



Harnessing Technology: Transforming Learning and Children's Services

Diana Laurillard

► To cite this version:

Diana Laurillard. Harnessing Technology: Transforming Learning and Children's Services. 2005.
hal-00190344

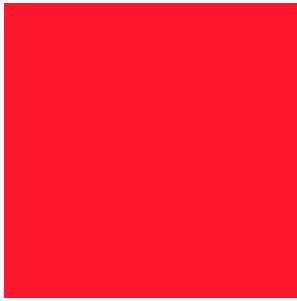
HAL Id: hal-00190344

<https://telearn.hal.science/hal-00190344>

Submitted on 23 Nov 2007

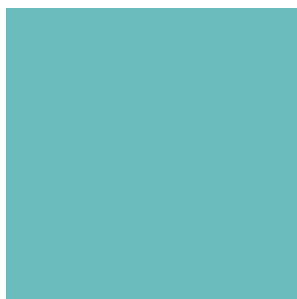
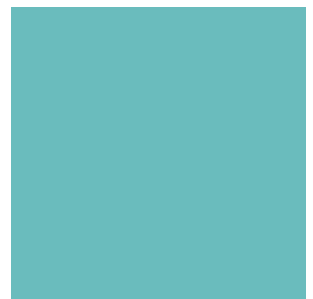
HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Harnessing Technology

Transforming Learning and Children's Services



Contents

Foreword from The Secretary of State	2
1. Executive summary	4
2. Why we need a focus on technology	8
3. What do we need to do?	12
4. Engaging and involving citizens and learners	18
5. Integrating online support for children and learners	22
6. Transforming learning and teaching	26
7. Transforming the work of front-line staff	31
8. Supporting leaders and organisations	34
9. The digital infrastructure	37
10. What this means for Schools	41
11. What this means for 14-19 and the post-16 sector	47
12. What this means for higher education	53
13. What this means for Children's Services	57
14. Implementation and evaluation	61
15. Annex: Partners for implementing the strategy	65

Foreword from The Secretary of State



Our plans for boosting performance and standards across education are far reaching and radical. We aim to put learners, young people – and their parents – in the driving seat, shaping the opportunities open to all learners to fit around their particular needs and preferences.

In achieving these goals the effective use of interactive technologies is absolutely crucial and I am determined that we grasp them. They offer huge opportunities that we must exploit. That means working with all the stakeholders, schools, colleges, adult and community learning organisations, universities, independent training providers, and the Information and Communication Technologies (ICT) industry, to ensure that we deliver quality and cost effective services to all. We want to extend the variety of places where people can learn.

I am particularly excited by the idea of giving every student and learner a personal online learning space where they can store their own course materials and assignments in digital form, and record their achievements. Over time we should see the technology join up better so that this is available to learners to build on wherever they go – to further learning, or to work-based learning. And in the future it will be more than simply a storage place – a digital space that is personalised, that remembers what the learner is interested in and suggests relevant websites, or alerts them to courses and learning opportunities that fit their needs.

Online information services open up real possibilities of keeping parents much more engaged with what their children are doing, and able to have a dialogue with the school on how they are progressing. For teachers, lecturers and tutors it means easy and efficient ways of keeping in touch, giving feedback on students' progress, and managing marking and assessment. Unifying our approach to technology means they will be able to collaborate more easily with colleagues in other institutions and offer wider curriculum choice. With more flexible e-learning resources available

online, teachers can adapt the curriculum to their learners' needs and interests. Technology is the key to personalised learning. And imaginative use of ICT should help engage more learners in the excitement of learning. Borrowing ideas from the world of interactive games, we can motivate even reluctant learners to practice complex skills and achieve much more than they would through traditional means. New technologies can attract new kinds of learners into lifelong learning. Wider access to these more compelling learning experiences will contribute to the ambitions of our Skills Strategy to offer employers better support for skills and training.

Of course as we go forward in these areas we must make sure that everyone has access to this technology. We are working together with industry to ensure an equitable solution to the potential digital divide. As we continue to embed e-learning across the whole learning process, it will blend more easily with life and work, bridging the boundaries between formal and informal learning. We have proposed an education system for 14-19 which is tailored to the needs of young people, and offers more flexible learning opportunities. Technology can be mobile. That means e-learning can come to the learner. And, as demand increases, it becomes more attractive for the digital technology industry to invest in providing access. It is our goal to work towards ICT as a universal utility, creating more flexible learning opportunities for everyone.

I am also excited by the possibilities of new digital technologies to help us develop more tailored and personalised children's services. We know that agencies supporting children and families will offer better support when social workers, teachers and professional practitioners can share information about vulnerable children. We are working to help local agencies and public services join together as digital communities, creating a more supportive and personalised environment for their citizens.

I want to work with all our partners, with education institutions, with the children's and education workforce, and with the ICT industry, with everyone playing their part. Government has to set the direction and encourage the approach, but we cannot do it alone. This strategy should help put us decisively on this road to achieve our ambition for a world in which parents and carers engage more effectively with their child's learning, professionals supporting young people and families more easily coordinate their work, and adult learners of all ages find learning more fun, more challenging and more productive.



Ruth Kelly

1. Executive summary

The technology context

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. People working with 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, learning and help to improve outcomes for children and young people, 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 lessons plans, improved systems and processes in children's services, shared procurement and easier administration.

These are our four key objectives against which we will evaluate this strategy.

5. A greater focus on technology will produce real benefits for all. Parents could see more about 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 and learners of all ages 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 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.

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 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, families, young people, and adults 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 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 education and children's workforce, including 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.

The impact of ICT in education and children's sectors

15. Schools will see a big improvement in the ICT services available to them. All will have broadband access by 2006. Internet channels for teachers, parents and learners will be further developed. We will encourage institutions to offer every learner their own online learning space. Teachers will have access to richer online curriculum materials and improved training. ICT will also help schools to assess their own progress.

16. Every learner over 14 will have access to flexible, co-ordinated courses, with the opportunity to learn at home, in work, in college or in other community settings. Education and industry working together, through shared e-learning resources and support, will contribute to the aims of our Skills Strategy to improve basic and higher level skills, across the workforce, throughout life.

17. Universities are making use of online provision to reach out to schools, colleges and the workplace, to help more people progress to higher education. Teaching staff are taking advantage of online facilities to blur traditional boundaries between teaching and research, and to be more innovative in their teaching. Universities already share much research online, and now offer courses wholly or partly online. We will encourage more of this, where appropriate. We will support more online information-sharing between researchers. We will also encourage the development of virtual science parks, so that collaboration with industry is not tied to location.

18. ICT has a key role in helping us to train and develop the children's workforce. It should also make it easier to communicate with those traditionally the hardest to reach and to deliver more efficient services to them. ICT can provide better information for parents and families. They should in the future be increasingly able to enrol and apply for services online.

Implementation

19. All this requires the right systems of governance and accountability. We shall set ourselves challenging goals to measure our performance, and test the views of those who use our services regularly to measure the impact of this strategy.

2. Why we need a focus on technology

Achieving our ambitions

20. 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.

21. 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?

At any stage of learning, ICT could re-engage the unmotivated learner, and bring an authentic and challenging task within their grasp.

*Before he came here, it was sort of like a metalwork shop in here and I just sat here for the lesson, there was nothing for me to do, but now he's transformed it into a CAD/CAM suite which is brilliant really.
[Student, Harrow Way Secondary School]*

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 progress.

*When you get stuck you can get onto the website and get on with it without waiting for the next lesson to come along. You don't get left behind. You can keep up with everybody.
[Student at The Cornwallis School]*

22. For teachers it can be the difference between learners who are unmotivated, and a class that wants to participate.

The interactive quizzes transform mundane vocabulary tests into a fun learning activity which has had a massive impact on all my pupils. [MFL teacher, English Martyrs School and Sixth Form College, Hartlepool]

23. And 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.

*That was a huge success... I had struggled with them all year to get anything out of them at all. They were coming up with their own ideas and generating, planning and evaluating what they were doing in a way they had never done before.
[ImPaCT Learning at Home and at school: Case Studies]*



ICT saves me 15 hours a week, but I now do more than I could ever have done without ICT. I think that teachers could probably save three to five hours a week on planning e.g. through Internet schemes of work. [Head teacher, secondary school]

24. Of course, the critics of ICT could reasonably argue that the teacher who makes his or her subject come alive for their class is more effective than a computer programme that is merely an electronic page-turner. And the technology is still not perfect: a computer crash doesn't help any lesson.

25. But we do not argue for a complete switch to new technology. Traditional teaching methods 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?

26. 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.

The benefit of studying with [it] for me was its flexibility. The use of email and the other web-based resources enabled me to fit it in around looking after my children and my home. [Learner and volunteer at Manchester Women's Electronic Village Hall]

27. 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.

28. Technology can also help to provide more effective support mechanisms. The Green Paper *Every Child Matters* focussed on the importance of intervening early so that no child falls through the net. Technology can enable practitioners working with children, young people, families, and adults, to intervene earlier and provide a better service, supported by improved systems.

What will ICT do for practitioners?

29. Children, especially those at risk, are best supported by professionals who can work together easily and efficiently, exchanging information to develop a shared understanding of the individual needs of the child or family. Once we have safe and secure systems, the technology will support the social care and education workforce in modernising their information systems and reducing bureaucracy.

30. 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 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?

31. 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.

32. Online networks open education institutions to the wider world. They can turn the school or college into a community hub linking sports organisations, libraries, social services, industry and other schools and colleges. For the head, principal or vice chancellor, these hubs are also an excellent way to reach reluctant learners. They can rethink the boundaries of their institutions.

33. Local Authorities will be working with their partners to assess the needs of their

local area, using communications technologies to revitalise communities, and listening to what children, young people and families have to say about services and trust arrangements. We have to learn how best to exploit technology in support of local change and community development.

What will technology do for employers and the private sector?

34. 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, which can be especially valuable to the small business. 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?

35. 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.

36. 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

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.

can effect a genuine transformation of provision in the future.

37. When will this happen? Within some institutions the future envisaged for learners, outlined in the box above, is already happening. We are working

progressively to ensure that for all educational organisations at least some of these facilities are addressed as speedily as possible. Over a period of time we would expect all facilities in all organisations. That is the intention of this strategy.

3. What do we need to do?

Where are we now?

38. We want technology available to everyone as they learn and develop. But before we address how we might achieve that goal, we should assess what progress has already been made and consider the obstacles preventing further progress.

39. Over recent years, the Government has invested significantly in ICT, in every phase of education. Every university and college has broadband access, with an average of one computer for every three students. Every school is connected to the internet and will have broadband by 2006. Already there is more than one computer for every five secondary school students and more than one for every eight primary school pupils. 92% of public libraries offer internet access. And this hardware is backed by a growing range of interactive resources and improved workforce training.

- One in four primary school lessons uses technology
- Over half of all secondary pupils have their own school-based email account to help them with their studies
- Six million people use college and university networks
- There are now more than 7000 UK online and **learn**direct centres, including 3000 public libraries
- 99% of UK households are within 10km of a **learn**direct or UK online centre, and 89% are within walking distance (3km).

40. These inputs have made a measurable difference. The British Educational Communications and Technology Agency (Becta) *Review 2005 – Evidence on the progress of ICT in education* reports more effective management of ICT, with 76% of schools and colleges making progress in using ICT throughout their work. It also points to growing teacher confidence and competence, and provides evidence that ICT is helping to improve students' results. Better access and teacher confidence are also changing how lessons are taught. Since 2002, for example, the proportion of secondary maths lessons based on ICT has risen from 24 to 41%. The Office for Standards in Education (Ofsted) reported in 2004 that primary school lessons involving ICT were better taught than other lessons (*2004 Report: ICT in schools – the impact of government initiatives*).

41. The problem is that progress is patchy: for every school that has embraced technology in teaching and learning, class management and administration, there are two others that have barely begun to use ICT well. Many colleges and adult and community learning organisations are at an early stage of development, and universities vary considerably in their ICT maturity. In children's services there are public sector bodies, as well as small voluntary organisations that have not yet been able to invest effectively in ICT.



42. In 2004 we completed an extensive consultation on the role of ICT and e-learning, which generated considerable consensus on the key weaknesses we need to address. Evidence from a range of projects, surveys, case studies and evaluation reports contributes to our understanding of how best to build on our strengths. The *Becta Review 2005* provides a valuable synthesis of our current position in schools and post-16. For example, the variations in the use of ICT within and between institutions lead to inconsistent and widely differing experiences for learners; we have little in the way of agreed specifications and standards for issues such as learning platforms; institutions are wasting time and effort on routine procurement administration; and we continue to miss opportunities for aggregating demand to achieve the best deals. In general, for each sector, there is a gap between strong and weak ICT users in these five key areas:

- The ability to spot innovation and embed it effectively
- The quality of leadership and management
- The degree of commitment to improving workforce skills
- Effectiveness in improving attainment and outcomes or well-being
- Success in ensuring equal access to technology for all children, young people, families and learners

Our challenge is to ensure that every institution is maximising its potential in each of these areas.

43. Some might argue that it will happen anyway: the variation in ICT capability will naturally reduce without government intervention. This may seem attractive, but it would be slow and inefficient. For the sake of today's children and learners, who are increasingly mobile, impatient to learn more and to learn it better, we must fully exploit the facilities already there and accelerate reform.

What approach should we take?

44. The Department for Education and Skills (DfES) five-year strategy for education and children's services sets out how we will meet the needs of children and all those who learn at any age. If the technology is to make its proper contribution, our approach must embrace and support all our strategies for children, young people and families, schools, post-16 and lifelong learning, and higher education. Following our lengthy consultation, and working with a wide range of partners, we have developed a strategy that:

- Devolves responsibility to front-line institutions but within a national framework
- Takes a system-wide view in support of sector-based activities
- Focuses on a small number of objectives and priorities
- Identifies clear criteria for intervention
- Clarifies roles and responsibilities for institutions, partners, and industry
- Emphasises delivery and evaluation to ensure responsiveness.

45. Management of education and children's services is devolved, and local institutions and organisations have always adopted technology at a pace and specification to suit their needs, interests and capabilities. Although this approach has proved resilient through the critical, early stages of development, the excessive variation between institutions is reason to question whether it is enough. Decisions should continue to be made at local level, but within a national framework of aims, priorities, responsibilities and standards.

46. This approach must bring together our different services and sectors. The well-being of the child supported by children's services, or the progress of the learner on their journey through school, college and university and lifelong learning, depend increasingly on an integrated approach that helps people move easily and naturally between settings. At the same time a drive to ensure that educational materials can have a common origin and yet be varied and used across sectors, will both widen the range of resources and make it more attractive for industry to innovate and invest.

47. Our strategy therefore focuses on what the technology can do for informing and advising citizens, for supporting children

and learners in their encounters with the system, and for transforming the experience of learning. To make this happen, we must provide the means and motivation for teachers and practitioners to use ICT well. They cannot do this without the support and leadership of their senior managers, so we must help leaders develop their own and their institution's ICT capability as part of their overall strategy. And the final plank is to ensure that we progress towards providing an efficient and effective ICT infrastructure. The diagram gives an overview of the strategy.

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 under-pinned 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

48. For each priority we have asked whether it is necessary or appropriate for government or its agencies, at national, regional or local level, to intervene. Three tests have been used:

- Do we need to build capacity?
- Do we need to create a market?
- Do we need to achieve efficiency through scale?

Actions have been identified only where one or more of these tests apply.

49. We have identified the need for action at two levels. *System-level actions* will coordinate cross-sector work, and develop a common solution on behalf of all sectors where appropriate. *Sector-based actions* will seek economies of scale through a collective framework in which partners and agencies in a particular sector (such as schools or children's service) share good practice and ensure the right solution for that sector. We have been clear that priorities should be kept to a minimum to ensure that their net effect is to add value, not increase time-scales or bureaucracy.

50. All these actions have been allocated to identified partners, with deliverable goals and milestones. Our leading national partners for this strategy are Becta and the Joint Information Systems Committee (JISC). They provide a powerful focus for using ICT to modernise education and could potentially, in the longer term, contribute to the effective use of ICT in children's services.

51. The resources we need to deliver the strategy are already in the system. This

strategy defines the framework within which we believe institutions and agencies will be able to manage their use of ICT to best effect. The Department will work with its partners, encouraging and promoting the optimal deployment of resources to realise our ambitions.

52. The Department is establishing a stronger governance framework to ensure effective and timely delivery, and a focus on top priorities for action. Recognising the rapid change in the technology environment, this framework will be responsive: capable of reviewing the process, and renewing the strategy as necessary.

53. The strategy therefore sets out, for the first time, priorities for children's services and all sectors of education. It escalates our commitment to use the enabling power of technology for the benefit of children and learners, securing social justice, equality of opportunity and economic success.

54. The next six sections describe the rationale for each priority and the system-level actions that follow. The subsequent sections give sector-based perspectives and actions for schools, post-16 and lifelong learning, higher education, and children's services.

In summary, these are the six priorities that we believe will make the difference

PRIORITY 1

An integrated online information service for all citizens

Building an integrated service of information, advice and guidance collected from all relevant organisations within education and children's services.

PRIORITY 2

Integrated online personal support for children and learners

Aiming for online personalised support for learners, parents, and practitioners, giving secure access to personal records, online resources, tracking and assessment that works across all sectors, communities, and relevant public and private organisations.

PRIORITY 3

A collaborative approach to personalised learning activities

Transforming how people learn by harnessing the full potential of new technology across all subjects and skill development, and embedding assessment more appropriately within learning and teaching.

PRIORITY 4

A good quality ICT training and support package for practitioners

Defining a minimum level of ICT competence for teachers and other practitioners, promoting new ways of working, and of supporting parents, learners and employees, enabling all staff to become effective ICT users and innovators.

PRIORITY 5

A leadership and development package for organisational capability in ICT

Helping leaders to assess how well their organisation uses ICT, and to adopt or share good practice, work with others, and plan their approach to ICT as part of their future strategy.

PRIORITY 6

A common digital infrastructure to support transformation and reform

Developing high-speed access to robust and sustainable e-systems for all organisations across the sectors based upon a common systems framework and technical standards for the software and systems needed to support the strategy, and providing best value ICT procurement frameworks that are available to all organisations.

4. Engaging and involving citizens and learners

Current position

55. With the focus on citizens at the heart of the Department's five year strategy, we expect technology to transform the way we engage and involve children, parents, learners, and the wider community. Technology should also play a key role in supporting those people who work directly with children, their parents and carers, and learners of all ages.

56. We're getting there – all public sector organisations now have websites, and every community offers reasonable access to online information, for example, through UK online centres and the People's Network. Online information is meeting a need – demonstrated by the **learn**direct online advice service, handling around 15 million information and advice sessions since its launch in 1998. The challenge now is to make sure that all the public websites in our sectors offer consistently high quality information and meet the needs of all members of the public.

What is needed

57. We want to make it easier for citizens to find what they need. Young people moving to higher education, who must currently search several different university, college and agency websites to find out about courses, funding and entry

qualifications, would welcome a simpler online experience. Parents and carers want co-ordinated information, advice and guidance. Adults want to know how best to return to learning. The point is to organise government information and services around the interests and needs of customers, rather than the provider.

58. We've made a good start. Many of our online information services have been organised into internet 'channels' aimed at our key customers, as well as our workforces. Parentcentre, Teachernet, and BusinessLink already support the needs of parents, teachers, and employers, respectively.

59. But we can do better. All government departments are collaborating to build this integrated information service, known as 'Directgov'. The DfES and its partners are leading the work on behalf of parents, carers, young people, children, and adult learners. For example, building on the success of our portal for higher education, the work of the Universities and Colleges Admissions Service (UCAS), and the Student Loans Company, the learning section of Directgov will allow young people to find out about options for higher education (HE). The service is intended to attract people who would not traditionally have thought of going into



HE, giving them an opportunity to see the benefits and means of doing this. Organisations within education and children's services are becoming more community-facing, extended schools being one example. Online networks provide a wonderful way of joining up across organisations, making their boundaries more permeable.

60. This more coherent approach will increase our efficiency, as information only has to be provided once. Other sites can use that, rather than creating their own version. All government services can share the same technology. So, for example, authentication becomes easier: you only have to sign in once, not for each separate website. We can also add value by informing people visiting a particular area of Directgov about other information and services which might interest them.

What we will do

61. We're making real progress. But we are still some way from providing citizens with a comfortable way of navigating through the mass of online information and advice to find what they really need. This is why we want Directgov to integrate information and advice services tailored to individual needs, developing the internet as a safe and secure online environment for all citizens.

62. That could make a huge and practical difference in many ways. When schools extend their intranet to an 'extranet', parents can be more closely involved in the school, enabling them to see what pupils are working on, the plans for curriculum study, examinations, and school events. The 'need2know' website, aimed at children and young people, and the Parentcentre website will provide online information, advice and guidance, tailored to the needs of these different groups.

63. And our workforces will benefit from even better support online. We have recently launched Teachers' TV (www.teachers.tv), a dedicated digital channel for teachers; and Teachernet will expand into Schoolsweb, supporting the whole school workforce not just teachers and school leaders. Similarly, information on the reform of children's services will be provided through the Every Child Matters website (www.surestart.gov.uk).

64. Our ambition is to reach everyone. A significant minority of people still do not use the internet, either because they feel it is not for them, or they find it intimidating. Government services available online will be a convenient and private form of information and guidance, but those who need the services most may also be those who are least likely to use them. We must ensure that e-government is accessible to all, including people with disabilities, and those who are unfamiliar with technology.

Joining Up Services for higher education (HE) Students

Situation

Potential HE students have had to search through a large number of websites to find useful information and services about courses.

This may have dissuaded some from pursuing their interest in university, or led to inappropriate choices.

Key Actions

The AimHigher campaign aims to raise aspirations to enter HE among young people from under-represented groups.

Building on the work of the Aimhigher portal and working with HE partners, a range of services are being brought together on the education and learning area on Directgov.

These cover information about planning and researching, choosing and applying for a course, money issues, student life and life after higher education.

Impact

With no marketing, Directgov is attracting a million users a month and research shows that students welcome these facilities and find them useful.

This will help the AimHigher campaign, where acceptances for entry to university in 2003 through UCAS were up 1.4 per cent in campaign areas compared to a decrease of 0.6% in other areas.

65. As part of its concern for digital inclusion, the DfES is working with Ufl/**learndirect**, and advised by relevant voluntary organisations, to develop MyGuide, a simple interface and accessibility standard for internet transactions for anyone who finds the idea of using the internet difficult or complicated. The interface will use the latest technologies to help the user customise it to their locality, their interests, or their personal requirements, something especially valuable for people with motor, visual or hearing disabilities. This will make it easier for everyone to access what they need online, and will complement the support already available through UK online centres and voluntary sector agencies. We will develop this work in collaboration with the EverybodyOnline programme (www.citizenonline.org.uk/everybodyOnline).

Change across sectors to engage and involve citizens and learners

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

Together with our partners we will:

PRIORITY 1

Provide an integrated online information service for all citizens

Action

Develop the internet as a key delivery channel for the Department and its partners, by providing online information and services to citizens through Directgov, and to employers through BusinessLink.

Milestones

- Core offering to citizens available via Directgov in 2005
- Comprehensive offerings including transactional services by 2006, with most existing citizen portals moving across all content
- All Local Education Authorities (LEAs) and schools offering online services within the overarching channel framework provided by Directgov, by 2007-08
- Core functionality and framework available for all workforce portals by 2006.

Action

Develop the internet as a key delivery channel to education and children's workforces through tailored portals.

Milestones

- This requires sector-based actions and is covered in sections 10 to 13.

Action

Develop the 'MyGuide' solution for making education and government online services accessible to a wide range of users and to disabled groups.

Milestones

- Ufl to complete initial pilots by 2006
- Accessibility standards and rollout through Ufl/**learn**direct and UK online centres for 2007.

Sector-based implications for these actions are listed in sections 10 -13.

5. Integrating online support for children and learners

Current position

67. As we journey through life, we use many different services along the way, some universal and some specific to our needs: the children's centre, nursery or pre-school; the primary and secondary school; public libraries, health services, youth services, social care, colleges and universities; and adult and community learning centres and training organisations. We may also access employment services, draw on education maintenance allowances or student loans, or need information and guidance on where to turn next. Keeping track of these transactions and the information relating to them is difficult. As more of them are transacted electronically it should become easier, offering better joined up support to individuals and families. But that is only possible if the systems work together in safe and secure ways.

68. Similarly, in the course of our studies, at school and beyond, we build not just physical but increasingly electronic resources and records of work and achievement. At present institutions are rarely able to offer seamless transition supporting learners progressing from school to college to the workplace to higher education, or from informal to formal learning as adults, or for learners being supported at more than one institution at the same time.

What is needed

69. We want every child and learner to have the personal support and advice they need to make their journey successfully. We want this to be available to every child and learner including those who cannot or do not attend learning for whatever reason. We also want to make the transition between different phases and stages easier – the move from primary to secondary school; or from sixth form or college into higher education and into work.

70. This requires public services to work together. Our workforces need access to information and data that will help them support individual needs. For example, a student with disabilities may need technological support to enable them to work on an equal basis with their classmates. They should continue to have access to that specialist equipment in moving from school to college or university. Local authorities already recognise the need to work across education, health and social care to support children and young people in line with *Every Child Matters: Change for Children*.

71. Schools, colleges and universities are working to provide learners with their own personal online learning space and will want to develop eventually an e-portfolio where learners can store their own work,



record their achievements, and access personal course timetables, digital resources relevant to their own study, and links to other learners.

72. When institutions work together to exchange information and data, a learner's personal online learning space will extend beyond one institution. For 14-19 year-olds, this could give them a way of exploring the choice of pathways open to them from different learning providers. Access to online questionnaires will help them identify realistic and achievable aspirations linked to the record of achievement held in their e-portfolio. It should eventually be possible for an individual to build this personal electronic record through education and carry on using it in the workplace and lifelong learning.

73. People will then be able to take more responsibility for their own educational development. Their transition to a new school, college, university or into work-based learning will be easier when their personal information is readily available online. Where there are common units of credit, which can be transferred between institutions and agencies, learners could store qualification data from any awarding body, and have an automatic personal record of their achievements. Lifelong Learning Networks will eventually allow learners to advance their skills as they move between further and higher education and the workplace.

Joining Up Children's Services

Situation

The statutory agencies and schools working with children and young people in five areas of high need have to work across the two neighbouring local authority areas in Telford and Shropshire.

They wanted to share information about vulnerable children to improve service delivery to them and their families.

Key Actions

The agencies worked together to set up a shared, secure IT system holding basic identity data on all children, and information about agency involvement with them.

It offered a secure messaging facility and the ability to record levels of need.

Professionals working with children could assess children to a common framework, and access a directory of local children's services to aid referrals

Impact

The approach has been adopted by 71 schools, 8 social work teams, 11 LEA support teams, 8 Connexions teams, Youth Offending teams, Health Centres, A&E Departments, Family Protection Units, Early Years Services, Child and Adolescent Mental Health Services, and Housing Services, serving 40,000 children and young people.

The approach is already effecting cultural changes envisaged in *Every Child Matters: Change for Children*

What we will do

74. These ambitions pose some difficult challenges, which can only be addressed over time. We will encourage more education institutions to offer their learners a personal online learning space.

For the more ambitious objectives, we will work with our partners and across Government to develop a unique personal identifier for children and learners, so that organisations can support an individual's progression more effectively. We will develop a unique record of the learner's participation and achievement, and a national framework for data sharing. We will also work towards the development of electronic portfolios that learners can carry on using throughout life.

75. We are not starting entirely afresh: we can build on progress files in schools, and e-portfolio developments funded by the JISC for UCAS higher education applications. The Qualifications and Curriculum Authority (QCA) is working with the Learning and Skills Council (LSC), e-Skills UK, and the Learning and Skills Development Agency (LSDA), to develop a framework that will enable qualification data to be shared. Once these mechanisms are in place, the system will relate far better to the learner's personal needs.

How the system will develop online personalised support

76. Our priorities therefore are to co-ordinate the development of the unique learner identifier across all sectors, and develop a common approach to learner records of achievement. We are developing a similar approach to public sector support of children and families. In the longer term, we will investigate the feasibility of integrated e-portfolios with student tracking, and assessment for learning, and records of achievement, building on the work being carried out at sector level.

Together with our partners, we will:

PRIORITY 2

Ensure integrated online personal support for children and learners

Action

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.

Milestones

- First phase of development of a unique learner number, and learning data interface complete by 2006
- Data Sharing Framework and personal record format, including the specification for qualifications and credit data required for QCA's Framework for Achievement agreed for December 2005
- Policy clarification across all education and work-based learning sectors by 2006
- Recommendations from feasibility study on how to provide integrated e-portfolios, by 2007.

Action

Encourage all organisations to support a personal online learning space for learners.

Milestones

- This requires sector-based actions and is covered in sections 10 to 13.

Action

Promote a common approach to assessment across sectors to support personalised progression.

Milestones

- QCA working with LSC, e-Skills UK, and LSDA, through the Framework for Achievement, to agree strategy by January 2006.

Action

Provide seamless support for assistive technologies for learners' and children's special needs.

Milestones

- Policy clarification across public services to include continuity of support, by 2006.
-

Sector-based implications for these actions are listed in sections 10 -13.

6. Transforming learning and teaching

The current position

77. We need a new understanding of the pedagogies appropriate for a 21st century education system. Traditional methods have not achieved enough. The wider availability of new technology means that we have both the opportunity – and the responsibility – to explore new approaches to teaching and learning. The familiar and effective teaching methods of listening, reading, writing and class discussion will of course remain important. But our teaching institutions ought to be advancing beyond the traditional formats that are still so prevalent.

78. There is a lot of change already under way. Inspection data indicates that digital projectors and whiteboards are becoming more widespread and support some very high quality teaching (see *Becta Review 2005*). Used in a spirit of exploration, they can encourage us to think afresh about teaching and learning in every sector and for a wider range of learners. Colleges and universities are experimenting with new blends of campus and distance learning, and different mixes of online and face-to-face methods to create more flexible learning and accreditation opportunities. The e-skills Passport/Information Technology Qualification (ITQ) is an excellent example of the new approach to

recording achievement and personalising learning experiences through self assessment.

79. Many impressive digital library resources are being developed across education and through other government departments, such as the Museums and Libraries Archives Council (www.mla.gov.uk) and the e-Science resources (www.rcuk.ac.uk/escience).

80. The success of e-learning to re-engage people who have left education has already been demonstrated through **learnirect**; around two-thirds of the 1.5 million learners it has attracted since 2000 were new to learning. There are many people who are unable to travel to a place of learning, who nonetheless wish to continue their personal development – ICT can help make this possible.

81. There are some impressive developments in the quality of e-learning, and the British Education and Training Technology (BETT) awards are helping to develop a shared understanding of what counts as high quality resources within the schools and post-16 communities. But we are not yet deploying existing resources effectively, nor exploiting the full capability of the technology.



What is needed

82. We have to address three critical problems in the provision of e-learning: the quantity and range of resources available to teachers and learners; the quality and degree of innovation of those resources; and the embedding of e-learning and ICT across the curriculum.

83. Educational resources are usually developed for a particular curriculum subject and age range. This is appropriate for the traditional media of print and video, less so for digital media because the latter are much easier to recombine for different purposes. We now have a range of digital resources for education, but their usage is typically confined to the one curriculum area or age group for which they were designed, and have rights clearance. We need a much more open approach to such resources to make best use of them. Teachers, lecturers and tutors may have different approaches to teaching, but they increasingly want easy access to more digital libraries' assets and commercial educational software. As they gain confidence, they will want more flexible resources they can adapt to fit their learners' needs.

84. We also need research to map out future directions. This research should reflect how teachers teach and learners learn. As we research and develop more innovative pedagogical methods, we should look for ways to deliver them more effectively through e-learning. And our ambitions for education should encourage the ICT industry to exploit all that the

technology can do to meet the most challenging educational objectives.

85. Because ICT is an interactive medium, it is ideal for helping learners develop the skills they need for the knowledge-based economy. Learners and employers want us to help improve their skills, at both basic and higher levels, making it easier for them to solve problems, manage information, communicate across networks, and understand how to use and apply ICT to their circumstances. Educational software should help meet that challenge.

86. Learners expect this response from the education and skills sectors. Demand for e-assessment is already high, although not every exam can be assessed online. Using technology to streamline assessment procedures and enable online assessment on-demand is a long term objective. Development work is beginning now, focusing on lower-volume qualifications.

87. New technology can transform the experience of learning for all learners, but has particular impact for those who might otherwise be excluded or even unwilling to access learning. Learners with specific cognitive disabilities, such as dyslexia or dyscalculia, can be identified through interactive diagnostics, and given appropriate remedial exercises. Young people who are disaffected, or disengaged, can re-engage with education when they experience an approach to learning through technology that is very different from the traditional classroom. We need to

target some innovation funding where it has most impact. Supportive help for literacy and numeracy problems is valuable to all. For learners with special needs, these aids can take them from total disengagement to eager participation.

What we will do

88. We have to extend access to educational digital resources where possible to make best use of the public investment already made. The private sector should also be able to use these resources for education. Where there is a good case for doing so, we will free up access by removing rights barriers, and introducing model licence frameworks for new development. Teachers in all sectors should have access to a common digital resource for e-learning.

Demand for e-Assessment

Situation

City & Guilds launched "Global Online Assessment" (GOLA) in 2002 to offer improved access to assessment.

Key Actions

The learning portal of GOLA and SmartScreen.co.uk offers over 86 qualifications in different sectors.

It provides advice and guidance on career progression and employment opportunities.

Impact

Since 2002, take-up has tripled to 33,000 a month.

By January 2005 over 320,000 candidates had taken high-stakes exams online across the UK.

89. We want to stimulate greater innovation in e-learning design to accelerate the development of the next generation of e-learning. The focus should be on design flexibility for teachers and engaging activity for learners. Flexible learning design packages would enable teachers in all sectors to build their own individual and collaborative learning activities around digital resources. This would help them engage in designing and discussing new kinds of pedagogy, which is essential if we are to succeed in innovating and transforming teaching and learning.

90. To ensure good quality e-learning we need a national framework of standards. Software development standards for education, building on those developed for Curriculum Online and the National Learning Network (NLN) must be set at the highest level. E-learning resources must be easy for all learners to use: safe, accessible, and educationally effective. Intensive user trials and rigorous testing within the end-user environment will be needed to ensure that products improve learners' understanding of their subjects and their wider practical and cognitive skills.

91. We will stimulate innovation by encouraging the development of highly interactive software, drawing on the expertise of the games industries, among others. We want to shift the focus from presenting content to engaging learners in productive learning activities. All curriculum subjects will need to develop learners' skills, from basic to advanced. E-

learning clearly supports the development of ICT skills, but it also offers a highly interactive environment for practising aspects of other generic skills, such as observation, textual analysis, communication, data interpretation. E-learning innovation must be focused on the learning activities that support both skill learning and understanding.

92. We need a concerted effort by the digital content industry, innovative educators and education researchers together, to demonstrate what the next generation of e-learning could be.

93. Improving the quantity and quality of e-learning is irrelevant, however, if it is not

done within the context of curriculum development. It is crucial that we fully examine the potential for technology to modernise the curriculum and its assessment. ICT supports assessment playing a more formative role – assessment for learning, not just for judging. And we want to see pilots of a wide range of applications of e-assessment: immediate feedback to learners and teachers, online tests, personalised diagnostics, online assessment and accreditation of e-skills, and inclusion of e-skills in the assessment of all curriculum topics. QCA has the lead role in ensuring that we develop a curriculum which prepares learners for life and work in the 21st century.

Supporting the next generation of e-learning

94. We have three priorities here: to ensure wider use of existing resources across the sectors and get better value from our earlier investment; to engage educators in improving teaching, learning and assessment through more innovative e-learning resources and activities; and to modernise the curriculum in the light of changes in technology, using e-learning especially to tackle difficult areas, and prepare people for employment.

Together with our partners, we will:

PRIORITY 3

Develop a collaborative approach to personalised learning activities

Action

Enable practitioners to create, adapt, re-use and share resources through common access to digital resources for e-learning.

Milestones

- Exemplars available to practitioners to build capability, with measurable improvement in the availability of publicly funded resources and assets across sectors by 2006
- Provide updated Intellectual Property Rights (IPR) advice for all sectors by 2006
- Feasibility study on implications of extending rights licences by 2006.

Action

Promote innovation by developing flexible learning activity design tools, ensuring that e-learning products are based on robust evidence of effective learning and teaching.

Milestones

- National framework of standards for pedagogical quality, accessibility, and safety, and development process criteria available online by 2006
- A cross-sector e-learning innovation co-ordinating group in place, with appropriate representation, to develop business models and a cross-sector innovation fund, enabling procurement of e-learning activities customisable for different sectors and learner needs, for 2005
- Programme of research on learning and pedagogy established by Engineering and Physical Sciences Research Council (EPSRC) and Economic and Social Research Council (ESRC) by 2006.

Action

Review and update the curriculum and qualifications to reflect the impact of technology on learning.

Milestones

- QCA to conduct consultation and report on proposals for modernising the curriculum and its assessment, as the opportunity arises, to ensure modernisation of content and skills, for 2005.
-

Sector-based implications for these actions are listed in sections 10 -13.

7. Transforming the work of front-line staff

The current position

95. Personalisation changes how practitioners work. Staff must be sufficiently confident, they must have the right skills and they must have access to the right technology, if they are to use ICT to transform front-line services. Staff confidence is improving, but there is still significant variation in the level and quality of ICT use across the curriculum in schools and further education (FE), as the Becta review shows (*Becta Review 2005*). The same is true for children's services, where the ICT infrastructure is still developing. It is even true for HE, where the quality of ICT use often falls behind the quality of provision.

What is needed

96. We have to recognise the pressures that make innovation difficult. Staff often find themselves working against the grain of the organisation as they try to introduce more ICT. As well as effective training, they need supportive leadership; time to experiment and refine their practice; opportunities to share ideas and experiences with other practitioners, and to adapt them to their own work; and sufficient support from experts in online library skills, learning technologies and learning design.

97. We must enable front-line professionals – teachers, lecturers, tutors, library staff, classroom assistants, the

children's workforce and social workers – to make the most of technology in everyday work: they might want anything, from a library of video clips to use in presentations, to management tools to reduce paperwork. Specialised online networks can be an invaluable source of support and information e.g. the Specialist Schools Trust (www.specialistschools.org.uk), the General Teaching Council (www.gtc.org.uk), and the Further Education Resources for Learning network (www.ferl.becta.org.uk).

98. Other digital libraries provide a wealth of resources. Culture Online, for example, commissions interactive projects to extend access to the arts and culture. Many of these involve mass participation and are effective in engaging new audiences, including hard-to-reach groups, with cultural and heritage organisations in a fresh and exciting way (www.cultureonline.gov.uk).

What we will do

99. Training and professional development are crucial in a field that is constantly evolving and we can learn here from Union Learning Representatives about encouraging e-learning in the workplace. We will provide initial training, professional development and support in each sector, to make sure that all staff have the basic grounding, and are able,



throughout their working life, to upgrade their skills and knowledge in the use of ICT and e-learning. Peer collaboration, sharing ideas and practice will be supported through online networks. And there is sufficient commonality in the pedagogical challenges at different levels of subject teaching that we will encourage especially cross-sector networks based on subject areas.

100. Teaching staff in all sectors work to the standards set by the inspectorates, who therefore play a critical role in driving reform. Ofsted for schools, the Adult Learning Inspectorate (ALI) for the learning and skills sector, and the Quality Assurance Agency (QAA) for higher education, have each begun to develop their approach to evaluating the quality of ICT practice. We want to achieve a common understanding of what counts as high quality provision and support for students as they move through the system, and will encourage the training of inspectors in all sectors to focus on improving practice.

101. To assist in raising the profile of this kind of professional capability, we need a national professional development framework that includes credit for innovation and effective practice in the use of ICT in education and work-based learning. We will encourage the development of proposals already under way in QCA, the Teacher Training Agency (TTA) and Lifelong Learning UK (LLUK).

102. We must also ensure that teachers, lecturers and practitioners are motivated by their managers to make professional use of ICT. Recognition and rewards for effective e-learning work, appropriate career development opportunities and better accreditation of good practice will provide the right environment for teachers, lecturers and support staff to feel confident about developing their skills in this direction.

Extending Support for Staff

Situation

TeacherNet has been developed by the DfES as a resource to support the education profession.

"What you need, when you need it"

Key Actions

Comprehensive online support, information and community resources and links to key topics for teaching and learning.

Links to several thousand free lesson plans and other resources including Curriculum Online and the Schemes of Work on the DfES Standards site.

Includes resources on professional development, management, whole-school issues and research.

Impact

Statistics 2000-04:

More than 7 million visits;

6 million downloads;

Average time on site: 20 mins;

Forum Award 2003;

New Media Age Award 2004;

Now integrating Standards site, TeacherNet, GovernorNet

How we can transform the work of front-line staff

103. Our priority is to build a professional workforce which can both collaborate and innovate. 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 support for children and learners through ICT. We must give them the means and the motivation to do this.

Together with our partners, we will:

PRIORITY 4

Provide a good quality ICT training and support package for practitioners

Action

Provide initial training, professional development, and appropriate access to support the high quality use of ICT by the education and children's workforce.

Milestones

- This requires sector-based actions and is covered in sections 10 to 13.

Action

Support subject-based collaboration across sectors.

Milestones

- Cross-sector pedagogy-oriented networks for all main curriculum areas by 2006.

Action

Encourage transfer of good practice in evaluating the use of ICT to improve learning and teaching across the education inspectorates.

Milestones

- A common evaluation framework, with associated training for all education inspectorates by 2006.

Action

Encourage and recognise good practice in the use of ICT through accreditation.

Milestones

- QCA to work with TTA and LLUK to develop a national professional development framework for 2007.

Sector-based implications for these actions are listed in sections 10 -13.

8. Supporting leaders and organisations

The current position

104. Our consultation revealed significant differences in the leadership of ICT across all sectors. Leaders were uncertain about ICT's benefits, so its use was often not linked to institutional strategies, such as school improvement plans. Only a minority of institutions have successfully embedded ICT in all their activities. For example, according to the *Becta Review 2005*, many schools are struggling to deal with sustainability and effectiveness.

105. The consultation also highlighted concerns about involving those who are often excluded from education: people who are disadvantaged through lack of motivation, through disability, or through being unable to attend a place of learning. E-learning can help all these people to engage in education, but the personal cost would deter many, and the very learners we want to reach could be disadvantaged as its use expands. We tackle this in the next section on the infrastructure, but we must also encourage local solutions, supporting leaders and local agencies in finding new ways of bridging the digital divide.

What is needed

106. For front-line staff, clear strategic leadership in ICT is essential. Even the most technologically literate staff can only perform at their best when senior management understand the strategic role of ICT for their organisation.

107. Leaders and managers in education and children's services will need appropriate training and professional development in a new kind of strategic change management if they are to drive the adoption and integration of ICT, one that recognises that technological change is now a permanent feature of their planning environment. Without being experts in ICT they will need to plan over time the effective use and integration of ICT across the full range of their organisation's activities – teaching, learning, assessment, learner support, administration, staff development, online transactions, research, partnerships, peer collaboration, professional support, and customer relations. No organisation will be able to operate effectively without at least a basic integrated ICT environment.

108. Partnerships with other educational or professional institutions, engagement with parents, local collaborative networks, and liaison with local employers can all help leaders and managers to learn from other organisations and from those who rely on their services.

109. Leaders in many organisations have already been tackling the digital divide issue. One approach is for a school or college to offer open access to its ICT facilities during evenings, weekends and holidays, for learners and the community. There are community development



approaches that have been successful, sometimes through City Learning Centres, where ICT is used to promote social inclusion and tackle community issues. In one area, for example, ICT penetration among the C2DE social groups rose by 13% as a result. In some schools, with the help of the e-Learning Foundation (www.e-learningfoundation.com) and local sponsorship, heads have been able to share with parents the cost of providing laptop access for all pupils. A fundamental principle here is equity of access, so that all children receive the benefits and not just those whose parents can or will contribute. For adult learners, we can also extend community access through UK online centres (www.ufi.com/ukol) and the People's Network (www.peoplesnetwork.gov.uk). Leaders and managers, even in the most disadvantaged areas, can help to ensure their own organisations make provision for people who have no home access, or for those in rural communities a long way from a UK online centre.

What we will do

110. We will encourage the inclusion of e-skills and the strategic implementation of ICT in the development programmes provided at sector level by the National College for School Leadership (NCSL), the Centre for Excellence in Leadership (CEL) in post-16 and the Leadership Foundation (LF) in HE. Leaders and managers should have access to management toolkits, and other appropriate resources to lead on ICT use and organisational change.

111. We want our partner organisations to collaborate on a self-assessment framework to help leaders assess their

An Approach to Bridging The Digital Divide

Situation

Broad Green High School in Liverpool serves a highly disadvantaged community. Approximately 51% of pupils were receiving free school meals, and most had no home access to ICT.

Key Actions

With the help of the national e-Learning Foundation, the school raised sponsorship funding and suggested to parents that they help buy laptops that students could take home on a rota.

Some of the parents are making regular contributions of £2 per week and all pupils benefit. As a result more families are experiencing ICT for the first time.

Impact

The impact is extraordinary with reports of parents spending more time at home, preferring to work on the computer with their children, and children preferring the computer to hanging around on the street.

School attendance has also improved, particularly on the day students collect their laptop at 8.30am.

stage of ICT capability. This will enable leaders to plan their future investment and staff development, and find appropriate partnering institutions. An online self-assessment framework could link the institutional analysis to resources and partners for support in the change process. Peer collaboration through specialised online networks can help institutions to exchange good practice and make the journey to ICT maturity easier. We see these cross-institutional partnerships as a way of enabling all schools, colleges and universities to progress.

112. Leadership development programmes and collaborative partnerships will also help leaders to cope with the digital divide, by sharing good practice and making best use of ICT facilities.

System actions to develop organisations and support leaders

113. The priority here is to ensure that those who will lead the transformation of learning, teaching and development throughout the education and children's sectors have the skills they need to do so.

Together with our partners, we will:

PRIORITY 5

Provide a leadership and development package for organisational capability in ICT

Action

Encourage partnerships and collaboration among institutions and organisations through the use of ICT.

Milestones

- A modular self-assessment framework for comparing the maturity of organisations in terms of their ICT capability, for 2005
- More institutions with functional collaborative partnerships by 2006.

Action

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.

Milestones

- Develop a flexible curriculum on the effective use of ICT to be included in all levels of educational management training, for 2006.

Action

Develop leaders and managers in planning and managing the strategic embedding of ICT across the activities of their organisation.

Milestones

- This requires sector-based actions and is covered in sections 10 to 13.
-

Sector-based implications for these actions are listed in sections 10 -13.

9. The digital infrastructure

The current position

114. What we can offer every citizen and learner will depend ultimately on whether or not we have the right ICT infrastructure. The last five years' investment has already seen significant improvement in the nature and extent of ICT resources available. But we need to realise further rapid change, particularly as personal, mobile, and wireless technologies become more commonplace. A more direct and focused approach to ICT procurement, implementation and support would be more cost-effective; it could also ensure consistent standards across all children's and education sectors.

115. This is not our only challenge. The devolved approach to ICT provision has meant that installations are of variable quality: they cannot communicate with each other, and often operate to different technical standards. Technical service support is insufficient to ensure reliability, and many computers are not used outside normal working hours, particularly those in schools. Moreover, ICT development is less advanced in some sectors, including adult and community learning, rural communities, children's services and prison education.

What is needed

116. An effective infrastructure is an essential pre-requisite to realising all that ICT can offer. Technology today is reliable when it is carefully designed and well managed as part of the whole institution's strategic plan. Within the schools sector the use of ICT and its impact on new forms of teaching and learning is being embedded as an integral part of the design in the Building Schools for the Future (BSF) programme. Extended schools and outreach projects in FE and HE provide opportunities for an education institution to act as a catalyst in building a digital community, providing access to ICT facilities and support for skills development. The children's, education and skills workforces should be able to use ICT as a natural part of their work, rather than having to spend their time managing the technology. The ICT infrastructure we all need should eventually become just another utility, akin to energy or water.

117. We envisage a system where learners are well supported in all aspects of their education, through a combination of teachers and tutors, effective technology and well-equipped classrooms and libraries. Universities have had good ICT infrastructure for some time now, but for schools its introduction, managed strategically, can create a very different atmosphere of learner-oriented innovation.



118. Leaders are free to decide which equipment they want for their institution, as well as where to buy it, and which managed services to employ. Because they are accountable for those decisions, they need to be sure they are getting the best value for their investment. We need to make this easier for leaders and organisations, especially those that are relatively small and do not want to manage their own technical support and procurement. They need a collaborative local framework within which they can be sure that their ICT infrastructure provides a best value solution, manages the digital divide issue, and can link to other organisations and government networks, offering a safe and secure environment for all their users.

119. Professional communities must be able to plan for the integrated ICT systems envisaged in earlier sections, so that they can communicate with colleagues, exchange information, and share ideas within their own sector and in other education and social service sectors. This works better when networks and systems are 'interoperable', i.e. they are designed around a common framework and use open standards for information, data and resources.

What we will do

120. We need a common digital infrastructure. Front-line staff and managers in all sectors are using technology to support children and

Moving to Whole-School Adoption of ICT

Situation

Kemnal Technology College is an 11-18 comprehensive school for boys.

The school faced substantial challenges and needed to improve its teaching and learning, as well as address a shortage of teachers and problems of excessive teacher workload.

Key Actions

The school put interactive whiteboards in every classroom; created a single information database; enabled students to register online with hourly attendance checks; and provided round-the-clock access to teachers' and students' work.

Parents can access online reports. And the school is piloting an e-learning design tool to promote teaching innovation and improve students' communication skills.

Impact

Results have improved: 60% of pupils get five good GCSE grades in 2004, up from 36% in 2003. Student attendance is up from 90% to 93%.

Teachers use online tools to produce lesson plans. With the specially-tailored online communication activities, students feel able to participate more in discussion.

families, and learners throughout life. The best way to achieve a joined-up system in support of individuals is within an integrated network – a national system that unifies local, regional and national structures, providing the right technical infrastructure.

121. We are developing a best value scheme for ICT infrastructure and services, for schools in the first instance, working with the ICT industry to address digital divide issues, wherever possible. We will be asking all institutions to adopt the scheme or to demonstrate they are delivering equivalent or better value for money through other approaches.

122. In previous sections we have set out the system actions for improving coordination and collaboration across education and children's services. These require common technical standards. We will work with the British Standards Institution, the ICT industry and our

partners, to agree common open technical standards, and to ensure that all products and services are commissioned and developed to agreed specifications.

123. Alongside mandated open standards this means working with the ICT industry, and across education and children's services, to agree a common systems framework for e-learning and e-delivery, with interoperable components. This will give everybody the chance to take advantage of new technologies as they are developed, avoiding the constraints of proprietary systems.

Creating a universal utility

124. 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. 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. Together with our partners we will:

PRIORITY 6

Build a common digital infrastructure to support transformation and reform

Action

Maintain and develop an integrated network for the learning, teaching, assessment, research, and administrative functions of the education sectors.

Milestones

- Appropriate connectivity for ACL sites to access the national education network, by 2007
 - The upgraded backbone network (SuperJanet 5) in place and operational by end 2006
 - The Regional Broadband network to be available to all education institutions by 2006
 - A working group to review the totality of connectivity requirements across education and report on coordinating provision by end of 2006.
-

Action

Deliver a best value scheme for ICT infrastructure and services for education and children services.

Milestones

- Better value scheme available to all institutions by 2007
 - Measures of efficiency gains reported by 2007
 - Implications built into BSF programme from 2005
 - Work with other responsible departments to develop effective cross-government communication and coordination arrangements on broadband access and digital divide, by 2006.
-

Action

Develop a common systems framework for the learning, teaching, assessment, research, and administrative functions of the education sectors.

Milestones

- First draft of the framework, and further milestones agreed for 2006
 - QCA to implement its new regulatory approach by end 2006.
-

Action

Contribute to the development of common open standards and specifications for interoperability, accessibility, quality of service and safety.

Milestones

- A published road map of e-learning and e-assessment standards needed for the strategy for 2005
 - Feasibility studies for standards acceleration and conformance complete for 2006
 - Resulting efficiencies in greater sharing and re-use measured as part of the Efficiency Review, for 2006.
-

Sector-based implications for these actions are listed in sections 10 -13.

10. What this means for Schools

Every child to achieve their full potential

125. We want every child to achieve their full potential by ensuring that every school in England makes full use of ICT for learning and teaching, to improve standards across the board.

126. Government investment since 1998 has ensured that schools are now much better equipped with ICT, and that they use the technology more effectively. Independent research has shown that children using ICT effectively in lessons get better results, and Ofsted has confirmed that "Pupils respond very positively to the use of ICT, they engage well with lessons, their behaviour is good and their attitudes to learning are very good" (See *2004 Report: ICT in schools*).

127. Partnerships have already produced significant successes. Virtually every school is connected to the Internet, most at broadband speeds. Most also have electronic interactive whiteboards to enliven lessons. Many schools provide laptops for pupils. In some areas, every home in the community is connected. This means that parents can play a greater role in school life and their children's learning.

128. Teachers are increasingly using ICT in subject lessons, thanks in part to our work over the last two years with the subject associations. National strategies have helped to guide and support teachers. There are plenty of examples of good practice available. Support is available from national advisers. And there are increased opportunities for professional development, with funding to enable teachers to learn from colleagues more experienced in using ICT in the classroom. These activities are all helping to raise teachers' confidence and improve their competence.

129. The Department is also working with Becta, NESTA Futurelab, the subject associations and industry to improve the range and quality of digital content for every subject. Games technology could help motivate many pupils, including those with special needs or who are turned off traditional lessons. Curriculum Online already provides teachers with easy access to multimedia resources from six hundred companies, as well as cultural and heritage sites. The BBC Digital Curriculum, from early 2006, will provide substantial extra content. Broadband has also made it easier to access resources such as the Pathé News archive, supported by Regional Broadband Consortia (RBC).

130. Many schools have access to City Learning Centres, which use technology to improve lessons. The government's Building Schools for the Future (BSF) programme is investing over £2 billion per year over the next three years in building and refurbishing England's schools. It is encouraging designs that embrace ICT to promote and enable new forms of teaching and learning. ICT is also supporting the reform of the school workforce, through the more effective use of management information and data systems, and a reduction in paperwork.

131. We must now take the next step, which is to ensure that every school and every child gains the full benefits of ICT. Our aim is to achieve excellence for all over the coming years.

Supporting organisational development

132. Local circumstances and priorities vary, not least because each school may be at a different stage of development. Our approach has been to create a framework in which informed local choices and decisions are made, enabling local adaptation and innovation.

133. For this approach to continue to work effectively, head teachers and other school leaders need to have the confidence and ability to lead their schools in maximising their use of ICT and embracing new developments. We need to assist schools in better mapping of their progress, deciding on future developments and comparing their level of development with similar schools. For this purpose, Becta is leading the development of a self-assessment framework, or 'route-map', with other national agencies and stakeholders. Schools will then have the option of applying for nationally recognised ICT accreditation.

Challenging games to stretch primary school pupils

Situation

Over half of Haringey's primary school pupils have English as their second language.

London Gifted and Talented wanted a literacy project to stretch students' knowledge and understanding of words and language.

Key Actions

London Gifted and Talented worked with the British Library to develop activities to inspire pupils to think about how words work.

Students had access to online interactive games linked to National Literacy Strategy. The exercises developed an understanding of etymology and how meanings change.

Impact

83% of the students enrolled in the programme regularly access the interactive games. Teachers monitor progress, encourage children to play the games and adapt them for the classroom.

Teachers evaluating the programme have praised their *"use of higher order questions to encourage children to think about abstract concepts"*.

134. Head teachers and aspiring heads can benefit from a range of professional development courses to assist them in improving their ICT leadership capability and capacity.

135. Schools should be able to access good ICT support. The DfES and Becta have initiated a 'best value from schools' ICT systems' programme, which will improve procurement. The programme will enable schools to benefit from significant savings that will optimise the benefits from economies of scale when they buy new hardware, software or technical support, without reducing their rights of ownership or choice. We will also promote integrated systems that combine curriculum and administrative

information. Partners from the public, private and voluntary sectors will be involved in delivering these programmes.

Continuity and personalisation of learning

136. ICT enables learning to be tailored to the needs of the pupil. They can learn where and when they want to, at a pace and in a style that best suits their needs. Learning shouldn't be confined to the classroom or school hours. Safety and security will be crucial as we develop these opportunities, as well as appropriate guidance for adults providing support.

137. Pupils and students will be able to access online support when they need it.

Many young people attend several schools for different lessons – or spend part of their week in college. Such learners should have a single point of access to all their course materials – a personal online learning space. They should be able to contact digital libraries, talk online to fellow students or gain online tutorial support when they are not in school.

138. We will make it easier for parents and carers to engage with and support their children's learning by opening up school-based internet systems, bridging the gap between school and home, making available secure access to pupil information, learning activities and email-based communication.

Schools sector priority actions

139. Many of the actions we propose above are included at system-level in earlier chapters.

The table below shows additional sector-based actions:

PRIORITY 1

Provide an integrated online information service for all citizens.

Action

Provide an online practitioner advice service for e-learning, accessible to the school workforce.

Milestones

- Advice and guidance to those developing and accessing services available for 2005
- All LEAs offering online services within the overarching channel framework provided by Directgov, by 2007-08.

Action

Provide information portals for citizens, parents, carers, employers, and learners

Milestones

- Parents and pupils able to access online applications for places, support (e.g. EMA/Grants), and able to monitor/support children's learning, by 2007.
-

PRIORITY 2

Ensure integrated online personal support for learners.

Action

Provide a personalised online learning space for every learner that can encompass a personal portfolio.

Milestones

- A personalised learning space, with the potential to support e-portfolios available to every school by 2007-08.

Action

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.

Milestones

- Working with partners and using the experience of other sectors, pilots and innovations in e-assessment to be underway by 2006
- 100% on-screen assessment for KS3 ICT test by 2007-08.

PRIORITY 3

A collaborative approach to personalised learning activities

Action

Ensure teachers can access rich, subject-related, interactive content, enabling also non-school models of learning for disaffected learners.

Milestones

- Review, improve and promote the Curriculum Online environment (www.curriculumonline.gov.uk) for 2006.

Action

Target specific development funding for innovation, especially where it has most impact on inclusion and participation.

Milestones

- Seed funding generating market interest and filling gaps, (e.g. KS2 Spanish), adapting games technologies, online diagnostics, etc. by 2007
 - Collaboration with other sectors for joint funding and quality standards, for 2007.
-

PRIORITY 4

Provide a good quality ICT training and support package for practitioners

Action

Train every new teacher in the practice and use of e-learning within their subject and school environment.

Milestones

- TTA to extend its e-learning programme to all trainees by 2006.
-

Action

Provide ongoing continuous professional development through guidance and exemplar practice and subject-based e-communities.

Milestones

- Every teacher receiving continuous professional development that includes ICT, and for 2006/7 and 2007/8 schools encouraged to focus at least one training day on the use of ICT across the school
-

PRIORITY 5

Provide leadership and development package for organisational capability in ICT

Action

Develop a school-focussed 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.

Milestones

- Develop the national framework, and an 'ICT Mark' for the fully e-enabled school, for 2006
 - 100% of schools can access the framework and related guidance online, and can choose to seek accreditation from 2006.
-

Action

Embed ICT within the school improvement approach.

Milestones

- 100% of schools can access self review tools, resources and support from 2006.
-

Action

Provide leadership and management development to develop strategic ICT capability, and to ensure that ICT is embedded appropriately within the school's strategy.

Milestones

- Every leader able to access support to ensure their strategic leadership of ICT and this to be offered to every new head as part of their induction programme, by 2006
 - Every head offered the opportunity to develop their strategic ICT capacity by 2007-08.
-

PRIORITY 6**Build a common digital infrastructure to support transformation and reform**

Action

Provide broadband connectivity and access to the national education network for every school.

Milestones

- 100% of schools connected to broadband by 2006.
-

Action

Ensure every learner has appropriate access to technology in school and beyond the normal school day.

Milestones

- Set the challenge to industry, in conjunction with LEAs and RBCs, to develop a business model for broadband, equipment provision and support to achieve this by 2010.
-

Action

Deliver ICT provision in BSF secondary schools as part of an LEA-wide strategy for ICT that utilises Becta standards and integrates with connectivity provision.

Milestones

- BSF ICT service introduced by 2006
 - All local authorities will benefit by inclusion in the BSF programme or by support to renew at least one of their neediest secondary schools, subject to future spending review decisions, by 2011.
-

11. What this means for 14-19 and the post-16 sector

Greater flexibility and easier progression in further education

140. This section is about how we make the most of technology for 14-19 year olds in schools and colleges; for those in further education; and for learners in adult and community institutions, work-based learning providers, specialist institutions and the prison education services. These institutions have different levels of ICT provision. All colleges have broadband and are connected to the JANET network; most have student and staff intranets, and a few offer online courses.

141. Most teachers and lecturers now feel confident in using ICT effectively in teaching and learning. In some institutions, e-learning is becoming an important part of course delivery and learning support.

142. Within adult learning, we have a network of 7000 **learndirect** and UK online centres. These are embedded in the learning and skills sector, located within public libraries, FE colleges, work-based learning providers, private training providers and the voluntary and community sector.

In adult learning generally, there are significant developments underway but there is still a long way to go. The same is true for specialist colleges and work-based learning.

Seamless provision and progression

143. Our main focus will be to support the Skills Strategy and the 14-19 Strategy, including vocational routes. We want to improve access, flexibility, coherence and continuity for learners from age fourteen throughout life, whether they learn at school, college, work or at home. This means making sure that classes, courses and advice services are flexible to meet the needs of learners and employees, especially those in small businesses where in-house training is difficult to manage. We will provide expert online services and resources to support practitioners and leaders through initial training and professional development. We will also offer extensive access to online digital resources, services and networks.

144. We will establish new programmes and strengthen support services so that leaders can assess their own institution's level of technological development, and make full use of ICT in planning, management and partnerships. E-learning will also be critical to Strategic Area Reviews (StARs), development plans, self-assessment and the Ofsted and ALI inspection processes.

14-19 learners

145. Learners in the 14-19 age group will increasingly be able to direct and manage aspects of their own learning. This will give them access to a broader curriculum, with greater choice and more vocational options. They could, for example, create a programme that mixes school and college-based modules with experience in the workplace. They could access learning resources and feedback, and monitor their progress from every location.

Lifelong learning and adults

146. We are aiming to provide for learners over the age of sixteen, and in the longer term from the age of fourteen, a personal lifelong learning record, detailing the courses they have taken and qualifications they have achieved. This 'personalised learning record' will make it easier for them to take short courses and accumulate credits for what they learn; it will allow people to move between courses more easily; and it will make it easier for those who wish to improve their skills after a period away from learning, or while at home, such as long-term care providers. The learning record will enable learning to be picked up at any time of life, in any location, including prisons.

147. Adult learners will have more choice of courses and learning programmes, including Skills for Life and 'first rung' access courses for those from disadvantaged groups. They could choose a college or a community setting, such as a public library, or study at home online with tutor support. Many institutions will mix formal classes with online teaching. Some people will use ICT to manage their own learning at their own pace, using e-assessment to monitor their own progress.

GCSE Online at Sheffield College

Situation

Five years ago the Sheffield College developed their first English GCSE online course. The course was designed to improve retention rates for students.

Key Actions

The course includes online material, weekly emails explaining tasks, and online web boards for tutor-learner interaction.

With email, learners and tutors can converse individually, more than in a typical classroom discussion.

Tutors have more one-to-one time with students so they can address their individual needs.

Impact

200 students enrolled on the one-year course including soldiers, an oil rig worker, and students with ME.

Retention and pass rates were higher than average.

As a result of its success, an English A-level pilot with 50 students was put in place.

Work-based learning

148. Employers and employees can benefit from e-learning in the workplace. We will work with the Sector Skills Councils and trade unions to maximise these benefits, and embed e-learning to support vocational routes, through skills academies, Centres of Vocational Education (CoVEs) and specialist

institutions. The principle of flexibility will apply, allowing employees to mix learning in the workplace with learning at home or in local colleges, public libraries, and community centres. E-learning can benefit employers too by helping them to improve business efficiency and effectiveness.

Post-16 sector priority actions

149. Many of the above actions are included at system-level in earlier chapters, for example in relation to personalised support through development of e-portfolios. The table below shows additional sector-based actions:

PRIORITY 1

Provide an integrated online information service for all citizens

Action

Ensure that information and services for young people and their parents, and for lifelong learning, are well represented within Directgov.

Milestones

- Transition of existing material from Way to Learn portal to Directgov 2005.

Action

Develop a workforce web portal for information, advice and guidance on e-learning.

Milestones

- Scoping study to build on existing practitioner services in the sector, complete in 2005.
-

PRIORITY 2

Ensure integrated online personal support for learners

Action

Develop better opportunities for extending access from socially-excluded groups.

Milestones

- Measurable increase in take up of e-skills passports and follow through by Ufi, by 2007
 - Sustainable model for UK online centres for 2005
 - National Institute for Adult Continuing Education (NIACE) to develop e-learning mentors (e-guides) in training ACL tutors who work in community settings, or 2005.
-

Action

Promote portability of assessment to support personalised progression.

Milestones

- Road map for e-assessment developed by 2006.
-

Action

Provide a personalised online learning space for every learner that can encompass a personal portfolio.

Milestones

- A personalised learning space, with the potential to support e-portfolios available within every college by 2007-08.
-

PRIORITY 3

A collaborative approach to personalised learning activities

Action

Ensure that the post-16 sector implements a content strategy consistent with the system-level aims.

Milestones

- E-learning embedded in Success for All materials by 2005
 - Funding and business models for post-16 providers to purchase high quality commercial content by 2006
 - Content strategy aligned with teaching and learning developments through Pedagogy Advisory Group by 2005
 - National Learning Network (NLN) / Success for All skills and dissemination strategies to include Information and Learning Technologies (ILT) subject mentors and champions and ACL e-guides through RSCs, and explore extension to ACL by 2006.
-

Action

Embed e-learning in workplace and work-based learning.

Milestones

- The use of e-assessment and e-learning built into sector academies and National Employer Training Programme by 2007.
-

PRIORITY 4

Provide a good quality ICT training and support package for practitioners

Action

Enhance practitioner e-learning pedagogical skills.

Milestones

- Core, optional and elective units of training and development, based on LLUK's e-learning and e-leadership sector standards, available by 2007-08 and embedded in Initial Teacher Training (ITT) and professional development programmes
- ICT personal competency, based on the e-Skills standards, required as part of the 'common core' of all ITT in the sector by 2007-08
- Provider level three-year development plans agreed with local LSCs by 2006
- NIACE to train practitioners to LLUK standards, to mentor their peers in e-learning, with initial training programme complete by 2006.

Action

Ensure ICT access for every practitioner and provide an online service for e-learning.

Milestones

- NLN Online will be available from 2006
- Success for All materials available through NLN Online.

Action

Exploit the potential of e-learning for workplace and work-based learning.

Milestones

- E-Skills e-learning champion working with Skills for Business Network from 2005
 - Support for Union Learning Representatives from 2005
 - **learnirect** to develop offer for small businesses, by 2006
 - Embed e-learning to support vocational routes through skills academies, COVEs and specialist institutions by 2007.
-

PRIORITY 5

Provide leadership and development package for organisational capability in ICT

Action

Promote effective use of ICT through existing monitoring mechanisms.

Milestones

- E-learning explicit in ALI and Ofsted inspection for all institutions by 2006
 - E-learning in Regional Development Plans for 2006
 - Benchmarking tools available 2006.
-

Action

Ensure leaders are equipped to lead the adoption and effective use of ICT.

Milestones

- E-learning embedded in CEL programmes by 2006
 - Develop the concept of the Provider for the Future by 2006
 - NIACE and CEL to develop short training modules for managers, for 2006.
-

Action

Support leadership collaboration on the strategic role of e-learning.

Milestones

- NLN Online developed as gateway to CEL, for 2006
 - E-learning embedded in StAR process, by 2005.
-

PRIORITY 6

Build a common digital infrastructure to support transformation and reform

Action

All post-16 sectors with relevant access to broadband.

Milestones

- Best value frameworks available by 2007
 - ACL providers and specialist institutions have plans to work towards appropriate technologies by 2007.
-

Action

Ensure work-based learning and ACL is not disadvantaged by comparison with institution-based learning.

Milestones

- Strategy for appropriate support for publicly-funded programmes of private providers in place by 2006.
-

Action

Strengthen regional support for embedded e-learning for ACL and workplace learning

Milestones

- Deliver a more coherent and effective regional and local support service to ACL, work-based learning and school sixth forms from 2006.
-

12. What this means for higher education

Better access to research and more online course delivery

150. Higher education starts from a position of strength. It has a good infrastructure and a high level of general ICT skills, partly due to the development of the JANET network. The Higher Education Funding Council for England (HEFCE) has worked with universities and colleges since early 2004 to develop the *HEFCE strategy for e-learning* (www.hefce.ac.uk) and research strategies. Our approach builds on and complements these strategies.

Teaching and Learning

151. HEFCE and the LSC are building 'Lifelong Learning Networks' – partnerships between institutions in both sectors to support learners flexibly through their academic and vocational studies. Teaching staff will be supported through the Higher Education Academy (HEA, www.heacademy.ac.uk) which is designed to support the development of courses and policies which improve the student's experience of UK higher education.

152. ICT supports these initiatives by providing the cross-institutional networks needed to make it easier for students to progress. Our national proposals will provide broader access to e-learning resources and build appropriate business models for sharing them. This should enable universities, colleges and schools

to work more closely together to meet the needs of individual students. This approach would also allow the sectors to achieve economies of scale by sharing student services, based on models already developed by the Open University.

153. Some universities already try to provide such flexible learning opportunities for their British and international students. Such innovations could help to widen participation in higher education at home, and overseas, while stimulating demand from learners who want something other than the traditional campus-only experience. This is a challenge to senior management, but is supported by system-level actions to create flexible design tools for learning activities and subject-based collaboration, and by leadership support in the HE sector – all within a framework of accountability monitored through Quality Assurance Agency's (QAA's) institutional audits and reviews.

154. There are also real opportunities to make the resources of universities more widely available to teachers and students in colleges and schools. They can use ICT networks to provide innovative and more flexible opportunities – mixing campus, home, workplace, online and place-based, part-time and full-time learning, over the years after school.

HE – Industry Partnerships

Situation

The Virtual Science Park at the University of Leeds provides on line support for research networks, professional and graduate learning and out-reach activity.

Key Actions

Created an environment with virtual buildings, reception areas, personal offices, common rooms, and project rooms.

Offered partnerships between academia, public sector organisations and businesses. Provided access to research, efficient document management, a powerful search engine, regular alerts and expert links.

Impact

A first-class learning environment was achieved where learners can access online resources when they need them – and researchers in academia and industry can work together more easily.

Research

155. Research is essential to make the most of ICT in teaching. Although teaching staff are encouraged to experiment and innovate, research institutions and research councils need urgently to develop research in pedagogy and e-learning.

156. ICT has a key role to play in improved information-sharing systems for researchers. JISC will develop a Virtual Research Environment demonstrator for universities and colleges. The Economic and Social Research Council is launching a new internet-based information centre for researchers which will make it far easier to access social science research in future. Our International Strategy is promoting strategic partnerships between universities and other equivalent institutions to create international hubs for teaching and research.

Employer Engagement

157. The science park has often been seen as the cutting edge of universities' work with industry. In future, we shall see more virtual science parks, where collaboration is not tied to location.

158. Partnerships between universities and industry will help develop courses that better equip graduates with the skills appropriate for a wide range of IT careers, including training future business managers with the skills to lead technologically enabled change, by linking IT and business strategies. The e-skills degree, being developed by e-Skills UK (www.e-skills.com) as part of their Sector Skills Agreement is a good example of this kind of partnership.

Higher education sector priority actions

159. Many of the above actions are included at system-level in earlier chapters, for example in relation to personalised support through development of e-portfolios. The table below shows additional sector-based actions.

PRIORITY 1

Provide an integrated online information service for all citizens

Action

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

Milestones

- Transition of existing material for citizens from Aimhigher portal to Directgov in order that they complement each other by 2005
 - Possibility of exploiting Aimhigher as a web support for professionals 2005.
-

PRIORITY 2

Ensure integrated online personal support for learners

Action

Encourage strategic development of a collaborative approach to learner progression.

Milestones

- Feasibility study on new models of cross-institution partnerships in support of flexible learning pathways for 2006.
-

PRIORITY 3

Develop a collaborative approach to personalised learning activities

Action

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

Milestones

- Concordat between HE partners and Sector Skills Councils (SSCs) in place by 2005 to take forward the actions identified by e-Skills UK's Sector Skills Agreement.
-

PRIORITY 4

Provide a good quality ICT training and support package for practitioners

Action

Ensure that research in e-learning and the pedagogy of subject teaching is given full recognition.

Milestones

- Research in e-learning and the pedagogy of subject teaching to be fully recognised within subject panels by 2007-08.
-

Action

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.

Milestones

- Incorporate the use of e-learning into the accreditation framework of the HEA for new staff courses by 2006, leading to the embedding of e-Learning into all new staff courses.

PRIORITY 5

Provide a leadership and development package for organisational capability in ICT

Action

Support leaders in the deployment of ICT and e-enabled learning processes.

Milestones

- Leadership Foundation (LF) project-based learning programmes will require leaders to utilise their institution's ICT, in place by 2006.

Action

Promote effective management of the use and deployment of ICT in HE.

Milestones

- LF and DfES to run a series of regional and national seminars to reach all leaders for 2005
- JISC to monitor baseline data and improve the methodology for understanding the use of ICT to enhance learning and teaching, reduce costs and widen access by 2006.

Action

Establish a national e-learning advisory and support centre for HE.

Milestones

- LF and DfES to run a series of regional and national seminars for all leaders for 2005
- Jointly supported JISC/HEA advisory and support centre established within HEA to complement the Centres of Excellence in Teaching and Learning by 2006 .

Action

Provide common collaborative development support for institutions offering remote e-learning opportunities.

Milestones

- Available eventually to all institutions, beginning with a joint HEA/JISC e-Learning Advisory Service set up within the national e-learning advice centre for 2006.

PRIORITY 6

Build a common digital infrastructure to support transformation and reform

Action

Continued dialogue with the sector to ensure JANET network remains leading edge and meets the evolving needs of the sector.

Milestones

- SuperJANET5 upgrade fully reflects the sector's requirements for research and teaching, for 2006.

Action

Trial a state-of-the-art network for next generation internet to support HE research and teaching.

Milestones

- Proof of concept completed by end 2006.
-

13. What this means for Children's Services

More effective and efficient communication and delivery to families

160. Our goal is to use ICT to help us in supporting children and young people in line with Every Child Matters: Change for Children. The DfES five year strategy reiterated our commitment to help all children and young people to be healthy, stay safe, enjoy life and achieve their potential, make a positive contribution to their community and achieve economic well-being. Each local authority area is taking forward a change programme to deliver better outcomes, supported by a national framework.

161. This takes place in a world where new technologies are changing the way that people interact and do business. Reforms of children's services need to reflect those changes, by using ICT better to meet the needs of children, young people and families. Technology should help to reach those groups who are traditionally difficult to reach, in new ways and it should enable greater efficiency and effectiveness in delivery.

162. In line with our priorities we will use ICT to support change in children's services at all levels. We want:

- Children, young people and families to be able to access clear information and advice on the internet. This could provide support for parents and families; and clearer and more effective

information and advice for young people

- Practitioners working with children and young people able to provide a better service. Developments underway include directories of services for children in each local area, electronic

Out Of School Learners

Situation

A 'virtual college' has been set up to engage with pupils placed in the Pupil Referral Unit (PRU) or who otherwise are unable or unwilling to partake in mainstream learning.

All young people who 'attend' have been out of school for over 6 months.

Key Actions

Within the scheme each student has a laptop with internet access. Tutors have laptops, digital cameras and mobile phones. Students were provided with 50 hours of one-to-one tuition per year, with managed group work and online resources.

Online work experience was made available to pupils, with Connexions drawing up exit strategies and providing follow-up checks after leaving.

Impact

"For some students going through a school gate again was the last thing they ever want to do"

90% of 2002 cohort went into work, college or work-based learning.

"The Virtual College has saved the life of my child"

case records for children in need, national index systems for information sharing and an electronic common assessment framework

- The children's workforce able to access online training materials and to participate in web-based discussions with their peers. Examples include the *'Birth to Three Matters'* materials and training for child care practitioners available on the Sure Start website (www.surestart.gov.uk)

- Local Authorities to have access to an extranet, helping communication and co-ordination between central and local government and their partners.

163. In the long term, we want parents and families to be increasingly able to undertake transactions online. They could choose, apply for, and enrol in childcare, nursery and extended schools. The children's workforce will be trained in the effective use of e-systems, and ICT will transform support for vulnerable groups.

Children's sector priority actions

164. Many of the above actions are included at system-level in earlier chapters. The table below shows additional sector-based actions:

PRIORITY 1

Provide an integrated online information service for all citizens

Action

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.

Milestones

- Interactive content to be developed over the course of 2005.

Action

Provide information on the reform of children's services through the Every Child Matters website (www.surestart.gov.uk).

Milestones

- Interactive content to be developed over the course of 2005.
-

PRIORITY 2**Ensure integrated online personal support for children and families**

Action

Roll out implementation of electronic case records for children in need.

Milestones

- 150 Local Authorities with electronic children's social care records by 2007, with implementation monitored by Child Services Central Index.

Action

Establish national standards of database or index systems to support collaboration between practitioners working with the same child or young person.

Milestones

- Ministers to determine timetable for implementation in 2005.

Action

Implement an electronic version of the Common Assessment Framework.

Milestones

- Implementation to establish how the existing forms, information and assessments can be securely stored and transmitted between services where that has been agreed, to be led by Directors of Children's Services in all local areas, for March 2008.

PRIORITY 3**Develop a collaborative approach to personalised learning activities**

This priority does not apply to children's services.

PRIORITY 4**Provide a good quality ICT training and support package for practitioners**

Action

Engage the workforce in policy through online communities, and provide examples of innovative ways of working within children's services.

Milestones

- Build on good practice examples already available on the Every Child Matters website, and stream television content via the internet by 2005.

Action

Introduce up-to-date electronic directories of children's services in each local area.

Milestones

- Every top-tier local authority area to have introduced such a directory by 2007-08.

Action

Encourage childcare providers and practitioners to use online training support materials and pedagogical materials.

Milestones

- Children's Workforce Development Council to consider making material available online for the children's workforce by 2006.

Action

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.

Milestones

- Complete database of qualifications in whole of Children's sector for 2007-08.

PRIORITY 5

Provide a leadership and development package for organisational capability in ICT

Action

Ensure developments across children's services support the Office of the Deputy Prime Minister (ODPM) Public Sector Agreement (PSA) targets.

Milestones

- Improve the effectiveness and efficiency of local government in leading and delivering services to all communities, by 2007-08
- Local government to achieve 100% capability in electronic delivery of priority services by 2005, tailored to customer needs.

Action

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

Milestones

- Unified data gateway to be in place by Autumn 2005.

PRIORITY 6

Build a common digital infrastructure to support transformation and reform

Action

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

Milestones

- Common data standards for children's services across the UK being developed from 2005.
-

14. Implementation and evaluation

The accountability framework

165. To harness technology in support of the DfES five 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 the principles for system reform in our 5 year strategy
- Can be developed to reflect the developing capacity of partner bodies
- Are compatible with wider thinking about e-Government.

166. The development and implementation of the e-strategy entail responsibilities at four different levels: strategic direction, policy development, coordinating the delivery strategy and delivery itself. We are clear that the first two responsibilities should lie with the DfES itself, advised by Becta and 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.

167. All the actions proposed in the strategy can be met within existing budgets up to the milestones listed. The Department is working closely with

our partners to secure their commitment and put in place the necessary arrangements to secure their contribution. This process is well under way and will be completed shortly.

Working with partners

168. The DfES will discharge its responsibilities for strategic direction and policy development through its cross-directorate e-Strategy Programme Board (eSPB), working closely with the Departmental main board. It will challenge both the Department, to ensure that ICT is strategically embedded, and our partners, to ensure that the implementation of the e-strategy remains on track. It will be action-oriented, with its agenda defined by the e-strategy to:

- Renew and develop strategy and policy
- Ensure the delivery strategy supports the Department's strategic programme
- Ensure delivery of the system-level actions and associated efficiency gains
- Monitor progress through combined reports from partners
- Influence wider DfES strategy and policy through members' detailed knowledge of the sectors.

169. This remit will dovetail with the sector-related Departmental structures for policy and strategy implementation to ensure that there is no duplication of

effort. In the post-16 sector the Department will chair and collaborate with the LSC in leading the post-16 e-Learning Policy and Project Board. For higher education, the Department will look mainly to HEFCE, in co-operation with JISC and the HEA, to implement their e-learning strategy, working with other providers in the sector as appropriate. Departmental directorate management structures remain responsible for monitoring progress on the sector-based actions and milestones through existing accountability mechanisms.

170. Becta and JISC will be members of the eSPB. They are already working closely together to ensure efficient and effective collaboration across all sectors. Both are UK-wide bodies, helping to ensure that our strategy co-ordinates well with developments in Northern Ireland, Scotland and Wales. In implementing the Department's e-strategy, they will work with all the main partners, especially those listed in the Annex, who have collaborated extensively in developing the strategy, to ensure it is properly co-ordinated. In this capacity, Becta and JISC will develop appropriate structures and processes where necessary, building as far as possible on existing arrangements to co-ordinate the work of partners across sectors, around four key areas:

- 'Learner support', covering the work in Sections 4 and 5, to enable our system to be more responsive to children's and learners' needs
- 'Learning activities and content', for the work in Section 6, to exploit fully the capacity of ICT to transform the quality of the learning experience
- 'Workforce Development', to cover the programme of work in Sections 7 and 8 on coordinating the work of key agencies in supporting front-line staff, leaders and managers in making the best use of ICT, and

- 'Digital Infrastructure' to cover Section 9 actions by taking a system-level approach to the work on an integrated broadband network, a best value scheme, a common systems framework, and open standards.

171. Along with the regular updating of the strategy on an annual basis, we will need to review these management arrangements.

Regional structures

172. Managing the strategic use of ICT across all our sectors is complex. There are many Department-based and other regional and local structures, agencies and funding bodies, as well as private providers in the education and ICT industries. Many of these bodies are developing their own e-learning and ICT strategies. This creates a vibrant and rapidly evolving field, which is of enormous value in improving our collective understanding of how best to use ICT for public service reform. However, complexity can be wasteful. With multiple funding streams and lack of join-up we are not getting the best value either from our investment or from the developing expertise in our professional workforce. It will be an early priority for the eSPB, in consultation with regional and local partners, to consider how best to structure the regional and local partner tiers, particularly with a view to the effective procurement and coherent development of infrastructure.

Working with industry

173. We are already reviewing the current relationships with ICT industry partners to bring about a step change in our relationship with industry. We want the industry – both infrastructure and digital content organisations – to be more than just suppliers. We want them to have a voice in our future plans at all levels. We are planning a high-level contact

group to enable the Department to explain its requirements, and to enable the industry to influence future thinking on the role of technology. Industry members will be represented on this contact group as well as engaged in the work on learner support, learning activities and content, workforce development and infrastructure. We will also develop new arrangements for communicating with the industry as a whole, building on the work of the ICT Industry Club.

Evaluating the strategy against its objectives

174. We will use a combination of customer surveys and outcome data to test the extent to which we have achieved our main objectives. Surveys can monitor the changing perceptions of our stakeholders. Outcome statistics can tell us what resources are available and what their impact has been on attainment, attendance or retention. This should entail no additional bureaucratic demands on educational institutions as, wherever possible, they will be measured through existing surveys, inspections, and data collection mechanisms. For each objective, we set some challenging tests.

Have we transformed teaching and learning?

- Learners in education and the workplace have found that ICT has helped them in their motivation to learn, their access to learning, their retention, and their attainment
- The majority of the learning workforce recognise a step change in their own and their institution's capacity to use e-learning effectively
- There is a good supply of high quality, innovative e-learning resources that meet user needs.

Have we reached the hard to reach learners?

- The take-up of ICT accreditation, in ITQ (the new National Vocational Qualification for IT), e-Skills Passport and higher levels, is accelerating through recruitment of low-skilled groups
- Learners with special needs have access to the diagnostic and remedial e-learning resources that are critical to learning achievement
- Groups of disaffected learners have been motivated to re-engage with education and believe e-learning to have played a part in their re-engagement
- More flexible learning opportunities have increased participation in learning part-time, from home, at work, in the community, in prisons, or overseas.

Have we built an open and accessible system?

- Independent and work-based learning providers are able to deliver provision in ways, and at a scale, that were not previously feasible
- Parents, children, learners and employers recognise that they have greater access to the services and information they require, and that they can give voice to their needs and influence provision.

Have we achieved efficiency and effectiveness?

- System-wide efficiency gains have been achieved as part of the Efficiency Review by automating, streamlining and aggregating processes and activities
- Frontline institutions, leaders and the workforce report that they are equipped with the data and knowledge they need to help them manage and lead more effectively

- Learners, teachers and leaders report that they have a reasonable level of satisfaction with an ICT infrastructure that is reliable, efficient, accessible, affordable and sustainable
- Savings in the productive time of the education workforce have been made.

175. With our key partners, we are developing appropriate benchmarks for these. Accountability for achieving efficiencies and greater effectiveness is integrated into the e-strategy programme structure through monitoring progress on actions against milestones. The evaluation of the strategy as a whole will assess its success in meeting the four objectives, and its ability to respond to developments. These may be in policy, such as the 14-19 White Paper, or in technology, such as next generation mobile phones. We are also contributing to developments in international benchmarks for e-learning and e-business.

Achieving the vision

176. 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 co-ordinated information, advice and guidance. Personalisation of public services is a tough goal, but with ICT we can set the standards high. That is only feasible if we have the right approach to using it. Our strategy focuses on what ICT can do to help children and adult learners, citizens and employers, and families 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.

177. 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. We can only harness the new technologies to our ambitions if we are clear about what we want, and how to use ICT to achieve it. 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.

15. Annex: Partners for implementing the strategy

The Department's key partners for implementing this strategy are listed here. All have a critical role to play if we are to succeed in delivering what the strategy promises. However, many other organisations have contributed to the consultation and further development of the strategy and, as part of their responsibilities within children's and education services, will also be crucial to its success. They are far too numerous to list here, so we have provided links to all those who have contributed on the DfES website: www.dfes.gov.uk/publications/e-strategy.

STRATEGIC ICT

Becta

The British Educational Communications and Technology Agency is the Government's lead partner in the strategic development and delivery of the e-strategy in the schools and the learning and skills sectors. It has four main roles. It will provide coordination and support for the implementation and running of the e-strategy. It will provide strategic advice to help shape the e-strategy and renew it. It will support the strategy and its partners by providing insight into the developing use of ICT based on evidence and an understanding of innovative technologies and practices, and it will be the delivery partner for those actions for which it is best placed. www.becta.org.uk

JISC

The Joint Information Systems Committee funds innovative development programmes, by members of the community using action research. In order to support institutions in ICT to its best advantage, JISC funds: Advisory services on products; Production services, to achieve economies of scale through the provision of national services; and Development services to test the validity of innovations. www.jisc.ac.uk

eGU

The role of the e-Government Unit is to support the business transformation of Government, including its development of e-learning. www.e-government.cabinetoffice.gov.uk

LEADERSHIP

NCSL

The National College for School Leadership provides career-long learning and development opportunities, professional and practical support for England's existing and aspiring school leaders. Their goal is to ensure that school leaders have the skills, recognition, capacity and ambition to transform the school education system into the best in the world. The College places high emphasis on utilising e-learning in all leadership development it sponsors and commissions. It supports heads and other school leaders in strategically leading ICT for school improvement, raising achievement and organisational change. www.ncsl.org.uk

CEL

The Centre for Excellence in Leadership has been established to provide leaders and managers within the learning and skills sector with innovative programmes and services to support them in leading their institutions. www.centreforexcellence.org.uk

LF

The Leadership Foundation aims to draw on the best existing programmes and commission new material in order to offer world-class development in leadership governance and management to current and future leaders within higher education institutions. www.leadership-he.com

LEARNING WORKFORCE

TTA

The purpose of the Teacher Training Agency is to raise standards by attracting able and committed people to teaching and by improving the quality of training for teachers and the wider school workforce. The Agency has recently been given the responsibility for teachers' continuing professional development and the development of standards for the whole school workforce. www.tta.gov.uk

SST

The Specialist Schools Trust is the lead body for the Government's specialist schools programme. It seeks to give more young people access to a good secondary education by building networks, sharing best practice and supporting schools. www.specialistschools.org.uk

NESTA Futurelab

By bringing together the creative, technical and educational communities, NESTA Futurelab is pioneering ways of using new technologies to transform the learning experience by: supporting emerging innovative e-learning and selected projects; encouraging new pedagogies; brokering partnerships and showcasing developments helping shape the e-learning market and taking assessment forwards. www.nestafuturelab.org

LSDA

The Learning and Skills Development Agency's mission is to improve the quality of post-16 education and training in England, Wales and Northern Ireland. It does this through research to inform policy and practice, through helping to shape and communicate education policy and through improvement and support programmes for organisations that deliver post-16 education and training. www.lsda.org.uk

LLUK

Lifelong Learning UK is the Sector Skills Council for the post-16 training and education sector workforce. It has been established by the sector's employers to lead the professional development of all those who work in the field of lifelong learning. LLUK will have a key role in reviewing and developing occupational and professional standards, and identifying the training and development needed to deliver the skills for the future. www.lifelonglearning.co.uk

NIACE

The National Institute of Adult Continuing Education works to encourage more and different adults to engage in learning of all kinds. NIACE's aim is to improve opportunities for adult learners across all sectors, with a particular focus on those adults who have not had successful access to education and training in their initial education. www.niace.org.uk

e-Skills UK

e-skills UK is a not-for profit, employer-led organisation, licensed by government as the Sector Skills Council for IT, Telecoms and Contact Centres. It is also responsible for cross sector IT User Skills and a programme aimed at improving the 'e-skills' of the UK at large on behalf of the Skills for Business Network. e-skills UK is committed to taking practical steps to help employers develop the skills they need to improve business performance. They do this by providing employer-defined skills frameworks, a range of innovative services and programmes for skills development, and information on sources of training and funding. e-skills UK enables employers to make a real influence on the UK's skills strategy and infrastructure. www.e-skills.com

Ufi

Ufi is the organisation responsible for **learndirect**-advice – the national learning advice service and **learndirect/UK** online – the national supported e-learning and e-services network. Ufi aims to improve national productivity by providing widespread access to world class learning and e-services. Its role in supporting the strategy is to be a technologically innovative and entrepreneurial force in the improvement of skills for work. www.ufi.com

HEA

The Higher Education Academy helps foster the development of a higher education sector accessible to all potential students and which is recognised internationally for the high quality of teaching, learning and research and has the capacity to address the changing needs and challenges in our society. www.heacademy.ac.uk

INSPECTION AND QA

Ofsted

The Office for Standards in Education is a non-ministerial government department. Its role includes responsibility for the inspection of all schools in England. From September 2005 regular school inspections will be much shorter than previously. A detailed evaluation of ICT, including e-learning, will take place alongside this in a sample of schools. www.ofsted.gov.uk

ALI

The Adult Learning Inspectorate is a government funded body responsible for raising the standards of education and training for young people and adults in England, by inspecting and reporting on the quality of learning provision they receive. www.ali.gov.uk

QAA

Through its audits and reviews of the management of quality and standards in higher education, the Quality Assurance Agency will monitor institutional strategies for the use of ICT to support flexible learning opportunities for UK and international provision, using its Code of Practice on collaborative provision and flexible and distributed learning (including e-learning) as a particular point of reference. www.qaa.ac.uk

FUNDING BODIES

LSC

The Learning and Skills Council exists to make England better skilled and more competitive. The LSC will provide strategic policy and implementation of the e-strategy through the joint leadership of the post-16 e-Learning Policy and Project Board (EPB). The LSC will have a commissioning function to determine appropriate procurement strategies for projects and services to deliver the post-16 elements of the strategy. They will also take responsibility for project monitoring and contract management. www.lsc.gov.uk

HEFCE

Working in partnership the Higher Education Funding Council for England promotes and funds high-quality, cost-effective teaching and research, meeting the diverse needs of students, the economy and society. www.hefce.ac.uk

QUALIFICATIONS, CURRICULUM AND ASSESSMENT

QCA

The Qualifications and Curriculum Authority is responsible for modernising the curriculum and examinations to meet the needs of learners in the 21st century. QCA will modernise the national curriculum and its assessment, and will implement its new regulatory approach to lead awarding bodies and educational providers in using technology to improve the quality, relevance and reliability of learning, curriculum and assessment services provided to learners. www.qca.org.uk

TECHNOLOGY INFRASTRUCTURE

UKERNA

The United Kingdom Education and Research Networking Association operates the networking programme of the education, learning and research communities in the UK (JANET). It researches, develops and provides advanced electronic communication facilities for use within these communities, and with external third parties. Successful implementation of the Government's agenda for raising educational standards involves the general deployment of broadband Internet access with low barriers to entry throughout the UK. www.ukerna.ac.uk

BSI

The British Standards Institute was the first national standards-making body in the world. Independent of government, BSI is a non-profit distributing organisation. It is globally recognised as an independent and impartial body serving both the private and public sectors, working with manufacturing and service industries, businesses and governments to facilitate the production of British, European and International Standards. www.bsonline.techindex.co.uk

OTHER KEY PARTNER ORGANISATIONS

Awarding bodies
Advisory, Admissions and Information services and organisations
Broadcasting and media organisations
Children's Workforce Development Council
Digital content industry groups
Educational publishing industry groups
Employer organisations
ICT infrastructure industry groups
Local Authorities/Directors of Children's Services/Local Education Authorities
Library and Information Science groups
Other Government Departments and their agencies with e-programmes
Partners contracted to the Department for the delivery of National Strategies
Trade Unions and Professional Associations
Regional bodies, linked to the Department
Research Councils
Subject Associations
University research groups with a focus on e-learning and related disciplines
Voluntary and Community Organisations

You can download this publication or order copies online at www.dfes.gov.uk/publications/e-strategy

Search using ref: 1296-2005DOC-EN

Copies of this publication can also be obtained from:

DfES Publications
PO Box 5050
Sherwood Park
Annesley
Nottingham NG15 0DJ.

Tel: 0845 60 222 60
Fax: 0845 60 333 60
Textphone: 0845 60 555 60
email: dfes@prolog.uk.com

Please quote ref: 1296-2005DOC-EN

ISBN 1-84478-411-8
PPSLS/D33/0305/14

© Crown Copyright 2005

Produced by the Department for Education and Skills.

Extracts from this document may be reproduced for non-commercial education or training purposes on condition that the source is acknowledged.