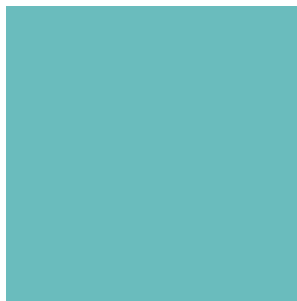
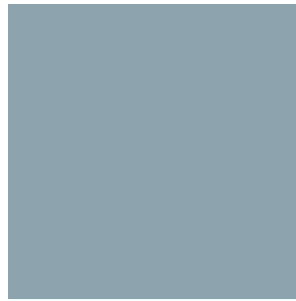




Harnessing Technology

Transforming Learning and Children's Services



Summary Version



Introduction

1. Digital technology is already changing how we do business and live our lives. Most schools - and every university and college - now have broadband access. Teachers increasingly use information and communications technology (ICT) to improve their own skills and knowledge - and to bring their lessons to life. Services for children, families, young people and adults are testing out new and better ways to deliver services, with common processes supported by technology. The technology is making many administrative and assessment tasks easier.

2. Parents and carers use the internet to find advice and information to support their parenting role. Pupils use the internet for research: many have their own e-mail accounts. A growing number of schools keep parents informed online. Adults use online resources to improve their skills. The evidence is that where ICT is used effectively, lessons are better taught and students get better results.

3. These developments reflect government investment and local innovation. But their growth has also been haphazard: systems are often incompatible with each other. Each institution or organisation has the freedom to buy its own system and support services. The result is that they are often more expensive than they need be. There are too few economies of scale.

A strategic approach to ICT

4. That is why we need a more strategic approach to the future development of ICT in education, skills and children's services. By doing so, we believe we can:

- Transform teaching and learning, and help to improve outcomes for children, young people, and adults through shared ideas, more exciting lessons and online help for professionals;
- Engage 'hard to reach' learners, with special needs support, more motivating ways of learning, and more choice about how and where to learn;
- Build an open accessible system, with more information and services online for parents and carers, children, young people, adult learners and employers; and more cross-organisation collaboration to improve personalised support and choice
- Achieve greater efficiency and effectiveness, with online research, access to shared ideas and lesson plans, improved systems and processes in children's services, shared procurement and easier administration.

5. A greater focus on technology will produce real benefits for all. Parents could see more of what their children are learning in school through a school's website. Employers and communities could access ICT training and support more readily. Young people and adult

learners should be able to see courses tailored to their personal needs, and progress more easily through different institutions at different stages of their lives. And those working in education and children's services will benefit from more online support and technological solutions to assessment and administration.

6. We will not impose our view of what the technology should provide. We need to listen to people's views, and ensure that technology meets their needs. In this way, we make the most of what ICT can offer.

Priorities for reform

7. Our strategy therefore focuses on what the technology can do for informing and advising citizens, for supporting children, young people, and adult learners in their encounters with the system, and for transforming the experience of learning. To make this happen, we have identified six priorities:

To provide

- An integrated online information service for all citizens
- Integrated online personal support for children and learners
- A collaborative approach to personalised learning activities
- A good quality training and support package for ICT, for practitioners
- A leadership and development package for organisational capability in ICT
- A common digital infrastructure to support transformation and reform

8. Our first priority is to improve everyone's access to online information, transactions and advice services. The Directgov network will provide links to the full range of government services. We shall encourage schools to use their online networks to provide parents with more information. Education and children's organisations will be expected to

collaborate in providing easy integration of their information, in support of users' needs. And we will introduce new interface standards to make it easier for people with disabilities, and those unfamiliar with computers, to find what they need online.

9. The technology offers more than access to information. Because it can store personal data securely, it enables public services to offer more integrated support to children and learners. With children's services becoming more focussed on outcomes, ICT can assist them in meeting the needs of the children, young people and families with whom they work. The effectiveness of those working in children's centres, schools, social care, health, youth services or other front line services can be improved by integrated administrative processes, as well as better information and training.

10. Our second priority extends this personalised support to learners, helping with all stages of education, and with progression to the next stage. We will encourage every institution to offer a personal online learning space to store coursework, course resources, results, and achievements. We will work towards developing a personal identifier for each learner, so that education organisations can support an individual's progression more effectively. Together, these facilities will become an electronic portfolio, making it simpler for learners to build their record of achievement throughout their lifelong learning.

11. We want to do more to exploit the educational potential of the new technologies. Our third priority, therefore, is to do all we can to accelerate the move to the next generation of e-learning activities and resources. We need better digital resources more widely available and more flexible learning packages that

teachers can adapt to their learners' needs. We must support innovation in the market by improving our knowledge of where e-learning works particularly well, and update our standards for pedagogic quality, accessibility and safety. And we must keep the curriculum moving, to take advantage of new methods in all subject areas, and to keep demanding a better response from the technology.

12. The children's workforce, leaders, teachers, support staff, trainers, researchers, and lecturers, should all have access to good quality ICT resources, professional online support networks and technology that reduces their paperwork. Good practice in ICT should be rewarded. And those wishing to upgrade their skills should have access to flexible courses, with advanced support for those seeking to specialise further.

13. Leaders in education and children's services are crucial to the effective adaptation of ICT within their institution or organisation. Through better training and development, improved professional and business partnerships, and peer networks, we can enable them and their organisations to make more effective use of ICT.

14. The infrastructure must support these goals. So we plan an integrated teaching, research and administrative network for education. We want common systems for electronic learning, administration and business. We need common open standards to communicate with each other easily and safely. And we will enable all organisations to benefit from a collaborative approach to purchasing ICT equipment and services.

An overview of the DfES e-strategy

To summarise:

Our aims for a 21st century system...

Personalisation and choice
Opening up services

Flexibility and independence
Staff development
Partnerships

through our strategies for reform...

Children

Secondary

Skills

Post-16

Primary

14-19

HE

will need the contributions ICT and e-learning can make...

Transforming teaching learning and support
Connecting with hard to reach groups
Opening up an accessible collaborative system
Improving efficiency and effectiveness

through sector-based actions...

ICT in Schools Strategy

Post-16 e-Learning Strategy

HEFCE e-Learning Strategy

Every Child Matters

all underpinned by the priority system actions.

An integrated online information service for all citizens
Integrated online learning and personal support for children and learners
A collaborative approach to personalised learning activities
A good quality ICT training and support package for practitioners
A leadership and development package for organisational capability in ICT
A common digital infrastructure to support transformation and reform

Why we need a focus on technology

Achieving our ambitions

15. Technology has been used in education for many years. It has not yet transformed teaching and learning, but it has made a major impact in many schools, colleges and universities. It has also made information more accessible and administration more efficient.

16. But ICT can have a greater impact on our wider ambitions for education and children's services. We want children, learners and parents to have more say in those services and we want courses and services to become more personalised. ICT makes this possible, provided that we have the imagination and the right strategic planning. We need to focus both on e-learning – using ICT to change how we learn, and e-delivery – the mechanisms by which we provide electronic information and services.

Why do we need e-learning?

17. At any stage of learning, ICT could re-engage the unmotivated learner, and bring an authentic and challenging task within their grasp. Or ICT could make the difference between the boredom of the learner who's always left behind, and the discovery that they can find their own way to make progress.

18. For teachers it can be the difference between learners who are unmotivated, and a class that wants to participate. But it need not involve more time. Head teachers and leaders can work more efficiently and support their teachers better. Teachers, given the means to experiment, discover their own ways of using their time better.

19. We do not argue for a complete switch to new technology. Traditional pedagogy and e-learning can and should complement each other. The new technologies are capable of creating real energy and excitement for all age groups. Used well, they should motivate, personalise, and stretch.

Why do we need e-delivery?

20. Communications technologies are often more readily accessible ways to deliver information and advice than print. Some of the most powerful testimony to the value of ICT comes from people in the most vulnerable groups in our society, who value the social equality, the contact and privacy that ICT offers.

21. Online information systems, advice and guidance can change how every citizen engages with public services. Of course, many people prefer to meet public servants face-to-face, but their encounter

can be more productive when both sides are better prepared – online services can help that process. This is why we emphasise the importance of joining up agencies to deliver online information and services. We all want to find the information and advice we need quickly. We want to have the opportunity to register or enrol for courses without having to travel or queue. It is important

that accessing such services is straightforward and easy for everybody.

What will ICT do for practitioners?

22. For technology to work well, we need good teachers and tutors making good use of it. This is as true of the interactive whiteboard as the static chalkboard. Blended with traditional methods, replacing some of them, e-learning allows

What does it mean for learners? As a learner, you should have:

More ways to learn: the chance to develop the skills you need for participating fully in a technology-rich society. Along with listening and reading, you will be spending more time learning in groups, working with other learners, being creative, learning through challenging, game-like activities and materials that adjust to the level and pace appropriate to you, and with clear personal goals that you help to set.

More subjects to choose from: you should have access to subjects taught through partnerships between schools, colleges, and universities, or other sources of adult learning, through carefully designed materials, with expert support online, and networking with your peer group, in your community or workplace, choosing from a wide range of topics provided by accredited learning and training providers.

More flexible study: you will have more choice about where, when and how you study, making it easier for you to create your own mix between studying in a place with other learners, learning at work, learning at home, and learning online.

Easier ways to try things out: if you're not sure you're interested in further learning, there will be online access to informal tasters, linked to leisure or domestic activities, enabling you to progress to the next stage by means of highly motivating short modules, as and when you wish.

A personal online learning space: where you can store electronically everything related to your learning and achievements, course resources, assignments, research, and where you can plan your next steps, and build links for professional advice and support. And being online, it will be accessible from home, from school, and, in the longer term, from each new organisation as you progress.

Help to move on: you can find out online what courses are available, and which ones might suit you best, with online questionnaires to assess where you are now, where you want to be, and how to get there.

a new relationship with learners to develop. It takes them beyond the confines of the traditional classroom, extending collaboration, and enabling teachers to bring new resources into their teaching, culled from a world of digital libraries. Teachers can enrich their lessons by taking pupils, through online conferencing or web-cams, to authentic environments from wildlife parks and museums to overseas classrooms.

What will ICT do for leaders?

23. Learners, parents or carers will increasingly expect electronic information and contact. With good systems, school, college and university leaders will find it easier to offer flexibility, and tailor their courses to what their students want. Adult learners increasingly expect easy online access to their course resources, timetables, achievement records and their tutors. School pupils and their parents are beginning to expect the same. Parents want a shared role in their children's education and development – to access the syllabus for the term, to see what they are working on now, what's coming up, and how much homework is expected.

What will it do for employers and the private sector?

24. Technology also allows a new relationship between education and employers. School leavers will have an electronic portfolio showing their achievements and their best work – giving a clearer insight into what they can do in the workplace. ICT infused throughout the curriculum at all levels of education will give us school leavers and graduates better equipped with the skills needed for 21st century employment. New partnerships will give employees easy access to online learning where and when they need it. Industry can more easily connect to the research base through virtual science parks, not

restricted to location, but focused around interest and need. Private companies have long used technology to modernise their training methods. The public sector can learn from their experience.

When will we get there?

25. The future we describe is already happening in the most go-ahead places. We must learn from the best so that all can benefit. We can only harness the new technologies to our ambitions if we are clear about what we want, and how best to use ICT to achieve it.

26. We want to use ICT to build a society where everybody has the opportunity to develop their potential. We will ensure that all those working in our education and children's services are able to use the technology well. From that baseline, we can effect a genuine transformation of provision in the future.

27. We need to make sure our learners can receive these opportunities. Moving toward making this a reality requires intervention and action. We are building on a great deal of strength and existing experience in all sectors. The British Educational Communications Technology Agency has documented this (*Becta Review 2005 – Evidence on the progress of ICT in education*), as well as the issues we need to address. There is a gap between strong and weak ICT use in all sectors. Our challenge is to ensure that every institution is maximising its potential for good practice in e-learning. With our partners, we have determined priority actions at system level that we will drive across all our strategies, and the actions that are specific to the needs of the four sectors. These are summarised in the following section.

Priority Actions

Priority 1: An integrated online education information service

28. Our priority here is to provide integrated online services and information via Directgov, linking public sector online information channels and institutions' extranets to provide personalised support.

System actions

- Develop the internet as a key delivery channel for the Department and its partners, by providing online information and services covering, eventually, all education institutions, courses, qualifications and flexible learning opportunities, for children, young people and their parents, for adult learners, and employers
- Develop the internet as a key delivery channel for teachers, trainers and lecturers, through tailored portals.
- Develop the 'MyGuide' solution as a radically simple interface for making education and government online services accessible to people with disabilities, and to a wide range of users previously reluctant to use the web

Sector-specific actions

Schools

- Provide an online practitioner advice service for e-learning, accessible to the school workforce
- Provide information portals for citizens, parents, carers, employers, and learners

Post-16

- Ensure that information and services for young people and their parents, and for lifelong learning, are well represented within Directgov
- Develop a workforce web portal for information, advice and guidance on e-learning

Higher Education

- Ensure that information and services for HE students and their parents are embedded in Directgov and that wider opportunities to streamline administration are considered

Children's Services

- Provide information through the 'need2know' website aimed at children and young people (www.need2know.co.uk), and the Parent's Centre website (www.ukparents.co.uk), building on the factual information available within Directgov.
- Provide information on the reform of children's services through the Every Child Matters website (www.surestart.gov.uk)

Priority 2: Integrated online personal support for children and learners

29. To deliver a truly integrated online support system for children and learners, we have to work with all education institutions and agencies to make sure we all use the same way of organising data. At

present there are several 'unique' numbers for individuals at different stages of their life – we should have just one. Unifying our approach to personal online support is a long term process, but we have to start now, while these mechanisms are being developed in different places, to make sure we have a coordinated approach that helps, rather than hinders, our aims for a more personalised system.

System actions

- Support children's and learners' transition and progression by developing and implementing a common approach to personal records across education and children's services, including public and private organisations and industry
- Encourage all organisations to support a personal online learning space for learners
- Promote a common approach to assessment across sectors to support personalised progression
- Provide seamless support for assistive technologies for learners' and children's special needs

Sector-specific actions

Schools

- Provide a personalised online learning space for every learner that can encompass a personal portfolio
- Develop better approaches to and use of e-assessment to improve assessment for learning, enabling learners to self-manage their e-learning, and supporting learners' progression

Post-16

- Develop better opportunities for extending access from socially-excluded groups
- Promote portability of assessment to support personalised progression
- Provide a personalised online learning

space for every learner that can encompass a personal portfolio

Higher Education

- Encourage strategic development of a collaborative approach to learner progression

Children's Services

- Roll out implementation of electronic case records for children in need
- Establish national standards of database or index systems to support collaboration between practitioners working with the same child or young person
- Implement an electronic version of the Common Assessment Framework.

Priority 3: Develop a collaborative approach to personalised learning activities

30. We have three priorities here. We need to ensure wider use of existing resources across the sectors and get better value from our earlier investment. We want to develop more innovative e-learning resources and services that tackle difficult curriculum areas and prepare people for employment. And educators themselves want to engage more directly in improving learning, teaching and assessment through electronic solutions. We want teaching staff to be able to get closer to designing learning activities appropriate to their learners' needs, especially those who are disabled or disadvantaged.

System actions

- Enable teachers and lecturers to create, adapt, re-use and share resources by giving them common access to rich, subject-related, interactive digital resources for e-learning
- Promote innovation by developing

flexible learning activity design tools, ensuring that e-learning products are based on robust evidence of effective learning and teaching, and targeting development funding for innovation where it has most impact on inclusion and participation

- Review and update the curriculum and qualifications to reflect the impact of technology on learning and meet market needs in e-skills for employment

Sector-specific actions

Schools

- Ensure teachers can access rich, subject-related, interactive content, enabling also non-school models of learning for disaffected learners
- Target specific development funding for innovation, especially where it has most impact on inclusion and participation

Post-16

- Ensure that the post-16 sector implements a content strategy consistent with the system-level aims
- Embed e-learning in workplace and work-based learning

Higher Education

- Understand and meet market needs in e-skills for employment.

Priority 4: A good quality training and support package for ICT for practitioners

31. Our priority here is to build a professional workforce which can both collaborate and innovate in e-learning. The children's workforce, teachers, lecturers and support staff, together with their unions and professional associations are well placed to help us discover the most effective ways of improving provision for children and learners through ICT. We must give them the means and the motivation to do this by offering a training and development package in using ICT.

System actions

- Provide initial training, professional development, and appropriate access to support the high quality use of ICT and e-learning by teachers, trainers, lecturers, support staff and trainee teachers, through guidance and exemplars
- Support subject-based collaboration across sectors via online networks of teachers, trainers and lecturers
- Encourage transfer of good practice in evaluating the use of ICT to improve learning and teaching across the education inspectorates
- Encourage and recognise good practice in the use of ICT through professional recognition and accreditation

Sector-specific actions

Schools

- Train every new teacher in the practice and use of e-learning within their subject and school environment
- Provide ongoing continuous professional development through guidance and exemplar practice and subject-based e-communities
- Ensure every teacher has appropriate access to technology

Post-16

- Enhance practitioner e-learning pedagogical skills
- Ensure ICT access for every practitioner and provide an online service for e-learning
- Exploit the potential of e-learning for workplace and work-based learning

Higher Education

- Ensure that research in e-learning and the pedagogy of subject teaching is given full recognition
- Incorporate the use of online learning into new staff courses and other staff development programmes to encourage the wider use of ICT to promote individual learning

Children's Services

- Engage the workforce in policy through online communities, and provide examples of innovative ways of working within children's services
- Introduce up-to-date electronic directories of children's services in each local area
- Encourage childcare providers and practitioners to use online training support materials and pedagogical materials
- Develop the Children's Workforce Qualifications database to allow inspectors, employers, practitioners and those wishing to join the Children's Workforce to identify which qualifications are suitable for the job roles.

Priority 5: Provide a leadership and development package for organisational capability in ICT

32. The priority here is to ensure that the leaders and senior staff who will lead the transformation of learning and teaching have the skills they need, and the means to collaborate with others to help that process. We want to develop a national framework for ICT capability, so that leaders can identify where they are in their progress towards being an 'e-confident institution', plan their next step in partnering with other institutions, and find the support they need to embed ICT within their strategic plans.

System actions

- Encourage partnerships and collaboration among institutions and organisations through the use of ICT
- Build a development programme for leaders that brings together the good practice from across all sectors in leading organisational change incorporating the use of ICT
- Develop leaders and managers in planning and managing the strategic embedding of ICT across the activities of their organisation.

Sector-specific actions

Schools

- Develop a school-focused national self-assessment framework for models of e-enabled schools, so that leaders can identify where they are on an ICT journey, what their next step should be and the support available to assist them
- Embed ICT within the school improvement approach
- Provide leadership and management development to develop strategic ICT capability, and to ensure that ICT is embedded appropriately within the school's strategy.

Post-16

- Promote effective use of ICT through existing monitoring mechanisms
- Ensure leaders are equipped to lead the adoption and effective use of ICT
- Support leadership collaboration on the strategic role of e-learning

Higher Education

- Support leaders in the deployment of ICT and e-enabled learning processes
- Promote effective management of the use and deployment of ICT in HE
- Establish a national e-learning advisory and support centre for HE
- Provide common collaborative development support for institutions offering remote e-learning opportunities

Children's Services

- Ensure developments across children's services support the Office of the Deputy Prime Minister Public Sector Agreement targets
- Streamline data demands on children's services by ensuring that all DfES data collections relating to children's social services and education are co-ordinated centrally

Priority 6: Build a common digital infrastructure to support transformation and reform

33. We have three priorities here. The first is to provide coherent national broadband services and broadband access for every institution, targeting provision for disadvantaged groups. The second is to develop best value approaches to ICT infrastructure and services, including, where possible, local solutions to digital divide issues. The third is to develop a common systems framework, making it possible to plan the development and adoption of data, technical and interoperability standards for products and services.

System actions

- Maintain and develop an integrated high-speed network for the learning, teaching, assessment, research, and administrative functions of the education sectors
- Deliver a best value scheme for ICT infrastructure and services for education and the wider community
- Develop a common systems framework for the learning, teaching, assessment, research, and administrative functions of the education sectors
- Contribute to the development of common open standards and specifications for interoperability, accessibility, quality of service and safety

Sector-specific actions

Schools

- Provide broadband connectivity and access to the national education network for every school
- Ensure every learner has appropriate access to technology in school and beyond the normal school day
- Deliver ICT provision in the Building Schools for the Future programme as part of an LEA-wide strategy for ICT that utilises Becta standards and integrates with connectivity provision

Post-16

- All post-16 sectors with relevant access to broadband
- Ensure work-based learning and Adult and Community Learning (ACL) is not disadvantaged by comparison with institution-based learning
- Strengthen regional support for embedded e-learning for ACL and workplace learning

Higher Education

- Continued dialogue with the sector to ensure JANET network remains leading edge and meets the evolving needs of the sector
- Trial a state-of-the-art network for next generation internet to support HE research and teaching

Children's Services

- Provide the basis for efficient data transfer between England, Scotland, Wales and Northern Ireland on children with additional needs.

Implementation and evaluation

The accountability framework

34. To harness technology in support of the DfES 5 year Strategy we need to put in place governance, accountability frameworks, structures and processes that: support coherent delivery of the system and sector priorities; reflect our principles for system reform; reflect the developing capacity of partner bodies; compatible with e-Government.

35. Responsibility for strategic direction and policy development lie with the DfES itself, advised by Becta and the Joint Information Systems Committee (JISC), the department's lead strategic partners. Responsibility for co-ordinating the delivery strategy will lie with Becta and JISC. Responsibility for delivery itself will lie with a wider range of partners, including Becta and JISC for specific elements.

36. All the actions proposed in the strategy can be met within existing budgets up to the milestones listed. We are working closely with our partners to secure their commitment and put in place the necessary arrangements to secure their contribution.

Achieving the vision

37. This strategy is about harnessing technology to help us achieve our highest

ambitions for education and children's services. Parents and learners should be able to make their choices supported by well-coordinated information, advice and guidance. Personalisation of public services is a tough goal, but with ICT we can set the standards high. Our strategy focuses on what ICT can do to help learners, citizens and communities. But it does nothing by itself. So we focus also on what our workforces, public agencies, and industry partners need to support them in using ICT to maximum effectiveness.

38. The future we describe is already here – it is in the schools, colleges, universities, workplaces and public sector agencies that are leading the way. Our strategy is about embracing this future so that all can benefit. A society in which every child, every learner, every citizen, has the opportunity to develop their potential, is feasible if we know how to exploit these technologies. In five years we can build the common ground that brings all our education and children's services to the critical baseline of being able to use the technology well. In ten years, building on the newfound capabilities of our workforces, our newly skilled graduates, and our new appetite for innovation, we could be anywhere – if we have the ambition and the imagination to go there.

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PO Box 5050

Sherwood Park

Annesley

Nottingham NG15 0DJ.

Tel: 0845 60 222 60

Fax: 0845 60 333 60

Textphone: 0845 60 555 60

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