E-learning maturity in the workplace – the benefits and practices

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Abstract: Over the past five years, the authors have conducted research with over 700 UK-based organisations (including many multi-national organisations) in an effort to identify implementation practices that positively influence the business impact, staff impact (including motivation) and uptake of learning technologies. This work has led to the development of a model of e-learning maturity designed to help businesses identify their implementation strengths and weaknesses. This article highlights the results of the latest research with over 300 UK-based employers, which took place at the start of the current credit crunch. It considers how employer attitudes to e-learning have changed over the last two to four years and describes the differences in results and practices between mature and sporadic users of learning technology. It then uses these results to review the authors’ current e-learning maturity model.

Keywords: workplace e-learning; e-learning adoption; e-learning implementation; change management; business alignment; maturity

Introduction and background

The study reported on in this article was carried out to examine the experiences of those who are already investing in learning technologies in the workplace. What are organisations doing? Why are they doing it? What factors contribute to their success (or otherwise)?

The aims of the project were as follows:

• to provide a snapshot of UK e-learning activity in the workplace at the point where the current credit crunch was taking effect
• to investigate emerging trends in the use of learning technologies and changing attitudes and behaviours over time
• to revalidate the Towards Maturity model for workplace e-learning implementation and use it to consider areas of implementation strength and weakness for employers.

The research reports that were an output of this study were originally created to inform both employers as well as providers and policymakers. They sought to provide employers new to learning technologies with evidence to support a business case for the use of these technologies and inform their implementation planning. The reports also strove to provide e-learning providers and policymakers with an increased level of awareness of employer needs in this area, highlighting potential interventions that would be likely to maximise skills and productivity gains.
For the purpose of this study we define the term ‘e-learning’ as the use of any information and communication technology (ICT) across the learning process, including skills diagnostics, learning delivery, support, management (of learners and content), informal and formal learning. (The term 'learning technology/ies' is also used interchangeably with 'e-learning' in this article.) This definition is deliberately broad and focuses on the application of ICT technology to the learning process rather than on the technology itself; as such, it encompasses a wide range of tools and technologies including traditional learning services such as e-assessment, e-content and learning management systems (LMS's) in addition to the newer supporting services such as skills profiling tools, performance support systems and a wide range of social media.

Factors affecting successful e-learning adoption in the workplace

E-learning implementation has had a chequered history. There have been significant failures and significant successes both in large-scale, provider-driven implementations (Megatrends in e-learning provision, 2007) and within the workplace where it is embraced, albeit often reluctantly (CIPD, 2009).

Failures in workplace ICT implementations were widely heralded following the burst of the dot-com bubble, which fuelled a flurry of activity to identify what differentiates a successful implementation from an unsuccessful one. An initial review of success factors for workplace e-learning (Sloman & Rolph, 2003) highlighted that such factors included strategic intent, effective introduction, blending of learning modes, learner support and effective measurement/monitoring. A study involving 16 European organisations that had been externally recognised for their sustained success in embedding e-learning and 2,000 learners within those organisations (Overton, 2004) identified additional factors such as the importance of business alignment, management and learner relevance, learner choice, line manager engagement, communication and change management as contributing to success. Hills (2004), in his research with over 500 large employers, analysed respondents' answers in relation to 36 factors pertaining to management activity and organisational behaviour, and in doing so identified similar dimensions influencing the success of attempts to embed e-learning within workplace activity.

The present article is primarily concerned with the concept of maturity of e-learning adoption in the workplace. Two other maturity models identified during the initial stages of the authors’ research included the Information and Communication Technology (ICT) Test Bed technological maturity models in development by Becta for use in schools (Underwood & Dillon, 2004) and the e-learning maturity model produced by the Victoria University of Wellington in New Zealand (Marshall, 2006). Both are multi-dimensional and include self-assessment tools. They are aimed at improving the capability of an educational supplier to use e-learning to deliver enhanced educational results and better meet the needs of students and tutors. In other words, the work described in this article is unique in that the aforementioned existing models have been developed for educational establishments where learning is the organisational goal of the business. Businesses and corporations at large, charities and publicly-funded organisations have different goals: in such organisations learning is a means to an end rather than an end in itself.

In 2006, the authors led a study in which the concept of maturity was used to analyse over 200 employer respondents’ responses to a range of implementation questions (Overton, Hills & Dixon, 2006). The organisations that participated in the 2006 study described their differing experiences with e-learning at the time of participating, according to a maturity scale loosely based on the ICT Test Bed technological maturity models (Underwood & Dillon, 2004). Participating employers (typically learning managers, some with a specific e-learning responsibility) were asked to note agreement with one of the statements in Table 1. This ranking assisted in identifying trends of experience as maturity increased, although it was
noted that maturity varied across business sites and departments. It was also noted that ‘innovators’ could occur at each stage in the maturity model – what is innovative and experimental in one organisation may be regarded as ‘Established’ or ‘Embedded’ practice in another. The study found that ‘Established’ and ‘Embedded’ users only appear after three years’ experience or more, with some organisations still perceiving themselves to be ‘Developing’ and ‘Sporadic’ users even after several years of experience, highlighting that it is possible to become stagnant at any one stage.

Table 1: List of self-assessment statements around workplace e-learning maturity

<table>
<thead>
<tr>
<th>Category</th>
<th>Survey statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Novice</td>
<td>We know very little about e-learning</td>
</tr>
<tr>
<td>The Sporadic User</td>
<td>Use of e-learning is localised or sporadic (used in some departments or for some courses)</td>
</tr>
<tr>
<td>The Developing User</td>
<td>We are developing and coordinating our use of e-learning</td>
</tr>
<tr>
<td>The Established User</td>
<td>E-learning is established across the company and is transforming the way we manage our learning and development (L&amp;D)</td>
</tr>
<tr>
<td>The Embedded User</td>
<td>E-learning is thoroughly embedded within the company – we have a learning culture which influences our everyday work</td>
</tr>
<tr>
<td>The Innovator</td>
<td>We are thought leaders and innovators in the way in which we are using e-learning – prepared to experiment in new areas and with new technologies</td>
</tr>
</tbody>
</table>

The 2006 study produced two categories of results:

1. **Uses:** A snapshot of the use of e-learning in relation to subjects, technologies, locations, barriers and benefits. Some of these questions were asked in the *Embedding e-learning in large organisations* (Hill, 2004) and *Linking learning to business* (Overton, 2004) studies.

2. **Implementation:** An analysis of corporate and management behaviour in relation to the successful implementation of e-learning. Successful implementation was defined on the basis of user responses to both fact-based questions on percentage uptake, subject range and range of users, as well as opinion-based questions about benefits, managerial opinions and learner responses.

An analysis of the responses was mapped against users’ self-perception of maturity. The results showed that organisations mature in the use of learning technology were more successful in their implementation – they perceived greater business impact (such as work productivity gains), improved staff impact (such as motivation) and increased uptake of e-learning across the organisation. Principal component analysis revealed 20 dimensions of business and managerial behaviour that were more prevalent in mature organisations and correlated with measures of business success.

The authors considered it useful to further simplify this model and offer it as a potential management guide for employers on the successful deployment of e-learning. The 20 dimensions were grouped into six strands (Figure 1) to make the model easier to explain and apply.

Aggregated behaviour in each one of the strands increases with maturity and each strand is made up of between two and five dimensions. (See Appendix A for a summary of the research methodology and a full description of the resulting Towards Maturity model, which we will refer to throughout the remainder of this article.)
This article reports on the findings of a third study carried out by the authors, Driving business benefits (Overton & Hills, 2009), which reviews the application of the Towards Maturity model within the context of employer implementation of e-learning. It considers the usefulness of the model for organisations and workplaces in a recession and offers an additional longitudinal point on the deployment and use of learning technologies in the workplace. Driving business benefits was funded by Becta (www.becta.org.uk).

Methodology

Individuals with responsibility for implementing learning technologies in their own workplaces were invited to participate in an online survey between October and November 2008. The online survey was designed in two sections: (i) a survey element asking factual questions; and (ii) a benchmark review, aligned with the framework in Table 1, eliciting opinions and data on implementation behaviour.

Part 1: Survey questions

The first part of the survey collected information about the organisations and the ways they used learning technologies. Initial questions identified the size of an organisation in terms of the number of employees, its geographical spread, its sector, the main nature of its business and whether either an internal training team or an e-learning specialist team were employed in the organisation. Organisations were later segmented according their responses to these questions.

The bulk of the first part of the survey asked questions about training topics delivered, technologies used as well as benefits and barriers. Respondents selected from a list the topics on which employees had undertaken training/learning activities in the last 12 months, both with and without the use of e-learning. The list of topics was broadly based on those asked in previous years to provide opportunity for comparison. Because the previous studies identified the significance of compliance training, an additional topic was added: industry-specific regulatory requirements. Other topics and technologies that the review team considered to be of rising importance were also added to the list.
Examples of questions asked included the following (these have been paraphrased):

- Select from this list of roles to identify who uses e-learning in your organisation
- Select from this list the training that your employees completed in the last 12 months (with options of “None”, “Yes and with e-learning”, “Yes but without e-learning”)
- Select from this list the drivers for investing in learning technologies
- Select from this list the benefits you gain from learning technologies
- Select from this list the barriers you face in implementing learning technologies.

In each case respondents were offered the option of adding other items to the supplied lists using free-text input questions.

**Part 2: Benchmark review**

The benchmark review consisted of 112 statements related to implementation behaviour, with which respondents were asked to agree or disagree according to a nine-point Likert scale. The purpose of using an extended Likert scale here was to provide sufficient sensitivity of data to apply Principal Component Analysis. Previous studies used a 10-point scale; it was felt that moving to a nine-point scale would preserve the sensitivity of data but simplify the calculation with basic agree-disagree histograms (a score between 7 to 9 (inclusive), for example, is taken as agreement). Both positive and negative statements were used to provide balance and statements were presented in an arbitrary order.

Examples of statements offered were as follows:

- Learners have accessed online reference sites.
- The objectives and aims of learning are discussed with learners before they start learning.
- Staff find it confusing to make choices with the e-learning provided.
- Staff use e-learning only when it is compulsory.
- Staff have the confidence to request training and manage their own development.

The statements were drawn from the original research (Overton et al., 2006), although to ensure currency, the research questions were also reviewed by a range of UK industry experts and specialists and piloted with a group of user organisations across a range of sectors prior to dissemination.

Although the authors recognised that the responses were opinion based, Likert scales were used, not for their absolute values, but for relationship to each other and the relative differences. While averages may have been higher than they are in reality (rather too many agreeing with the statements than really should be the case) the authors still found many scores to be remarkably low.

**Questionnaire dissemination**

An online questionnaire format was chosen so as to reach a wide range of employers who had already invested in learning technologies. The instrument was distributed widely through a number of channels and partners, including participants in the original survey, member bodies such as the eLearning Network (eLN) and the British Institute of Learning and Development (BILD), as well as via a number of online marketing emails through industry partners. The methods used to disseminate the questionnaire deliberately limited the respondents to those who already had an interest in e-learning. An assumption was that all respondents would already have started out on the e-learning ‘journey’.

Respondents had the option of making anonymous responses, although those who submitted a contact email address were sent a personalised benchmark report with links to valuable resources and case studies to support their own implementation. The desire to contribute to the production of a high-quality report, a copy of which they would be receiving as a result
of their participation, helped provide an incentive for the respondents to be as objective as possible.

**Segmentation**

Responses were primarily segmented by the self-assessment of e-learning maturity (using descriptors in Table 1, with the exception of ‘Innovator’, which was omitted as it lacked relevance to the workplace audience) and by business benefit (segmented by quartiles). Business benefit was calculated by combining answers to 14 of the 21 questions investigating perception of actual benefit realised with eight of the Likert statements.

Examples of the benefit questions included:

- Improve management and administration of work-based learning
- To comply with new regulations and legal requirements
- Improve the quality of work-based learning delivered
- To help implement new processes or new products
- Reduce time away from the job.

Examples of the Likert items included:

- Learning has a positive impact on job performance
- E-learning gives us a better focus on business requirements
- E-learning helps us respond to the needs of the business faster
- Managers agree that e-learning delivers additional business benefit.

This was then normalised to give a score out of nine that allows for a correlation with any one of the Likert-scale statements in the Benchmark Review part of the questionnaire. Responses were segmented into quartiles for business benefit.

**Participant profile**

Over 300 organisations from a wide range of private and public sector organisations, including but not limited to health, finance, public services, education and information and telecommunications, participated in the study (Figure 2).

A majority of participants were larger organisations (62% had over 1,000 staff) and most had audiences spread over multiple locations, either nationally or internationally. As mentioned earlier, respondents described their differing experiences with learning technologies at the
time of participating according to the maturity scale in Table 1 (with the exception of the ‘Innovator’ category). The results in this respect appear in Table 2 below.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novice</td>
<td>4%</td>
</tr>
<tr>
<td>Sporadic</td>
<td>21%</td>
</tr>
<tr>
<td>Developing</td>
<td>42%</td>
</tr>
<tr>
<td>Established</td>
<td>23%</td>
</tr>
<tr>
<td>Embedded</td>
<td>10%</td>
</tr>
</tbody>
</table>

Findings

E-learning drivers in a recession

Respondents were presented with a list of drivers, from which they selected their major reasons for investing in e-learning. In the 2006 study the top drivers for investment were primarily linked to improving the delivery of learning and development (L&D), improving flexibility and providing access to learning (each reported by just under 80% of the group), followed by reducing cost and improving administration (reported by about 50% of the group). Expectations in the current economic climate were found to be considerably higher in the latest (2008) study.

Figure 3 highlights how organisations are demanding more from their investment – respondents in the 2008 study reported that they were not just looking for improvements for L&D, but were seeking to add value to their business and to the individuals within the business as well. For example, improving ultimate customer satisfaction through e-learning interventions with staff was considered as important, if not more important, than cutting the cost of learning, improving reach and increasing access. In 2008, benefits to business and learners were more likely to be selected than benefits to L&D.

The authors found that one of the biggest changes in focus was in the demand for learning solutions to engage new learners, which was reported as a driver for only 11% of respondents in 2006, but increased to 51% in 2008. The role that learning technologies have in portraying a progressive public image of the company has also grown in importance – This was deemed important by 20% of employers in 2006; the figure rose to 42% in 2008.

Realised benefits

Participants were asked to confirm the benefits they were actually realising from their investments in e-learning. It was found that learning technologies are starting to add value in areas that are becoming increasingly important to organisations, especially in a downturn when efficiency and competitiveness are key.

Feedback shows that learning technologies are ‘pulling their weight’ in terms of justifying their cost, by helping organisations:

- save time (for 45% of the 261 respondents)
- reduce cost (41%)
- implement organisational change (35%)
- improve the rollout of new products and information technology (IT) systems (40% and 35% respectively).
The results showed that as organisations grew in maturity, they consistently reported an increase in real benefits arising from their e-learning efforts. When comparing ‘Established’ and ‘Sporadic’ users, ‘Established’ users were:

- six times more likely to report improvements in quality of learning provision
- five times more likely to report improvements in induction
- three times more likely to report improvements in customer satisfaction.

**Figure 3: Drivers behind learning technology investment in the workplace**

**Investment in learning technologies in a recession**

Respondents were asked three questions on budgets, to elicit what proportion of their total learning budget was invested in e-learning; whether they expected this proportion to increase, decrease or stay the same over the next two years; and whether they expected their overall training budget to increase, decrease or stay the same.

Twenty-nine per cent of respondents reported spending less than five per cent of their overall training budget on e-learning. Thirteen per cent of respondents spent more than 30%. More mature users claimed that they spent a greater proportion of their training budget on e-learning, with 50% of users classed as ‘Embedded’ spending more than 30% and only six per cent spending 10% or less. The majority (56%) of ‘Sporadic’ users claimed to spend less than five per cent of their budget on e-learning.
Figure 4 highlights that those in the bottom quartile for business benefit spend, on average, less than eight per cent of their overall training budget on e-learning. This proportion rises to 23% for the top-performing business benefit quartile. This may be accounted for by the fact that mature organisations invest in a wider range of technologies and activities to engage and support both the business and their learners.

Figure 5 depicts the expected change in the proportion of overall budget spent on e-learning and the change in the overall training budget. Based on data collected during September, October and November 2008 (ie as the recession kicked in) approximately 50% of respondents expected their training budget to stay more or less the same, a quarter expected it to decrease and a quarter expected it to increase. However, 64% expected the proportion spent on e-learning to increase.

Subsequent employer surveys have also mapped this trend during the recession (The MASIE Center, 2009; LMMatters, 2009), emphasising how businesses are turning more to technology in a recession but at the same time expecting more from their investment.
Trends in technologies and services

Several tools and technologies were investigated in the 2008 study. These were presented in a single list (ie without categorisation) to participants. For ease of reporting the tools were arbitrarily divided into tools for content (including traditional e-learning content, podcasting), tools to support collaborative learning and reflection (eg e-portfolios, blogs, wikis, e-tutor support/mentoring) and tools for streamlining management (eg LMS’s, e-assessment tools). It is recognised that there may be overlaps in the categories in that the tools may move between categories in terms of their usage, however this study was primarily interested in longitudinal differences.

Appendix B provides graphs illustrating the complete tools and services investigated and the shifts in usage patterns between 2006 and 2008.

Tools for content

The tools supporting content delivery that have experienced the most growth in 2008 (ahead of predicted growth rates back in 2006) appear to be those that help provide a faster response time to business needs:

- podcasting has nearly doubled and is in use by 35% of the sample
- rapid development tools have also grown by 43% and are in use by 46%
- virtual conferencing has increased in uptake and is in use by 62% of the respondents.

Two content delivery tools that have enjoyed growth rates in line with what was originally predicted in 2006 are video on demand (grown from 15% to 25%) and virtual classroom tools (grown from 39% to 47%). Electronic based learning (traditional online self-paced content made available via the Internet or an intranet), simple simulations and online books and job aids still top the list as the most popular methods of content delivery.

Although growth was expected in the usage of both online books and electronic based learning, the former has remained static from 2006 to 2008 while the latter actually decreased by nine per cent. This may be due to the rise in popularity of some of the ‘new kids on the block’ alluded to above. It may be the case that these relatively older tools have hit a plateau of penetration.

Tools to support collaborative learning

Blogs (both tutor and learner-maintained) and wikis enjoyed the most growth over the last two years – Despite only being in use by about one quarter of the sample, they have grown by 33% and 42%, respectively. Other collaborative learning tools actually decreased in usage over the last two years, with e-tutor support and moderated/unmoderated chat facilities declining the most (by approximately 25%), notwithstanding the strong predictions for growth in these tools two years ago.

Based on the data collected, the authors believe some organisations may have been experimenting two years ago and have since abandoned their plans and initiatives. In fact, 48% of the respondents made clear that their trainers did not support collaborative e-learning (either through virtual classrooms or discussion forums), with only 25% agreeing that staff worked collaboratively through technology to solve business problems. In terms of the Gartner hype curve (Gartner, 1995) these technologies appeared to be enjoying the peaks of inflated expectations a few years ago and now respondents are more disillusioned. It will be interesting to look for the patterns of growth over the next few years – meeting the needs of next-generation learners, as well as addressing the new middle-aged adopters of social networking applications (Ofcom, 2009), may provide the stimulus needed for the predicted growth to be achieved in the area of ICT tools for collaborative learning.
Tools to streamline management

The administration tools that have enjoyed the most growth in the last two years are competency management systems (by 10%) and content management systems (by seven per cent). Levels of adoption of LMS’s and skills diagnostic tools remained static and there was a decline in the usage levels of tools for online measurement of business impact (by 35%) and online assessment (by 14%).

Changes with maturity

Table 3 highlights those technologies and services that are more likely to be adopted early on in an organisation’s e-learning journey, and those more likely to be adopted by more mature users. It is not simply the tools but also the way they are used that varies with organisations. Given the variety of tools available it is somewhat surprising that only 61% of the respondents agreed that they blend their learning technologies.

Table 3: Changes with maturity

<table>
<thead>
<tr>
<th>Function</th>
<th>Early adopter tools</th>
<th>Late adopter tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>Web pages, electronic based learning, simple simulations and rapid development tools. Tools are a popular place to start (in use by over 70% of ‘Sporadic’ users)</td>
<td>Online resources and books, podcasting, environments for user-generated content (such as wikis) and virtual worlds</td>
</tr>
<tr>
<td>Support and reflection</td>
<td>None</td>
<td>Blogs, moderated chat, discussion, e-portfolio, communities of practice and/or learning, e-tutor support</td>
</tr>
<tr>
<td>Management and administration</td>
<td>Learning management systems, surveys and online assessment</td>
<td>Virtual learning environments</td>
</tr>
</tbody>
</table>

When the authors compared ‘Established’ users with ‘Sporadic’ users they found that ‘Established’ users were more likely to:

- **Blend learning technologies:** They were twice as likely to use several learning technologies, and three times as likely to train trainers to create blended learning solutions
- **Create collaborative learning opportunities:** They were nearly 10 times as likely to use synchronous applications like virtual classrooms to enable learners to interact in real time
- **Personalise learning using assessment:** They were six times as likely to use assessment to tailor learning to individual needs
- **Support learners:** They were four times as likely to provide e-tutor support
- **Focus on interactivity:** They were four times as likely to consistently use video, audio, images and animation as well as text, and 15 times as likely to use highly interactive methods such as games in their e-learning solutions.

Implementation

Within the area of implementation, the authors looked at programs, audiences and locations. They were interested in the subject areas in which delivery was most likely to make use ICT, as well as the probability of a specific topic being delivered by e-learning as opposed to other methods.

Table 4 shows that technology and company/industry-specific skills were revealed by the 2008 study to be the areas in which training was most likely to be delivered through electronic methods (‘e-enabled’). The topics whose delivery was most commonly e-enabled tended to
be compliance related (where evidence of completion is critical), specific to the company or job, or well served by generic content (IT software applications, for example).

Changes occurring with maturity
The types of programs offered by organisations showed very clear patterns relating to maturity levels (Figure 6). In all cases more mature organisations were found to be likely to support a wider range of topics through e-learning. The pattern of increase changes at different levels of maturity. Figure 6 highlights that ‘Sporadic’ users start with IT and compliance topics – General IT Skills (40% of “Sporadic” users) and email and Web protocol (30%) are most likely to be e-enabled, followed by compliance topics that are directly related to the business and the industry in which it operates (25%). ‘Developing’ and ‘Established’ users are more likely to offer e-learning in business skills and industry-specific topics, many of which are also company specific. ‘Embedded’ users are much more likely to e-enable delivery of core and other interpersonal skills such as communication and team building.

Table 4: Subjects most likely to be e-enabled in their delivery

<table>
<thead>
<tr>
<th>Top 10 topics that are e-enabled</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>General IT user skills</td>
<td>59%</td>
</tr>
<tr>
<td>Company-specific skills</td>
<td>49%</td>
</tr>
<tr>
<td>Industry-specific regulatory requirements</td>
<td>46%</td>
</tr>
<tr>
<td>IT professional skills</td>
<td>44%</td>
</tr>
<tr>
<td>Industry-specific skills</td>
<td>44%</td>
</tr>
<tr>
<td>Health and safety</td>
<td>42%</td>
</tr>
<tr>
<td>Induction</td>
<td>41%</td>
</tr>
<tr>
<td>Email and Web protocol</td>
<td>40%</td>
</tr>
<tr>
<td>Equality and diversity</td>
<td>40%</td>
</tr>
<tr>
<td>Office/administration skills</td>
<td>32%</td>
</tr>
</tbody>
</table>

Figure 6: Programs most likely to be e-enabled for each maturity segment
As organisations mature, they extend the breadth of e-enabled topics they deliver. The pattern of adoption starts with topics that are either directly related to the medium of delivery (ie IT) or compliance topics where automated, enterprise-wide reporting is an essential business requirement. It then moves from these generic offerings to more specialised business and industry-specific skills, finally venturing into the use of e-learning for developing a range of ‘soft’ or interpersonal skills. The availability of off-the-shelf content may also influence early adoption, but one third of respondents felt that in some cases the materials and resources available were too generic to be of use. Such solutions may help those just starting out but are unlikely to be of assistance to those who are becoming or have become more mature.

Barriers to success

In 2004, poor infrastructure was cited as one of the top three barriers to e-learning (Overton, 2004; Hills, 2004). Two years later, in the aforementioned 2006 study, the setup cost was ranked as the number one barrier (Overton et al, 2006). However, the results of the 2008 study indicated that the top three barriers were all linked to people (see Figure 7). Reluctance by staff to engage in e-learning remained the most likely barrier to be selected, closely followed by a lack of knowledge and a lack of skill within L&D teams to implement e-learning.

Since 2006, the percentage of organisations citing staff reluctance rose only three per cent (to 44%). The change can hardly be called significant, but this having been said, if it is viewed in combination with the findings of the Chartered Institute of Personnel and Development (CIPD, 2009), which highlight that those adopting or increasing their use of learning technologies has decreased over the last two years by six per cent, it may be arguable that staff reluctance to engage is a persistent issue. Such reluctance may be exacerbated by lack of knowledge about e-learning potential and lack of expertise within L&D teams to implement e-learning, which were the next biggest barriers (42% and 37% respectively).

Between 2006 and 2008, there was a slight increase in reported IT-related barriers. At face value this is surprising given the immense improvements that online services have seen in the wider community. However it is also possible that greater demands are now being placed on IT and networking infrastructure, with bandwidth-intensive podcasts, videocasts and 3D virtual learning environments (VLEs) being more widely used and for a wider range of purposes.

Does the Towards Maturity model still influence implementation success in a recession?

The 2008 study’s purpose was partially to refine and test the maturity model and revisit its applicability to and correspondence with organisational and managerial behaviour. To this end, the authors extended some of the question areas; this was done collaboratively with a number of industry experts to arrive at a collective view of new items reflecting factors that influence e-learning success. In addition, in 2008 the authors sought to increase both the overall sample size and the representation of certain sectors from which there were few responses in 2006. Health was one such sector, whose respondents rose from nine per cent of a sample of 200 companies in 2006 to 14% of a sample of 300 companies in 2008.

The responses for each strand of the model were mapped against the perceived levels of maturity and business impact using the previously-defined analysis methods. By considering the extent of organisations’ agreement or disagreement with the items in each strand (or more precisely, the dimensions in each strand – Appendix A) in relation to their own activities, the authors were able to validate the model in the context of the current economic climate.

Figure 8 highlights that those in the top quartile for business benefit consistently agreed that they practised all six strands of activities in their implementation processes. Those in the lowest quartile of business benefit were found to be more likely to consider the learner context and work context but less likely to engage in activities aimed at needs definition or capability building of L&D staff. They were demonstrated to be even less likely to be concerned with issues of engaging stakeholders and demonstrating value.
Figure 7: Comparison of barriers to e-learning implementation 2004–2008
The Towards Maturity model was also used as a basis for analysing the areas of strength and weakness of the current sample of respondents. The findings under each of the six strands in the model are presented in the subsections that follow. (See Appendix A for full definitions of the six strands and associated dimensions.)

Defining Need
In this strand the majority of employers (66%) were confident in their ability and efforts link e-learning to jobs and/or work-related competencies. They were less confident (42%) in the dimension of alignment (ie in their strategies to align learning to business goals overall). Only 28% of the sample was confident they were proactive in activities that addressed individual learners’ needs. Specific areas of noteworthiness are as follows:

- Only 65% of respondents confidently agreed that their e-learning was relevant to current job roles (ranging from more than 80% of the mature to only 50% of the ‘Sporadic’), the rest being unsure
- Only 30% of respondents agreed that e-learning contributed to qualifications
- Only 13% of respondents agreed that their learners were given recognition for participation.

Learner Context
The dimensions within the learner context strand showed that 53% of employers were confident in their focus on understanding the need for learner choices (where learners are offered personalised experiences and control over their learning). 31% were confident they were proactive in activities to motivate learners and 48% were confident in the adequacy of their efforts to address learners’ work-life balance. Specific areas worth noting are:

- Only 30% of respondents agreed that their learners were motivated
- The more mature, again, were found to be more likely to focus on individuals and learner motivation
- ‘Established’ users were three times more likely than ‘Sporadic’ users to agree that staff consider their e-learning to be beneficial to their careers.
Work Context
This strand consists of two dimensions outside the control of the individual and the L&D department: managerial support and IT infrastructure. Participants were much more likely to agree that they were confident they had proactively considered the technical environment (64% of sample) than they were in the case of the managerial context (47%). Two areas are noteworthy:

- Most organisations reported having made provisions to ensure that learners had the required access to technology – nearly 70% of all respondents agreed that staff who were not regular PC users had access to them at work
- Many more were unsure about the managerial support available to learners, which also has implications for e-learning success.

Building Capability
In this strand, respondents’ confidence was strongest in developing generic L&D skills and attitude (70% agreed they were confident in this area). However, the prominence of specific activity in other dimensions within this strand was less evident: 38% of respondents reported being proactive in activities around e-assessment, 22% were proactive in facilitating collaboration, 45% were proactive in supporting learners and 53% were proactive in building skills in learning design. Specific areas to note are listed below:

- Despite the plethora of multimedia tools and techniques available, one in five of all participants reported still providing text-based learning only;
- Only 50% said that e-learning was always part of a broad mix of methods
- Only one third of the sample claimed to provide e-tutor support to learners
- Less than one quarter purported to use assessment to tailor learning to individual needs.

Ensuring Engagement
The two strands of Ensuring Engagement and Demonstrating Value collectively had the lowest ratings in the analysis. The strongest dimensions within Ensuring Engagement had to do with engaging trainers (where 40% of respondents were in agreement that they were proactive in this area) and learners (where 46% were in agreement) – this shows that even in the strongest areas there is room for improvement. Only 33% of respondents were confident that they were proactive in change management.

Management engagement was the weakest dimension in this strand, with only 27% of respondents in agreement that they engaged proactively in activities in this respect. The CIPD (2009) confirmed the key role of line managers in learning delivery, with 47% of its sample believing that coaching by line managers is one of the most effective forms of learning intervention. The findings of the authors’ previous studies (Overton, 2004; Overton et al, 2006) also attest to the influential role of line managers – 55% of the 3,000 learners across these two studies stated that their manager’s opinion was the most influential when it came to undertaking e-learning.

Supporting managers directly (through briefings, for example) is one of the key activities that relates to both business results and staff impact; another is ensuring that top managers use e-learning themselves, for their own learning and professional development.

The following specific areas from the 2008 study are worth noting:

- Only 38% of respondents agreed that staff knew what learning was available to them
- Only 40% agreed that staff knew how to get hold of the training they needed
- Less than half of the respondents agreed that their face-to-face training courses integrated e-learning content and support (bearing in mind that all those who participated did so because they had already invested in learning technologies)
- Less than half actively trained their trainers to create blended learning solutions
- Just over a third identified local champions and change agents.
Demonstrating Value
In this strand respondents were strongest in the dimension of gathering feedback (53% in agreement). However, the focus here was mainly on learner feedback. One area of weakness that may need attention moving forward in this economic climate is the dimension of measurement, with only 25% of the sample confident that they linked back to tangible measures well. Only 32% were proactive in the dimension of communicating value back to the business. Specific areas to note in relation to this strand:

- 52% of respondents regularly conduct surveys of learner satisfaction, but only 25% survey the line managers who supervise those learners on the job (with figures doubling for the more mature)
- Over 30% fail to set measurable targets for their e-learning projects and programs
- Only 26% use specific business metrics when evaluating e-learning effectiveness.

These figures are dramatically more favourable when looking solely at ‘Embedded’ users.

Discussion and implications of findings

Business demand for and expectations of learning technologies

This article has highlighted that businesses that have invested in learning technologies have high expectations of the investments they made in previous years, and want to see them used to help deliver real business benefits in addition to bringing about efficiencies and improvements in the learning function. However, despite an increasing ‘appetite’ for e-learning among this sample, staff reluctance to change and the lack of knowledge and skills of L&D professionals are now reported as the most significant barriers to delivering against these objectives. The self-confessed lack of knowledge of many learning professionals may also contribute to overall staff reluctance to engage with new technologies.

The appetite for learning technologies reflected in this research is not necessarily prevalent in all organisations. In fact, the recent CIPD L&D annual survey report (CIPD, 2009) highlights that the number of practitioners with plans to introduce or extend their use of e-learning in 2009 dropped six per cent since the previous year. The same report highlights that less than six per cent of the respondents considered e-learning among their most effective learning intervention types.

The findings of the authors’ 2008 study suggest that although interest and investment do not lead to nor guarantee maturity, organisations whose practices are defined as more mature appear to report greater levels of achievement of anticipated and/or expected benefits. Previous negative experiences with e-learning or learning technology can also hinder adoption, and need to be addressed in moving forward if goals and expectations are to be realised.

The above have implications for the development of the skills of L&D professionals who support businesses, including both those working in internal training departments and those based at training providers.

Current and future directions for technologies and tools

A wide range of learning technologies is now in use in business to address different needs. Recent growth in the use of tools such as rapid development tools and Web conferencing may also be allowing L&D staff to respond more quickly to ever-changing business demands. Providers must have up-to-date knowledge of tools available and know when to apply them.

It is of concern that while measurement and communication of value back to the business are considered important dimensions in e-learning implementation success, tools such as
those supporting online measurement of value and e-assessment are decreasing in uptake, especially at a time when they could be used as a helpful adoption aid to demonstrate results and justify cost.

Despite a widespread imperative to meet the needs of new learners, the take-off of Web 2.0-based collaborative learning media has been slow, possibly due to a general apprehension or reluctance in business to embrace social media for a variety of reasons that are beyond the scope of the present article (see also the article by Sloman in the inaugural issue of Impact). But this may change over time – recent research conducted by the UK Office of Communications (Ofcom, 2009) shows that use of social networking sites has fallen among 15–24 year olds and increased with members of the 35–54 age group. The shift in social and business trends in the use of social networking may eventually influence the acceptance of these tools in corporate learning, yet the speed at which the trends progress and transform highlights the importance of being wary of basing investment decisions on the current media preferences of next-generation learners alone.

Lessons from mature organisations

In the work presented in this article there has been a deliberate focus on maturity as concept that influences the outcomes of an e-learning intervention, program or initiative, as well as its impact on the business objectives of an organisation. Those businesses classifying themselves as ‘Established’ or ‘Embedded’ users were found to be much more likely to achieve what they set out or planned to achieve, and were also more likely to derive greater benefit from their investments than those who were ‘Sporadic’ or ‘Developing’ users.

The study produced evidence that mature users are more likely to blend technologies, focus on learning personalisation and support learners through technology rather than merely delivering e-content. Maturity also seems to give rise to increased confidence, both within the L&D function and across the business. The range of e-enabled programs increases with maturity – ICT technology is being used to help deliver many subjects (with the most common being compliance topics and general IT skills), and maturity brings with it more confidence to extend the use of the technology to other domains including but not limited to business skills, induction training and interpersonal skills.

Confidence is also reflected in the mature organisations that offer greater choice and autonomy for the learner with less management intervention. Such organisations are also more likely to be involved in activities that view and engage learners and managers as valued stakeholders, to exhibit clearer alignment of e-learning with business needs and processes, and to measure and communicate the results of e-learning as feedback to the business.

Nevertheless, progress towards maturity is, again, not guaranteed, and internal L&D departments, external providers, industry bodies/associations and policy agencies need to take active steps to encourage successful workplace adoption, implementation, evaluation and management of e-learning at the organisational, industry and sector levels.

Implications for workplace learning providers in a recession

Periods of economic recession are not necessarily times that call for holding back on the use of learning technologies. For those seeking efficiencies in learning/training provision, the study findings reported in this article demonstrate that e-learning can deliver more (flexibility, access, consistency and quality) for less (time and money). There are implications for both policy and practice, and a corresponding need for L&D professionals to work with senior managers and decision-makers to determine how best to integrate e-learning within all aspects of strategic and business planning.
One effect of the recession has been to focus the minds of those in L&D departments on business. In line with other research conducted with L&D professionals in the UK (CIPD, 2009), the results of the authors’ 2008 study reiterate the need for improved business alignment and demonstration of value against business need. Clearly, it is the real outcomes and outputs of e-learning, as opposed to the technical attributes and features, that drive employer investment. Six of the top 10 drivers of e-learning investment identified were outputs of learning that are independent of the technology or media (eg improved induction – see Overton & Hills, 2009, p. 10).

Consideration of the use of ICT for learning provides opportunities to open up conversations about demand-led skills provision. Maturity in the use of learning technologies enables organisations to go beyond basic compliance training to deliver substantial improvements across a wide range of business areas and skill sets. The aligned use of technology can improve both efficiency and responsiveness when both business and L&D resources are being ‘squeezed’.

To address rapidly changing skills needs within business, it may no longer be viable to have an e-learning strategy that supports a broader learning strategy (but at the same time is separate in terms of team structures, implementation and governance), in the same way that it may no longer be viable to have a learning strategy that stands outside of the business strategy. The links between each must become seamless in order for e-learning make a true and significant impact on business.

These issues have a bearing on the way in which the skills of L&D professionals are developed, and also touch on much wider issues relating to the new mix of capabilities needed by L&D departments in the future. The findings of the first phase of the L&D 2020 project (run by TJ – formerly Training Journal – and the Institute for Employment Studies) support this view, proposing that new skills needed by L&D professionals include initiating, managing and embedding change; innovating, researching and horizon scanning; diagnosing business situations; objective setting and evaluation; and marketing the L&D function (Fairhurst, 2008).

Implications for the Towards Maturity model for L&D professionals supporting workplace learning

The six strands of the Towards Maturity Model (and their associated dimensions – Table 5 in Appendix A) continue to reflect effective implementation of learning technologies in the workplace, and also serve to illustrate where and how weaknesses in implementation strategy might introduce risk. The model contributes to unifying wider skills elements required by L&D professionals to harness the power of ICT in workplace learning. The model is not intended to reflect instructional design methodologies for the use of learning technology in the workplace, and by no means does it carry with it an espousal that e-learning is a superior medium to other workplace learning methods such as face-to-face coaching. It does, however, highlight that applied appropriately, e-learning has the potential to add efficiency, responsiveness and effectiveness to traditional methods, and provide a perspective and framework with which to help redefine learning intervention in business.

Courses and qualifications on e-learning designed for L&D professionals have typically concentrated on the technology, instructional design and blended learning in a manner that is distinct and isolated from programs that address learning and business alignment, measurement of value, etc. For the goal of successful workplace e-learning to come to fruition, further integration is needed to bring the continuing professional development strands for learning professionals together, and for learning strategy and e-learning implementation to co-exist on the same continuum. Likewise, existing models for e-maturity in learning institutions that are specifically addressing workplace needs may need to be reviewed to encompass dimensions linked to alignment with customer needs, and measurement of intervention against customer outcomes. Such areas merit further investigation by scholars and applied researchers.
Acknowledgement

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References


Appendix A: The Towards Maturity model for e-learning implementation

Development of the Towards Maturity model

The Towards Maturity model was developed primarily to facilitate the identification of good practice and interpretation of findings within the context of a practical framework that could be used by those wanting to improve the impact of e-learning interventions in the workplace. To achieve this, the 2006 Towards Maturity study (Overton et al. 2006) included an analysis of respondents’ reactions to 112 statements around technology and implementation practice.
that were developed from previous work (Overton, 2004; Hills, 2004). The questions used in the 2006 study to analyse corporate and managerial behaviour employed a 10-point Likert scale.

This process enabled each respondent to be placed in an n-dimensional space (where n refers to the number of questions used), with each dimension having a scale of one to 10. Principal Component Analysis was used to reduce the number of dimensions and a proposed set of 20 dimensions was derived. Each question was also correlated against the measures of e-learning success defined in the study and the work demonstrated links between corporate and managerial behaviour and e-learning success (including business impact).

This work confirmed that the strongest correlations with success were not to do with technology but rather with implementation practice. The authors also found these practices increased with maturity (with the exception of the ‘Innovator’ category – see Table 1). Potentially, respondents’ maturity can be linked to their position within the 20-dimension space delineated by the Likert scale questions; that is, the most mature would occupy a position with maximum scores on all 20 dimensions and organisations growing in maturity would be following some path through this space.

**Description of the Towards Maturity dimensions**

A description for each of the 20 dimensions identified is outlined in Table 5, along with an example of an illustrative Likert statement from within that dimension. To be of practical use in the workplace, it was necessary to further simplify the model for use with busy workplace managers, and so the 20 dimensions were each allocated to one of six strands.

**Table 5: Dimension descriptor for the Towards Maturity model and associated strands**

<table>
<thead>
<tr>
<th>Strand</th>
<th>Dimension</th>
<th>Description of dimension and example of Likert statement from survey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defining Need</strong></td>
<td>Alignment</td>
<td>There is a clear e-learning strategy driven and measured by the business eg There are measurable targets for learning and e-learning</td>
</tr>
<tr>
<td></td>
<td>Business need</td>
<td>Learning is aligned to work leading to relevant competencies/ qualifications eg Learning is relevant to current jobs</td>
</tr>
<tr>
<td></td>
<td>Individual need</td>
<td>Learners gain competencies/qualifications relevant to their work and career eg E-learning contributes to recognised qualifications</td>
</tr>
<tr>
<td><strong>Learner Context</strong></td>
<td>Choices</td>
<td>Learners have choices and personalised experiences eg Staff have more control and visibility of their development</td>
</tr>
<tr>
<td></td>
<td>Motivation</td>
<td>Learners are motivated eg We support career aspirations (or personal job goals) with e-learning</td>
</tr>
<tr>
<td></td>
<td>Work-life balance</td>
<td>Learning is convenient and contributes to work-life balance eg Managers give learners time to learn at home</td>
</tr>
<tr>
<td><strong>Work Context</strong></td>
<td>Managerial support</td>
<td>Managers provide support in the workplace eg Managers coach their staff</td>
</tr>
<tr>
<td></td>
<td>Technical environment</td>
<td>The technical environment supports learning anyplace, anytime eg Our IT infrastructure will deliver learning to places convenient to staff</td>
</tr>
<tr>
<td><strong>Building Capability</strong></td>
<td>Learning and development (L&amp;D) general skills</td>
<td>L&amp;D specialists have appropriate approach, attitude and contacts eg Our internal training team are willing to embrace new ways of working</td>
</tr>
<tr>
<td></td>
<td>Assessment</td>
<td>L&amp;D specialists are able to make best use of assessment tools eg E-learning allows us to more closely simulate the work environment for assessment</td>
</tr>
</tbody>
</table>
Facilitating collaboration | L&D specialists take advantage of informal learning  
| eg We encourage staff to help each other using discussion boards

Learning design | L&D specialists are able to use a mixture of media and methods in learning design  
| eg E-learning in our organisation is always part of a broad mix of methods

Supporting learners | L&D specialists use a variety of electronic and personal methods to support e-learners at work  
| eg Learners have access to job aids

### Ensuring Engagement

| Empowering learners | Learners are equipped and informed to help them take advantage of available learning technologies  
| eg Staff know what learning is available for them

| Managers as stakeholders | Effective programs exist that engage managers as both users and key stakeholders  
| eg We equip line managers with resources and training so their teams get the most out of e-learning

| Trainers as stakeholders | Effective programs exist that engage classroom trainers as both users and key stakeholders  
| eg Our face-to-face training courses integrate e-learning content and support

| Change management | Change management and communications strategies are in place  
| eg We indentify and train local champions to act as change agents

### Demonstrating Value

| Feedback | Feedback is routinely collected from managers and learners  
| eg We routinely collect feedback from users of each course

| Measurement | Business measures and financial data are used in measurement of delivery and effectiveness  
| eg We measure specific business metrics when evaluating e-learning effectiveness

| Communicating benefit | Business and staff success are regularly communicated to key stakeholders  
| eg We regularly communicate e-learning successes to line managers and supervisors

The six strands of the model (Figure 1) have been designed to engage employers and provide businesses with an opportunity to reflect on their own implementation activity. The model has been used by organisations newly embarking on their e-learning journey, as well as by those that have stalled and failed in the past. Table 6 provides a high-level overview of the strand descriptions used with employers.

**Table 6: Descriptors of strands in the Towards Maturity model**

<table>
<thead>
<tr>
<th>Strand descriptor</th>
<th>Strand definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defining Need</td>
<td>Activities that help align implementation with both business and individual needs</td>
</tr>
<tr>
<td>Learner Context</td>
<td>Activities that provide learners with choices and options that support their work–life balance and working context</td>
</tr>
<tr>
<td>Work Context</td>
<td>Activities that address issues of IT infrastructure and managerial support</td>
</tr>
<tr>
<td>Building Capability</td>
<td>Activities that build the skills of L&amp;D professionals in strategy, informal learning, assessment, support and design</td>
</tr>
<tr>
<td>Ensuring Engagement</td>
<td>Marketing and communications activities that address the stakeholder requirements of learners, managers and L&amp;D staff</td>
</tr>
<tr>
<td>Demonstrating Value</td>
<td>Activities that involve gathering feedback, measurement and ongoing communication of results</td>
</tr>
</tbody>
</table>
Appendix B: Tools and services in use and planned by employers in 2008

Figures 9, 10 and 11 show employers’ current and projected use of tools to support content creation, collaboration and administration, respectively.

Figure 9: Tools to support content (formal and informal) (n=262)

Figure 10: Tools to support administration and management (n=262)
Figure 11: Tools to support collaboration and reflection (n=262)

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