

TECHNOLOGY IN EDUCATION

A SYSTEM VIEW



FOREWORD

“IT IS NOT POSSIBLE TO IMAGINE A MODERN SCHOOL OR LEARNING ORGANISATION WITHOUT TECHNOLOGY. WE HOPE THIS VIEW OF THE LANDSCAPE WILL PROVIDE TANGIBLE SUPPORT FOR ORGANISATIONS WHO ARE ASKING HOW TECHNOLOGY CAN BE APPLIED TO CREATE THE MAXIMUM IMPACT ON LEARNING OUTCOMES.

WE MUST BE AMBITIOUS FOR OUR LEARNERS, PROVIDE THEM WITH THE MOST POWERFUL WAYS TO LEARN AND SUPPORT THEM TO BE FULLY EQUIPPED FOR THE 21ST CENTURY.”

James Penny, Solutions Director, European Electronique



MEMBERS OF THE EXPERT GROUP

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TABLETS FOR SCHOOLS

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TOSHIBA

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“TECHNOLOGY IS CHANGING THE WORLD AROUND US AND CHANGING EDUCATION. TEACHERS ARE USING IT TO MAKE THEIR TEACHING MORE CREATIVE, MORE INNOVATIVE AND MORE ENGAGING AND ENJOYABLE. ABOVE ALL, IT HAS THE POWER TO INCREASE CHILDREN’S ATTAINMENT AND INCREASE THEIR FUTURE OPPORTUNITIES, WHATEVER PATH THEY CHOOSE TO GO DOWN.

These changes are gathering pace and more than ever we need a discussion about how schools meet the associated challenges. This report is an important contribution to the debate and it highlights a number of important issues. These include the need to help teachers apply their existing teaching skills to the new world, the need for strong school leadership and in supporting schools to invest in a solution that works best for them.

These challenges are not insurmountable and many schools are already active in sharing solutions. Whether it is by innovative use of computers and tablets to enable students to interact with students across the world, embracing 3D printers or developing apps that they can use on their own devices, many of our schools are world leaders. A large part of the challenge for Government and others in the sector lies in helping these innovators to share their knowledge and experience with their peers.

As the report recognises, the debate about technology has shifted from ‘if’ to ‘how’. We need to know what really works. This is why I announced the creation of a new Education Technology Action Group earlier this year. It is a group of experts who have come together to identify how technology can be best used - across schools, universities and colleges - to enhance teaching and learning.

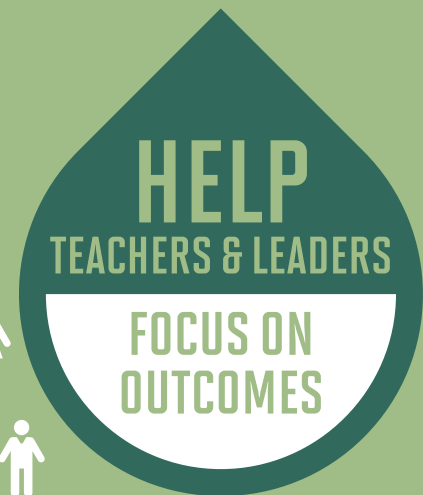
They are tasked with producing evidence-based ideas and proposals to encourage the most effective use of education technology. This report helps to lay the foundations for the group’s work, and I hope that it will be widely read by all with an interest in this area.”

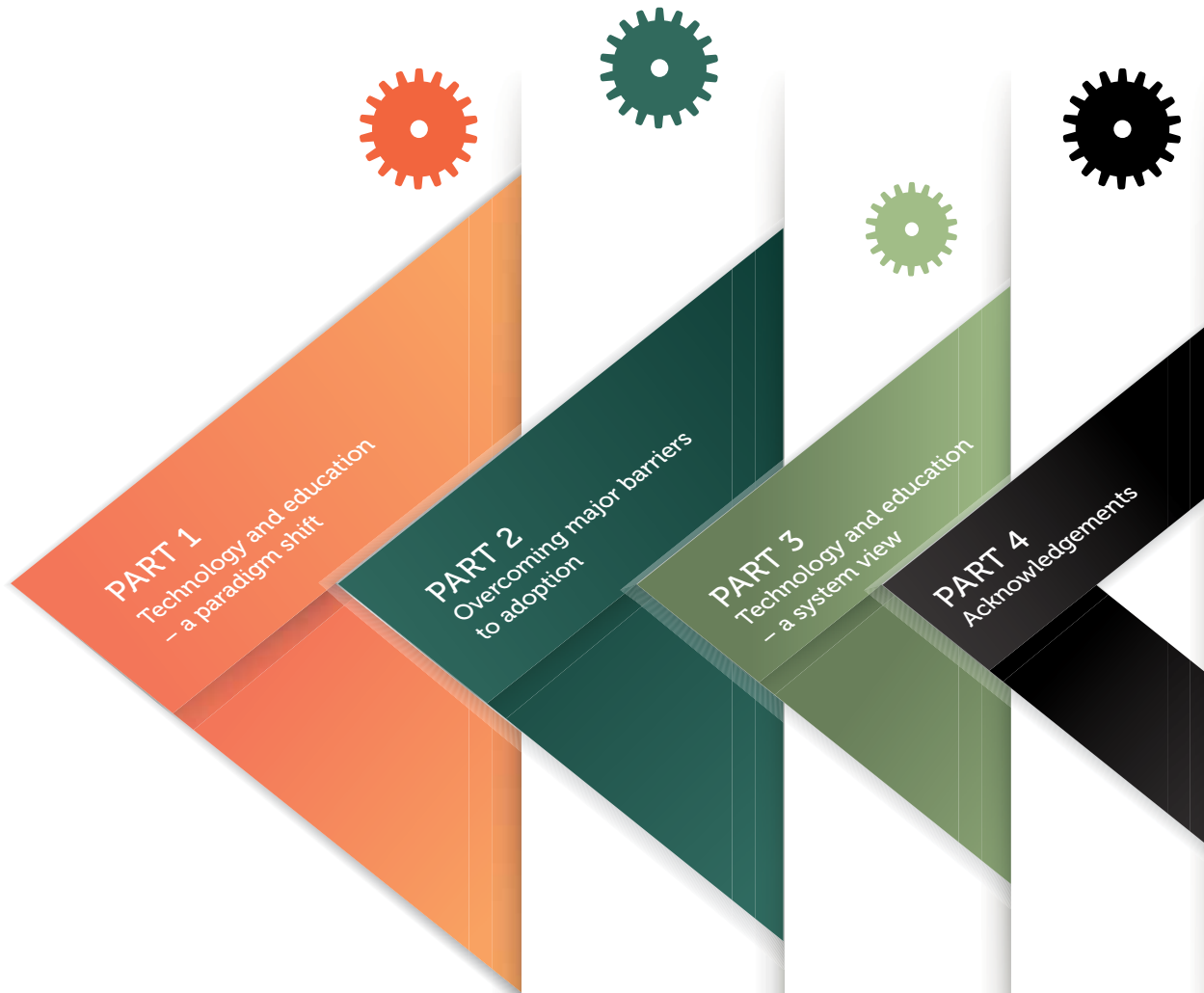
Matthew Hancock MP, Minister for Skills and Enterprise, Department for Education

“NO EDUCATION SYSTEM IS GREATER THAN THE QUALITY OF ITS TEACHERS AND LEADERS. HIGH QUALITY TEACHING AND LEARNING HAS A DIRECT CORRELATION TO HIGH QUALITY OUTCOMES.

TECHNOLOGY NEEDS TO SUPPORT STUDENTS OR YOUNG PEOPLE TO DEVELOP DEEP SUBJECT KNOWLEDGE AND UNDERSTANDING. OBVIOUS AREAS FOR SUCH SUPPORT ARE AROUND PERSONALISATION AND ASSESSMENT BUT THERE ARE OTHERS. IN MY VIEW WE NEED TO HELP TEACHERS AND LEADERS FOCUS ON OUTCOMES AND NOT CONFUSE THIS WITH PROCESS, WHERE TECHNOLOGY IS TOO OFTEN FOCUSED AT THE MOMENT”

Sir Dan Moynihan,
Chief Executive, Harris Federation





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1 PART

TECHNOLOGY & EDUCATION – A PARADIGM SHIFT

THERE IS A PARADIGM SHIFT IN THE DEBATE AROUND THE ROLE OF TECHNOLOGY IN LEARNING. WHEN WE APPLY TECHNOLOGY TO HIGH QUALITY LEARNING AND TEACHING METHODOLOGIES, STUDENTS CAN POTENTIALLY ACHIEVE DEEPER KNOWLEDGE AND MORE UNDERSTANDING.

It is clear that a watershed moment has been reached in the maturity of technology. The ubiquity of tablets and mobile devices is making real change happen. The maturity in wireless infrastructure and the ability to manage critical systems from the cloud, both private and public, means that teachers and learners can now rely on technology and embed it into their working practices.

In short, we can now see what a “technology enabled school system” might look like in practice.

Rather than talking about it, we can see it

happening before our eyes. There are a number of places where technology is being used to support both high quality outcomes and where technology is tangibly transforming the process of teaching and learning.

The stakes are high. To remain competitive we need people who can manage, develop and invent the systems that will drive our economy. The vast majority of jobs and services in the future will require knowledge and understanding of technology.

From coding skills to the ability to manipulate

and access data, we need our young people to be equipped with these skills. By ensuring that our education system embeds up to date technology into the ‘learning ecosystem’ we can ensure that learners access the skills they require to be competitive in the modern workplace.

Technology is a strategic tool in any learning organisation and when applied as part of maintaining high standards or as part of school improvement, can make a positive contribution to the lives of all learners.

This document shares some key ideas and

insights that were gathered by an expert group of leaders in technology and education and looks at how these are being applied in schools and learning organisations across the UK. It sets out an emerging “system wide view” of technology in education for young people aged 3 years old to 23 years old, and an overview of the organisations who are supporting this new Edtech ecosystem in Britain. It also has 3 simple and powerful messages for educators, business leaders and policy makers to consider in their future planning.

“Evidence: NESTA’s Alive in the Swamp 2013 report & The Education Endowment Foundation’s Impact of Digital technology on learning 2012 report found that technology is associated with positive but moderate learning gains. It is clear that there is a need for a what works site that aggregates evidence in one place, plus more efficacy and random controlled trials required to improve the quality of decisions made by policy makers and educators”

KEY FINDINGS

ONE

A paradigm shift in the use of technology in education has happened – technology must be more strategically linked to achievement and learning in all schools and learning organisations. And knowledge of how to achieve this needs to be shared more widely on a “what works website” for all teachers and learners to benefit.

TWO

There are still major barriers to the adoption of technology in Britain’s schools. Universal high quality access to broadband in all schools would deliver significant benefit. And if schools adopted cloud based technology and made choices on devices based on flexibility and total cost of ownership, they would see considerable savings.

THREE

The use of technology to improve achievement must be recognised more prominently and systematically in inspection and accountability frameworks with clear guidance on what good and outstanding looks like in practice.

We know that there are still barriers and there are still those that doubt the power of technology to transform education. There is still much to do.

We hope that this document can be a catalyst for the journey ahead. We hope it can be a practical tool for the teachers and leaders who do a fantastic job in our schools and colleges everyday, that it can pull together and share ideas that work so that reforms happen quickly so that learners do not miss out.

We also hope that the document will be useful for the new cross government Education Technology Action Group which launched in February 2014 and in discussions about the next wave of reform of our education system.

No learning organisation should have out of date technology. Technology should be focused on improving the learning and outcomes of all learners so that digital technology supports teachers and bring about positive change in the lives of young people.

James Penny, Ian Fordham and Ty Goddard - May 2014

2 PART

OVERCOMING MAJOR BARRIERS TO ADOPTION

INTRODUCTION

THERE IS NOW CLEAR EVIDENCE FROM THE UK AND GLOBALLY ON WHAT MAKES EFFECTIVE SCHOOLS AND LEARNING ORGANISATIONS, AND HOW TO IMPROVE EDUCATION SYSTEMS. THIS REPORT SUGGESTS THAT TECHNOLOGY SHOULD PLAY A MORE SIGNIFICANT ROLE IN EDUCATION REFORM AND TO THE DEEPENING AND ACCELERATION OF LEARNING FOR ALL YOUNG PEOPLE

IN MID 2013, AN EXPERT GROUP CAME TOGETHER TO LOOK AT THE FUTURE OF TECHNOLOGY IN SCHOOLS AND THERE WAS DEEP CONSENSUS THAT SOME SIMPLE, PROVEN EFFECTIVE IDEAS AND INSIGHTS IN THE WAY TECHNOLOGY CAN BE USED ARE STILL NOT BEING WIDELY SHARED, AND THERE IS STILL TOO MUCH OF A 'REINVENTION OF THE WHEEL'.





THIS NEEDS TO
**STOP
NOW**

The energy and resources being deployed to support the 'reinvention' process are slowing down the level of innovation. Ground breaking thinking around technology and its role in system wide change is thwarted by the effort going into this reinvention. The next level of innovation is being slowed, which is not conducive to our economy remaining competitive in the long term.

At grassroots level in schools, colleges, universities, and also in our most dynamic SMEs and startups, we now

have the potential to use our technological capability and expertise to lead the world in technology and education. As a nation, we are at a critical time in the development of the economy and harnessing the potential of the digital agenda in all its forms, is a national priority. With the sharing of innovative ideas and a system view, technology could be the one of the key drivers to enable the UK to continue to be a world leader in education improvement and reform.

REMOVING KEY BARRIERS TO ADOPTION

One of the key requirements for a new technology enabled school led system is removing the main barriers to the wider adoption of technology and identifying how technology can support high quality outcomes across the system. The expert group and The Education Foundation identified the following key barriers:

-  SKILLS
-  ACCESS
-  TEACHING & LEARNING (PEDAGOGY)
-  VALUE FOR MONEY
-  ACCOUNTABILITY

SKILLS

DIGITAL SKILLS ARE ESSENTIAL FOR SUCCESS. THERE IS A NEED FOR AGREEMENT ABOUT THE EXTENT AND DEPTH OF THESE SKILLS, AT WHAT POINT IN THE EDUCATION SYSTEM COURSES SHOULD BE OFFERED AND WHAT TOOLS NEED TO BE AVAILABLE TO GET STUDENTS TO THE RIGHT LEVEL OF PROFICIENCY EFFECTIVELY AND EFFICIENTLY. BARRIERS TO OVERCOME, INCLUDE THE LACK OF A RANGE OF INTERDEPENDENT SKILLS ACROSS SOCIETY INCLUDING:

Basic online skills required to get online, navigate through websites, download and use Apps on a phone and to fulfill basic IT tasks at work.

Traditional IT skills associated with the “IT department”: maintenance of office systems and equipment.

Computer Science skills Understanding the principles of information and computation, how digital systems work and how to put this knowledge to use through programming.

Digital commerce skills These skills enable businesses and customers to find each other more quickly, to transact with each other at lower cost and drive greater confidence. Digital commerce is a key driver for economic growth.

Data science skills ‘Big Data’ and the ability to get hold of, organise and analyse data to extract valuable insights is a skill that is growing in importance for service based economies.

→ **KEY ISSUE**
To take advantage of the opportunities, created by an accelerating penetration of technology into our lives, young people and adults must have a mix of digital skills to learn and thrive.

→ **AREAS OF PROMISE**
Samsung Digital Academy, NextGenSkills, GO On UK, UCL Academy.



ACCESS

THERE ARE MAJOR ISSUES RELATED TO GAINING HIGH QUALITY ACCESS TO BROADBAND AND TECHNOLOGY INFRASTRUCTURE IN OUR SCHOOLS AND LEARNING ORGANISATIONS. THE ISSUE IS MOST PROFOUND IN PRIMARY SCHOOLS, SMALL SCHOOLS AND RURAL AREAS, BUT DIFFICULTIES IN ACCESS ALSO EXTEND TO INNER CITY AREAS AND A LACK OF AVAILABILITY IN YOUNG PEOPLE'S LIVES OUTSIDE OF SCHOOL AND IN THE HOME. BARRIERS THAT MUST BE OVERCOME INCLUDE:

1 Only 64% of children living in the poorest decile of households in the UK have access to the Internet, and 66% of the second poorest decile, compared to 93% of all households with children in the UK own a computer, and 89% of all households with children have access to the Internet via a computer
(Source: Family Spending Survey 2012)

2 756,000 of school age children still cannot go online from a computer at home, and 653,000 lack access to a computer at home. These are highly likely to be the same children subject to the attainment gap and at risk of under-performing.
(Source: Elearning foundation)

3 Many schools and learning organisations struggle to provide and maintain good or high quality access to technology compared to larger organisations with young people's access to up to date devices, the quality and regular updating of critical infrastructure and connectivity for devices including providing high quality wireless provision and connectivity to the Internet being the most prevalent issues.



KEY ISSUE

There must be a drive towards equality of access to the benefits that educational technology offers learners. The proportion of old and ineffective computers is still prevalent in many schools and learning organisations. Equality of access to the benefits of educational technology is important to closing the achievement gap, driving up standards and increasing equity.



AREAS OF PROMISE

Elearning Foundation
Mind the Gap Campaign,
Manchester Enterprise Academy.

TEACHING & LEARNING

NO EDUCATION SYSTEM IS GREATER THAN THE QUALITY OF ITS TEACHERS. AND HIGH QUALITY TEACHING AND LEARNING HAS A DIRECT CORRELATION TO HIGH QUALITY OUTCOMES. LEADERS SET AN EXPECTATION FOR THE WAY THE CURRICULUM IS PLANNED AND TEACHING AND LEARNING TAKE PLACE IN THE CLASSROOM AND BEYOND. THESE EXPECTATIONS CAN HAVE PROFOUND IMPLICATIONS FOR THE WAY TECHNOLOGY IS IMPLEMENTED AND EMBEDDED INTO A SCHOOL OR LEARNING ORGANISATION. BARRIERS THAT NEED TO BE OVERCOME INCLUDE:

→ AREAS OF PROMISE

Hove Park School,
Wood Green Academy,
IPACA, Harris
Federation

→ KEY ISSUE

21st century schools and learning organisations must include technology that is embedded in school improvement and which supports powerful and proven methods of teaching and learning. There is positive evidence that now shows that technology has an important role to play in deepening and accelerating learning

Schools and learning organisations having a robust evidence base concerning the range of methods of teaching and learning (proven pedagogies) that make the most difference when used and connected with technology.

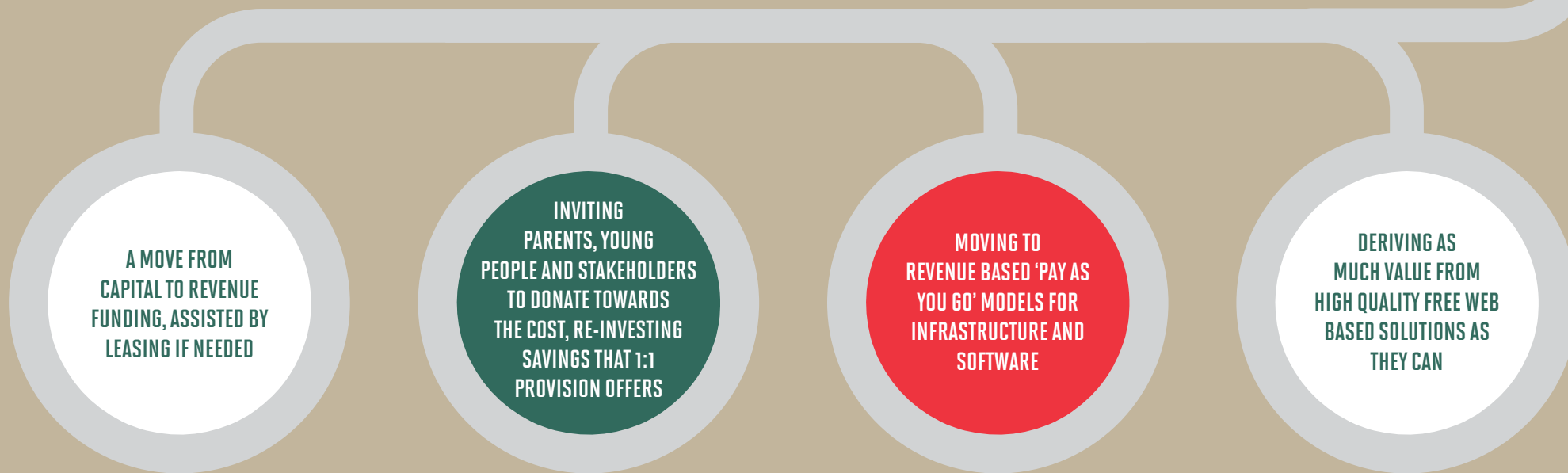
For schools to evaluate the potential of blended learning – which is defined by the Clayton Christensen Institute as: “any time a student learns at least in part at a supervised brick-and-mortar location away from home and at least in part through online delivery with some element of student control over time, place, path, and/or pace”

A balance to be struck between more directed and constructivist forms of teaching and learning ie in a Directed environment technology plays a critical role in presenting knowledge and ideas to learners, who are then encouraged to present back their ideas to show mastery. Learners use technology to access resources and present what they have understood. The use of personal devices can be focused on reading or accessing pre-prepared materials. The teacher directs the majority of learning time. Summative examinations and tests do not regularly feature the use of technology.

In a constructivist environment learners are encouraged to explore ideas and share insights using many different sources. They then construct representations of their understanding, with teachers supporting and guiding. ICT plays a critical role and the use of a personal device is essential. Also, in this scenario, the 21st Century skills of sharing ideas and information, critique and iterative working play a significant part in the overall learning environment. Formative assessment and feedback use technology extensively.

VALUE FOR MONEY

VALUE FOR MONEY IN THE CONTEXT OF TECHNOLOGY IN EDUCATION GOES FURTHER THAN ENSURING TECHNOLOGY IS AN INTEGRAL PART OF THE ORGANISATION'S FUTURE DEVELOPMENT. BARRIERS THAT NEED TO BE OVERCOME INCLUDE ENSURING GOVERNORS AND SCHOOL AND COLLEGE LEADERS ACCESS TRIED AND TEST SOLUTIONS TO THE 'AFFORDABILITY ISSUE', INCLUDING:



→ KEY ISSUE

Value for money and getting more for less is critical in a new system. At the level of government, local authority, principal, tutor, academy sponsor, school governor, headteacher and practitioner, this is about using tried and tested solutions rather than reinventing the wheel.

→ AREAS OF PROMISE

Bridlington School, Osset Academy & ESSA Academy

ACCOUNTABILITY

AS IT STANDS, THE PROVISION AND USE OF TECHNOLOGY IN EACH INSTITUTION VARIES CONSIDERABLY AND ORGANISATIONS JUDGED WITH AN OUTSTANDING RATING BY OFSTED CAN HAVE SIGNIFICANTLY DIFFERENT LEVELS OF TECHNOLOGY IN PLACE. SOME HAVE PERVASIVE 1:1 RATIOS OF DEVICES, OTHERS HAVE MORE LIMITED PROVISION THAT IS CONCENTRATED IN TRADITIONAL 'ICT SUITES'

There are very positive signs of changes shown in the recently launched supplementary guidance for inspection for schools that identifies the importance of

“THE IMAGINATIVE USE OF ICT TO SUPPORT LEARNING”

→ KEY ISSUE

Technology has been a part of inspection and accountability frameworks for many years and this new guidance should be communicated widely to ensure the learning gains from technology are universally applied in all schools and learning organisations across the country.

→ AREAS OF PROMISE

OfSTED subsidiary guidance, Shireland Collegiate Academy
& Stephen Perse Foundation



UK PIONEERING SCHOOLS

We also want to recognise Barry Island Primary School, Cadoxton Primary School and Casllwchwr Primary School in Wales and Cedars School of Excellence in Scotland for their pioneering work in the technology and learning system.

TEACHING & LEARNING

Plymouth Grove Primary School in Manchester (a Samsung Digital Classroom partner school) join a range of schools including Wood Green Academy who are aligning the use of technology to the most effective teaching and learning methods, including those identified in the Pupil Premium toolkit. Plymouth Grove are already seeing significant improvements in reading and comprehension having used school-wide blogging, podcasting and other forms of Accelerated Reading software.

Hove Park School is seeing early but promising results in narrowing the achievement gap following the introduction of one to one devices for all students, allied to high quality CPD for teachers. The Harris Federation is recognised nationally as a pioneer in adopting cloud based technology to reduce the cost of ICT. The use of technology is closely aligned to supporting the academies achieve and sustain outstanding status. The Federation uses ICT to support the use of data to drive learning and achievement gains.

ACCOUNTABILITY

Shireland Collegiate Academy is one of a few schools nationally (also the Stephen Perse Foundation School) to have the "imaginative use of ICT and technology" recognised as a key factor in their Ofsted / ISIS inspections. They are also part of a groundbreaking Blended Learning efficacy and randomised controlled trial (the gold standard of evidence based practice) to test the impact of flipped learning.

Ofsted's subsidiary guidance is identified as an area or promise as it starts to identify practical ways inspectors can recognise the strategic contribution that technology can make to improved learning outcomes.

AREAS OF PROMISE

In this report we have identified a number of leading schools, colleges and other learning organisations who we believe show "areas of promise" in unblocking some of the barriers to technology in their setting. All of them would recognise that their activities are at an early stage and work in progress. But together they represent some emerging solutions to unblocking barriers and in the positive use of technology for learning.

VALUE FOR MONEY

The Isle of Portland Academy in Weymouth has adopted an innovative approach to using cloud based technology across all of its IT systems which is saving thousands of pounds per year in electricity bills alone, which would otherwise be spent on running fixed on-site servers. Money which is now being spent on other aspects of school development.

Bridlington School, Osset Academy and ESSA academy are all using innovative approaches to using technology to save money as well as improve learning

ACCESS

Manchester Enterprise Academy is taking a groundbreaking approach to getting access to high quality broadband amongst all of its students and families by working in partnership with the local housing association in Wythenshawe and aiming to ensure the digital divide is eradicated for a generation of young people at their school

SKILLS

Samsung Digital Academy at Newham College is offering new qualification courses and training in "app development" and home technology integration, both areas of which were identified as areas where employers are experiencing a skills gap related to the vibrant local digital economy.

“ AS THE CEO AND OWNER OF
EUROPEAN
ELECTRONIQUE

I am delighted to be supporting this report. Having been involved with learning organisations and education for many years I am constantly inspired by the passion, energy and inspiration that educators provide to our learners. It is clear that technology in many forms will continue to be a significant part of learning and teaching. The power of technology to support, change and challenge learners is exciting. Technology is also essential to support a vibrant and prosperous economy.

I hope that as you read this report you will find some ideas that you can take into your learning organisation that will make a positive impact on the learning that takes places.

Yolanta Gill, CEO, European Electronique

“ WE ARE DELIGHTED
TO HAVE BEEN INVOLVED IN THIS NEW
REPORT ON THE FUTURE OF TECHNOLOGY IN
EDUCATION AND LEARNING.

Too often technology reports focus on “scenarios for the future” that cannot be predicted and therefore leave school and education leaders, governors and budget holders difficult decisions such as - how to deal with the present day reality, what do we spend our money on and how do we get appropriate technology into our classrooms that teachers can use to support their learning.

We believe this report – like The Education Foundation - is a lot more pragmatic and starts from the reality of what’s needed now and in the next few years – and welcomes the expert group’s identification of the key barriers that need to be removed exist to finally realise the potential of technology, to change the lives of young people in schools and other learning organisations across the UK. ”

Ian Fordham & Ty Goddard, Co-founders, The Education Foundation





“ **SAMSUNG**
IS COMMITTED

**TO CREATING OPPORTUNITIES
FOR THE NEXT GENERATION THROUGH
GREATER ACCESS TO TECHNOLOGY.**

We believe that technology has a significant role to play in opening doors for the leaders of tomorrow, equipping them with the skills necessary to meet the needs of the ever evolving economy. This means enabling equal access to education and future skills for all our young people.

As a leading technology company we embrace our responsibility to help make this a reality and so Samsung was delighted to support this report, which includes the advice and experience of many leaders in this field. I hope that this report helps facilitate discussion and work as a guide for teachers as they work to integrate technology into the classroom. ”

Andy Griffiths, President, Samsung Electronics UK & Ireland

3 PART

TECHNOLOGY & EDUCATION – A SYSTEM VIEW

A NEW SYSTEM EMERGES

WE ARE ENTERING A KEY MOMENT IN POLICY MAKING CONCERNING THE ROLE THAT DIGITAL TECHNOLOGY CAN PLAY IN SUPPORTING THE ECONOMY, SKILLS, GROWTH AND THE SOCIAL FITNESS OF OUR NATION. AS A MEMBER OF THE EXPERT GROUP SAID: “TODAY’S EDUCATION IS TOMORROW’S ECONOMY”

From the delivery of public services, to the creation of digital jobs and new industries, to the redesign of an education and learning system fit for the 21st Century. The Cabinet Office’s recently published “Government Digital Strategy” sets out how central government themselves are looking to transform their own services to become “digital by default”.

The rise of technology is ‘positively disrupting’ across the learning world. In sectors such as higher education for example the access and provision of online courses, self organised learning and Massive Open Online Courses

(MOOCs) such as edX in Harvard and Futurelearn & the Cambridge University Press/Raspberry Pi MOOCs in the UK is changing the landscape for ever. These changes are also starting to radically change the way schools and colleges design the curriculum and how, when, and where knowledge and learning is accessed.

The new computer science curriculum holds unparalleled opportunity for young people to access new skills to be producers and designers and not just consumers of the technology they are using in their lives.

But there are still big systemic challenges:

“ **5** YEARS IN THE LAST UK SCHOOLS HAVE SPENT MORE THAN £1 BILLION ON DIGITAL TECHNOLOGY.

From interactive whiteboards to tablets, there is more digital technology in schools than ever before. But so far there has been little evidence of substantial success in improving educational outcomes ”

(Source: Decoding Learning, NESTA 2013)

“ **18%**

OF ADULTS IN THE UK ARE NOT ONLINE and many others are online but don’t have basic digital skills. Digital skills are relevant to education but also many areas of government activity such as digital infrastructure, welfare reform and digital services ”

(Source: Government’s Digital Service team 2013)

“ THE UK IS **NOT** PERCEIVED TO BE MAXIMISING THE POTENTIAL offered by digital technologies, because too many individuals and organisations are either not using them to their fullest or not using them at all. A recent report by Booz & Co estimated that the U.K. could have increased its annual 2011 GDP by up to £63 billion if it had achieved global leadership in digitisation ”

(Source: The case for digitisation, Booz and Co 2012)

It is vital that we grasp the opportunity to share, review and discuss the role of technology. Learning from and quickly sharing what works whilst setting an ambitious agenda for the future. The UK already leads the world in the development of technology for learning. We need to capitalise on that leadership to ensure maximum impact from advances in technology and the ability to deepen and accelerate learning.

COMMON CHALLENGES AND AREAS OF PROMISE

It is clear that there are common challenges and barriers across the sectors. We must share the solutions to this range of pressing issues and ensure these solutions are widely adopted. We are not proposing that everyone should be using the same technology, what we believe is that there are processes and ways to come to the right decisions about how to apply technology effectively. Why the technology is being used is the key question, the actual technology solution deployed is the simple part once the key question of 'WHY' has been addressed.

What is emerging from our discussions are 'areas of promise' that are being created by a range of dynamic organisations who are starting to tackle the most pervasive issues affecting the sector. It is important that these areas are built on and developed in the coming months and years to ensure the technology and system starts to deliver in a more connected way:

CHALLENGE	AREAS OF PROMISE
Access	E-learning Foundation's Mind the Gap Campaign Cabinet Office Digital by Default programme DCMS Broadband delivery UK programme
Skills	NextGenSkills & NextGenSkills Academy UK Digital Skills charter Samsung Digital Academy Digitalskills.com GO On UK / GO on UK regional programmes Make Things do Stuff campaign
Value for money	HM Government G-Cloud programme Education Funding Agency Efficiency in schools programme
Accountability	OfSTED guidance on the strategic use of technology (ICT) in schools (updated December 2013)
Teaching and learning	Education Endowment Foundation Pupil premium toolkit digital learning projects and what works research NAACE ICT Mark and 3rd Millennium Awards Gates Foundation Measures of Effective Teaching project (USA)
Employers	McKinsey Education to Employment research CBI Ambition for all campaign UK Commission for Employment and Skills
Capacity and capability of providers	Strategic support from NAACE, BCS, CAS, E-learning Foundation Edtech Incubator - programme for education leaders and edtech startups Digital Youth Academy for young people and SMEs
Funding investment and capital	HM Government G-Cloud programme Education Funding Agency guidance on technology DfE Academies guidance on use of new technology

AN EMERGING ECOSYSTEM OF SUPPORT

There are also a range of organisations already providing support to a new education and learning landscape and we would argue for a much more

“joined up system” that connects the dots in the valuable work that each organisation does, both to the tackling of the major challenges, and to ensuring that the goal of raising achievement and learning of young people is achieved above all else.

JISC & Regional
Support Centres
Tech UK
NESTA
Nominet Trust
Tinder Foundation

NextGenskills
Freeformers
CDI AppsforGood
Teentech
Young rewired state

NAACE
E-learning foundation
BCS – The chartered
institute of IT
Computing at School

CodeClub
Codeacademy
Code.org
Technology will save us
Firetech camp

GO On UK
& GO On UK regional
programmes
Cabinet Office Digital
Inclusion team

Technology
Strategy Board
Eskills UK
Association of Learning
Technologies

The Education
Foundation
Edtech Incubator

UK Forum for
Computing Education
Royal Society

WHERE NEXT?

THE OPPORTUNITY FOR SYSTEM WIDE CHANGE

There is a major opportunity for Britain's education system to benefit from the considerable expertise and dynamism of the technology in education sector.

Britain is a world leader in technology and education and a recent BIS report (International Education Strategy, June 2013) shared that we now export over £15bn annually of our education expertise globally.

We now need to harness the potential of technology for learning on the ground – in every school, college, university and learning organisation to make the biggest difference possible to the millions of young people engaged in learning across the country.

CROSS GOVERNMENT GROUP ON EDUCATION TECHNOLOGY

A new cross government Education Technology Action Group (ETAG) launched in February 2014 with a mission to identify and develop opportunities to maximise the effective use of learning technologies across the HE, FE and schools sectors. It is our view that this powerful new group should:

ONE

Work collaboratively with a range of key stakeholders to unblock the obstacles identified in this and the FELTAG report, to ensure that unnecessary bureaucracy is not getting in the way of the rapid change we now need in our technology enabled education system.

TWO

Identify more radical and entrepreneurial approaches to policy making and research in the technology and education space, in terms of identifying and validating what works and what doesn't and sharing this at pace with schools, colleges, universities and other learning organisations – so there is less reinventing of the wheel.

THREE

Set itself ambitious targets for the group's work in the first 100 days of its existence to show its impact on the ground, and working towards creating a digital roadmap for the country.

FOUR

To measure its impact on the difference it makes to education institutions and the learners they support, as this is where systemic change in a new landscape of school and college based reform will take place.

THE ROLE OF DIGITAL LEARNING IN EDUCATION REFORM

THERE IS A NOTICEABLE SHIFT IN APPROACH BY GOVERNMENT AND SENIOR POLICY MAKERS ACROSS WHITEHALL ABOUT THE ROLE THAT TECHNOLOGY AND DIGITAL LEARNING CAN PLAY A KEY AGENT FOR CHANGE IN SOCIETY AS WELL AS IN EDUCATION REFORM.

The recently published Digital Inclusion Strategy identifies that “the government is already investing in world class internet access and digital infrastructure, including public investment of over £1 billion to boost coverage of superfast broadband across the UK (to 95% of premises by 2017), and to connect businesses in our major cities.

However, to make sure the web is truly for everyone, we need to provide more than just access. We need to equip the whole country with the skills, motivation and trust to go online, be digitally capable and to make the most of the internet. There is a lot of great work going on across the public, private and voluntary sectors to help people and organisations go online, but digital exclusion remains a big issue. Maintaining momentum is not enough” (Digital Inclusion Strategy, April 2014)

And the same is true in our education system. This report shows that there are some simple steps that schools, colleges and other learning organisations could take NOW that could potentially save millions of pounds over the next few years. It highlights areas of promise – and we know there are many more schools and other learning organisations leading the way who need to share their story - so there is less reinvention of the wheel.

And the technology and the infrastructure is now at such a stage where it is more affordable and capable, with the right professional development and support of teachers, to radically change the way teaching and learning is delivered across the UK. The time for change is now. And we hope this report is a small catalyst for a broader conversation about how we change and reform our education system for good into the future.

**TECHNOLOGY &
DIGITAL LEARNING**

**CAN PLAY A KEY
AGENT FOR CHANGE
IN SOCIETY**



4 PART

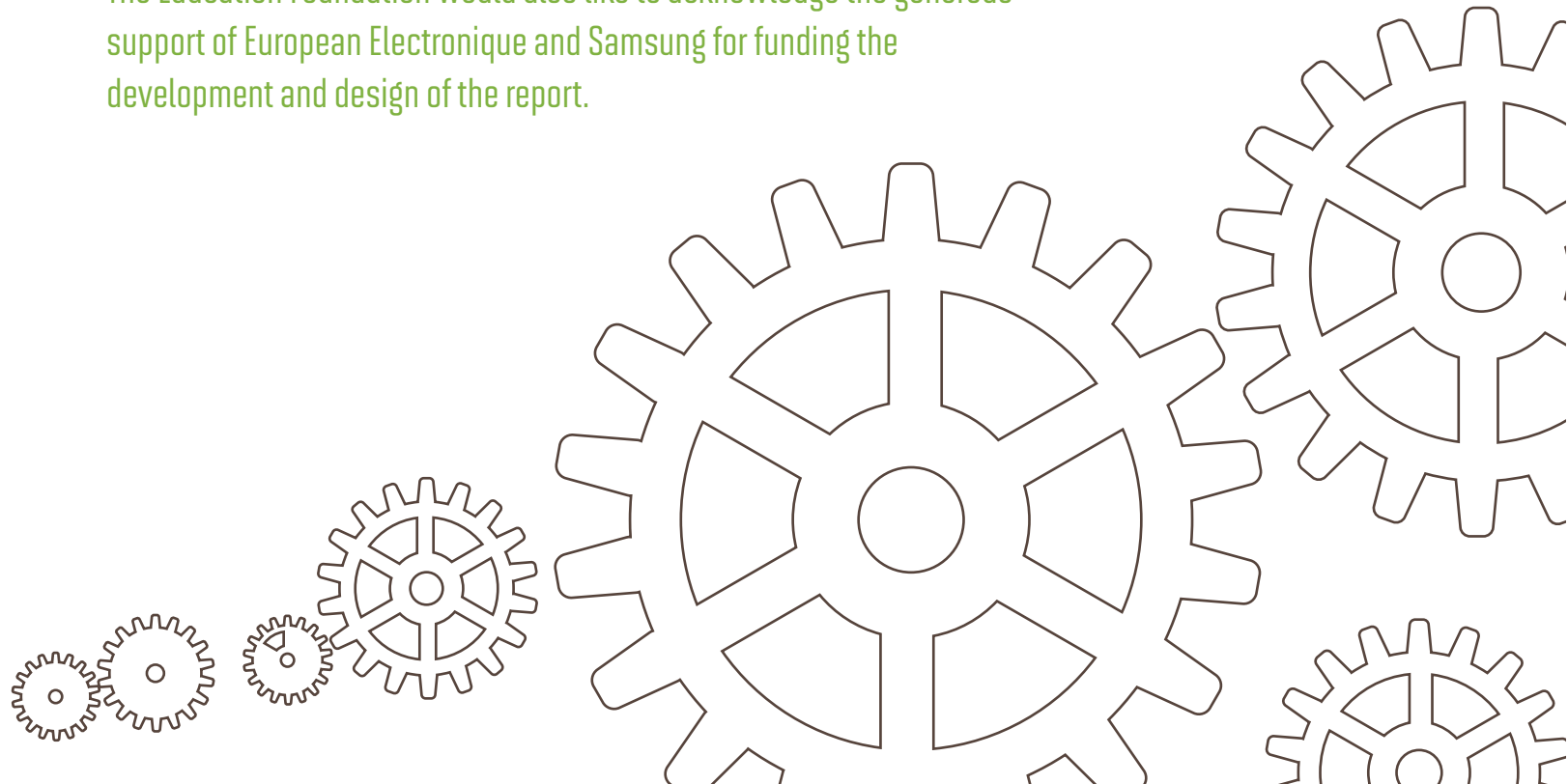
ACKNOWLEDGEMENTS



THANK YOU TO ALL THOSE WHO SUPPORTED THE DEVELOPMENT OF THIS REPORT. WE WOULD LIKE TO THANK THE MEMBERS OF THE EXPERT GROUP FOR THEIR CONSIDERABLE TIME AND EFFORT IN CONTRIBUTING IDEAS AND THINKING TO THE REPORT.

We would like to thank officials at the Department for Education and Department for Business Innovation and Skills for their engagement with this report.

The Education Foundation would also like to acknowledge the generous support of European Electronique and Samsung for funding the development and design of the report.



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