# LSDA responds

# Towards a Unified E-Learning Strategy

This paper sets out LSDA's response to the DfES consultation document: *Towards a Unified e-Learning Strategy*, published in July 2003.

The consultation document is available on the internet at:
http://www.dfes.gov.uk/consultations2/16/docs/towards%20a%20unified%20e-learning%20strategy.pdf

**Response submitted January 2004**

**Further information**

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**The Policy and Communications Unit at the Learning and Skills Development Agency is supported by the Learning and Skills Council.**

## Introduction

**1** The Learning and Skills Development Agency (LSDA) is a strategic national resource for the development of policy and practice in post-16 education and training. Our activities include research, with partners, to inform the development of policy and practice for post-16 education and training. We work across the post-16 sector in England, Wales and Northern Ireland, providing support for colleges, work-based training, adult and community learning (ACL), and schools, with a particular focus on quality and implementing change.

**2** We welcome this opportunity to comment on the consultation document '*Towards a Unified e-learning Strategy'*. We support the objective of developing a unified e-learning strategy which sets out priorities for future developments throughout the education and training sectors and links the work of the various institutions, agencies and government departments working in this area.

**3** We welcome many proposals in the document including:

- the recognition of the importance of developing e-assessment alongside e-learning

- the associated need for a credit framework

- the emphasis on the potential of e-learning to assist widening participation and overcome some of the barriers to learning experienced by people with disabilities as well as the disadvantaged and carers.

**4** LSDA has a history of relevant work in the area (see appendix 1 for more details). Major contributions we have made in this area include:

- designing and managing the Quality in Information and Learning Technologies (QUILT) staff development programme (1999-2001)

- a key partner in the National Learning Network (NLN)

- support of the work of the Further Education Funding Council's (FEFC) Distributed and Electronic Learning Group (DELG)

- co-ordinating partner in the pan-European collaborative research and development programme m-learning

- leading evaluation of the NLN and the Computers for Further Education (FE) Teachers scheme

- research projects focussing on a variety of relevant topics including: learner tracking, college management information systems, learning centres, blended learning and the potential of interactive and digital television (iDTV) for learning.

- LSDA lead on the development of the Information and Learning Technologies (ILT) standards for the application of Information and Communication Technologies (ICT) to teaching and learning and to management in partnership with the Further Education National Training Organisation (FENTO).

- Our work on credit frameworks has been incorporated within the IMS interoperability specification for a 'reusable competency definition' and is now under discussion for the same purpose by the Institute of Electrical and Electronics Engineers (IEEE).

# Structure and contents

**5** Our response draws upon our experience and evidence from this and other relevant work and is structured in two parts:

- **Part 1 – Key issues** – which draws together the most significant issues raised in the response as a whole.

- **Part 2 – Responses to consultation questions** – which sets out specific, detailed responses to the numbered questions in the consultation document.

# Part 1 – Key issues

**6** We wish to draw attention to the following key issues that arise from the detailed comments in part 2 of our response. These issues resonate throughout the response or have particular significance for the strategy.

### Definitions of terms and a shared vision

**7** Our response emphasises the importance of establishing an agreed set of definitions for e-learning and of associated terms. We believe such definitions can help to provide the basis for shared values and for a vision of what an e-learning strategy should aim to achieve. (See paragraphs 27-37 of our response)

**8** The definition of e-learning should not assume that access to e-learning is only provided by computers and should be sufficiently adaptable to future technologies and contexts.

### A vision for all learning and skills sector providers

**9** In the learning and skills sector, there has been a great deal of progress made in embedding e-learning in further education colleges through staff development, support, evaluation and research activities.

**10** However, it is clear that there is still work needed to fully achieve the ambitions of NLN in relation to work-based training providers and ACL providers. This is despite the fact that substantial funds have been allocated for the development of e-learning in the ACL sector and that progress is being made.

**11** It will be essential, therefore, that the vision embraces the whole of the learning and skills sector and that the strategy take account of the distinctive development needs in different parts of the learning and skills sector. (See paragraphs 71-74)

### E-learning skills

**12** The skills required to engage in e-learning will acquire greater significance as e-learning becomes mainstream. Therefore, a clear definition of e-learning skills is essential and consideration should be given to establish these as a subset of ICT basic skills.

**13** Clarity about the nature of the skills required will assist teachers and trainers to be more systematic and effective in supporting their development and assessment. However these skills will evolve rapidly as technology and ways of working with it develop. Therefore it will be necessary to keep the definition of e-learning skills under review.

### Benefits of e-learning

**14** E-learning has a uniquely powerful contribution to make to inclusion by removing physical, psychological and cultural barriers often associated with traditional education. Therefore it is disappointing that the strategy does not state explicit action points regarding taking learning to the disconnected and excluded in our society, particularly with reference to the Disability Discrimination Act (DDA) and the low level of ICT skills among some ethnic groups. (See paragraphs 80-83)

**15** Our response draws attention to the potential of e-learning to improve retention and to facilitate provision of flexible programmes of learning tailored to the needs of particular individuals, organisations and job roles. (See paragraphs 38-43)

### Pedagogy

**16** While we agree that e-learning has the potential to improve the quality of learning, this will not be realised as a matter of course. Poor teaching will not be masked by technology and attention to selecting appropriate and engaging teaching techniques will remain vital. Moreover, the evidence to date suggests that the essential ways in which people learn are unlikely to change. Therefore efforts should be focused on understanding how existing teaching and learning strategies can best be supported by e-learning, rather than attempting to invent new forms of pedagogy. (See paragraphs 131-133)

### Efficiencies of scale

**17**   In the learning and skills sector, significant efficiencies of scale are unlikely to be achieved given the diversity of learner characteristics, learning needs and learning contexts. 'Quality at scale' should not be anticipated as a short-term or widespread benefit therefore within the learning and skills sector.  (See paragraphs 47-51,57-58 and 111-113)

**18**   In relation to the development of materials to support e-learning, we stress the importance of enabling practitioners to develop and customise materials based on reusable learning objects or using simple tools. International standards will help to enable this. It will take considerable time, investment and commitment to reach agreement on standards and to develop an educated community of developers and practitioners who will share, re-use and adapt materials in a way which will lead to quality at scale. (See paragraphs 49-59 and 123-124)

### Embedding e-learning

**19**   As e-learning becomes part of the mainstream of education, this reality must be reflected and embedded across education and training practice. It must inform leadership, management and staff development and qualifications; curriculum design and development; inspection and quality assessment.

**20**   The embedding of ILT strategies within the mainstream of institutional development strategies is also essential. All FE colleges already have an ILT strategy, and many of them have made significant progress in introducing and developing e-learning. However, there is evidence that some college leaders may incorrectly perceive this to be simply an add-on to their overall curriculum strategy. (See paragraphs 105-108)

**21**   In addition, e-learning is still often not appropriately integrated in the curriculum. Evidence suggests that when teachers use e-learning approaches in the classroom, students only appreciate and engage if these are clearly linked to the curriculum.

If technology is used as an 'add-on' or gimmick, then students will find that what they are being taught lacks coherence and that the technology-based resources are irrelevant. This illustrates the danger of the technology leading the curriculum. Teachers should only design teaching and learning approaches which incorporate technology when appropriate, e.g. when it adds value and meets the needs of the learner. (See paragraph 46, last bullet)

### Priorities for development

**22**   We argue the need for a balance of investment in e-learning infrastructure, content development and staff skills. However, evidence suggests that investment in infrastructure has received more attention than leadership, staff development, curriculum design and fully integrating ILT across the curriculum.

**23**   The most difficult transformations to achieve will be the human rather than the technological ones. The development of staff skills is one of the more difficult areas in which to produce results. Training is necessary at the range of levels - leadership, management and in the classroom - and must secure an understanding of how technology can assist these roles without becoming dominated by the technology. (See paragraphs 88-91)

**24**   Professionals need to understand technology so that they can use it creatively, innovatively, and with confidence to address day-to-day activities. We recommend that the integration of e-learning and technology within all staff development be treated as the key priority in developing the e-learning strategy. (See paragraph 210)

### Credit framework developments

**25**   We believe that the introduction of a credit framework for qualifications will provide the curriculum infrastructure that is essential to achieve the potential of e-learning. We therefore urge that this is seen as an immediate priority within the e-learning strategy. (See paragraphs 180-193)

## Part 2 - Responses to consultation questions

## Chapter 1

## Why is e-learning important?

### Q1: What are your views on our description of e-learning and its benefits?

26   We agree with many of the suggested potential benefits of e-learning but have specific comments to make regarding definitions and potential benefits. We structure our response to this question under the following headings:

■ definitions

■ benefits

■ unanticipated benefits

■ current developments

■ quality at scale

### Definitions

27   The consultation document devotes very little space to defining what is meant by e-learning, or to assessing the current situation. The terms used, and how they are defined, will have a considerable influence on wider educational and public usage and understanding for a considerable time.  We therefore recommend that the strategy seek to establish clear definitions of e-learning and of associated terms. These will provide the essential underpinning for the vision that the e-learning strategy aims to realise.

28   A number of abbreviations are used widely in connection with e-learning, most notably IT, ICT and ILT. Common understandings and definitions of these would also aid communication and we recommend the following definitions for consideration:

| | | |
|---|---|---|
| **IT** | Information Technology | The computer infrastructure, hardware and software used to process data and deliver information. |
| **ICT** | Information and Communication Technologies | The combination of computing and communication technologies (including computer networks and telephone systems) that connects and enables some of today's most exciting systems e.g. the Internet. |
| **ILT** | Information and Learning Technologies | This is used, in further education, to refer to the use of information and communication technologies to support the core business of colleges: the delivery and management of learning. |

29   We suggest that while e-learning be retained in the title of the strategy, and used as a catch-all phrase, clear definitions be established for common terms such as those above. In addition, it may also be useful to define other terms as subsets of e-learning to differentiate ways of delivering or supporting learning with technology. For example:

■ 'ubiquitous learning' can be used to emphasise one of the most significant contributions that ICT can make to learning (i.e. facilitating learning anywhere and at any time convenient to the learner)

■ 'technology-enhanced learning' (now often used by the European Commission) is used to emphasise that the technology is adding to, and enhancing, existing good practice and contributing to 'blended learning'.

*Work in Wales*

30   LSDA worked with Education and Learning Wales (ELWa) to define e-learning and develop its e-learning strategy. It was clear from this experience that there was no consensus as to the definition of e-learning. The decision was made to use an easy definition which could then be elaborated or exemplified depending on the way e-learning was to be used as a tool for teaching and learning.

**31** The agreed definition of e-learning in that context was:

*'The use of electronic technology to deliver, support and enhance teaching and learning.'* The definition encompasses the following:

- Learning in the presence of a teacher, trainer or lecturer, whose delivery method is supported and enhanced by electronic media and materials

- Learning from a remote location through direct interaction with a mentor/teacher via electronic media (such as videoconferencing, e-mail, telephone, interactive television, etc)

- Independent learning via an electronic medium with access to on-line support.

**32** When defining e-learning it is sometimes useful to state explicitly what it is not. For example, simply making information available passively via the Internet could be considered e-information but not e-learning. E-learning implies an active engagement. For this reason the Welsh definition above includes reference to learning support in all contexts.

*Work for FENTO*

**33** LSDA is currently working with FENTO on a revised definition of e-learning for the formation of the new sector skills council. Whilst working on this we have found the diagram in figure 1 a useful illustration of the need to consider information technologies, communications technologies and e-learning within an over-arching information and learning technology strategy. Once this work is complete, we would recommend that it form the basis for a common terminology across government and its agencies.
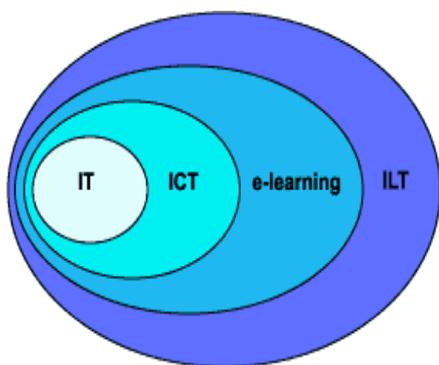


**Figure 1: LSDA eclipse ILT definitions model**

**34** All these abbreviations are used at different times, although they have slightly different meanings in different sectors. As can be seen in the above diagram, ILT encompasses e-learning in that it covers the application to teaching and supporting learning. In the definitions given previously (in FE and across other parts of the post-16 sector) ILT also includes management and leadership.

*More than PC-based learning*

**35** The internet has made, and continues to make, a huge contribution by providing a ubiquitous, easy to-use and relatively inexpensive delivery system for both information sharing and e-learning. Also, as broadband availability and use grows, some of the current limitations regarding the content offered via the internet will disappear. As a result there is a tendency to assume that the usual delivery platform for e-learning will continue to be the Internet and the world wide web. However, some research has suggested that home ownership of PCs in the UK may never rise much above 60%.[1]

**36** Research carried out by LSDA for the Learning and Skills Council (LSC) suggests that interactive digital TV (iDTV) has enormous potential as a future platform for delivering learning into peoples' homes.[2] iDTV may prove particularly effective for reaching out to the disengaged or disadvantaged as well as to those with disabilities and carers.

**37** The ubiquity and increasing functionality and power of handheld technology, including mobile phones and pocket PCs, also offers potential for some very innovative learning delivery. LSDA is the leading partner in a pan-European mobile learning ('m-learning') research and development project supported by the European Commission and the LSC. This m-learning project particularly focuses on the potential of mobile technologies to reach out to young people, who are disconnected from education and training and who have literacy and numeracy difficulties, who cannot be reached via internet based learning. It is therefore suggested that any definition of e-learning should not include an assumption that access will be provided only by computers.[3]

### Benefits

**38**  The consultation document states that 'essentially, e-learning is about improving the quality of learning'. This is certainly a common aspiration when e-learning is introduced. However, the single stated focus on quality could be misconstrued by some as 'better, faster, cheaper' learning which can send out the wrong message and is not easy to substantiate across the broader definition of e-learning. In many cases e-learning is being used because it opens up accessibility rather than improving quality of existing provision.

**39**  In addition e-learning can offer the following important benefits:

- removing barriers to learning, including physical, temporal, psychological and cultural barriers

- offering personalised, flexible programmes of learning tailored to the needs of particular individuals, organisations and job roles

- improved learner retention. The objective of improving learner retention is especially dependent upon how e-learning is implemented.

**40**  It is encouraging to note that ICT skills are now considered by government as a 'third basic skill' along with literacy and numeracy. Evidence from LSDA and University for Industry (Ufi) research suggests that e-learning may also enable learners to acquire the other basic skills because the use of computer technology can be a useful 'respectable' entry point from which other basic skills needs can be addressed. For example, a learner will admit not knowing how to use a computer, but not to having reading difficulties. A sensitive and experienced tutor, in this example, can use e-learning to address both needs.

**41**  In order to be successful, on-line distance learning requires the same careful consideration of support arrangements as paper-based distance learning, although ICT can provide additional tools for delivering the support. The provision of appropriate learner support and opportunities to interact with other learners are particularly important. Distance learning courses often have poor retention and some of the reasons have particular relevance to e-learning, including:

- difficulties of combining work and learning

- the challenge of maintaining motivation in isolation

- the nature of the intake.

**42**  It is stated (in paragraph 14 of the consultation document) that e-learning can contribute to some of the most challenging educational objectives. While this may be possible, there is a danger of over-claiming the potential benefits of e-learning. Realisation of its potential is dependent upon many factors including:

- the use of appropriate and reliable technologies

- the fitness for purpose of the technologies used

- adequate initial and on-going investment

- adequately trained, experienced and available technical and learning support professionals

- appropriate and adequate induction, support and define arrangements for learners

- an element of human interaction, preferably including both mentor/learner contact and peer-to-peer contact

- investment in good quality learning materials which are appropriate for the type, level and context of the learning and the learning preferences of users

- the involvement of  both technical and learning experts in the design and development of e-learning systems and materials to address pedagogic objectives.

**43**  Alongside the description of the potential benefits of e-learning we suggest inclusion of a 'health warning' emphasising that badly designed and implemented e-learning is no different to badly designed traditional learning. Both can lead to worse quality, retention and attainment.

### Unanticipated benefits

**44** An often unplanned and unexpected beneficial side effect of planning for, and implementing, e-learning is that this activity acts as a catalyst for wider institutional change. This can result in quality improvement in all areas of an institution's delivery, including those courses which do not utilise ICT. This is because the introduction of e-learning necessitates:

- revisiting, and in some cases explicitly considering for the first time, the pedagogy underlying delivery

- reviewing the quality and quantity of learning materials available

- reconsidering the needs of both current and potential learners and how these might be better addressed including consideration of:

- types and levels of learner support

- how and when learning activities are available

- how learners' different learning styles and learning preferences can be catered for (see paragraphs 0-0 of this response)

- and how to avoid excluding potential learners who may have particular learning difficulties or disabilities

- examining and improving staff skills.

### Current developments

**45** We recommend that a strategy for e-learning be based upon an assessment of current developments across education and training. LSDA would wish to make a major contribution to such an assessment, drawing on evidence from our work in the learning and skills sector.

**46** For example, we manage the ongoing evaluation of the NLN in the learning and skills sector and play a key role in disseminating information received from a variety of sources. In relation to FE colleges (involved in the first stages of the evaluation) we have found that:

- cross college awareness of ILT has increased since the implementation of the NLN with references in almost every college report to key strands of the programme: college information and learning technology (ILT) strategies, ILT champions in colleges, the acquisition and use of virtual and managed learning environments (V/MLEs) and network connections to the Joint Academic Network (JANET). This illustrates how such developments can lead to a step-change in college operations

- there is steady (although widely varied) adoption and use of ILT and it continues to permeate all aspects of college life. Learners felt that the length of time spent using IT was relational to their understanding; the more time spent the more knowledge gained

- there is further evidence to suggest that, when teachers use e-learning approaches in the classroom, students only appreciate and engage if these are clearly linked to the curriculum. If technology is used as an 'add-on' or gimmick, then students will find that what they are being taught lacks coherence and that the technology-based resources are irrelevant. This shows again, and as we note elsewhere, the danger of the technology leading the curriculum. Teachers should only design teaching and learning approaches which incorporate technology when appropriate, e.g. when it adds value and meets the needs of the learner. (We give more details of the current state of e-learning developments in response to question 15.)

### Quality at scale

**47** The consultation document (paragraph 19) includes a 'quality at scale' bullet point and suggests that 'e-learning achieves economy of scale through wide access to digital resources and information systems, combined with quality through shared tools and resources, and common standards of design and effectiveness.'

**48** There is some evidence to support the possibility of achieving quality at scale when introducing e-learning, particularly in some learning-at-work contexts. However, it would be dangerous to assume that quality at scale is an automatic benefit arising out of the introduction of e-learning.

**49**  Economies of scale are dependent upon the existence and attraction of a critical mass of 'customers' for a particular learning 'product'. Standards, sharing, re-use and adaptability should contribute to quality, facilitate interoperability and reduce re-invention. However, agreement on standards, and development of an educated community of developers and practitioners who will share, re-use and adapt in a way which will lead to quality at scale, will take time, investment, awareness raising, as well as training and committed participants.

**50**  There is a danger that the phrase 'quality at scale' will be misinterpreted and may encourage some managers to see the introduction of e-learning as primarily a cost cutting exercise. LSDA ran ILT seminars for FE college principals as part of the QUILT programme (1996-2001) and found that many principals were hoping to reduce costs by introducing e-learning.

**51**  Subsequent experience demonstrated that cost savings were possible but difficult to calculate and rare. Improved quality and new, or more flexible, services for learners could more easily be achieved. To-date, the research evidence which suggests that e-learning leads to cost reductions is limited to a particular context i.e. where commercial companies need to deliver organisation or job-specific training to large numbers of employees, particularly when these employees are geographically dispersed. (See paragraph 61 of our response)

## Chapter 2

## Why do we need an e-learning strategy?

**Q2: Do you think we have identified the main weaknesses and barriers to the use of e-learning?**

52    We very much agree with many of the identified weaknesses and barriers. It would be helpful if the strategy referenced weaknesses and barriers within education that might impact upon the deployment and success, or otherwise, of e-learning. This will establish that e-learning is not a panacea or whole solution to *all* the challenging objectives detailed in chapter 1, but that it offers tools with which some issues can be addressed more easily.

53    We comment below on specific areas under the following headings:

■  staff development and teacher training

■  assessment practice

■  learning resources

■  meeting individual needs

■  infrastructure

### Staff development and teacher training

54    Failure adequately to incorporate e-learning in staff development and teacher training could prove a potential barrier to the success of the strategy. E-learning should be embedded into staff training in a way that is consistent with the desire to embed e-learning into the curriculum itself. This is discussed in more detail under Chapter 6 of our response.

### Assessment practice

55    As the consultation document states, assessment is an important driver in education. It is unfortunate that there are many examples of courses which allow the learner significant control over the pace, place and time of study but then insist the learners travel to a very traditional examination setting in order to obtain their qualification. In recent years however some examination boards have started to take the potential of e-assessment seriously.

56    Also, as many e-learning solutions are based on the concept of 'bite-sized' learning, there is an increasingly urgent need to introduce a credit framework to allow easy accumulation of small assessment achievements which have a known value relative to other qualifications (see Chapter 8 of our response). We are encouraged by the QCA, LSC and Sector Skills Development Agency (SSDA) setting out a programme of development for such a framework.

### Learning resources

57    We believe that improving education-industry partnerships should contribute to achieving a greater, and more sustainable, supply of good quality learning resources. The European Commission, when funding Information Society Technologies research and development projects insists that these are carried out by consortia involving both commercial and research organisations. UK funders may wish to consider a similar approach to funding learning materials development by consortia, including commercial and education partners.

58    We are pleased that there is not an expectation in the consultation document that commercial learning materials developers, publishing and media companies will naturally provide all the content e-learners will require. We carried out a survey of available e-learning materials for the FEFC at the beginning of the NLN in 2000 and found that some subject areas and some groups of learners did not constitute large enough markets to be of interest to commercial developers. Research by Ufi came to similar conclusions.

### Meeting individual needs

59    A major barrier to the achievement of economies of scale not mentioned in the consultation document, and of particular relevance to the learning and skills sector, is the heterogenous nature of:

■  the learners (including their abilities, cultures and needs)

■  the learning required

■  the learning contexts. (See also paragraphs 48-51 on this issue)

**60**  A strategy which can help overcome this barrier is to support the undoubted desire by tutors and others to develop their own materials based, for example, on 'reusable learning objects'. Our evidence for this stems from experience within the Computers for FE Teachers scheme and the NLN. For example, the NLN has produced a CD showing how effective e-learning materials can be developed using simple, ubiquitous tools such as Microsoft Office applications. Also tools such as JISC's RELOAD are appearing to give non-technical users the necessary skills.

**61**  The consultation document (in section 23) asks the question 'Will the private sector learn how to use e-learning before the public sector?' Many big players in the private sector already use e-learning to a significant degree, particulary where this can achieve economies of scale. [4] (See also paragraph 49)

**62**  However, (as stated earlier in paragraph 51), research evidence suggests that the conditions in which e-learning leads to cost reductions are very limited and unlikely to apply to the learning and skills sector to any great extent.

### Infrastructure

**63**  It is possible to underestimate some of the barriers to the aspirations of the strategy in the international context. The consultation document observes that developing a leading role in global e-learning will enable UK institutions to make some contribution to UNESCO's target of bringing primary education to every child by 2015. Hopefully this will happen but it must be remembered that in many parts of the developing world, the most basic infrastructure required for e-learning, including, for instance, a reliable electricity supply, is unlikely to be available by 2015.

**64**  LSDA has held discussions with the Department for International Development (DfID) regarding their Imfundo project and the potential of mobile learning ('m-learning') for some developing countries which have little or no traditional telecommunications infrastructure but are starting to adopt mobile phones. When combined with satellite communication, wireless devices are now bringing ICT to some very inaccessible places. In the UK, on the other hand, it is correct to say that infrastructure is no longer a main barrier.

### Q3: Is a unified strategy appropriate?

**65**  We agree that there is a need for a unified strategy. In the learning and skills sector, it will be particularly important that the strategy takes account of the full range of providers (training providers, adult and community learning providers, school sixth forms and sixth form and FE colleges), and their different levels of e-learning capacity and staff and curriculum development needs (see also paragraph 71)

**66**  In addition, this new overarching strategy must take into account and build on the initiatives and other existing strategies which have grown up over recent years in the absence of a unified approach. The following paragraphs provide examples of recent strategies and intitiatives that are of relevance and should be built upon in the new strategy.

**67**  The FE sector is the most advanced education sector in terms of e-learning strategy. In 1999 the FEFC (predecessor to the LSC) published an ILT strategy document entitled 'Networking Lifelong Learning'. The main aims of the strategy were to exploit ILT in order to:

- enrich the learning experiences of students

- improve teaching methods and standards

- facilitate better management practices and to assist in the development of a more IT-literate society.

**68**  Following a consultation process, FEFC asked the FE Information and Learning Technologies (FEILT) committee to produce a high level action plan to take the strategy forward.

**69** In 1999 the FEFC estimated that (taking into account expenditure on staffing and telecommunications costs) colleges were already spending around £100 million annually on ILT, representing about 2.5% of turnover. The action plan included an assumption that at least this level of ILT expenditure by colleges would continue during the three year period in which FEFC would contribute an additional £74 million of NLN funding.  In order to qualify for NLN funding all FE colleges were required to develop, and submit for scrutiny, a college ILT strategy.

# CHAPTER 3
# WHAT IS THE STRATEGY?

**Q4: Do you agree with our vision for e-learning?**

**70**    We positively welcome the vision within the document and offer a few comments, observations and suggestions.

### A vision for all learning and skills sector providers

**71**    In the learning and skills sector, there has been a great deal of progress made in embedding e-learning in further education colleges through staff development, support, evaluation and research activities.

**72**    For example, the NLN initiative is now being extended to specialist colleges and to the adult and community learning sector. Eventually it will embrace work-based learning. The NLN Online development (at the planning stage) will attempt to align with related initiatives in the schools sector. LSDA's wider work embraces for example, the use of wireless technology in community settings and mobile technologies by unaffiliated learners. In addition, the planned NLN e-learning research and evaluation calendar will report good practice wherever it appears which is relevant to learners in the sector.

**73**    However, it is clear that there is still work needed to fully achieve the ambitions of the NLN in relation to work-based training providers and adult and community learning providers. This is despite the fact that substantial funds have been allocated for the development of e-learning in the ACL sector and that progress is being made.

**74**    It will be essential that the vision embraces the whole of the learning and skills sector. As development needs vary, these must be addresssed appropriately taking into account the relative positions on the e-learning curve in different parts of the learning and skills sector.

### Clarity and terminology

**75**    As we have stated elsewhere (paragraphs 27-36), a clear definition of e-learning would help ensure that the vision remains grounded in practical applications of e-learning that incoporate more than solely computers.

**76**    The paragraph about empowering learners (bulletpoint 1 of paragraph 33 in the consultation document) could be improved if it stated that '…people of all ages could have more control over…' rather than  '…people of all ages could take more responsibility for …' ; the latter gives the impression that the learner is responsible for the shortcomings of the existing system.

**77**    We are concerned about the inclusion of the paragraph headed 'achieve better value' (bulletpoint 4 of paragraph 33 in the consultation document), as economies of scale are not always achieveable and we do not believe that improved quality is an automatic result of introducing e-learning. (See paragraphs 47-51 earlier in our response)

### National and international standards

**78**    A 'second principle' is stated as 'to establish national standards…to improve the quality of e-learning'. It is essential that national standards are consistent with, and contribute to, the developing international standards for learning materials development and interoperability. It may be questionable whether national standards are required as people in the UK and worldwide have been working on international standards for some time.

**79**    The vision is also entirely UK-focused and could be enhanced by including a desire to use borderless delivery of learning to improve global development and understanding. There is a reference in the consultation document to contributing to UNESCO's target of bringing primary education to all children by 2015; this could be a specific example following on from a broader vision statement.

**Fully realising e-learning's potential to remove barriers to learning**

**80** Although there are references to inclusion in the consultation document, it is disappointing that the vision does not state a desire or explicit action areas that will help take learning to the disconnected and excluded in our society. E-learning has a uniquely powerful contribution to make to inclusion by removing physical, psychological and cultural barriers often associated with traditional education. Our experience is that this is one of the main reasons to celebrate the potential of e-learning.

**81** Although the consultation document includes an annex on disability in relation to the e-learning strategy, there is little reference to disability throughout the main body of the text and no mention of the Disability Discrimination Act (DDA). The requirements of the DDA could have a significant impact on the way in which e-learning materials are developed and deployed, as well as the way in which e-learning is designed and implemented by institutions.

**82** Under the terms of the Act, organisations must ensure that they do not discriminate against a disabled person by treating them "less favourably" than others or by carrying out a function which may result in a less favourable outcome. However, it is possible that, for example, e-learning materials which include visual material without adequate supporting explanatory information may be judged to result in a very much less favourable experience for blind people than for other learners.[5]

**83** Recent DfES research indicated significant differences in the use, ownership, experience and awareness of ICT amongst different ethnic groups.[6] One research finding was that South Asian people were significantly less likely to have formal training in ICT skills. While we are aware that the overall aim of the e-learning stratgy is to embed e-learning to meet the needs of all learners, including those for whom barriers exist, we would suggest that the strategy make a more explicit reference to supporting the needs of ethnic groups that may require extra support to fully utilise e-learning.

**Q5: Will the proposed action areas enable the vision to be realised?**

**Strategic action areas**

**84** The identification of strategic action areas provides a useful framework for the strategy. It focuses attention on the key areas where targeted action is most likely to result in further development of e-learning and success in embedding the use of ICT within teaching and learning. It also allows different sectors to agree on some core values and possibly collaborative strategic approaches.

**85** We believe it is important for all of the strategic action areas to be addressed simultaneously and with the same level of enthusiasm. Such an approach would correspond to the McKinsey 7-S framework value-based management model, which some organisations have found effective for strategy re-alignment.[7]

**86** In the 7-S framework (see figure 2) the seven S's stand for strategy, structure, systems, style, skills, staff and shared values, with shared values as the interconnecting centre of the model. This suggests that the success of any unified e-learning strategy could depend upon the extent to which the education and training sectors involved recognise and commit to a set of shared values which guide the parallel emphasis on agreed action areas. This supports our view that creation of a clear vision with buy-in from key partners is a fundamental starting point for establishing an effective e-learning strategy.
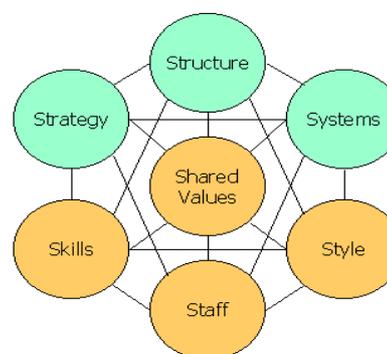


**Figure 2: The McKinsey 7-S Framework**

**87**    The approach is also reflected in a simpler model (see figure 3) used with effect by LSDA over many years. With effective learning and the needs of the learner at its centre, the triangle reflects the need to keep in absolute balance investment in e-learning infrastructure, content development and staff skills – all within a context of a coherent strategic approach and culture.
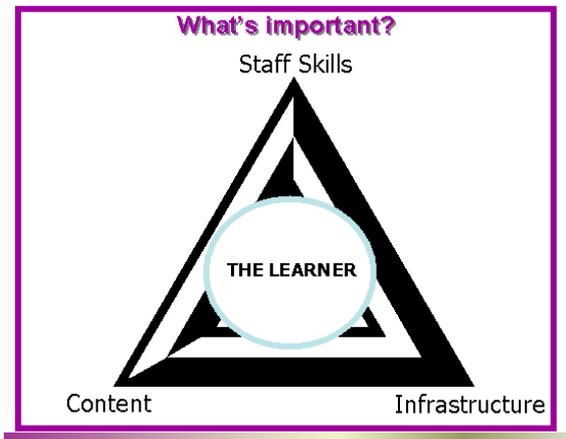


**Figure 3: The LSDA Triangle**

**88**    In achieving the widespread use of e-learning we perceive there is a hierarchy of difficulty between the three substantive components of infrastructure, content and staff skills. The most difficult transformations to achieve will be the human rather than the technological ones. This is supported by the British Educational Communications and Technology Agency (Becta) annual survey which confirms improvements in infrastructure but indicates that the sector has concentrated on this to the detriment of leadership, staff development, curriculum design and integration of ILT across the curriculum.

**89**    Transforming teaching and learning through the application of technology requires a change in culture. The development of staff skills and changing attitudes are some of the most difficult areas in which to produce results.

**90**    Practitioners need to understand technology so that they can use it creatively, innovatively, and with confidence to address day-to-day activities. Training is necessary at the range of levels - leadership, management and in the classroom - and must secure an understanding of how technology can assist these roles - without becoming led by the technology.

**91**    We recommend that the integration of e-learning and technology within all staff development be treated as the key priority in developing the e-learning strategy

**Responding to learners' needs**

**92**    In relation to learners' needs and learning outcomes, we agree that technology can and should be employed to enable smooth transitions between different learning experiences. We include some observations about the potential of smartcards in response to question 9 (see paragraphs 155 to 158).

**93**    Discussions of learners' needs, digital resources and standards all need to take into account the DDA (see paragraphs 81-82). Overcoming the barrier of disability is an area where technology can make a huge and unique contribution. Indeed, for many learners with disabilities, learning would be impossible without assistive technologies.

**E-learning and basic skills**

**94**    In the strategic action area of 'transforming teaching and learning', our current work for the Adult Basic Skills Strategy Unit (ABSSU) on e-learning for basic skills teachers provides examples of the issues, difficulties and possible solutions. We are developing an 'audit and review' process within the ABSSU 'exploring e-learning for literacy, numeracy and ESOL tutors' project.

**95**    One proposed outcome of this project is to recommend to ABSSU a strategy that can be implemented to 'promote effective teaching to realise e-learning and increase learner achievement in discrete and embedded adult literacy, numeracy and ESOL provision'. This will require the identification of  relevant experts, bodies and current developments in the use of the FENTO Information and Learning Technology standards and effective use of ILT in teaching.

**Engaging all stakeholders**

**96**  The consultation documents suggests a need to 'engage all stakeholders in debating what e-learning can offer them, what role they can play in embedding e-learning and what kind of suport they need to do it'. We would suggest a series of national and regional events to facilitate the development of a shared vision. These would also offer an opportunity to make all stakeholders, leaders and practitioners aware of progress to-date including evidence from evaluation work.

**97**  More consideration could be given to ways in which commercial e-learning developers and publishers can be encouraged or supported to collaborate within the education sector to improve, and increase the range of, e-learning materials and systems. The expected impact and roles of other digital media and service developments and initiatives (for example, freeview digital TV, satellite and wireless services, 3G mobile phones and e-government) should also be given more explicit consideration.

# Chapter 4

## Leading sustainable e-learning implementation

**Q6: Are the proposed actions for leading sustainable development feasible and appropriate?**

98    We structure our response to this question under the following headings:

■ leadership and management

■ embedding the use of technology

■ infrastructure

■ resourcing e-learning

■ materials development

■ collaborative partnerships

### Leadership and management

99    We agree that it is very important for education leaders to develop their own skills as well as a vision and strategy for their organisation. LSDA manages the evaluation of the NLN and one of the findings of this evaluation, based on a sample of 40 FE colleges, is that committed, IT-aware leadership can have a huge effect on the successful incorporation of e-learning across the college.

100    There is also evidence that many leaders do not engage with e-learning because of a lack of understanding, or because they need assistance to overcome barriers to conceptualise issues associated with the management of e-learning.

101    We are in the second year of running an NLN funded pilot programme aimed at college senior managers in the 'Strategic Leadership of ILT'. A key message from this two-year pilot is that 'leaders cannot vision what they don't understand'. Another message emerging is that there is often confusion in the distinction between 'technology as a management issue' and the 'management of technology'. There is also some evidence from this work that many management trainers share this confusion and, as a result, tend to leave all e-learning issues (including the management of e-learning) in the hands of e-learning or computer specialists.

102    Management training must address the use and applications of technology both to the curriculum and to administration of the institution. Application of technology is too fundamental to the management and delivery of education to be left to IT departments or computer specialists. To address this, the Centre for Excellence in Leadership is undertaking an intensive research programme in order to establish the range of services it will offer to the sector.[8]

103    CEL supports the view that the long-term development of e-learning will require organisation managers to take a strategic approach and that planning new ways of working in response to the new technology will require a complex mix of leadership and management skills. As a new organisation, CEL is exploring the most appropriate approach to take in order to ensure that leadership development facilitates strategic planning for e-learning and gives leaders and managers the tools to enable them to improve learning through the use of new technology.

104    Immediate work being undertaken by CEL includes action to:

■ review the work carried out by the NLN, National College for School Leadership (NCSL) and Becta

■ evaluate the pilot work on strategic implementation of ILT for college senior management teams currently being run by NLN

■ investigate the status of Adult and Community Learning and Work Based Learning providers regarding the development of ILT strategies

■ based on the above, develop appropriate programmes, content and materials for delivery by CEL.

### Embedding the use of technology

105    All FE colleges already have an ILT strategy, and many of them have made significant progress in introducing and developing e-learning. However, some college leaders may incorrectly perceive this strategy simply as an add-on to their overall curriculum strategy.

**106** Often the best institutions are not those with the most and the latest technology but those that have staff who can use technology as appropriate and leaders who are business and curriculum experts. Further work is needed to expand and fully embed e-learning provision but many colleges now have solid foundations on which to build.

**107** We support the need to encourage leaders to form partnerships to share e-learning tools and resources, and to develop and adopt good practice. We also believe that an on-line community, such as Talking Heads in the school sector, could be a useful mutual support mechanism for other leaders.

**108** Support and guidance from outside individual institutions can be very helpful to leaders and management in facilitating the sharing of good practice. For example, several Regional Development Agencies (RDAs) have e-learning strategies and could provide strategic help in guiding various economic and social initiatives.

### Infrastructure

**109** We would warn against assuming that there will soon come a time when everyone has broadband internet access at home. Whilst it is true that increasing numbers of individual learners have home internet access, some research suggests that the percentage of UK households with internet access may never rise much above 60%. Also whilst broadband is now available in many parts of the country, and becoming available elsewhere rapidly, it is not free and therefore not within the reach of all families.

**110** In this context we re-iterate that in future, interactive, digital television may become an important delivery platform, particularly in the context of widening participation and especially where the target audience includes carers and people with disabilities. Community-based on-line centres (including UK On-line Centres and learndirect centres) will also continue to have an important role in bridging the digital divide.

### Resourcing e-learning

**111** We very much agree with the statement that: 'the goal of long-term affordability of universal e-learning is not achievable through the current means of short-term top-slicing and central capital funding.' As previously stated however, we are concerned by the implication that collaboration and economies of scale will always result in sufficient savings to cover all the costs of e-learning. There is very little research evidence to support such an assumption.

**112** The consultation document refers to research by the US based Center for Academic Transformation. This involved large institutions (mainly universities) redesigning the delivery of courses mostly in academic subjects (Sociology, Mathematics, Computer Literacy, American Government, Astronomy, Statistics, Psychology, Chemistry, Algebra). The redesign involved lectures being replaced with 'a variety of learning resources, all of which involved more active forms of student learning or more individualized assistance. When the structure of the course moves from an entirely lecture-based to a student-engagement approach, learning was less dependent on the conveying of words by instructors and more on reading, exploring, and problem solving by students'.

**113** It is predictable that such re-design would lead to improved quality and results and, where very large numbers of learners are involved, cost savings.

**114** Research also indicates that it may be possible to use ICT in particular situations to cut costs through standardisation and economies of scale. This has been achieved by commercial companies when providing standard, job specific training to large numbers of employees. The experience of organisations like Tektra, which use ICT to deliver a very restricted set of learning opportunities, and which offer only a limited set of flexibilities, suggests a context in which comparable context in which efficiencies can be achieved.

**115** However in the learning and skills sector where groups of learners are generally heterogeneous and where current practice is not delivery in big lecture theatres, efficiencies of scale are unlikely to be widespread. (See also paragraphs 47-51 and 57-58)

**116** We are encouraged by the statement: 'DfES will continue to model and evaluate the long-term costs to institutions of embedding and sustaining e-learning' (in paragraph 50 of the consultation). We would welcome an opportunity to contribute to this work drawing on experience and expertise gained whilst working with and for FEFC, LSC and Ufi on funding.

**117** We believe that to date insufficient consideration has been given to the development of appropriate funding models for e-learning. Funding bodies have had to make some pragmatic decisions – for example, the FEFC concept of Enhanced Guided Learning Hours, to address immediate problems of delivery not anticipated when funding formulae were drawn up. However, more research is needed to plan funding approaches as more and different use of technology changes the assumptions on which these formulae are based.

**118** Development of funding models is inextricably linked to the need, identified earlier (paragraphs 27-37), for clear and detailed definitions of what is meant by e-learning. Indeed without recognition that the umbrella term e-learning covers a variety of quite different things, a unified strategy could be actively harmful.

**119** We believe it is necessary to consider where e-learning fits in the context of classroom, flexible, open and distance learning. E-learning can occur in a variety of settings and the issues raised are different in each case. This is particularly true for funding issues. In the long term the issues posed for funding, and also for management, by whether an activity takes place at a distance or in a classroom are much greater than those posed by whether distance learning is paper-based or facilitated by technology.

**120** On occasions it is easy to assume that funding is the critical issue. The consultation document proposes to 'help education leaders tackle the funding models that restrict innovation'. In order to provide such help it will be necessary to carry out a clear analysis of what these restrictions are and where they might be encountered.

**121** LSDA has worked with the National Rates Advisory Group (NRAG) for some years. This group took the view that it was not necessary to develop an alternative approach to funding for Learndirect provision. There has been a need, when working with Learndirect, for technical discussions on, for example, what is meant by attendance or retention in the context of web-based distance learning. It should be noted however that these questions have not arisen in other e-learning contexts. For example, if a teacher uses web-based materials in the context of classroom-based instruction this issue does not arise

**122** It may be that one of the most significant ways in which ICT will affect the funding of learning is the capacity of smart cards to hold a secure record of an individual's learning activity and outcomes. This has potential direct benefits for the learner. In terms of funding it has the potential to tailor the allocation of public funding to individuals in the light of their learning biography. It makes, for example, the entitlement to a first level 2 qualification, as proposed in the recent Skills Strategy, more practicable to implement.

### Materials development

**123** Several sorts of e-learning, but not all, raise a specific issue about the high costs of developing materials. This is, to some extent offset by the fact that, once developed, the materials can be used any number of times, by any number of learners at no extra cost. If designed with this in mind, materials may also be adapted or translated for new contexts or subjects. There is, at least in theory, a need to consider whether current funding arrangements allow an investment now that can be recouped through savings over several years. The first point to note however is that this is not unique to e-learning. The cost of acquiring a site and putting up a new building represents an investment that will yield value over a period of years and we have established mechanisms for dealing with this.

**124** There is, however, a lack of evidence on 'lifecycle costs' i.e. a shortage of robust evidence on the extent to which initial investment can yield savings through mass application. Some of the early Learndirect products must now be reaching the stage in their lifecycle where such calculations can begin to be made. It is our view that if robust evidence showed that investment in aspects of e-learning was highly likely to pay off in the longer run, providers and financial markets would be capable of arranging the necessary finance. (See also paragraphs 60-61)

### Partnership working

**125** The strategy places strong emphasis on the role of collaborative partnerships to effect change. While we agree that it is difficult for single institutions or organisations to realise the full potential of e-learning acting alone, particularly in the area of efficiency, we suggest some cautionary notes relating to partnership working which arose from a recent LSDA seminar entitled 'Partnerships: benefits, limitations and doing it better'.[9] Although the seminar was about generic partnership working rather than specifically about e-learning partnerships, a number of issues from the seminar may apply to the implementation of the e-learning strategy.

**126** Successful partnerships and collaborative working needs to be based on a clear sense of:

■ the purpose and vision of the partnership

■ the added value it is intended to achieve

■ what each partner is looking to gain for their own organisation

■ the respective contribution of each partner.

**127** In addition clarity about the lines of accountability for delivering outputs was found to be vital. This will be particularly important to the effective roll out of the e-learning strategy.

# Chapter 5

# Supporting innovation in teaching and learning

**Q7: Are the proposed action areas for supporting innovation in teaching and learning feasible and appropriate?**

**128**　We agree with the vision that teachers should not be 'tied by the physical restraints of the classroom' (paragraph 55 of the consultation document), but would suggest a change of wording to say that we must 'create the conditions that allow the teaching profession to have more influence (or control or choice) in decisions about the way teaching and learning is carried out'. The statement that they should 'take more responsibility' seems to suggest that all teachers are being inflexible when in many cases they may not have been allowed the time, resources or discretion to vary delivery.

**129**　However some flexibility and innovation will have far reaching implications. For example, if learners are to be offered support via a helpline, synchronous on-line communication or text messaging outside normal teaching hours, this will have implications for conditions of service and may require additional staff.

**130**　We structure our comments on specific proposed actions in the consultation document under the following headings:

- Embracing the new pedagogies
- Removing barriers to learning
- Establishing the appropriate evaluation methodologies
- Build a practice-oriented research environment

## Embracing the new pedagogies

**131**　We welcome the recognition that teachers and lecturers need tools which would enable them to experiment with pedagogical design.  They should also be able to tailor learning materials to suit their needs, and those of their learners, and to pick and mix learning objects to build modular content. Research has shown that this encourages a sense of ownership of learning materials and makes it more likely that teachers will use them and embed them within blended delivery.

**132**　Some argue that e-learning implies new forms of pedagogy, which some researchers have referred to as 'e-pedagogies'. However, it can be argued that the essential ways in which people learn will not change. Therefore, rather than attempting to reinvent pedagogy we should be reviewing existing teaching and learning strategies and asking which of these are best supported by e-learning.

**133**　Advocates of, for example, social constructivism are likely to find that many-to-many electronic communication (e.g. via on-line discussion groups, net conferencing, shared applications and documents, etc.) provides very powerful tools to support and expand the reach of their preferred pedagogy. A useful side effect of introducing e-learning can be explicit consideration, or reconsideration, of appropriate pedagogy (as referred to in paragraph 44 earlier in this response).

## Removing barriers to learning

**134**　We agree with the stated view that developments targeted on disabled or disaffected learners can offer significant benefits to all learners, including catering for a range of learning styles or preferences. We suggest that the consultation document refer to the DDA. Organisations developing e-learning materials and systems should be aware of the Act and take care that their design and development decisions do not exclude people with disabilities. Failure to consider and resolve such problems at the earliest stage possible is very much more expensive and time consuming than ensuring they do not occur.

## Establishing the appropriate evaluation methodologies

**135**　We welcome the recognition of the importance of evaluation of both large e-learning implementations and learners' experiences. LSDA has managed the evaluation of a number of national e-learning initiatives, including NLN, and has collaborated with, for example, Sheffield Hallam and Wolverhampton Universities and other organisations (for example, NIACE) in evaluations. We are also managing a  new LSC/DfES survey investigating the impact of e-learning on the lives, work and learning of up to 400 staff and 1000 learners in colleges.

**136** However as e-learning becomes more mainstream it should be assessed as part of overall inspection and quality assurance mechanisms, not separated out and analysed as an individual component. There is a need to develop our understanding of what effective learning is in general as well as considering how technology can support and facilitate learning. We are about to embark on a project funded by LSC to explore issues of 'innovation' in teaching and learning. This project will attempt to show what new or insufficiently recognised developments (and not just in the area of technology) can enhance effective learning.

**137** In response to the proposal to build a community of practice on e-learning research and evaluation methodology (action area number 19 in the consultation document) we would argue that an embryonic community of practice already exists and we hope to contribute to the further development of this. The NLN evaluation working group has agreed the need for a research and evaluation 'calendar' of related activities which would also comprise a database and web site to allow searches (for example) of evaluation outcomes and good practice in specific areas. We are currently producing a business plan for this development together with an outline of what should be included in related activities over the next three years.

### Build a practice-oriented research environment

**138** For many years, LSDA and our predecessor organisations have specialised in practice-oriented research involving college staff as action researchers. We are, therefore, very heartened by the consultation document's recognition of the importance of this type of research. Our experience of college-based projects, including those specifically focussing on e-learning funded under the QUILT and NLN programmes, has shown that that these are an excellent vehicle for both staff development and innovation as well as a source of valuable research evidence and good practice exemplars.

**139** We are disappointed that action to build a practice-oriented research environment is proposed as a long-term priority, as opposed to an immediate action area. We would also strongly advise that the learning and skills sector and research and development organisations with practice-oriented research experience such as LSDA and Becta should be encouraged to collaborate in this research environment. LSDA routinely leads or contributes to collaborative research and development programmes some of which include commercial and HE partners. The m-learning project for example includes LSDA, one UK and one Italian university and commercial companies based in the UK and Sweden.

**140** Previous e-learning staff programmes, including QUILT and both phases of the NLN, have shown that action-based projects can produce very effective results. The evaluation of the 'QUILT projects' (1997-2000), the NLN 'Innovative ICT projects' (2000-2002), and the current NLN 'Q projects' (2002 onwards) show that externally monitored funding can produce major and influential change.

**141** The reasons for the success of projects include:

- The fact that staff feel rewarded by involvement in such projects (which, apart from clear results within and across institutions, also carry a degree of kudos) and this improves motivation and performance

- Release of staff time is essential and the vital component of all e-learning staff development

- Action-based research based on professionals' working knowledge is an effective method

- Dissemination can bring success to wider audiences.

**142** The organisation of on-line communities linking subject experts and teaching practitioners (proposed action area 24) could build on the existing subject centres in the HE sector. However in some subjects, it would be better to build new cross sector groupings (for instance; schools, colleges, community-based providers, work-based learning providers and HE) based on existing LSC programme areas (see paragraph 107 of our response).

## Chapter 6
## Developing the education workforce

**Q8: Are the proposed action areas for developing the education workforce feasible and appropriate?**

143   We support the recognition in the consulation document that the development of the whole workforce is essential. We agree with many of the proposed actions for developing the education workforce and make more detailed comments under the following headings:

- Initial teacher training
- Staff development and CPD
- Embedding e-learning

### Initial teacher training

144   We feel it is imperative that e-learning is made an integral and mandatory component of initial teacher training (ITT). This implies coverage of a wide range of e-learning delivery methods within the ITT curriculum, and that teacher trainees should receive some of their training through an e-learning medium. Evidence from our work on ILT standards development indicates there is a definite lack of take up of e-learning in ITT and at best it forms part of a 'bolt on' module to courses, or is optional. Such a situation is not conducive to building up capacity in the education workforce.

145   The DfES Standards Unit is currently consulting on 'The future of initial teacher education for the learning and skills sector', which we will be responding to in due course, and this provides an opportunity for two related strategies to be developed with consistency.

### Staff development and CPD

146   Inadequate training and lack of incentives to encourage teachers and lecturers who wish to adopt e-learning are correctly indentified by the consultation document as significant barriers to progress.

*Adequate training*

147   It is very important that this training focusses on the use of ICT to support teaching and learning rather than on technology, although some staff do still need basic ICT literacy training. In the FE sector LSDA, Becta and JISC have been providing targetted training for many years via the QUILT and NLN programmes. Training for teachers and lecturers is improving but, as the consultation document highlights, more training will continue to be required.

*Incentives*

148   The need for incentives to encourage some staff to engage with e-learning is clear. Incentive schemes might include:

- pay incentives or one-off payments
- enhanced job opportunities through the creation of recognised roles and career paths
- the provision of subsidised computers or laptops.

*Time for skills development*

149   However, our experience suggests that while many staff are very willing, even eager, to develop e-learning skills, lack of time is consistently cited as the most significant barrier preventing this. This includes time to read, think and experiment as well as time to develop, implement and evaluate.

150   Within a longer term strategy we suggest some mechanism be developed to release time for teaching staff to undertake professional development in the area of e-learning. It is important that time is released in order that staff can feel comfortable and confident in the application of technology. It is also important that this is not confused with, or limited to, the acquisition of IT skills. Individuals and institutions could also be encouraged to use a web-based ILT self-assessment tool mapped to the FENTO ILT standards. An example of this has been developed by NLN in collaboration with LSDA that can judge a teacher's stage of development and readiness for using technology in teaching.[10]

**151**  Providing opportunities for professional development with the option of accreditation may be attractive to potential learners and help to support Succes for All objectives to increase teacher qualifications. Accreditation needs to be within an ILT qualifications framework which recognises pedagogical application of technology at different levels for different types of staff. We are carrying out initial work in this area on behalf of the NLN which has come up with a proposed initial framework for qualifications. The design aims for level 4 acheivement and accreditation whilst acknowledging the acquistion of underpinning knowledge and IT skills at a lower level.
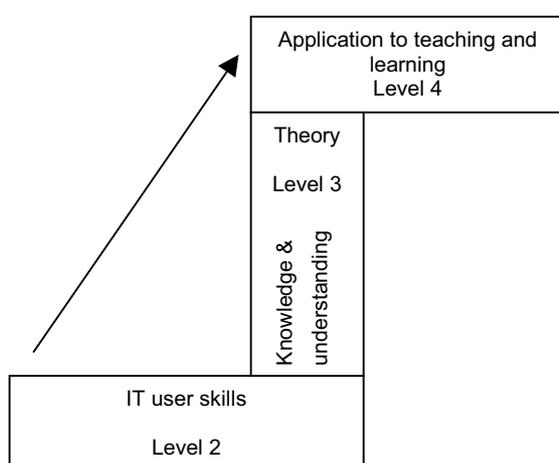


**Figure 4: 'Step-diagram' for ILT qualifications development**

**Embedding e-learning**

**152**  Teachers can be reluctant to use e-learning techniques due to inadequate skills or confidence in the technologies. Embedding e-learning in ITT and CPD can be an effective way to counteract this. It is possible to use technology inappropriately or in a way that results in no significant gain. It is therefore important that teachers understand when to use ICT tools, systems and materials, and when the quality, effectiveness or reach of leaning will benefit from this approach.

**153**  In the same way that e-learning should be embedded alongside other skills and techniques into professional development, similarly, students need to have e-learning 'embedded'. In this way, they can expect to 'e-learn' when this is the best approach to the situation.

**154**  LSDA has embedded e-learning for staff in its own programmes of staff development. Examples include the action project and subject specific approaches (referred to earlier in this response). The current project for ABSSU encourages teachers to develop e-learning practices where it enhances literacy, numeracy and ESOL learning.

## Chapter 7
## Unifying learner support

**Q9: Are the proposed action areas for unifying learner support feasible and appropriate?**

**155** We fully support the vision (in paragraph 79 of the document) that aims to 'offer learners advice and guidance in a supportive environment that provides a seamless transition between school, college, work-based learning, community-based learning, university and lifelong learning'. We believe that electronic portfolios could help make this transition between, and transfers within, education and training sectors more seamless. These need not be only web-based. Portfolio information could be conveniently stored and carried by learners on smartcards or on mobile phones.

**156** Smart cards could be used imaginatively to allow learners to:

■ record their achievements

■ build up an 'e-portfolio'

■ prove their entitlement to fee remission or free school meals

■ prove their identity when they take computer-based assessments, undergo interviews for employment or educational progression, or require proof of prior experience and proficiency when starting a new job.

**157** In addition, by allowing achievement to be recorded at different times and in different settings, smart cards could support government priorities in education and training by:

■ helping to administer the level 2 entitlement proposed in the Skills Strategy

■ supporting flexibility in the 14-19 age range (for example for learners moving between school and college for particular programmes)

■ formalising the recognition of prior learning.

**158** Smart cards have particular potential to record work-based learning, which may be episodic and achieved at various times and places. Smart cards are discussed in more depth in our response to the Office of the e-envoy's draft policy framework document entitled *'Smartcards: enabling e-government'*.[11]

**159** There is ongoing discussion in the learning and skills sector over the benefits and disadvantages of a 'unique learner number' (ULN), which also has relevance to some potential uses of smart cards. This theme was raised in the recent Skills Strategy White Paper, which referred to a feasibility study on different approaches to introducing a ULN which was due to be completed at the end of July 2003.

**160** We strongly support the principle of the creation of a complete record of individuals' engagements in learning throughout life, such as might be facilitated by the development of a Unique Learner Number (ULN). LSDA has been represented on the DfES ULN Project Board, and has contributed to the consultation document on the issue that was published by DfES recently. We will be responding to this formally in due course.

**161** In the meantime, we agree with the caveats (listed in paragraph 85 of the document) concerning the many complex and sensitive issues that will need to be surmounted if the ULN is to become a reality, and especially those related to privacy, data protection and 'identity theft'. Indeed we suggest that the concept is unlikely to secure widespread public support unless real and tangible benefits to learners are apparent in terms of easing access to learning, choice of options, transfer of credits, and helping to ensure that entitlements to funding and other support are met promptly and efficiently. A smartcard that gives electronic access to individualised data on past learning and achievement offers a potentially attractive and acceptable facility for learners.

**162** There are, of course, major further potential benefits to research organisations that could accrue from a ULN, for instance, in terms of facilitating research into student pathways. However, the main justification for implementing a ULN must remain the benefits it can offers for individual learners in terms of increased access and participation.

## Chapter 8
## Aligning assessment

**Q10: Are the proposed action areas for aligning assessment feasible and appropriate?**

**163**   We welcome the close attention to the issues that relate to assessment and believe that technology has huge potential to contribute to the development of assessment techniques. We agree that actions to align assessment must be an integral part of a unified e-learning strategy. We see in-built formative assessment as one of the strengths of e-learning. We believe that it is important to recognise that the accessibility and flexibility of summative assessment could also be greatly improved by technology.

**164**   We believe it is important to that assessment not regarded as being separate from the learning experience. Assessment is an integral part of learning and should be considered with the context and subject matter of learning in mind. E-assessment methodologies have implications for teacher training, staff development, curriculum design, the learning process, the examination system and information sharing between organisations.

**165**   Formative assessment is a feature common to most e-learning systems and learning materials. Some of the emerging e-learning platforms e.g. mobile devices and digital television, can extend the reach of formative assessment by providing feedback on progress to learners where and when they require it.

**166**   Computer-based diagnostic assessment, as exemplified by the Skills for Life diagnostic tool, can also be an extremely useful tool in comparison to paper-based approaches which can be time-consuming.  Growing evidence shows that an on-screen approach is often preferred by learners.

**167**   E-assessment offers the possibility of learners accessing assessment from geographically diverse locations. In work-based learning, for example, for those on Modern Apprenticeships, this can be beneficial where learners are not available to return to a testing centre from the workplace. Furthermore, on-screen tests can appear less threatening to learners than paper-based methods and may reduce some of the anxiety caused by the traditional examination setting.

**168**   We agree that the action research pilots should be used to test appropriate use of formative assessment techniques. In addition, research and staff development is needed to establish productive ways to back up computer-mediated assessment with individual support from a teacher in the context of blended learning. The development of an e-learning teaching strategy must include the professional development of effective e-assessment skills for teachers. CPD as exemplified through, courses, conferences, consultancy and web-based learning opportunities will need to be informed by what is known to date about good practice and by what is developed by action research.

### Summative assessment

**169**   We believe that the strategy should include more consideration of summative assessment.

**170**   Whilst using ICT for summative assessment may create some efficiency gains in the long term, developments in assessment techniques must retain the aims of achieving reliability and validity.  Furthermore, the diverse nature of assessment demands, posed by a range of subjects and range of learners, should be matched by a diverse range of assessment techniques. We therefore strongly support the exploration of other forms of ICT-based assessment that can be used. The development of action research approaches to test various forms of formative assessment will clearly be helpful here but might well be backed up with an investigation of the development of summative approaches that might be used where appropriate.

**171**  The place of e-learning and e-assessment will need to be fully investigated within unitised credit frameworks. Such structures have the potential for administrative complexity. The development of on-line administration as well as innovative e-assessment techniques will be essential.

**172**  Some issues to be addressed when considering the use of e-learning in the examination system include:

■ unit specifications and examination questions would have to be designed to take into account the technology being used

■ learners would have to be familiar with and have equal opportunity in using the technology

■ invigilators would have to be aware of, and keep up with, new ways of cheating made possible by new technologies.

**173**  When using summative methods for accreditation purposes it will be necessary for awarding bodies to develop sufficiently robust systems for identifying the authenticity of candidates sitting tests. The range of issues that would need to be addressed would be comparable to the introduction of calculators into the examination system in the 1970's.  These would include whether learners should be allowed to use their own laptops and what software of materials should be available.

### Aligning assessment to pedagogy and subjects

**174**  We welcome the commitment to explore the alignment of e-assessment methods to specific subjects (in paragraph 39 of the consultation document). In both formative and summative assessment methods, the suitable alignment of ICT-based assessment approaches to specific subjects will be very important. As the consultation document states 'one size will not fit all', therefore subject-based assessment models may need to be developed and evaluated.

### E-learning skills

**175**  In addition to clear definitions of e-learning and associated terms, we believe that, as it becomes mainstream, the skills required to engage in e-learning will acquire greater significance. Therefore, a clear definition of e-learning skills is essential and consideration should be given to establish e-learning skills as a subset of ICT basic skills. Clarity about the nature of the skills required will assist teachers and trainers to be more systematic and effective in supporting their development and assessment. These skills will evolve rapidly as technology and ways of working with it develop, so will need to be kept under review. The definition should encompass all platforms of e-learning and be sufficiently flexible to adapt to future technologies.

**176**  It is well documented that assessment requirements can act as a deterrent to people participating in learning. LSDA carried out a research review around this issue entitled: *Do summative assessment and testing have a positive or negative effect on post-16 learners' motivation for learning in the learning and skills sector*.

**177**  Although the research project was not specifically related to e-learning, there are some general conclusions from the literature which need to be taken into account in the development of an e-assessment:

■ 'assessment' is not an easily delineated or identifiable body of work in the post-compulsory sector

■ learners prefer coursework assessment and practical competence-oriented assessment over course tests- e-assessment could have a strong role to play here

■ many fear tests and there is evidence that this can precipitate drop-out and deter progression- further research may be necessary to see if e-assessment could improve retention

■ we know very little about how assessment procedures and processes are operationalised and experienced by learners (and indeed tutors) in action which again leaves an unanswered research question.

- much more needs to be done at local level on the professional development of trainers and tutors in the field of assessment so that the formative potential of coursework assessment and portfolio completion might be realised.

**178** All literature, across all sectors, stresses the importance of monitoring, support and feedback on progress in improving retention and achievement. E-assessment policies and methods which encourage the active engagement of tutors and learners in such feedback processes will be more effective in improving retention and raising achievement than those which do not.

**179** It is worth noting that we have recently started a new LSRC research programme: *The impact of different modes of assessment on achievement and progress in the Learning and Skills Sector*.[12] Although e-learning is not a major focus, there will inevitably be some attention paid to e-learning within the programme. The research proposed is a major study of different modes of assessment in a range of learning and skills sector settings, which will explore the following:

- Do people develop assessment preferences, and do these preferences impact on their choice of learning programme. If so, what are the different methods of assessment and experiences that may have an influence?

- Does the context of the learning influence the style of assessment? Does the mode of assessment have an effect on how learners progress and achieve?

- Does the perception of assessment styles and approaches affect an individual's willingness to start learning?

**A credit framework to recognise achievement**

**180** We welcome the recognition that a credit framework is required to fit e-learning, and believe credit frameworks have significant potential in the context of e-learning. LSDA and its predecessor bodies (FEDA and FEU) have long argued the benefits of a nationally recognised system of credit encompassing all achievement offered within further education and beyond.

**181** We believe that this would support a number of government priorities, helping to bring about a step-change in workforce development and providing a stronger basis for engaging new learners and widening participation. It could provide a common currency for measuring the range of achievement, whether occupationally specific, vocational or academic, and whether nationally validated or locally customised.

**182** We believe that developing a national credit framework could help widen participation by making it easier for adults to fit their learning around domestic and employment commitments and to 'bank' their attainments in small chunks of learning. Building up learning credits towards a personal or job-related goal could be an important motivator to carry on learning.

**183** However, while it is encouraging to see the inclusion of a credit framework as a proposed action area, we would suggest that this be an immediate priority action area, rather that a longer-term one.

**184** There are fundamental curriculum design issues implied by the propagation of e-learning. Students and tutors adopting this approach (whether exclusively, or as part of a more traditional or 'blended' pedagogy) will most typically look for and use materials primarily to match a topic or 'chunk' of learning within a course rather than seeking one package of materials that would 'teach the course'.

**185** Technical developments now allow e-learning content to be used widely and effectively across a range of ages, purposes and types of course programme. This is being made possible by the use of agreed specifications for 'interoperability'. This is defined as 'the ability of two or more systems or components to exchange information and to use the information that has been exchanged'. In theory, different 'chunks' of e-learning material from a range of sources can be combined to meet a particular learning need and context. In other words, having a common currency for learning materials allows users to find, adopt and adapt what they want for their own purposes.

**186** If e-learning is used more widely (as seems inevitable) and with a 'common technical currency' for computer-based materials, some way needs to be found to provide a matching 'common learning currency' for the curriculum. This needs to be available within a sector and across sectors (and perhaps, eventually, internationally).

**187** Thus a common way is required to describe and measure knowledge, understanding and skills. The credit framework developed by LSDA and its predecessor bodies, now being taken forward by QCA, provides a means of doing this.

**188** The credit framework allows (for example) the adoption of common learning outcomes grouped into assessable units, which can then be used as delivery modules. Such a framework allows electronic learning materials to be mapped effectively to the curriculum and therefore used within and across phases of education and training. Additionally and importantly, given that e-learning is likely to be episodic, in chunks, such learning episodes need to be capable of assessment and validation to common frameworks of size, level and quality.

**189** There is thus a need for a coherent credit-based curriculum framework. Large-scale application and use of e-learning requires a framework able to record and accredit achievement by e-learners in a variety of differently sized 'chunks' over time.

**190** One of the leading bodies in the world of interoperability is IMS. IMS produces a range of specifications to enable technical progress in this area. LSDA contributed work on the credit framework to the IMS 'reusable competency definition' specification and is referenced in the 'best practice and implementation guide'. IMS is in discussions with the international standards body, the IEEE, about using this output. (See appendix 2 for more details on standards and interoperability).

**191** There are also progressive developments by a range of other agencies and organisations. For example CETIS, the UK's centre for educational technology interoperability standards, has specialist groups for FE and looking at pedagogy.[13]

**192** The introduction of a credit framework would help address the problems associated with corporate training and e-learning operating outside the national qualifications framework highlighted in the consultation document). It would also go some way in supporting some of the objectives raised by the Tomlinson Working Group looking into ways of reforming 14-19 education and making achievements more easily recognisable and transferable.

**193** A credit framework that was relevant across different sections of the learning and skills sector – including for example, schools, FE colleges, universities and work based-learning providers – would help ensure that the strategy had recognition and credibility across the whole education and training sector. This would help to ensure that progression in subject areas and across the different stages of learning is seamless.

# Chapter 9

## Building a better e-learning market

**Q11: Are the proposed action areas for building a better e-learning market feasible and appropriate?**

**194** We agree that the proposed action areas are feasible and appropriate. We have not yet reached critical mass in supply or demand, but coherent initiatives can achieve this provided that they operate within a single national strategic framework for e-content.

**195** LSDA recently carried out an analysis of the key issues to be considered in building the market for 'College Online'[14]. We believe that most issues raised in connection with College Online are capable of extrapolation to the whole market. Therefore, recommended actions to assist in building a better e-learning market include:

link up existing e-learning content initiatives within a single national strategic framework which balances the use and repurposing of existing products with newly commissioned and 'home grown' materials

■ establish the specific requirement for e-learning materials across the post-16 curriculum

■ decide on a strategy for acquisition and/or re-purposing (e.g. from schools to post-16) of existing material avoid unnecessary duplication of materials already available

■ ensure the strategy provides for commissioning of materials in minority curriculum areas which are not likely to be commercially profitable

■ adhere to and incorporate emerging technical standards

■ be sensitive to linguistic and cultural issues.

■ ensure adequacy in readiness and technical and pedagogical skills for tutors, managers and support staff

■ link the use of e-learning to an appropriately designed curriculum offer

**196** We agree that there needs to be a thriving market for successful education software. However, before considering, the commissioning process more work needs to be done to investigate methods of learner interaction with materials. This is not necessarily new pedagogy, but the application of existing sound pedagogy in this new context. The commercial sector has had only limited success with this, exemplified by the fact that although the technology already has the capacity to deliver, through the internet and CD ROMs, the use of these materials is still not widespread.

**197** The consultation document recognises the need for technical and quality standards, but does not indicate clearly the level of modularity or 'granularity' of the content planned. We would recommend that the strategy encompass a broad spectrum of e-content, which includes very small modules or units of 'bite size learning' that can be used by learners as well as provision of full courses.

**198** Our experience with practitioners suggest that many teachers prefer to create or collect materials and tailor it for their purposes, so granular materials should be developed in a form that can be easily repurposed by teachers or institutions. A national portal could facilitate the distribution and sharing of many modules or 'chunks' of learning, and if such materials were freely available this could serve to facilitate the all-important culture change needed for successful implementation.

# Chapter 10

## Assuring technical and quality standards

**Q12: Are the proposed action areas for assuring technical and quality standards feasible and appropriate?**

199   The importance of the technical standards to ensure interoperability across and within sectors is well understood. There is also convergence on appropriate specifications which could provide the basis for national standards.

200   For example the DELG report said[15]:
*'In order to ensure effectiveness and value for money for the public purse, we recommend that further work is done through joint action led by Becta, JISC and the Ufi Ltd, in conjunction with the DfES and the Office of the e-Envoy to agree common national specifications and materials development standards, and that compliance with these should underpin public funding of content development.'*

201   The Office of the e-Envoy set up a web-based service allowing IT suppliers to self-assess their compliance with the technical standards underpinning the UK's e-Government strategy.[16] Adherence to the e-Government Interoperability Framework (e-GIF), updated regularly, is a mandatory requirement for all public sector information systems and third parties delivering e-services on behalf of government.[17]

202   We do not describe here the specifications, standards and bodies involved. Of importance though is the wide recognition of standards approaches. Noteworthy is the recognition that e-learning will rely upon

■   an appropriately designed curriculum

■   the IMS learning design specification[18]

■   the IMS specification[19] on competence (see below) which incorporates our work on best practice.

203   Although the technical details of standards are of little interest to non-technical staff, tools are under development to allow teachers to link 'home grown' materials to recognised technical standards.

# Chapter 11
# How will we get there?

### Q13: Have we identified the correct partners for the actions?

**204** As we move towards the 'mainstreaming' of e-learning it ceases to be an area of concern for It specialists alone, and becomes something which is relevant to all who plan, fund and deliver learning. As an agency that has specialist e-learning expertise as well as the broad range of knowledge and experience relating education policy and practice in post-16 education and training, we believe we can contribute to actions arising from the strategy. In particular, we would expect to make a significant contribution in the following areas:

- research
- evaluation
- programmes of support
- staff skills development
- credit framework development
- curriculum models
- funding models
- assessment framework development
- standards and qualifications development
- leadership (through CEL and LSDA's work as an NLN partner)

**205** Many organisations have been identified which can assist with taking forward the unified strategy in one or more of the action areas identified. Among these we recognise many that we have collaborated with in research and development work in the learning and skills sector.

**206** We are slightly concerned by the number of potential organisations identified in some areas and careful planning will be necessary to ensure these are used to best effect (see paragraph 125). The organisational models used to deliver any strategy must take account of the rapid pace of change of technology, and the changing market, and be able to respond quickly.

**207** To this end, we have attached (as Appendix 3) an Action Planning tool which the Strategy Unit may find helpful. This lists all the medium and long term proposed actions from chapters 4 to 10 of the consultation document and provides columns indicating which organisations will be responsible for, provide support for, or lead support for each action. Clear allocation of roles for all organisations will help to avoid problems such as reinvention, mixed messages, unfocussed or ineffective activity or a proliferation of committees potentially leading to unnecessary bureaucracy and inefficient use of resources.

**208** Partnership working between the different players will be a clear feature of implementation. Clear lines of accountability can help to avoid unnecessary bureaucracy (see also paragraph 125-127). The NLN partnership presents a model of how individual independent organisations can work together to agreed priorities, building on the key strengths of each partner. The current work to develop 'NLN Online' extends this model and could operate within and across sectors. We suggest that a high-level group be established to create, as a matter of urgency, structures which carry forward the strategy by assembling appropriate working partnerships within and across sectors.

### Q14: Which actions do you see as the priorities?

**209** As suggested earlier, we believe that the strategy must be based upon agreed definitions of e-learning and associated terms, creating shared values and a vision of what the e-learning strategy aims to achieve (see our response to question 5 and Figure 2 on page 16). In addition, we believe the strategy must assess the current developments across the education and skills landscape in order to analyse the distance which needs to be travelled to achieve the vision. The actions identified will flow from this analysis.

**210** As observed elsewhere, in order for the strategy to be fully effective, it will be necessary to balance investment in e-learning infrastructure, content development and staff skills (as described in Figure 3 on page 17). However, we feel the most difficult aspects to address will be the human rather than the technological ones - the development of leadership, staff skills and encouraging innovation in teaching and learning. We therefore urge:

■ a major coordinated programme of cross-sector e-learning staff development with supporting development activities in the areas previously described (see our response to question 8 in particular)

■ programmes which focus on leadership for e-learning which draw on the expertise of the Centre for Excellence in Leadership and LSDA.

**211** These programmes should be based on successful models including those cited throughout this response.

**212** When considering which learners might be given priority we believe that those who are likely to benefit most from a non-traditional approach should be considered first. These learners include those most effected by physical, cultural and economic barriers to learning. We therefore urge the extension of the work on e-learning within basic skills and in community settings.

**213** Whilst there has been substantial progress in the development and deployment of e-learning in recent years, corresponding progress has not been made in e-assessment. We believe introduction of a credit framework will make a significant contribution to addressing this situation. We urge that this area be developed as a matter of priority.

**214** Monitoring, evaluation and some flexibility, for example to allow new technologies to be taken into account, will be a priority to ensure the strategy achieves its aims and objectives. We recommend an on-going audit and review process, including an annual strategy conference, to assess progress and recommend refinements to the strategy. LSDA is developing, on behalf of the NLN evaluation working group, a research and evaluation calendar which, if approved, would provide easy access for policy makers and practitioners to evidence of what works and where, and would avoid duplication in the commissioning of related work.

**Q15: In your experience, what are the most significant achievements of e-learning?**

**215** Our response to this question is based on experience of managing large numbers of action projects in relevant areas and, importantly, on evaluations of various e-learning initiatives.

**216** Many of the significant achievements of e-learning are summarised in the evaluation report of the first phase of the NLN. This described the final outcomes of evaluation case study activity in a representative sample of 41 sector colleges and a sub-set of 9 colleges where focus group meetings were held. The report included the quotations below from staff and students in colleges:

*'Computers make you learn because often they make you think about what you are doing...'*

*'The student questionnaire responses clearly reflect a confidence in the use of ICT with all students recognising that they help them learn. Even those who don't own up to 'greatly enjoying' using computers seem to admit their benefits, even if grudgingly.'*

*'Students are clearly becoming more proficient in the use of ILT – most feel they have at least an average competence with PCs, all use computers outside college, and all feel that computers help them to learn.'*

*'We are using ILT increasingly to improve the efficiency of course management.'*

**217**  It can be concluded from the evaluation that that there is steady (although widely varied) adoption and use of ILT and it continues to permeate all aspects of college life.  In summary ILT has been found to have an immediate impact on:

### Student learning

■ supported by appropriate teaching strategies, students can learn to discover things themselves using thinking skills, rather than technical skills.

■ ILT enables students to develop pride in the presentation of work, overcoming anxieties about spelling and handwriting.

■ the 'human skills' and support of teaching staff can give students the technical skills and confidence required to work independently.

### Student motivation

■ students enjoy using ILT. It gives them greater control over their work, and lets them produce results that are impressive and exciting:

*'Even students with extreme literacy problems wanted to write and create the web site.'*

*'100% of students indicated that they enjoyed using the computers.'*

*'ILT enthuses students, especially when they can see the relevance to their future work.'*

*'Generally there is a high level of student commitment, reflected in a good level of attendance at their classes and a ready willingness to engage in the learning process.'*

### Communication and administration

■ ILT is used in many colleges for administrative tasks, and to facilitate communication among lecturers, and between lecturers and admin staff. Most importantly, ILT can be one way to facilitate communication between the teacher and the learner.

**218**  As noted above appropriate curriculum use, and teacher confidence with technology in classroom settings, is essential if students are to engage with e-learning.

**219**  The second phase of the evaluation (now in train) was designed as a result of the findings above to reveal further issues of significance for teaching, learning and college management. In fact the early results of a large-scale related survey of learners in colleges reveals, for example, that the overwhelming percentage of college students think that increased use of ILT will:

■ lead to more students continuing with the course

■ lead to better grades

■ help students get a job at the end of their studies.

**220**  LSDA has managed many QUILT, NLN and Q projects. The reports from these provide case studies with extensive evidence of teachers making real progress in aspects of their teaching on the basis of small amounts of money allowing the release of development time.[20] Key outcomes from these projects include:

■ the fact that staff feel rewarded by involvement in such projects (which, apart from clear results within and across institutions, also carry a degree of kudos) and this improves motivation and performance

■ release of staff time is essential and the vital component of all e-learning staff development

■ action-based research based on professionals' working knowledge is an effective method

■ dissemination can bring success to wider audiences.

**221**  The new DfES funded NLN 'transformation projects' have been designed on the basis of the evidence of the earlier projects above and provide rich information on how to transform teaching and learning through the application of ILT. These eight projects will run from March 2004 to March 2005.[21]

**Q16: What do you think should be the respective roles of education leaders, Government and its agencies and the ICT industry in taking the strategy forward?**

222    Clearly engaging education leaders is essential and many agencies and initiatives have already been, and should continue to provide support for these leaders. In the long term leaders such as principals will play the major role in ensuring continuing progress within their organisations.

223    Co-operation and collaboration amongst the agencies that support education leaders has been identified as important. Such co-operation can help to ensure that good practice spreads throughout education and can reduce re-invention.   Education/industry partnerships are necessary in order to ensure that learning materials and systems are developed to a high standard in terms of both technology and pedagogy.

224    Creating links with other innovative activity is also important to provide a coherent strategic view and set of development activities. This might involve, for example, links between FE Centres of Vocational Excellence (COVEs), the DfES ICT test beds initiative, and the various DCMS-sponsored 'creative partnerships' which, amongst other things, are exploring the stimulation of learning in schools outside the constraints of the national curriculum.[22]

# Appendix 1

## Relevant LSDA work
## Research and development and publications

**Design and management of the quality in information and learning technology (QUILT) programme (1996-2001)**

Involving 13 Strands of research and development activity including:

- training events for college governors, principals, vice principals, teaching staff, MIS managers, website designers, library and information staff, IT technicians, administrative staff

- college based action research projects mostly collaborative projects involving more than one college

- practical advice publications

- multimedia pack for college governors including a video and printed material

- ILT consultancy

**A key partner in the national learning network (NLN) (1999-2001 and 2002-2004)**
The LSDA have been a partner in the National Learning Network since its inception in 1999 and have delivered a number of key functions and activities including:

- Training events with supporting manuals, e.g. our new 'Embedding ILT into the curriculum - resource pack', and subject specific ILT support conferences

- Specialist web authoring training courses with a supporting Web Authoring manual

- Leading on the development of the ILT standards for the application of ICT to teaching and learning and to management in partnership with FENTO

- Carrying out research and analysis of the current priorities for development of ILT materials and content for the NLN

- Providing ongoing action based research through College based projects such as the Innovative ICT projects and Q projects based on the ILT standards

- A regional e-learning support network supporting staff development practitioners

The LSDA continues to deliver many of the above functions and now plays a key strategic role as the managing agent for staff development activities across the NLN partnership.

The Agency is also delivering a substantial £1M action research and evaluation programme through the NLN Transformation Projects and is about to republish an updated version of the ILT standards with FENTO.

**Evaluation of NLN (in partnership with Sheffield Hallam University)**

Including analysis of the impact of NLN on 40 colleges in phase one and a large scale e-learning staff and student survey in phase 2.

**Evaluation of Laptops for FE Teachers initiative**

**FEFC Distributed and Electronic Learning Group (DELG)**

Analysis of evidence submitted and 5 Literature Reviews conducted for DELG

**Potential of interactive and digital TV for basic skills learning**

Research resulting in report to LSC

**Mobile-learning**

Co-ordinating partner in pan-European collaborative research and development programme m-learning and lead partner of the learner research work package including:

- survey of 746 young adult mobile phone users in the UK

- literature reviews

  - mobile phone and young adults

  - palmtops for learning

  - computer games and learning

- 18 college, school and community based action research projects (12 UK, 2 Sweden, 4 Italy)

- international mobile-learning conference and production of a peer reviewed, edited book of papers based on conference presentation

**Blended learning and technology**

Facilitated experiencial learning research projects in collaboration with Birkbeck

## Relevant LSDA publications

| ICT/ILT publications | | |
|---|---|---|
| **Title** | **Year** | **Author/s** |
| Palmtop computers in education and training: a review of the literature | 2003 | Carol Savill-Smith and Phillip Kent |
| Interactive TV: A learning platform with potential | 2003 | Daniel Atwere and Peter Bates |
| ILT development: Creating Value for Money | 2001 | Alison Page and Marcos Tiris |
| Distributed open learning and distance learning: how does e-learning fit? | 2001 | Mick Fletcher |
| Evaluation of 3 and 6 hour courses | 2001 | Gordon Kirk, Jenny Kirk, John Vorhaus and Mick Fletcher |
| IT for Learning: the challenge for governors | 2001 | Markos Tiris |
| Learning 2010 | 2000 | Various Authors (edited by Clive Caseley) |
| Evaluating ICT Projects and Strategies in Teaching and Learning | 2000 | Jane Barnard, Julie Thompson, OU with Jill Attewell, FEDA |
| Qualified for IT | 2000 | Laurian Adams and Tony Tait |
| Clicks and mortar: learning centres - locating learning and skills? | 2000 | Kevin Donovan |
| Right Tools for the Job: evaluating multimedia, flexible and open learning materials | 1999 | Bill Lockitt |
| Newsletter: Learning with and about QUILT | 1998 | Kevin Donovan |
| Information Requirements for Decision Makers: a practical handbook | 1997 | Jill Attewell |
| Towards Better Student Training Systems | 1997 | Jill Attewell |
| Student tracking | 1996 | Kevin Donovan |
| **Funding publications** | | |
| **Title** | **Year** | **Author/s** |
| The impact of financial of financial circumstances on engagement with post-16 learning: a systematic map of research | 2003 | Ian Lockhart and Mick Fletcher |
| Individual investment in learning: findings from focus groups | 2003 | Mark Corney and Mick Fletcher |
| Educational impact of capital projects | 2002 | Mick Fletcher |
| Learning to last | 2002 | Judith Cohen and Mick Fletcher |
| Funding and learning: a systematic review of research on the impact of finance on engagement with learning | 2002 | Mick Fletcher |

| | | |
|---|---|---|
| Impact of education maintenance allowances | 2002 | Denis MacAteer and Mick Fletcher |
| The impact of Individual Learning Accounts | 2002 | Mick Fletcher |
| The impact of Education Maintenance Allowances | 2002 | Sara Clay and Mick Fletcher |
| Loans for lifelong learning | 2002 | Mick Fletcher |
| The impact of Individual Learning Accounts | 2002 | Michael Gray and Jane Peters and Gordon Kirk |
| Supporting adult learners: the need for a new approach | 2001 | Mick Fletcher |
| Lifelong learning: Is there a logic for loans? | 2001 | Mick Fletcher |
| For better or worse – the influence of FE franchising on learning | 2000 | (Edited by Mick Fletcher) |
| Education Maintenance Allowances | 2000 | Mick Fletcher |
| ESF Co-financing arrangements | 2000 | Mick Fletcher |
| Student transport: unfair or just unequal? | 2000 | Mick Fletcher and Gordon Kirk |
| National Minimum Wage | 2000 | Mick Fletcher |
| Guidance on the Additional Support Mechanism CRM 201 | 2000 | Sally Faraday, Maggie Gindney and Mick Fletcher |
| Funding FE in England and Wales: a simple guide to funding methodology | 2000 | David Atkinson, Mick Fletcher and Carole Overton |
| Evaluation of the additional support mechanism. A research project for the FEFC | 2000 | Sally Faraday, Mick Fletcher, Maggie Gidney |
| The challenge to sixth-form funding : an introduction to government proposals to change the way sixth forms are funded | 2000 | Mick Fletcher and Charles Boney |

**Curriculum and credit publications**

| Title | Year | Author/s |
|---|---|---|
| Curriculum 2000: making an impact | 2003 | Tony Tait, Gillian Frankland, David Smith, Sharon Moore |
| LSDA Reports: Credit systems for learning and skills - Current developments | 2003 | Tony Tait |
| Curriculum 2000+2: tracking institutions and learners experiences | 2002 | Tony Tait Gillian Frankland David Smith Sharon Moore |
| Curriculum 2000: innovations, opportunity and change | 2002 | Tony Tait, Gillian Frankland, Sharon Moore and David Smith |
| Curriculum 2000+1 | 2001 | Tony Tait, Gillian Frankland, David Smith, Sharon Moore |
| Give us the credit: achieving a comprehensive FE framework | 1997 | Sally Coady, Tony Tait and Jim Bennett |

| | | |
|---|---|---|
| Framework paper 1: modularisation, unitisation and flexibility : a credit-based approach | 1995 | Tony Tait |
| Framework guidelines 2: learning outcomes, units and modules | 1995 | Tony Tait |
| Framework guidelines 1: levels, credit value and the award of credits | 1995 | Tony Tait |
| Discussing credit: a collection of occasional papers relating to the FEU proposal for a post-16 credit accumulation and transfer framework | 1993 | Tony Tait |

## Appendix 2

## Standards and interoperability

1 The IEEE Learning Technology Standards Committee (LTSC) is chartered by the IEEE Computer Society Standards Activity Board to develop accredited technical standards, recommended practices, and guides for learning technology. Its Working Group 20 on Reusable Competency Definitions is developing a related standard as follows (and see http://ltsc.ieee.org/wg20/materials.html).

2 'This standard shall specify the mandatory and optional data elements that constitute a Competency Definition as used in a Learning Management System, or referenced in a Competency Profile. This standard is intended to satisfy the following objectives:

- provide a standardized data model for reusable Competency Definition records that can be exchanged or reused in one or more compatible systems

- reconcile various existing and emerging data models into a widely acceptable model

- provide a standardized way to identify the type and precision of a Competency Definition

- provide a unique identifier as the means to unambiguously reference are usable Competency Definition regardless of the setting in which this Competency Definition is stored, found, retrieved, or used. For example, metadata that describe learning content may contain a reference to one or more Competency Definition records that describe the learning objectives for the content

- provide a standardized data model for additional information about a Competency Definition, such as a title, description, and source, compatible with other emerging learning asset metadata standards

- provide a controlled vocabulary to express how competency definitions are semantically related.

3 This standard specifically does not cover:

- A data format, bindings or coding, except as minimally required for the purpose of exchange between compliant implementations

- Quality and accuracy in the data itself, although it will describe recommended best practices. For example, this standard does not cover the quality or validation of the various parts of a learning objective statement.

- A competency model, or a taxonomy of competencies.

- How the relationships between competencies are stored in a database or learning management system.

- Certification data models. However, Certification records can reference Competency Definitions. For example, an accredited authority may grant certificates that acknowledge that an individual meets the requirements flora particular competency.

- Individual competency records, as would be found in the competency profiles of individuals or groups. However, such records can include references to specific Competency Definitions. For example, a competency profile for an individual may include a collection of certificates which in turn reference Competency Definitions, as well as a collection of references to the definitions for competencies to be acquired.

4 The purpose of this standard is to define a universally acceptable Competency Definition model to allow the creation, exchange and reuse of Competency Definition in applications such as Learning Management Systems, Competency or Skill Gap Analysis, Learner and other Competency profiles, etc. The standard is needed because there are currently many definitions of the terms 'Learning Objective', 'Competency' and 'Skill', and very little agreement between how those definitions can be used to define reusable data models.

5 This standard uses a general definition that can be semantically 'tightened' or 'loosened' in the data itself, while conserving the same data model regardless of how strictly a particular organization or institution requires the data to be formulated. This standard also addresses the following needs:

- A common data model that allows the building of various competency models, hierarchies and maps (however, the definitions for such applications are outside the scope of this standard).

- A standard that allows persistent, long lived Competency Definitions to be created, exchanged among systems, and maintained.

- A standard method by which Competency Definitions can be identified as globally unique among compliant systems and repositories.

- A standard method to mark a superseded or obsolete Competency Definition, and to point to a more current Competency Definition.

- A common data model for the meta data that give a reusable Competency Definition its value in a reuse environment, such as the source of the Competency Definition, validation information, and other meta information useful to locate an objective in a repository or collection.

- Correspondence with the Learning Objects Metadata Standard developed by a parallel group.

- IMS also produces other specifications, see: http://www.imsproject.org/ including on 'learning design'.

# Appendix 3

## Action planning grid

This grid provides a template for identifying the responsible partners for each individual action point arising from the e-learning strategy. It would help ensure that accountability is clearly defined in each area, as well as indicating the partners involved in supporting and co-ordinating the implementation of the actions. The first line is completed as an example.

| Proposed actions | Responsible | Supported by | Co-ordinated by |
|---|---|---|---|
| CHAPTER 4, Q6: ARE THE PROPOSED ACTIONS FOR LEADING SUSTAINABLE DEVELOPMENT FEASIBLE AND APPROPRIATE? | | | |
| **MEDIUM TERM ACTIONS** | | | |
| *- Support education leaders.*<br><br>1. Promote and support organisational planning for the use of e-learning. | *NLN at sector level. Education leaders within institutions.* | *DfES, Funding councils and Support/ Development agencies.* | *CEL/LSDA (Learning & Skills sector),*<br><br>*NCSL (schools)*<br><br>*JISC (HE)* |
| 2. Include within leadership training for all sectors strategic panning for e-learning. | | | |
| 3. Plan to develop e-administration for educational institutions in support of learning and teaching, building on existing good practice. | | | |
| *- Build collaborative partnerships*<br><br>4. Use 14-19 pathfinder projects to develop productive collaboration and identify the optimal conditions for cross-organisational and cross-sector partnerships. | | | |
| *- Sustainable e-learning.*<br><br>5. Develop an understanding of how to adapt institutional funding models to take account of 3-learning delivery, and the costs and benefits for all stakeholders. | | | |
| 6. Develop the resource planning, cost modelling, and benefit-analysis tools to enable leaders to invest in and redistribute human, physical, and digital resources to improve learning flexibility and effectiveness. | | | |
| *- Standards for baseline provision.*<br><br>7. Develop a standard to assure the pedagogic quality of e-learning provision, and mechanisms for monitoring and updating the standard in the light of | | | |

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| changing technologies and access requirements. | | | |
| **LONGER TERM ACTIONS** | | | |
| *- Broadband connectivity*<br><br>8. Work with industry and other Government departments to ensure effective unified provision, i.e. the development of broadband connectivity for all educational organisations, the workplace, and the community. | | | |
| *- Accessibility for all*<br><br>9. Improve internet accessibility for disadvantaged learners, to assist in the transition from informal to formal e-learning opportunities. | | | |
| *- Universal access*<br><br>*10. Maintain appropriate public/private funding models to ensure universal personal access to e-learning for all learners and teachers.* | | | |
| *- Integrate e-learning and e-administration*<br><br>11. Advise and support education organisations in establishing and maintaining complete, coherent, non-proprietary and expandable long-term network-based managed learning systems, linking their management Information system to a Virtual Learning Environment within their local infrastructure, to track and support learners, to assist teachers in guiding their students, and to reduce teachers' tie on bureaucracy. | | | |
| CHAPTER 5, Q7: ARE THE PROPOSED ACTION AREAS FOR SUPPORTING INNOVATION IN TEACHING AND LEARNING FEASIBLE AND APPROPRIATE? | | | |
| **MEDIUM TERM ACTIONS** | | | |
| *- Embracing the new pedagogies*<br><br>12. Engage the professional associations in debating their role in supporting teachers and lecturers in the development of new pedagogies. | | | |
| 13. Co-ordinate the networks of subject-based centres of excellence across the sectors, to debate and articulate the principal of pedagogy and practice for e-learning. | | | |
| 14. Capture and share the new forms if e-learning pedagogy being developed as a result of Curriculum Online, the National Learning Network, and UK eUnversities, and by innovators in schools, colleges and universities, | | | |
| *- Focus on shortage subject areas*<br><br>*15. Unify shareable e-learning resources and digital assets, through a national online databank, linking* | | | |

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| *all sectors and publicly funded organisations through intelligent search mechanisms.* | | | |
| 16. Use the Gifted and Talented Managed Learning Environment project as a pathfinder for testing ways of balancing local and central support for specialist learners. | | | |
| *- Establish the appropriate evaluation methodologies*<br><br>17. Focus on intensive evaluation of learning experiences to balance large-scale studies. | | | |
| 18. Test new approaches to cost-benefit analyses for e-learning. | | | |
| 19. Build a community of practice on e-learning research and evaluation methodology. | | | |
| **LONGER TERM ACTIONS** | | | |
| *- Focus on removing barriers to learning*<br><br>20. Include within development funding on e-learning a focus on learners with special needs, to ensure greatest impact. | | | |
| 21. Use existing project funding to develop and disseminate more interactive diagnostic tests and remediation for learners with disabilities in literacy, numeracy, and communication. | | | |
| - Build a practice oriented research environment<br><br>*22. Encourage higher education and industry to collaborate on a cross-sector research programme that will develop and test new designs for e-learning activities.* | | | |
| 23. Use R&D projects to exploit the value of every teacher's and lecturer's use of e-learning in their subject as an opportunity for action research, by linking R&D to their reflective practice. | | | |
| 24. Create an informal federation of research groups, observatories, and research support agencies, via a virtual gateway to a national practice-based research programme. | | | |
| CHAPTER 6, Q8: ARE THE PROPOSED ACTION AREAS FOR DEVELOPING THE EDUCATION WORKFORCE FEASIBLE AND APPROPRIATE? | | | |
| **MEDIUM TERM ACTIONS** | | | |
| *Initial qualifications*<br><br>*25. Provide guidance on e-learning for the professional teaching force across all sectors, encouraging subject and professional associations to help define the e-learning and e-teaching* | | | |

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| *contexts and skills appropriate to each subject discipline.* | | | |
| 26. Explore alternative ways of improving access to ICT equipment and resources for trainee teachers and their training providers. | | | |
| 27. Provide guidance in e-learning for support staff across all sectors. | | | |
| *- Professional development* | | | |
| 28. Ensure availability of training, development and on-going support to update education and training professionals, including support staff. | | | |
| 29. Provide training and development for teachers, lecturers and support staff to become skilled in the use and evaluation of e-learning in their subject | | | |
| 30. Use e-learning for professional development of the education and training workforce, with special provision for those who work part-time. | | | |
| **LONGER TERM ACTIONS** | | | |
| *- Higher level qualifications* | | | |
| 31. Work towards optional higher level qualifications to link teachers' and lecturers' career development to their academic leadership in the specialist skills of learning design, e-learning practice, formative evaluation and research on e-learning pedagogy. | | | |
| *- Career and workload* | | | |
| 32. Consult with teachers, lectures, and support staff, and their representatives and employers, to establish standards of professional competence, career paths and incentives for those who wish to develop particular expertise in the innovative use of e-learning, with the aim of strengthening the professional community of practice across all sectors. | | | |
| CHAPTER 7, Q9: ARE THE PROPOSED ACTION AREAS FOR UNIFYING LEARNER SUPPORT FEASIBLE AND APPROPRIATE? | | | |
| **MEDIUM TERM ACTIONS** | | | |
| *- E-portfolios for lifelong learning* | | | |
| 33.Establish the principle that all education and training organisations have the responsibility to contribute to a learner's e-portfolio for lifelong learning and support their development and progression. | | | |
| **LONGER TERM ACTIONS** | | | |

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| *- Knowledge management for learner support* | | | |
| 34. Facilitate unified e-systems, as an aspect of e-government, within and between educational institutions, Government and its agencies, and the devolved administrations, building on good practice currently in place, to ensure appropriate support for individual learners and employees across all sectors | | | |
| 35. Investigate the feasibility of a wider rollout of a unique learner number. | | | |
| *- Online advice, guidance and diagnostics* | | | |
| 36. Establish the principle of universal lifelong learning online advice, guidance and self-diagnostics for learning, assessment, learning support, qualifications, competencies, employment opportunities and citizenship, to be available for all. | | | |

CHAPTER 8, Q10: ARE THE PROPOSED ACTION AREAS FOR ALIGNING ASSESSMENT FEASIBLE AND APPROPRIATE?

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| **MEDIUM TERM ACTIONS** | | | |
| *- Develop formative assessment*<br><br>37. Promote the use of ICT in formative assessment for all sectors and in all publicly funded materials. | | | |
| 38. Support action research pilots to test appropriate use of formative assessment, and improve assessment techniques. | | | |
| *- Align assessment to thee needs of pedagogy and subjects*<br><br>39. Explore the alignment of e-assessment methods to specific subjects. | | | |
| *- E-learning skills for life*<br><br>40. Define e-learning skills, and align them with assessment methods for individual subjects, as appropriate. | | | |
| 41. Ensure the e-learning strategy supports the skills strategy and schools strategies through assessment of e-learning skills. | | | |
| 42. Include within staff development programmes for the educational workforce a focus on e-assessment. | | | |
| **LONGER TERM ACTIONS** | | | |
| *- A credit framework to fit e-learning (recommend move to medium term action)*<br><br>43. Include e-learning and e-assessment in considerations of unitisation and credit in all sectors. | | | |

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| *- Efficient assessment* | | | |
| 44. Work towards online administration for public examinations, and align infrastructure with the needs of e-assessment. | | | |
| CHAPTER 9, Q11: ARE THE PROPOSED ACTION AREAS FOR BUILDING A BETTER E-LEARNING MARKET FEASIBLE AND APPROPRIATE? | | | |
| **MEDIUM TERM ACTIONS** | | | |
| *- Successful educational software*<br><br>45. Promote collaboration between the digital resources (education and games) industries, and the inclusion of teachers in development and testing. | | | |
| 46. Promote an understanding in the digital resources industry of user requirements for active, interactive, and creative learning and interoperability. | | | |
| *- A thriving market*<br><br>47. Investigate tendering processes, business models and procurement mechanisms that stimulate market development for both large and small companies, while providing for affordable and sustainable e-learning and protecting public investment. | | | |
| 48. Promote dialogue with the digital resources industry to engage small companies as well as larger organisations. | | | |
| **LONGER TERM ACTIONS** | | | |
| *- Intellectual Property Rights (IPR) best practice and support*<br><br>49. Provide advice for organisations and companies in agreeing best practice for IPR, and in negotiating copyright. | | | |
| 50. Explore the use of technical solutions to IPR protection and resolution | | | |
| 51. Identify IPR and licensing arrangements across sectors. | | | |
| *- Innovation*<br><br>52. Ensure that educators can lead and engage in innovation, by developing generic e-learning design tools for learners and teachers. | | | |
| CHAPTER 10. Q12: ARE THE PROPOSED ACTION AREAS FOR ASSURING TECHNICAL AND QUALITY STANDARDS FEASIBLE AND APPROPRIATE? | | | |

| MEDIUM TERM ACTIONS | | | |
|---|---|---|---|
| *- Public funding and procurement* | | | |
| 53. Co-ordinate development and procurement of publicly funded work on managed learning platforms with affordable technical support, and provide guidance to organisations to ensure value for money and interoperability. | | | |
| 54. Explore where central procurement would be appropriate. | | | |
| *- Quality standards* | | | |
| 55. Develop a way of defining a quality standard for e-learning resources for parents, teachers, lecturers and advisers. | | | |
| **LONGER TERM ACTIONS** | | | |
| *- Technical and quality standards for pedagogy and process* | | | |
| 56. Stimulate and encourage the debate on educational requirements for the pedagogical design of content, and the design of e-learning architectures, including open architecture. | | | |
| 57. Define quality assurance standards and processes for e-learning support and delivery and Internet safety, embed these in quality systems, and provide staff development for quality inspectors and assessors. | | | |
| 58. Work towards a common core of technical standards for all publicly and privately funded e-learning. | | | |
| 59. Develop sector-specific profiles of common standards and guidelines for extending and updating e-learning architectures. | | | |
| 60. Understand and explain the issues associated with conformance measurement. | | | |
| 61. Engage with the wider commercial training sector to achieve a consensus on technical and quality standards for e-learning development and delivery. | | | |
| 62. Clarify the ongoing role of Government, including the devolved administrations, in the development of technical standards for interoperability, and the scope and process of setting standards within the e-GIF. | | | |

# Endnotes

1 Gartner Group research from Atwere, D & Bates, P Interactive TV: a learning platform with potential, LSDA (2003)

2 Atwere, D & Bates, P Interactive TV: a learning platform with potential, LSDA (2003)

3 For more on the LSDA-led m-learning project (see http://www.m-learning.org/reports.html)

4 Recently published research by the Henley Management College (Birchall and Woolfall, 'Corporate e-learning delivering business benefits',Grist Ltd, 2003) includes casestudies focussing on e-learning at Dixons Stores Group, Danfos, IBM, Volkswagen coaching and SA Armstrong.

5 LSDA, in partnership with Skill and NIACE, is undertaking two suites of projects on various aspects of working with learners with disabilities and learning difficulties. The projects arose from the need for support for FE and adult community learning providers to fulfil their duties under the DDA. These research and development projects are designed also to include work based learning providers.

6 DfES Research Report 450 *The use of and attitudes towards information and communication technologies (ICT) by people from black and minority ethnic groups living in deprived areas* http://www.dfes.gov.uk/research/data/uploadfiles/RR450.pdf

7 Waterman, R. Jr., Peters, T. and Phillips, J.R. 'Structure Is Not Organisation' in Business Horizons, 23,3 June 1980. 14-26

8 The Centre for Excellence in Leadership (CEL) is using the results from the Strategic Leadership for IT and other leadership programmes to shape its strategy for offering programmes for e-leadership skills. CEL is a partnership led by Lancaster University Management School and LSDA, supported by Ashridge and the Open University. The Centre has been set up to provide research-informed leadership development for the learning and skills sector and higher education. The Centre was launched on 8 October 2003 and began to offer its first programmes at the end of November 2003.

9 For more details on the seminar and the full seminar report see http://www.lsda.org.uk/programmes/policyunit/index.asp?section=1

10 See http://www.nln.ac.uk/selfassessment/fento.asp for further details.

11 Our response can be viewed at http://www.lsda.org.uk/files/pdf/Respsmartcardegov.pdf.

12 Research project LSRC 580 for the Learning and Skills Research Centre funded by LSC and City and Guilds, with support from Ufl, started in October 2003 and due to finish in March 2005; being carried out by Professor Harry Torrance at Manchester Metropolitan University in partnership with NIACE

13 Details of CETIS can be found at www.cetis.ac.uk.

Further information on LSDA's work on credit can be viewed at http://www.lsda.org.uk/programmes/credit.

14 LSDA response to the Curriculum Online consultation paper 2001 ISBN 1 85338 6847

15 Op cit.

16 http://www.publicsectorforums.co.uk/page.cfm?pageID=92&language=eng

[17] The e-GIF has been developed to assist data exchange of public sector information. Extensive material is available on the related issues including from the sector's own special interest group http://www.cetis.ac.uk/groups/20010926111402/viewGroup

[18] http://www.imsglobal.org/learningdesign/index.cfm

[19] http://www.imsglobal.org/competencies/rdceov1p0/imsrdceo_bestv1p0.html

[20] Project reports can be found at http://www.ccm.ac.uk/ltech/projects/default.asp

[21] More information is available via www.nln.ac.uk

[22] See http://www.creative-partnerships.com/