with a place to collaborate and explore. And although government spending cuts have at times halted progress, cloud technology continues to present a cost-effective and secure data storage solution. Almost two-thirds of respondents felt cloud technology will continue to have a 'high impact' on schools.

Overall, restricted budgets represented the biggest barrier to adoption, while an awareness of a lack skills internally confirms the need to provide teachers with the training they require to thrive in a digital learning environment. In addition, respondents who pointed to unsuitable infrastructure or legacy technology highlights the importance of keeping pace with hardware and software developments and ensuring devices are regularly updated.

There's no doubt that the technology trends we are witnessing today will require schools and colleges to adapt and modernise their approaches. This opens the door to greater collaboration between staff and students. The survey found over one-third of schools have plans to redesign learning spaces with technology to enable collaborative learning, while an overwhelming high proportion of teaching staff are currently using technology to enable collaboration.

Similarly, a number of technology trends already form the basis of education strategies across the county. For example, respondents from the majority of schools and colleges we surveyed have embraced personalised and mobile learning.

Maintaining the focus on mobile learning, it's never been more important to establish policies that mitigate against the security risks introduced by BYOD practices. While 31% of those surveyed said there was a policy in place for both staff and students, an alarming 44% reported their school had no plans to introduce one.

Reviewing our survey's findings, it's clear the education sector is not immune to the seismic changes being brought about by advances in digital technology and that now is the time to review and respond to the opportunities and challenges ahead. We look forward to witnessing – and supporting – the evolution of digitally driven classrooms.





APPENDIX 1: SURVEY QUESTIONS

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Grid

Thinking about the way in which your school uses digital technology to create the 'classroom of the future', to what extent do you agree with the following statements?

Question

I believe that the technology platforms our school uses will provide our students with the skills they will need in both their educational and working lives

Answer	Percent
Strongly agree	30%
Agree	52%
Disagree	14%
Strongly disagree	4%
Don't know	1%

Question

The technology we use ensures that we cater to the different learning styles of our students

Answer	Percent
Strongly agree	27%
Agree	55%
Disagree	12%
Strongly disagree	4%
Don't know	2%

Question

Our school has an effective strategy concerning the use of technology to prevent bullying

Percent
31%
54%
10%
1%
4%

I am confident that our school is able to protect all of our sensitive data

Answer	Percent
Strongly agree	41%
Agree	54%
Disagree	4%
Strongly disagree	0%
Don't know	1%

Question

I believe that our school's infrastructure is prepared to deliver tomorrow's technologies

Answer	Percent
Strongly agree	21%
Agree	36%
Disagree	29%
Strongly disagree	10%
Don't know	4%

Grid

Looking at the adoption of new technologies across the education sector, how much of an impact do you believe the following technologies will have on schools?

Question

Cloud technology

Answer	Percent
High impact	61%
Medium impact	33%
Low impact	5%
No impact	1%
Don't know	0%

Automation

Answer	Percent
High impact	24%
Medium impact	36%
Low impact	31%
No impact	1%
Don't know	8%

Question

Gamification

Answer	Percent
High impact	14%
Medium impact	42%
Low impact	34%
No impact	2%
Don't know	8%

Question Virtualisation

Answer	Percent
High impact	35%
Medium impact	47%
Low impact	13%
No impact	0%
Don't know	5%

Question

Remote or mobile learning/working

Answer	Percent
High impact	53%
Medium impact	32%
Low impact	13%
No impact	1%
Don't know	1%

Artifical Intelligence

Answer	Percent
High impact	22%
Medium impact	40%
Low impact	24%
No impact	4%
Don't know	10%

Question

What level of priority is placed in your school on the use of IT and digital technology as part of your learning strategy?

Answer	Percent
Top priority	7%
High priority	51%
Mid-level priority	3%
Low priority	8%
Not a priority at all	1%
Don't know	0%

Question

Is your school experiencing any barriers to increasing the use of digital technology in the classroom? Please tick all that apply.

Answer	Percent
Restricted budgets	84%
Security concerns	20%
Child safeguarding concerns (such as the use of the internet)	27%
Data protection concerns	28%
Concerns of misuse or damage to technology	28%
Unsuitable infrastructure or legacy technology	39%
Lack of skills internally to implement and maintain	43%
Unsure of where to start	4%
Other - please specify	8%
Don't know	0%

What benefits do you believe your school could achieve by embracing newer, more modern digital technology in the classroom? Please tick all that apply.

Answer	Percent
Improved student outcomes	75%
Higher levels of student engagement	81%
Reduced admin workloads for teaching staff	69%
Improved user experience for both staff and students	79%
Reputational gains	50%
Flexibility to adapt to new ways of learning and teaching	84%
Other - please specify	6%
Don't know	0%

Question

Of the following list, what technology trends currently form part of your education strategy? Please tick all that apply.

Answer	Percent
Mobile learning	67%
Gamification	24%
Blended and flipped learning	59%
Personalised learning	69%
Machine learning	11%
Augmented, Virtual or mixed reality	28%
Other - please specify	5%
Don't know	5%

Question

Currently, which of the following operating systems does your school use? Please tick all that apply.

Answer	Percent
Windows 10	86%
Windows 8	7%
Windows 7	29%
Google Classroom	20%
Apple OS	52%
Android OS	11%
Other - please specify	3%
Don't know	3%

Does your school currently operate a Bring Your Own Device (BYOD) policy?

Answer	Percent
Yes, for both staff and students	31%
Yes, for staff only	3%
Yes, for students only	10%
No, though we will be implementing a policy soon	11%
No plans to introduce	44%
Don't know	1%

Question

For which of the following groups do you provide technology to enable collaboration? Please tick all that apply.

Answer	Percent
Students	80%
Teaching staff	97%
Administration staff	72%
Other - please specify	5%
Don't know	1%
Don't know	1%

Question

In which of the following ways do you currently enable collaboration? Please tick all that apply.

Answer	Percent
Learning Management System (LMS)	55%
Monitored online messaging services	27%
Email	87%
Social media channels	42%
Digitally enabled group study rooms	32%
Online forums	29%
Webinar or Live video chat sessions	29%
Other - please specify	9%
Don't know	2%

Does your school have any plans to redesign learning spaces with technology to enable collaborative learning?

Answer	Percent
Yes	36%
No	52%
Don't know	12%

Grid

How confident are you that your school's data protection and cyber security strategy is able to effectively protect the following?

Question

Infrastructure and network

Answer	Percent
Very confident	47%
Fairly confident	47%
Somewhat confident	5%
Not at all confident	1%
Question	

Student personal data

Very confident 54% Fairly confident 41%	
Fairly confident 41%	
Somewhat confident 4%	
Not at all confident 1%	

Question

Test and curriculum data

Answer	Percent
Very confident	54%
Fairly confident	41%
Somewhat confident	4%
Not at all confident	1%

School data, including HR and Finance records

Answer	Percent
Very confident	62%
Fairly confident	34%
Somewhat confident	3%
Not at all confident	1%

Question

For which of the following reasons is your school considering adopting or migrating to Cloud technology? Please tick all that apply.

Answer	Percent
Cost reduction	49%
Increased data security	35%
The ability to scale cloud solutions to need	42%
Ease of data storage and retrieval	68%
Better equip remote or mobile workers by enabling remote access	63%
We are not currently looking to migrate	10%
Other - please specify	2%
Don't know	6%

APPENDIX 2: PARTICIPATING ORGANISATIONS

Colleges of Further Education

Abingdon And Witney College Barnet and Southgate College Bedford College Birmingham Metropolitan College Blackpool and the Fylde College Bridge College Bridgwater & Taunton College Brighton, Hove & Sussex Sixth Form College Coleg Gwent Coleg y Cymoedd **Derwentside** College Eastleigh College Gower College Swansea Heart of Worcestershire College Hertford Regional College Joseph Chamberlain Sixth Form College King Edward VI College Kingston Maurward College Leyton Sixth Form College Nescot New College Durham Newham College North Warwickshire and Hinckley College North West **Regional College** Northern Regional College Richard Taunton Sixth Form College Richmond Adult Community College Riverside College Solihull College South and City College Birmingham South Lanarkshire College South Leicestershire College Stephenson College Suffolk New College The Isle Of Wight College The Oldham College West College Scotland Weston College Worthing College

Independent Schools

Alton School Ashford School Beechwood Park School Bickley Park School Bournemouth Collegiate School Brooke House College Broomwood Hall School Bruton School for Girls Cambridge Tutors College Caterham School Craigclowan School **Cranleigh School** Cranmore Preparatory School Crosfields School Dean Close School **Denstone** College Ditcham Park School d'Overbroeck's College Dulwich Preparatory School Giggleswick School Handcross Park Preparatory School Headington School **Highfield School** Hornsby House School International School of Aberdeen Kimbolton School King Edward VI School King Edward's School King's College Taunton Lincoln Minster School

Lord Wandsworth College Mayfield School Northampton High School Norwich High School for Girls GDST Prior Park College Prior's Field School **Reeds School** Sidcot School St John's School St Joseph's School Stroud School Ltd The Cavendish School The Chorister School The King's School The Loddon School Wellington College Woldingham School

Primary Schools

Acorns Primary School Annesley Primary and Nursery School Bickleigh Down Church of England Primary School Bursted Wood Primary School Coychurch (Llangrallo) Primary School Featherstone All Saints CofE Academy Grasmere CofE Primary School Great Binfields Primary School **Kimbolton Primary Academy** Lanivet Community Primary School Litchard Primary Malvern Wyche CofE Primary School Marden Primary School Middleton-in-Teesdale Nursery and Primary School Milford Junior School Millbrook Community Primary School Myrddin C.P. School Pace Presentation Primary School Spon Gate Primary School Springfield Community Primary School St Bernadette's Catholic Primary School St Mary's Catholic Primary School St Mary's Catholic Primary School, Maidenhead St Padarns R.C.P. School St Peter's CofE Primary School Staples Road Junior School Tarporley CofE Primary School Western Primary School

Secondary Schools

Abbey Grange Church of England Academy Abraham Darby Academy ACE Schools Plymouth Addington School Belfast Boys' Model School Billing Brook Special School Blenheim High School Brannel School Bridgewater High School Brookfield Community School Chailey Heritage School Cheslyn Hay Sport and Community High School Chipping Sodbury School Chosen Hill School Edgbarrow School Grove Park School

Hall School Hazlehead Academy High Weald Academy Inverkeithing High School John Masefield High School Kenton School Lexden Springs School Lincoln Christ's Hospital School Lord Williams's School Lostock College Lumen Christi College Meldrum Academy Mont l'Abbe School Moulsham High School Northfield Academy Ralph Allen School Rossington All Saints Academy Skinners' Kent Academy St Francis Special School St Laurence School St Paul's School for Girls St Peter's Academy The Bishops' Blue Coat Church of England High School The Derby High School The Fountains High School The Ladies' College The Milestone School The Ockendon Academy The West of England SchoolandCollege Thomas Mills High School Three Ways School Trinity Academy Halifax Twynham School Westlands School William Brookes School Wycombe High School

Other E-ACT Treloar Trust

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