Generating Demand for E-learning: The 21st Century Citizen

A research report prepared for Learning Light
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1   Executive Summary

In all developed economies, the case for lifelong learning is widely accepted, partly to enable the workforce to adapt to changing skill needs, and partly as a general good. But who should take responsibility for making lifelong learning happen? Historically, employers have a poor record on training, particularly beyond immediate job demands. Employees tend not to plan ahead in their careers until their jobs are under threat. Their prior experience of formal learning may put them off. The government agonises over providing modest sticks for the former and carrots for the latter.

Alongside this, the growth of e-learning has not been without its hiccups and wrong turns. But the increasing pervasiveness of ICT in the workplace and home provides a platform for a wide range of learning opportunities that many organisations will be able to exploit to enhance the flexibility and motivation of their workforce, and to encourage lifelong learning generally. Searching the Internet for 'just-in-time' information to meet a particular need has become an everyday habit for many – with the scope to extend this to further informal and formal discovery and learning.

The life in lifelong learning belongs to the individual. To tap into their natural motivation to learn – whether about job-specific or broader interests, or both – giving them a big say in how they choose and direct what they learn plays a strong part in gaining their commitment. The organisation's role focuses on leadership and enabling of learning, along with consultation and negotiation with employees and their organisations over the terms and availability of different kinds of learning.

Interviewed for this Learning Light research, David Burrows, Microsoft's UK Director of Education says, "What employees need to know is: One, can I get access to learning which is relevant to me, when and how I need it, in a way which fits in with my work and home life? Two, will my employer give me the time I need to do the learning? And three, when I am successful in my learning will this be rewarded by my employer, and will it be recognised so that it will help me get on in my work and my life?"

While factors like giving time for job-related training are important, other commentators also stress the value of giving employees the scope to devote their own time to self-directed learning – from speaking new languages to researching potential holiday destinations.

Learning Light surveyed the opinions of 48 e-learning and lifelong learning experts from in and outside the UK about what makes learning take hold in organisations. Their answers focused almost exclusively on organisational rather than technical factors. The most significant interventions that make e-learning successful are ultimately the same as those that make for a positive learning culture in general.

Giving employees a 'licence to learn' is one recommendation already mentioned. Beyond this, there is strong emphasis on encouraging peer support for learning, and exploiting word of mouth recommendations for particular learning opportunities – in other words, getting people to talk to each other, and help each other, with what they want to learn. "People will say 'if someone from amongst my mates can help me with this, then I will do it.'" says Liz Smith, TUC National Officer for Learning Services. She continues by pointing to the social nature of all learning: "e-learning is often assumed to be a lone activity, with no need for tutor support. For a lot of learners this

is a major barrier. In our experience with workplace learning centres, peer and tutor-support are essential if e-learning is going to 'take off'".

Participants in Learning Light's research returned repeatedly to the importance of senior management leadership as possibly the single most influential intervention for promoting learning in an organisation. This takes many forms: advocacy and championing; leading by personal example; recognising and rewarding good learning behaviours; and setting the tone for a 'learning culture' in consultation with employees. All of these come together in a learning strategy, which must also tie in to other business drivers in the organisation, as well as its ICT and HR strategies.

Research elsewhere has shown that having a learning strategy is the single most significant correlate with success in implementing e-learning, and Isobel Harding, Head of the Yorkshire and the Humber Regional Assembly's Information Society Unit, observes in an interview for Learning Light, "Just as businesses often lack IT strategies, they often lack learning strategies. This is a major barrier." Getting strategy right is a complex task and requires iteration and regular review to evolve to meet all the organisation's needs.

The involvement of workforce representatives underpins getting learning strategy right, and, in unionised workplaces, this can also help organisations tap into support from the Union Learning Fund. Bob Fryer, NHS National Director for Widening Participation, told Learning Light, "One of the most important, and often under-recognised enablers, in the NHS and in the Social Care sector is trade union involvement in and commitment to workplace learning, with strong input from Union Learning Representatives. I could give you chapter and verse on this from all over the NHS, and in TUPE-affected contracted out activities, across a wide range of unions including UNISON, RCN, AMICUS, TGWU and professional associations like the Society of Radiographers."

All of these considerations have to be reflected in the way the organisation works – ensuring that its systems and processes encourage learning rather than inhibiting it. As one respondent to Learning Light's survey put it, "[While] senior management buy-in is critical… the learning has to be meaningful, so tying it into Individual Learning Plans or appraisals is critical. It has to make a difference to the business, and the behaviour you want to see has to be rewarded."

As Microsoft's David Burrows puts it, "It is now commonplace to talk in policy terms about the school/home continuum and about the role ICT needs to play in facilitating this. Should we not now also be talking about the work/home learning continuum, since in many contexts, the home will be a suitable place to do work-related e-learning?"

The full Learning Light report assesses the implications of these recommendations for organisations in the light of the varying circumstances that apply in different organisations. It outlines a series of steps towards a situation where employees combine both their learning interests and their learning facilities to achieve a new 'work/life balance' trade-off that delivers adaptable human resources to organisations and better career- and life- prospects for individuals.

2   Introduction

2.1 Audience and purpose

Learning Light has designed this report for suppliers of e-learning products and services, and for people with a human resources, industrial relations, or learning and development role. It may also be useful to policy-makers and business strategists and to training professionals generally.

The overall purpose of this report is to analyse:

- the organisational and wider context for enabling lifelong learning and generating demand for e-learning in the workplace;
- how employers and learning providers can act to stimulate demand further and accelerate take-up of flexible learning opportunities.

2.2 Setting the scene

Organisations make learning interventions within a social, technical, and economic environment. In the last decade and a half much has been made about the changing nature of the labour market and uncertainties undermining the idea of a 'job for life', the need to up-skill, cross-skill and breakdown traditional boundaries of learning in society.

As a science fiction writer is alleged to have said, "The future is already here; it's just not evenly distributed yet"[1], and that certainly applies to labour market and learning trends in the UK. We start this report with a brief summary of some salient facts about that environment.

2.2.1   The economy

The UK economy is the world's fourth largest[2], with the majority of its employment and business turnover in small and medium-sized enterprises[3]. Two thirds of all employment is in three large sectors: finance and business services; distribution, hotels and restaurants; education, health, and public administration[4].

Many UK employers, particularly in London and the South East, are reliant on migrant workers[5]. The proportion of ethnic minority people living in different parts of the country varies considerably, and the variation is even higher between individual workplaces[6]. These factors affect support for learning in cases where the workforce has difficulty with English-only learning resources.

2.2.2   Work organisation

Full-time, permanent employment is the overwhelming norm, contrary to recent hype about the 'end of careers'; and has increased since the early 1990s, standing now at over 90%[7]. However, virtually all employers now make at least some use of outsourcing and of flexible employment practices such as temporary contracts, employment of part-time staff, or use of agency staff or freelancers.

Along with this, there has been a resurgence of internal development and career policies, with organisations now pursuing a whole range of policies to make long-term employment attractive, and to retain staff, including older workers[8]. There is

also evidence that hierarchical structures, rigid job designs, unilateral employment relationships, cascading decision-making, and an expectation that employees will identify with the mission of the organisation are at odds with the values both of the "baby boomer" cohort, and of those who've been immersed in the individualistic and sceptical culture of the late 20th century[9].

Workplaces with a trade union presence are more likely to have family-friendly practices and to make more use of flexible labour, outsourcing, and modern HRM practices[10]. Having declined for a couple of decades, trade union membership is roughly stable at around 25% of the workforce[11].

2.2.3 Skills, training and education

The UK lags behind on several training and qualification indicators[12], and some commentators argue that its training system and skills culture are incoherent[13].

Large amounts of government, employer, agency, trade union, and provider effort and resources are now being devoted to improving matters, through a range of interlocking strategic initiatives, driven by Government[14].

2.2.4 Technology

ICT continues to spread, and at one in three workplaces there is complete penetration of ICT to almost every job, with these fully-wired workplaces evenly spread between small, medium and large organisations[15].

High levels of ICT strongly favour the flexible contracting of labour and the use of outsourcing[16]. The proportion of workers working wholly or substantially at home is expected to rise steeply. If it does, this will make e-learning more convenient for more people, particularly as Internet access, and specifically broadband take-up, continue to become more widespread[17],[18]. Other ICT platforms such as mobile telephony/data, wireless handheld computing and digital TV are also spreading, and converging with each other[19].

2.2.5 E-learning

E-learning is an enabling component of learning and development in organisations. It is not a panacea[20]. As ICT continues its spread into the workplace and home, and as citizens become gradually more fluent in their use of ICT (whether at home[21] or at work), a technical and human infrastructure for the successful deployment of e-learning is being consolidated. Meanwhile a consensus is beginning to emerge as to what constitutes effective e-learning, with greater (if not yet universal) acceptance that critical components for successful e-learning are that:

- the learning it engenders should be strong and engaging, rather than, necessarily, for the e-learning content to be technically complicated[22];
- learners should be suitably supported (by peers, or with tutor-support, in a learning centre rather than, necessarily at home or at their normal place of work)[23];
- implementers should make informed decisions about "blend", that is to say the mix of technology and non-technology based approaches to take in a particular learning intervention, rather than assume, say, that only one e-learning approach is appropriate.

2.3   What this means for learning and e-learning in the workplace

Clearly the uptake of learning and e-learning in the workplace depends on a wide range of factors and interactions. The actions of citizens and employers, within the framework of public policy and the education system, and the constraints of the economy, constitute the learning culture and trends of the country. Many of these factors are specific to the workplace, or to the locality in which it is located. For example, for a multi-site organisation there are likely to be wide variations between sites in factors like the:

- tightness of the labour-market;
- age- and gender-profile of the workforce;
- proportion of the workforce whose first language is not English, or who have literacy or numeracy difficulties;
- capacity of local learning providers to meet employers' training needs;
- enthusiasm and commitment to learning of local managers and local union organisations;
- specific business operations taking place;
- attitudes (internal or external) towards learning and development.

Between organisations the variations are even sharper, for example in the:

- specific policy priority given by the organisation to learning and development;
- nature of the business, size, management structure, margins or value added, and skill levels;
- extent to which ICT use is ubiquitous, and the extent to which potential e-learners are fluent in using it;
- degree to which training in regulation- or compliance-driven training is a requirement (such training is frequently suited to delivery by e-learning);
- extent to which managers have the authority to engage the organisation with national or other initiatives relating to learning;
- general approach to HR matters including structures for consultation and negotiation, and whether trade unions are recognised and if yes which and for what.

Finally, funding and qualifications policies vary between, and to a lesser extent between areas within, the different UK devolved administrations.

Bearing in mind this organisational and societal context, the rest of this report focuses on the actions that employers and learning providers can take to encourage more learning in the workforce, to make it more adaptable and better suited to the needs of large enterprises – as well as ensuring more rewarding careers for individuals.

3 Learning interventions

3.1 Introduction

This section assesses the range of interventions employers can take to promote learning in their organisations. The following section then addresses the challenges employers face in ensuring the success of these interventions.

Learning Light commissioned research to review contemporary approaches to promoting lifelong learning enabled by e-learning. This included a review of literature and input from over 50 employers, providers and researchers/facilitators of e-learning. The majority of participants were from the UK, with others based in the North America, Scandinavia and Australasia. Forty eight completed a web-based questionnaire survey[24]. Nineteen also took part in interviews (listed in Section 6.2 below).

3.2 Effectiveness of interventions to develop a learning culture

The e-learning experts who responded to the questionnaire survey rated the effectiveness of a menu of interventions to encourage lifelong learning in the order shown the following table (most effective at top).

Intervention	Examples and considerations
Direct financial support for learning/career development	• Personal development is treated in some workplaces as an employment benefit, with value for both employee and employer. • For example, one UK employer in the knowledge sector runs a scheme that pays for structured learning up to a maximum of £160, available to all staff up to certain salary ceiling. The scheme specifies that the learning should not be directly job-related. A similar "internal individual learning account" system operates in the National Health Service. • With a few notable exceptions[25], this approach tends to be restricted to employers in 'high performance' workplaces (high trust, high discretion, high skill/knowledge). • Employers in less knowledge-intensive sectors "tend to see this [non job-specific] type of lifelong learning activity as having nothing to do with them, and as being the responsibility of either the individual or the government"[26, 27, 28].
Free/subsidised access to learning centres and facilities	• Some large enterprises have developed in-house 'corporate universities' to cater holistically for the development of their staff. Training departments work as consultants to business units at the same time as achieving company-wide standardisation. • An alternative to the in-house route is to enter into agreements with community- or education-based learning providers that offer access to significant catalogues of e-learning opportunities (e.g. learndirect centres). • Several trades unions have also built partnerships with learndirect to offer subsidised learning opportunities to the workforce[29].
Free support and advice with learning (e.g. mentors, communications with other learners)	• In Germany DGB Bildungswerk provides an online network to enable people learning about labour law to stay in touch to enable shared and informal problem solving and updating, thus forming a 'community of practice' (see below)[30]. • When learning is informal and self-directed there is little need for traditional tuition, but learners do benefit considerably from mentoring and coaching to help them articulate their learning goals and overcome barriers.

Intervention	Examples and considerations
Empowering learners to choose and direct their own learning	• BT Group has increased e-learning usage among its 100,000 employees, while also reducing overall training costs. Employees no longer need management approval to take up learning opportunities and the 'Learn BT' initiative allows BT employees' friends and families to access learning materials from an e-learning supplier, geared to home users (e.g. courses on digital photo editing, home finance)[31].
Free/subsidised provision of personal learning technologies (e.g. home PCs)	• Royal Mail has provided 22,000 home PCs to postal workers in return for a very small weekly payment. An e-learning provider is involved in the initiative and employees have access to learning for many subjects, including the European Computer Driving Licence and "everything from French and German to how to hold the perfect barbecue"[32].
Free information, advice and guidance on learning opportunities	• Information, advice and guidance is sometime sufficient on its own to increase participation in learning[33], and it is always a necessary part of the support structure for other learning interventions[34]. • As well as information about in-house learning offerings, employees may also be encouraged to use free public information services such as learndirect advice[35] which covers over 600,000 courses across the UK.

3.3 Fostering learning cultures

Through survey comments and interviews, many participants in the research strongly highlighted that successful and sustainable promotion of learning often depends on less tangible interventions that managers can support in their organisations. These focus on harnessing individuals' motivations for self-directed informal or formal learning, and encouraging these through peer support[36].

In the digital age the scope to research personal interests through Internet search engines and online forums is increasingly becoming a habit – a form of 'emergent learning behaviour' that grows and evolves as individuals have increasing access to significant, though informally structured, resources for learning.

The components for promoting this learning activity through the workplace include:

Giving employees opportunity and 'licence' for informal learning	• Allow employees time to learn about the things that interest them, even if they are not job-related (e.g. potential holiday destinations) – so that they have the skills and the habit of learning to solve their own problems[37]. • Employers naturally want to set limits on non-work-related activities online, but ruling these out altogether may send the wrong signals about individuals' responsibility for their own development.
Making learning a normal part of working life	• Make sure learning is valued by the organisation, not in the abstract, but concretely[38].
Encouraging peer support and so-called 'communities of practice' among learners	• Peer support may range from ad-hoc discussions to self-organised learning circles and formal roles such as Union Learning Representatives[39]. • Local championing to ensure that front-line managers actively encourage and enable employees to learn, and that they are open to engaging with local providers of (e)-learning[40]. • The term 'community of practice' was coined in the 1990s to refer to the social learning that occurs when people who have a common interest in some subject or problem collaborate over an extended period to share ideas, find solutions, and build innovations[41]. • The support and learning may take place online, face-to-face or through a combination of the two. It may take place in the workplace, in an educational institution, in a learning centre, or at home.

Word of mouth recommendations for learning opportunities	• Identifying and encouraging 'early adopters' of new learning opportunities, and supporting the spread of their experiences, possibly via some form of viral marketing. • Supporting '(e-)learning champions' among employees who catalyse events and new opportunities for their colleagues. In unionises workplaces, Union Learning Representatives may be ideally placed to play this role. • Peer referencing – 'my colleague did this learning opportunity and look at her now…'

These components do not represent a single 'silver bullet' to promote learning and employees' commitment to it. A multi-pronged approach is required, tailored to specific organisational settings, so that the components reinforce each other to build a culture of learning across the enterprise.

A 'learning culture' may not look the same in one organisation as it does in another, depending on the shape and sector(s) of the enterprises: it is important for managers to be sensitive to workplace cultures and sub-cultures which promote and support learning – and to look out for those which may inhibit it.

3.4 E-learning as a platform for lifelong learning

Among employers the desire to build a culture of continual and lifelong learning is rarely a central driver for e-learning[42]. Learning Light's research suggests that reducing the costs of training remains the primary consideration, with the caveat that the expectation of cost-reduction tends to be misplaced. However, the second most desirable benefit for employers is that e-learning can make learning available to more people, more of the time[43]. This provides a platform on which a continual learning culture can be built.

An organisation adopting e-learning face challenges to ensure that implementation achieves business goals and that it is embraced by employees – though research suggests that the most successful means of promoting e-learning are the same as for other learning interventions.

Promotion method	Examples and considerations
Leadership and championing by senior management	• A clear learning strategy, linked to corporate goals and based on sound business cases, will help ensure top managers are motivated and focused on its achievement[44] [45]. Care is needed to make the strategy inclusive to the fact that employees tend to view the corporate goals sceptically[46]. • To model desired behaviours, managers should themselves use e-learning and talk about their use of it to their staff. • If few people have been exposed in practical terms to e-learning, demonstration and senior advocacy is critical to wider uptake.
Involvement and advocacy by workforce representatives	• In unionised workplaces, a very important enable for the uptake of e-learning is the involvement and support of Union Learning Representatives[47]. • Understand and address employee concerns: many potential learners lack sufficient confidence in their own ICT and other skills to feel that e-learning will work for them; they also feel they lack the ready access to facilities (at work and/or at home) to get the most from e-learning[48]. • At the same time, employees are excited by the ability to access learning when convenient to them, and the scope for personal development[49] – so these enthusiasms can be tapped. • Lack of good learner support is frequently cited as a problem with some e-learning. Active involvement of staff provides the means for peer

Promotion method	Examples and considerations
	support between employees, which can ameliorate this problem as well as reinforcing a learning culture. • Effective employee involvement and advocacy encourages word-of-mouth recommendations, discussed above. • Some employers have reached formal 'lifelong learning agreements' with trades unions in their workplaces, securing the support and resources of union representatives[50].
Organisational rewards and incentives	• Link new learning opportunities to Individual Learning Plans and/or appraisals. • 'The behaviour you want to see has to be rewarded.' • Use what is most important to employees – management approval and personal reward[51].
Marketing promotions	• Perhaps surprisingly, the e-learning experts consulted in Learning Light's research did not set a lot of store by internal marketing methods (e.g. demonstrations, email/intranet campaigns) as a means of promoting e-learning[52]. • These may be necessary as part of promoting e-learning, but on their own they are not sufficient.

4   Implications for employers

The previous section demonstrated that encouraging learning in organisations, and successful implementation of learning interventions, rests on three challenges for employers:

- leadership from the top to set the targets and the tone for enhancing skills, informed by
- active involvement of employees to shape any learning interventions, and sustained by
- organisational incentives to reward human resource development.

Research into embedding of e-learning in large companies has concluded that the existence or otherwise of a learning strategy was the most significant correlate of successfully embedding e-learning[53]. An effective strategy brings together the three challenges above so that steps towards learning goals and business outcomes remain clearly focused and can be measured and reviewed.

The development and implementation of a learning strategy begins and ends with the learners, with the need for leadership from senior management a strand that runs through all of the steps summarised in the table below.

Understanding employees and their learning needs	• What is the profile of the workforce in terms of language and ICT skills – to what extent do they have the competence and confidence to direct their own learning and benefit from e-learning? • Do existing work patterns provide sufficient opportunities for effective self-paced learning (e.g. in terms of 'quiet time/space' away from distractions, access to appropriate ICT)? • How do employees find out about learning opportunities and what support do they need to take advantage of them?
Integrating learning interventions with business drivers and strategies	• This step is at the heart of the organisation's strategic thinking about how stimulating learning will benefit the bottom line. • The learning strategy should be clear about the advantages for the organisation of more flexible, adaptable employees who have developed the habit of learning with and from each other how to solve problems. • It should identify the development and progression paths for employees in

	different parts of the organisation and tailor provision accordingly[54].
	• If it is to sustain support from the organisation, the learning strategy must be well integrated with the strategies for business development, which it will support, and for ICT, which will support it – as well as being embedded in the organisation's human resource plans.
	• As a prerequisite for the leadership that it will depend on it for its success, the strategy must have board-level support.
	• Take account of the fact that for many (most?) employees their starting point is one of detachment from work, rather than a focused enthusiasm for the organisation's mission[55].
	• If unions are recognised, decide how to involve them in the strategy.
Building a learning platform	• Aside from a clear learning strategy, research shows that ICT infrastructure and access for all employees from all locations is the second most significant correlate of embedding e-learning in large organisations[56].
	• Assess the best means of procuring and delivering job-related training. Once you have a learning platform tailored to delivering this training, what further learning materials, which could motivate and inspire employees, could be deployed on the same platform? Which learning providers can you partner with to help?
	• As learner support is invariably cited as a significant factor in the effectiveness and success of e-learning, can you identify the forms of support (including peer support) that your employees will need with your platform[57]?
Identifying suitable learning interventions	• Section 3 provides a classification of interventions to help employees develop the learning habit. These are not all appropriate to all organisational contexts (e.g. Home Computer Initiatives may not be relevant if most employees already have ready access to ICT that can be used for learning).
	• Review what assistance is available to employers from the education sector, for example through learndirect, FE colleges and Universities, sector skills councils – in many cases this may help provide subsidised access to learning opportunities.
	• Consider whether or not to commit to Investors in People certification..
Aligning organisational procedures to reward learning behaviours	• How can positive learning behaviours be rewarded? Since direct career advancement is only infrequently available as a reward, what other incentives can be provided?
	• Are there any practices with the organisation that actually inhibit learning, or could give employees the impression that it is not their responsibility to take care of their own development?
	• How can senior managers demonstrably 'walk the talk' and act as role models for other employees?
	• Should there be a formal agreement about lifelong learning between the organisation and the workforce?
Seed mechanisms to encourage peer support and word-of-mouth recommendations among employees	• Employees often feel rewarded simply by being given time and space to learn effectively and to share their learning experiences with others. (Where research and experience has shown that employees prefer classroom learning to e-learning, it is usually the un-pressurised time, space and networking opportunities that they say they miss with the latter.)
	• How can learners best support each other across the organisation – through online discussion forums, learning centre meetings or other communications media?
	• What is the scope for learning champions, and – if the organisation is unionised – how might union learning representatives participate in advocating a learning culture?

5   Endnote

5.1   Themes

During Learning Light's work on this report, seven themes became apparent.

1. **The time is right.** ICT's reach into the home and workplace, and the growing e-fluency of the UK's citizens make e-learning a realistic option. Talk of a "second wave" for e-learning is well-founded.

2. **The devil is in the detail.** A wide range of organisational and social factors are at work on the uptake of learning and e-learning in the workplace. The impact of these varies between different parts of the same organisation, and more so between different localities in the UK. Suppliers of e-learning, in particular, need to take account of these factors in their work with clients. Multi-site organisations should take care to reflect the circumstances in different sites.

3. **Workforce attitudes are changing.** If ever employees' support for the mission of the organisation could be taken for granted, it is hardly the case today, and will be even less so in the future. Strategies should acknowledge this.

4. **Intervene rather than exhort.** Direct interventions can greatly increase the uptake of learning in the workplace. The most important of these are direct financial support for learning or career-development, and free or subsidised access to learning centres and facilities.

5. **Get the climate right.** Make learning a normal part of working life. Informal and/or self-directed learning is of growing importance, and should not be seen as irrelevant to the needs of the organisation. Instead encourage peer support, and encourage individuals to engage in self-directed informal or formal learning, and provide the facilities for it.

6. **Leadership and advocacy, not content and technology, are king and queen.** There is money to be made selling content and technology, and many organisations lack the expertise to make well-informed purchasing judgements on either. So is it any surprise that they've dominated thinking on e-learning? In the long run, the most powerful enablers of workplace learning and the uptake of e-learning are energetic leadership by senior and middle managers, and, support for, and involvement and advocacy by, workforce representatives.

7. **Strategy matters.** The most significant correlate with successfully embedding learning and e-learning in an organisation is the existence of a learning strategy, with the resources to see it through. Aligning learning strategy with other business, ICT and HR strategies is a complex task, which may often require several iterations over an extended period to get it right.

These themes represent serious long-term challenges for both employers and learning providers. Where these two groups can build high-trust partnerships, this will give them both an advantage in tackling the challenges and achieving sustainable goals.

5.2   Resources

Appendix 6.1 contains a comprehensive Bibliography, and Appendix 6.3 contains approximately 50 supporting Notes, in some cases to individual resources, in some cases to Learning Light narrative or analysis, or to some pertinent quotations from Learning Light's interviews. We list below our "top dozen" sources, which we commend to readers of this report who want to learn more.

1. *Linking Thinking – Self-directed Learning in the Digital Age.* Phil Candy. Australian Department of Education.
   http://www.dest.gov.au/sectors/training_skills/publications_resources/profiles/documents/report_x7_pdf.htm

2. *Managing to Change? British Workplaces and the Future of Work.* Michael White, Stephen Hill, Colin Mills and Deborah Smeaton. Palgrave Macmillan, 2004. ISBN 14-391477X.

3. *Testimony before the US Senate Committee on Health, Education, Labour, and Pensions.* Tamara J Erickson. http://www.altuscorp.com/downloads/erickson_senate_testimony.doc. May 2005.

4. *Where are the Gaps? An Analysis of UK Skills and Education Strategy in the light of the Kok Group and European Commission Midterm Review of the Lisbon goals.* Will Hutton and The Work Foundation for the DfES. http://www.dfes.gov.uk/skillsstrategy/_pdfs/whitePaper_PDFID109.pdf. March 2005.

5. *The Internet in Britain. The Oxford Internet Survey, OxIS.* William H. Dutton, Corinna di Gennaro and Andrea Millwood Hargrave. Oxford Internet Institute. http://www.oii.ox.ac.uk/research/oxis/OxIS_2005_Internet_Survey.pdf. May 2005.

6. *Report on Embedding E-learning in Large Companies*. Howard Hills Associates and HI Europe, on behalf of Ufi Ltd. http://mmdesign.co.uk/research/. 2004.

7. *Learning Organisations, Lifelong Learning and Mystery of the Vanishing Employers* by Ewart Keep (ESRC Centre on Skills, Knowledge and Organisational Performance, 2000) http://www.open.ac.uk/lifelong-learning/papers/39295485-0007-585D-0000015700000157_EwartKeepOUCONF-Paper.doc

8. *Surveying the future of workplace e-learning: The rise of blending, interactivity and authentic learning.* Kyong-Jee Kim and Curtis J. Bonk, Indiana University, Bloomington, Ting Ting Zeng, Warwick University, Coventry, UK. http://elearnmag.org/subpage/sub_page.cfm?section=7&list_item=5&page=1. June 2005.

9. *Harnessing Technology; Transforming Learning and Children's Services* (e-Strategy). Department for Education and Skills. http://www.dfes.gov.uk/publications/e-strategy/. 2005.

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11. *CIPD Helping People Learn. Jake* Reynolds, Cambridge Programme for Industry. http://www.cipd.co.uk/helpingpeoplelearn/. April 2004.

12. *Learning without lessons: Supporting learning in small businesses.* Lisa Doyle, Maria Hughes. LSDA Research Report. http://www.lsda.org.uk/pubs/dbaseout/detailed.asp?title=learning%20without%20lessons. September 2004.

6 Appendices

6.1 Bibliography

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1. *Allison Rossett's "Big Tent" View.* Ryann Ellis. Learning Circuits, published by the American Society for Training and Development (ASDT). http://www.learningcircuits.org/2005/may2005/rossett.htm. May 2005

2. *Can interest in Distance Training be Sustained in Corporate Organisations.* Zane L. Berge and Adrian A Kendrick. http://www.itdl.org/Journal/Feb_05/article05.htm. January 2005.

3. *Designing the just learning society – a critical enquiry.* Michael Welton. NIACE. ISBN 1862012423. June 2005.

4. *E-learning in the workplace: A Union negotiation and implementation guide.* Seb Schmoller and David Jennings. TUC. http://www.tuc.org.uk/learning/tuc-9629-f0.cfm. March 2005.

5. *ERSC Fact Sheets:* Human Resources in the UK, Skills in the UK, Education in the UK, Knowledge Economy in the UK and Home Learning in the UK.

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    Skills: http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/facts/index23.aspx

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    Knowledge Economy: http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/facts/index4.aspx

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6.2 Interview Participants

Learning Light is grateful to the following people who gave freely of their time to be interviewed in the preparation of this report:

- *Tim Bichara*, Producer, BBC;
- *David Burrows*, Director of Education, Microsoft UK;
- *Terry Cowham*, Assistant Regional Director, Open University;
- *Marie Dandy*, Practice Manager, Lancasters solicitors;
- *Will Davies*, Senior Research Fellow, Institute for Public Policy Research (IPPR);
- *Bob Fryer*, Director of Widening Participation, Department of Health;
- *Doug Gowan*, Chief Executive, The Open Learning Partnership;
- *Isobel Harding*, Head of Yorkshire & Humber Regional Assembly Information Society Unit;
- *Steve Howard*, Head of Training, Lloyds Pharmacy;
- *Andrew Joly*, Production Director, Line Communications;
- *Vernon Jones*, SME Programme Manager, South Yorkshire e-Learning Programme;
- *Tricia Kings*, Programme Manager, The Reading Agency;
- *Diana Laurillard*, retiring Head, DfES e-Learning Strategy Unit, and now Professor of Learning with Digital Technologies at the London Knowledge Lab in the Institute of Education;
- *David Meredith*, Director, Teknical (part of Serco);
- *Jason Rhodes*, Head of Sales, Ufi;
- *Liz Smith*, National Officer (Learning Services), Trades Union Congress;
- *Stuart Sutherland*, Director, www.cancernursing.org;
- *Eileen White*, Training Manager, Asda;
- *Andrew Wright*, Training Design Manager, Firstdirect (part of HSBC);
- *Amanda Yarrow*, Training Team, Orange.

6.3 Notes

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[1] Attributed to William Gibson http://en.wikiquote.org/wiki/William_Gibson

[2] The UK economy has nearly 30 million employees and is the world's fourth largest, and the UK's people are the worlds twelfth richest, with an unemployment rate of 4.7% (ESRC. Economic Performance and Development: The UK Economy. http://www.esrc.ac.uk/. Last accessed 22/9/2005).

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[4] Nearly 70% of employment is concentrated in three sectors: finance and business services (20%); distribution, hotels and restaurants (23%); education, health, and public administration 24%). Manufacturing construction, and transport and communications account for a further 25%. (ESRC. Work in the UK. http://www.esrc.ac.uk/. Last accessed 23/8/2005.)

[5] Over one quarter of all employers, and a larger proportion of larger employers look to recruit migrant workers, with the vast majority of migrant recruits offered permanent contracts . ESRC. Migration in the UK. http://www.esrc.ac.uk/. Last accessed 23/9/2005.

[6] In 2001 4.6 million (7.9%) of the UK population belonged to non-white ethnic minority groups, up from 3.0 million in 1991. The proportion of ethnic minority people living in the English regions ranges from 2% to 13%. (ESRC. Ethnic Minorities in the UK. http://www.esrc.ac.uk/. Last accessed 22/9/2005.)

[7] Source: ESRC. (Workers in the UK. http://www.esrc.ac.uk/. Last accessed 22/9/2005.) For most people, the workplace is, after the family and education system, the third most important socialiser (Skilling the Unskilled: access to work-based learning and the lifelong learning agenda. Helen Rainbird. Journal of Education and Work, Vol. 13, No. 2, 2000).

[8] Managing to Change? British Workplaces and the Future of Work. Michael White, Stephen Hill, Colin Mills and Deborah Smeaton. Palgrave Macmillan, 2004. ISBN 14-391477X. The proportion of people aged over 50 in the population as a whole and in the workforce is rising, with the gap between men and women narrowing. (ESRC. Ageing in the UK. http://www.esrc.ac.uk/. Last accessed 23/9/2005.)

[9] Testimony before the US Senate Committee on Health, Education, Labour, and Pensions. Tamara J Erickson. May 2005. http://www.altuscorp.com/downloads/erickson_senate_testimony.doc. Last accessed September 2005.

[10] Managing to Change? British Workplaces and the Future of Work. Michael White, Stephen Hill, Colin Mills and Deborah Smeaton. Palgrave Macmillan, 2004. ISBN 14-391477X. In unionised workplaces Union Learning Representatives, a category of trade union representative with statutory rights concerning learning and development in the workplace, are playing an increasingly influential role (The ABC of IAG. How to deliver top-quality information, advice and guidance to learners at work. TUC, 2003. http://www.learningservices.org.uk/extras/ABGIAG4.pdf. Last accessed 24/9/2005.) In a Learning Light interview with Bob Fryer, NHS National Director for Widening Participation, added "One of the most important, and often under-recognised enablers, in the NHS and in the Social Care sector is trade union involvement in and commitment to workplace learning, with strong input from Union Learning Representatives. I could give you chapter and verse on this from all over the NHS, and in TUPE-affected contracted out activities, across a wide range of unions including UNISON, RCN, AMICUS, TGWU and professional associations like the Society of Radiographers."

[11] This is down from nearly 60% in the 1970s, and membership is concentrated particularly in the public, manufacturing, transport, and energy sectors (ESRC. Workers in the UK. http://www.esrc.ac.uk/. Last accessed 22/9/2005).

[12] For example, levels of literacy and numeracy are low. The labour market demand for people with good literacy and numeracy skills is increasing, and 26 million UK people of working age have levels of literacy or numeracy below those expected of school leavers (the equivalent of an A* - C pass at GCSE). The low skills are spread across all age groups in the working age population, with no significant variation between men and women or between ethnic groups where there are no language barriers. Migrants who enter the country without English language skills may also have low levels of literacy in their own language(s), or low levels of numeracy. Some may have lived and worked within their own community for years without improving their English language skills. Estimates of the proportion of the population that is "functionally illiterate" vary between 3% and 20%. Employers may be unaware of the extent to which their employees have low literacy or numeracy. Educational outcomes are only moderate. By 2003, the proportion of the UK workforce with no formal qualifications had reduced to just over 10%, with 48% having a formal qualification at Level 3 or above. (ESRC. Skills in the UK. http://www.esrc.ac.uk/. Last accessed 23/8/2005).

[13] Where are the Gaps? An Analysis of UK Skills and Education Strategy in the light of the Kok Group and European Commission Midterm Review of the Lisbon goals. Will Hutton and The Work Foundation for the DfES. March 2005. http://www.dfes.gov.uk/skillsstrategy/_pdfs/whitePaper_PDFID109.pdf. Last accessed 23/9/2005.

[14] These include including, in England, the Skills for Life Strategy, a National Employer Training Programme, the formation of industry-led Sector Skills Councils, the QCA's Framework for Achievement, and the setting up of a network of National Skills Academies covering all the major sectors of the economy, and operating in partnership with the public education system from September 2006. See also *National Skills Academies Prospectus 2005/6* (DfES). An innovative approach to meeting employers' needs for training. http://www.dfes.gov.uk/skillsstrategy/_pdfs/whitePaper_PDFID124.pdf. Last accessed 23/9/2005.

[15] Managing to Change? British Workplaces and the Future of Work. Michael White, Stephen Hill, Colin Mills and Deborah Smeaton. Palgrave Macmillan, 2004. ISBN 14-391477X.

[16] Managing to Change? British Workplaces and the Future of Work. Michael White, Stephen Hill, Colin Mills and Deborah Smeaton. Palgrave Macmillan, 2004. ISBN 14-391477X.

[17] Internet usage by UK citizens grew fast since the mid 1990s, but only increased by 3% (to 60%) between 2003 and 2005. Since 2003, and the proportion of non-users who are ex-users of the internet has increased from 17% to 25%. Broadband uptake continues to increase steeply, with 59% of households having a broadband connection (up from 19% in 2003), and with 36% of UK citizens having access to a broadband connection (up from 11% in 2003). 78% of internet users say they use it to look up facts, and nearly half to look up the definition of a word. A further 40% say they use it to find information for school, and one in five expressly for distance learning. (*The Internet in Britain*. The Oxford Internet Survey, OxIS. William H. Dutton, Corinna di Gennaro and Andrea Millwood Hargrave. Oxford Internet Institute. May 2005. http://www.oii.ox.ac.uk/research/oxis/OxIS_2005_Internet_Survey.pdf. Last accessed 23/9/2005.)

[18] Learning Light interview with David Burrows, Microsoft's UK Director of Education. "It is now commonplace to talk in policy terms about the school/home continuum and about the role ICT needs to play in facilitating this. Should we not now also be talking about the work/home learning continuum, since in many contexts, the home will be a suitable place for to do work-related e-learning?"

[19] 85% of the UK population has a mobile phone, with 80% using their phone for text messaging, and over 10% for Internet or email access. 75% of households now have a multi-channel TV (Cable, Satellite, or Digital). PDAs are found in less than 10% of households. (*The Internet in Britain*. The Oxford Internet Survey. William H. Dutton, Corinna di Gennaro and Andrea Millwood Hargrave.

Oxford Internet Institute. May 2005.)
http://www.oii.ox.ac.uk/research/oxis/OxIS_2005_Internet_Survey.pdf. Last accessed 23/9/2005.

[20] A Dose of Reality for Healthier E-learning: Value from e-learning – a national and local perspective. Learning Light. Unpublished research. September 2005.

[21] With the ubiquity of the Internet, there is growing evidence that an increasing proportion of the UK's learning occurs through informal e-learning at home (or at work!), as a supplement to, or substitute for, participation in courses proper ESRC. Home Learning in the UK. http://www.esrc.ac.uk/. Last accessed 23/8/2005. Linking Thinking – Self-directed Learning in the Digital Age. Phil Candy. Australian Department of Education.
http://www.dest.gov.au/sectors/training_skills/publications_resources/profiles/documents/report_x7_pdf.htm. Last accessed 23/8/2005.

[22] Learning Light interview with Doug Gowan, Chief Executive of the Open Learning Partnership. "Poorly designed materials can survive if the human support for them is good. The myth persists that learning materials must be media rich to be any good. What matters is that the learning is rich, which often does not require media rich materials."

[23] Learning Light interview with Liz Smith, TUC National Officer for Learning Services. "e-learning is often assumed to be a lone activity, with no need for tutor support. For a lot of learners this is a major barrier. In our experience with workplace learning centres, peer and tutor-support are essential if e-learning is going to 'take off'".

[24] Around 160 people were invited, by email, to complete the web-based questionnaire (due to the nature of email and the possibility of recipients forwarding the invitation, it is not possible to provide a precise total). Forty responses were from the UK. There were also responses from Finland (2), Sweden (2), North America (2), New Zealand (2), Australia (1). Some of the UK-based respondents clearly work internationally. Just over half (27) say they are 'directly involved in the organisation and delivery of learning programmes'. Respondents were invited to assign themselves to one or more categories.

Category	Example job titles	Proportion of respondents
Agency or other organisation encouraging take-up of e-learning	Skills Development Cluster Manager; Services and Communities manager for Further Education; National Director for Widening Participation in Learning (large public sector organisation); MLE Manager; City Learning Centre Manager.	50%
Provider of e-learning solutions (systems, materials, learning delivery services, or courses)	CEO of an education and training software; Business Development Director, provider of eLearning systems and content; Director, E-learning content provider.	44%
Enabler of e-learning (consultancy, research)	Strategic consultancy for the e-learning industry; Freelance education consultant specialising in e-learning; Senior Research Fellow, Digital Society & Media Team; Research Group Leader Learning Environments research group; Policy Advisor, Community Learning; Chair of Learning with Digital Technologies; Emeritus Professor of Lifelong Learning.	56%
Other	'Other' responses included: University, FE College, Trade Union, Think tank, Company selling automotive products. Only two respondents who indicated 'other' did not select one of the other categories as well.	27%

[25] See, for example, the review of Employee Development Schemes in companies like Ford by Amicus (http://www.poptel.org.uk/whitehall-college/whitehall/pdf/EDS.pdf, last checked 27 September 2005)

[26] *Learning Organisations, Lifelong Learning and Mystery of the Vanishing Employers* by Ewart Keep (ESRC Centre on Skills, Knowledge and Organisational Performance, 2000) http://www.open.ac.uk/lifelong-learning/papers/39295485-0007-585D-0000015700000157_EwartKeepOUCONF-Paper.doc

[27] Learning Light interview with Bob Fryer, NHS Director for Widening Participation. "Typically an organisation does not see continuous learning and development as normal. Rather it says 'Induction - yes. Statutory training – yes. But beyond that – no.' The Audit Commission picked this up saying that in the NHS there is an unwillingness to recognise the hidden talents of staff."

[28] Learning Light interview with Isobel Harding, Head of the Yorkshire and the Humber Regional Assembly's Information Society Unit. "Businesses often lack understanding as to the benefits (for the business) of supporting employees in their learning. Even businesses with the resources often do not have the commitment to use these resources to support and encourage employees in their learning."

[29] *E-learning in the Workplace: a union negotiation and implementation guide.* TUC (2005) http://www.tuc.org.uk/learning/tuc-9629-f0.cfm (last checked 20 August 2005)

[30] *Trade union use of ICT in support of learning.* Creanor L. & Walker S. (2005). http://www.tuc.org.uk/skills/tuc-9628-f0.cfm (last checked 23 September 2005).

[31] *BT Group plc: Driving E-learning Usage through Targeted Programs and Enterprise-wide Licensing.* Karen O'Leonard, Bersin & Associates (2004). http://www.elearningresearch.com/site/freeresearch.asp (requires free registration).

[32] *Royal Mail delivers on e-learning.* James Mortleman, vnunet.com (2004). http://www.vnunet.com/2125874

[33] The ABC of IAG. How to deliver top-quality information, advice and guidance to learners at work. TUC, 2003. http://www.learningservices.org.uk/extras/ABGIAG4.pdf. Last accessed 24/9/2005.

[34] Learning Light interview with David Burrows, Microsoft's UK Director of Education. "My long term vision is of a universally available catalogue of adult learning opportunities, which is easily navigable, accurate, up-to-date, and comprehensive. Such a catalogue would also contain information about funding and progression routes. It would be designed for use both by employers and by learners."

[35] http://www.learndirect-advice.co.uk/

[36] Learning Light interview with David Burrows, Microsoft's UK Director of Education. "Our internal Microsoft system, called Voyager, which I can access from any networked PC, contains my individual learning plan, different sections of which are visible to designated peers, and to my manager. I can choose from available learning opportunities, which are mapped against my plan. The system indicates things like: when the learning is available, how long it will take, and its format; what it will cost, and whether I'm entitled to undertake it without obtaining prior approval. At Microsoft we've come to take Voyager for granted to such an extent that we possibly undervalue it because it is a part of our culture of being a learning organization."

[37] Action Number 3 in the soon-to-be-published "Digital & ICT Skills Action Plan for Yorkshire & Humber 2005 to 2009" states "Exploit the potential for the workplace for introducing adults to digital opportunities for the first time. This may involve employers allowing personal use of the web outside working hours linked with access to associated training and e-learning."

[38] Learning Light interview with David Burrows, Microsoft's UK Director of Education. "A key enabler for learning is the culture of the workplace. If the culture is such that learning is valued, not in the abstract, but concretely, and is seen as a normal part of working life, then, if the opportunity to learn is there, employees will be more likely to grasp it."

[39] Learning Light interview with Liz Smith, TUC National Officer for Learning Services. "A major enabler is the opportunity to lock into peer group support. People will say 'if someone from amongst my mates can help me with this, then I will do it.".

[40] Learning Light interview with Bob Fryer, NHS National Director for Widening Participation. "Local management champions are important, though serious top-level commitment can be electrifying. These local champions do things like engaging with the unions; getting into dialogue with the local Learning and Skills Council; linking into a local FE provider. So a key strategy in large organisations is to give these local champions support and encouragement."

[41] Etienne Wenger is the foremost exponent of the 'communities of practice' concept. His introduction to the field, including one-page 'quick start-up guide' can be found at
http://www.ewenger.com/theory/index.htm

[42] The results of Learning Light's survey question concerning the links between lifelong learning and e-learning were:

To what degree do you think employers, in general, see the lifelong learning agenda as a driver for promoting e-learning?	Response Percent	Response Total
Significant degree	13%	6
Moderate degree	20%	9
Small degree	37%	17
No degree	24%	11
Not sure	7%	3
Total Respondents		46

[43] In the questionnaire survey, the ranking of benefits that employers expect from e-learning (based on an aggregate of 46 responses), was:
1. reducing costs of training (e.g. travel, accommodation, facilities and materials)
2. making learning available to more people, more of the time
3. increasing effectiveness of business processes
4. development, satisfaction and retention of staff
5. development, satisfaction and retention of customers
6. integration with knowledge management strategy
7. other (including immediacy, personalisation, repeatability, results history and empowerment of individuals)

[44] Learning Light interview with Diana Laurillard, prior to her leaving the post of Head of the DfES e-Learning Strategy Unit. "It is fanciful for a business to think it can get away without having a workplace learning strategy!"

[45] Learning Light interview with Isobel Harding, Head of the Yorkshire and the Humber Regional Assembly's Information Society Unit "Just as businesses often lack IT strategies, they often lack learning strategies. This is a major barrier."

[46] Testimony before the US Senate Committee on Health, Education, Labour, and Pensions. Tamara J Erickson. May 2005. http://www.altuscorp.com/downloads/erickson_senate_testimony.doc. Last accessed September 2005.

[47] Learning Light interview with Bob Fryer, NHS National Director for Widening Participation. "One of the most important, and often under-recognised enablers, in the NHS and in the Social Care sector is trade union involvement in and commitment to workplace learning, with strong input from Union Learning Representatives. I could give you chapter and verse on this from all over the NHS, and in

TUPE-affected contracted out activities, across a wide range of unions including UNISON, RCN, AMICUS, TGWU and professional associations like the Society of Radiographers."

[48] Respondents to Learning Light's survey ranked the factors that most put learners off e-learning. These seem to focus most on the practicalities (skills and equipment) to participate effectively, followed by more psychological resistance:

1. lack of confidence in ICT/other skills required to learn successfully
2. lack of access to facilities for learning at home or at work
3. resistance to new way of learning
4. perceived inferiority of e-learning to traditional methods
5. open-ended nature of learning makes it difficult to complete

[49] Respondents to the same survey ranked the factors that learners find attractive about e-learning:

1. ability to access learning when convenient (ranked first by significant margin)
2. attractiveness and effectiveness as a way of learning
3. scope for personal development
4. range and diversity of learning available
5. novelty of new way of learning
6. straightforward way of advancing career

[50] A sample agreement and links to further resources can be found in *E-learning in the Workplace: a union negotiation and implementation guide*. TUC (2005) http://www.tuc.org.uk/learning/tuc-9629-f0.cfm (last checked 20 August 2005)

[51] Learning Light interview with David Burrows, Microsoft's UK Director of Education. "What employees need to know is: 1. Can I get access to learning which is relevant to me, when and how I need it, in a way which fits in with my work and home life? 2. Will my employer give me the time I need to do the learning? 3. When I am successful in my learning will this be rewarded by my employer, and will it be recognised so that it will help me get on in my work / life?"

[52] Respondents ranked the effectiveness of different ways of promoting e-learning, making a clear call for strong leadership backed by consultation and organisational embedding:

1. championing by senior management
2. involvement and advocacy by workforce representatives
3. organisational rewards and incentives (e.g. encouragement, review and appraisal of individual learning plans)
4. demonstrations and 'roadshows'
5. email, intranet and newsletter features/campaigns

[53] *Report on Embedding E-learning in Large Companies*. Howard Hills Associates and HI Europe, on behalf of Ufi Ltd (2004). http://mmdesign.co.uk/research/ (checked 7 August 2005). This research used factor analysis on an extensive survey to identify the four dimensions that correlate with 'embedding' of e-learning (in decreasing importance):

1. Management imperatives (e-learning strategy, board commitment, seeking innovation from suppliers);
2. Web capability (infrastucture and access for all employees from all locations);
3. Attitude to learning (culture of employee appraisal and development);
4. Empowered learners (open to new methods, and confident that learning will be valued by management).

[54] New forms of learning, such as e-learning, tend to be spread unevenly across organisations. Partly this may be due to 'early adopters' being concentrated in specific departments, but often underlying this are genuine differences in learner needs. In Learning Light's questionnaire survey nearly half of employer respondents said the maturity and range of e-learning use was 'not similar at all' in different parts of their organisation, and a further number said they were 'not sure' (which one would normally expect to imply lack of conformity across the organisation). Only one in four respondents said the state of e-learning was 'very' or 'quite' similar across their organisations.

[55] Testimony before the US Senate Committee on Health, Education, Labour, and Pensions. Tamara J Erickson. May 2005. http://www.altuscorp.com/downloads/erickson_senate_testimony.doc. Last accessed September 2005.

[56] *Report on Embedding E-learning in Large Companies*. Howard Hills Associates and HI Europe, on behalf of Ufi Ltd (2004). http://mmdesign.co.uk/research/ (checked 7 August 2005).

[57] British Standard *BS 8426, A code of practice for e-support in e-learning systems, provides recommendations for supporting learners*. Available via http://bsonline.techindex.co.uk.