

# The Value of eLearning — How Can You Tell?

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Máire Kerrin, Senior Research Fellow, Institute for Employment Studies.

## eLearning... here to stay

There is widespread evidence from both organisational reports and academic literature of the increase in the use of eLearning as part of a portfolio of training options available to HR managers. This does not mean to say that we have seen the end of instructor-led training (it still currently dominates the market with 70 per cent of all training), nor would many suggest the replacement of all traditional learning methods. However, the share of instructor-led training in the market in the next few years is predicted to fall to about 35 to 40 per cent, to be overtaken by technology based training. At the same time, it is not an either/or situation. Indeed, a recent case example reported by the head of global management development at IBM, emphasised this by noting that it was important that IBM's approach to eLearning does not eliminate face-to-face learning, rather that it enhances it.

A report from the IES Research Networks recently explored the world of eLearning, providing a summary of current research and practice. It identified advantages and drawbacks of this form of learning within organisations and raised a number of issues for managers and organisations to consider in taking forward any approach to eLearning. IES is continuing this work by producing a more detailed paper on exploring how organisations are supporting their eLearners in practice. One of the key issues raised in the first review was 'How can you tell if it is working?'. This current paper addresses some of the challenges in this area for training and HR professionals and outlines some solutions for the future. To provide some focus to the paper, it concentrates on evaluation of eLearning at the level of the individual, although it does offer some suggestions for organisational level evaluation.

## What is successful eLearning?

Recent reports and the growing eLearning literature identify five factors thought to contribute to successful implementation of eLearning. These are perhaps the unsurprisingly areas of: analysis, design, development, implementation and evaluation. As such, they reflect traditional models of what is important to

consider when designing a training or learning intervention. However, the primary question is whether any of these areas becomes more important, significant or problematic in the eLearning environment? As with many issues relating to the e-concept (eg eWorking), the relevant factors may remain the same, but the importance or emphasis may shift in what becomes central to achieving and understanding success. In the case of eLearning, while all of the above five factors may require changes to adapt to the challenges of the eLearning environment, for many HR managers, evaluation is likely to be the major thorn or roadblock in assessment of its success. Why is this likely? Because generally evaluation is something that is poorly carried out in a traditional training and learning environment. While trainers and organisations may 'get away' with poor measurement tools and a lack of informed assessment of learning outcomes where you can see employees, it will be more problematic in a virtual environment. In a traditional model, employees may not often define their own learning needs or competencies. With eLearning, it is often driven by the learner and more dependent on accurate feedback and evaluation to improve content and assess the impact on learning. What then, are the common issues raised for managers considering evaluation within an eLearning environment?

## Why evaluate eLearning?

The reasons for evaluating eLearning are similar to the reasons for evaluating any type of learning provisions. These might include:

- to determine whether the eLearning solution is accomplishing its objectives
- to identify who benefited the most or the least from the eLearning programme
- to identify areas for improvement.

However, in addition to this, the technology aspect of eLearning brings in other demands for evaluation. For example:

- The cost of technology often demands accountability, including measuring return on investment.
- The newness of eLearning to many participants brings pressure to develop information about its effectiveness and efficiency as a learning solution.
- Finally, because eLearning is not a proven process in many organisations, there is a need to show value now rather than later when it becomes a routine process.

Even with these strong imperatives, many HR managers may find that they either do not have time to evaluate, find it difficult to convince others of the importance of evaluation, or have enough difficulty getting the organisation to invest in the training, let

alone the evaluation! How then might you overcome these challenges?

## **Building support for evaluating eLearning?**

Evaluation requires commitment and support to be effective. Like any analysis, the old saying comes to mind: 'rubbish in, rubbish out'! Evaluation is an add-on activity in most situations and represents additional cost. Stakeholders need to understand the rationale for evaluation and their role in making evaluation work. They need to know what type of data is needed, when it is needed and who needs it. Support for evaluation rests on:

- commitment from the top management
- management allocating time for participation
- policies and guidelines developed for consistency so that evaluation data can be compared across programmes/years
- skills and knowledge appropriate to use evaluation tools and methods
- appropriate technology available to evaluate eLearning
- a commitment from management and an action orientation to ensure evaluation data is used for improvement processes.

Building support requires several steps:

- Determine the specific programs to be evaluated and at what level.
- Determine the specific resources needed for evaluation.
- Present management with they type of data collected and suggest how it can be used in the process.
- Explain to management the importance of evaluation and their role.
- Respond to questions on evaluation data quickly.
- Show management the overall results from the evaluation planning.

## **Is there a difference between evaluating eLearning and evaluating traditional learning methods?**

It is important to recognise that some of the processes used to evaluate other types of learning interventions will be applicable with eLearning. This often helps managers deal with the task of evaluating eLearning, in that it is not necessarily a whole new set of skills that is required and that it might be easier than at first glance. However, there is some change required in that it becomes a matter of expanding the current evaluation techniques and

processes to include eLearning as a method of delivery. Techniques for evaluating eLearning are broadly the same as evaluating other solutions. The data is the same (qualitative and quantitative) and the methods to isolate the effects of eLearning are the same. Several issues are different with eLearning:

- The methods for collecting data at some levels of evaluation can be built into the process much more easily than traditional methods, for example in collecting reactions and examining learning on-line.
- However, because eLearners can be remotely located, some of the methods of data collection are more difficult to use, such as focus groups and direct observation.

Given these considerations, what practices are currently being used within eLearning evaluation, and to what extent are the traditional models of evaluation appropriate?

## Examples of eLearning evaluation

At an organisational level of evaluation, eLearning is suggested to be cost effective, being cheaper to deliver than traditional classroom based training, as it reduces delivery costs and training recipient costs. The actual reported amount varies, but studies in the EC and UK show cost savings of about one-third, with studies in the US being more generous. While this is no doubt an important piece of information for managers to be armed with when going to the finance director or board for investment for eLearning projects, it is not the whole story for understanding the impact of eLearning initiatives.

So what are the practices common to eLearning evaluation?

- Monitoring of learner progress is often put forward as a technique, which refers to the capabilities of the eLearning software to empower the training or learning administrators to track performance and measure rates of return.
- One element in many eLearning systems is behaviour and usage analysis. This is the ability to automatically generate information on how much any individual uses a system.

It has been suggested that evaluation has an advantage within eLearning. It is often hard to measure the overall effectiveness of traditional training because it is difficult to verify that the training has been completed or the extent to which the information given has been understood. With eLearning, tracking of learner performance and certification can overcome this.

In the recent report on eLearning produced by IES, the evidence indicated that best practice organisations were moving eLearning evaluations to focus on measuring performance, competencies

and intellectual capital (Hall and LeCavalier, 2000). The most successful implementations of eLearning focused evaluations on job performance measures using web-enabled competency management systems. Therefore, the focus has shifted away from testing for the sake of it, to a more sophisticated analysis of linking learning objectives to outcomes, while providing relevant and timely feedback.

This shift in focus is necessary and timely, as the content of eLearning changes over the next few years. Much of the current content of eLearning initiatives has tended to fall into the delivery of IT skills and training. This accounts for \$0.87 billion of the training spend in the US, four times larger than the soft skills sector of the market. It also dominates in the UK. The business and soft skills section of the market is much smaller, but is growing and is predicted to surpass IT online training by 2003. As organisations move away from IT skills to delivering more complex skills via eLearning, a broader set of evaluation methodologies will be required. Understanding and embracing some of these methodologies is likely to be the major challenge for those charged with eLearning initiatives.

## **Adapting new methods to improve eLearning evaluation**

### **a) Applicability of traditional evaluation models**

The question many HR specialist will be considering is: are the traditional models of evaluation adequate for evaluation of eLearning? No discussion of evaluation of learning would be complete without a mention of Kirkpatrick's model of evaluation! As most trainers will be aware, this model predominates thinking and practice of training and learning evaluation. The four levels of evaluation (reaction, learning, behaviour and results) have been applied with a variety of success over the years. While the usefulness of this model as a guide to practitioners over the years has been invaluable, its application within an eLearning environment may well be limited. The most serious problem with the model is that it does not directly guide assessment of learning and lacks clarity over what changes occur as a function of learning. While the model has assisted in examining 'how' to evaluate, it is limited in its explanation of 'what' to evaluate, or how to link evaluation results to strategic decision making about training and learning within organisations. The model also reflects the behaviourist approach to learning prevalent in the 1950s and 1960s and is likely to be limited in meeting 21st century needs:

*'Given that training in the twenty-first century will make greater use of computerised technologies grounded in modern cognitive learning theories, it will become increasingly obvious that the behavioural perspective of Kirkpatrick is outdated.'* (p. 153, Kraiger and Jung 1997)

## b) Embracing new models of evaluation

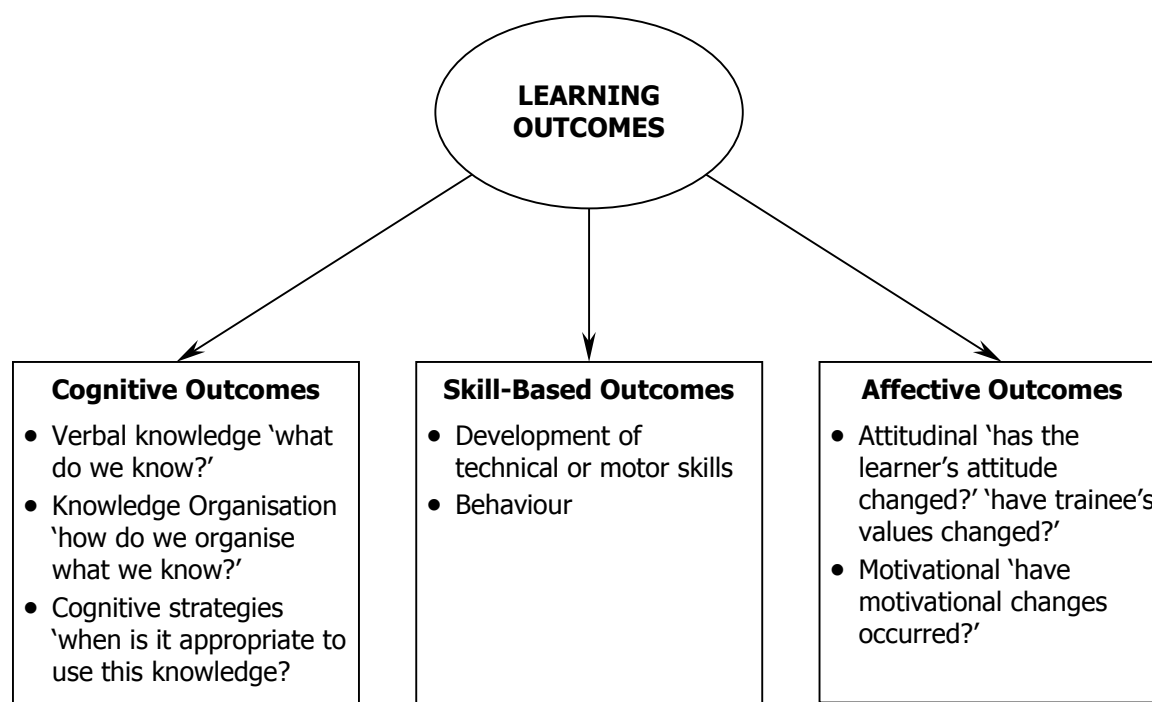
Given these limitations, there is a need to adapt current practice to cope with the challenges of an eLearning environment. One approach that is being supported by research and practice in both the US and UK has developed aspects of Kirkpatrick's model by articulating in more detail what is meant by learning outcomes (see figure 1). This helps managers identify in more detail what learning outcomes are expected from the eLearning programme. It does this by elaborating in more detail what we mean by learning outcomes. Are they cognitive outcomes (eg verbal knowledge), skill-based outcomes (eg automaticity) or affective outcomes (eg attitudinal, motivational)? Perhaps more importantly, the strength of the model is that it links learning outcomes to assessment criteria, so central to any successful eLearning environment.

However, one of the key factors to the success of the model is for organisations to articulate the learning outcomes of any eLearning content. This is an activity which is often not carried out effectively. This is emphasised in relation to eLearning technologies by recent research in the area:

*'the importance of identifying the learning outcomes and linking outcomes to evaluation measures will become increasingly important as new training technologies enable instructional designers to train a broader range of cognitive skills and types of knowledge.'* (p. 168, Kraiger and Jung 1997)

Once the learning outcomes are defined, assessment can follow, and this provides the major benefit over Kirkpatrick model. This

**Figure 1: A Classification of Occupational Learning Outcomes**



Source: adapted from Kraiger, Ford and Salas 1993, p. 312

approach also allows for assessments of cognitive abilities, which as identified earlier will become more central to the content of eLearning programmes.

### **c) Dealing with issues of learning transfer**

Transfer of learning to the job is often a major roadblock to successful change for many employees. However, few organisations adequately address the cause or attempt to eliminate the blockages for employees. While they may have successfully learnt new skills or behaviours in their online learning environment, employees may find individual or organisational roadblocks in using them. While many of these roadblocks may be true for the traditional learning and work environment, some are more important within an eLearning context. For example, trainee characteristics are well reported as a significant factor in whether or not learning has been applied in the workplace. This may include individuals' motivation, self-efficacy (the belief that they can do something), learning style and personality. The need to assess these within an eLearning environment will be central to indicating individuals' motivation to apply learning. Organisational characteristics are a second factor often reported as a barrier. These may include supervisory support and organisational climate as key variables that influence the transfer process. Evaluation data on these factors at the work, group or organisational level, would provide information on the climate for transfer, which in turn would lead to identifying the roadblocks to transfer. Evaluation could be constructed around the key organisational issues that are likely to impact on the transfer of training (*eg* people management issues, technical issues, *etc.*).

The assessment of these factors and timely feedback into the eLearning system is central to any evaluation, so that individuals, course designers and supervisors can make an accurate assessment of the impact of the eLearning package.

## **Outcomes and conclusions**

This paper has attempted to provide some answers to questions relating to the evaluation of eLearning with a focus on both those new to the area and those more familiar with the issues. For those managers starting out with eLearning evaluation, the rationale behind why evaluation must take place, and gaining support within the organisation is central to building a business case. For managers and organisations further along in the application of eLearning evaluation, the paper has offered an adapted model appropriate for an eLearning environment.

In conclusion, what can be learnt in terms of examining the value of eLearning? eLearning offers an opportunity to adapt current

thinking towards learning evaluation, and centre interventions around identifying learning outcomes, which will lead to selecting appropriate tools and methods of evaluation within an eLearning environment. In doing this, better quality of feedback can be provided to all stakeholders in the learning process. In a traditional learning environment, poor evaluation approaches and methodologies have dominated. Kirkpatrick may have been a useful starting point, but more often than not, HR managers and trainers often dealt with informal feedback and word of mouth evaluation. Within an eLearning environment where contact with trainers and content providers is virtual, it becomes a necessity to build in eLearning evaluation methodologies at the start of any eLearning project. Not doing this will lead to alienated learners and line managers who are provided little or inaccurate feedback regarding their learning, combined with a poor understanding of the impact of any eLearning initiative on performance and behaviour. A year later, when the finance director asks for information on the return on investment for eLearning initiatives, what will *your* answer and evidence be?

**Footnote:** IES has been working with organisations to support them in undertaking evaluation of eLearning in practice. To discuss consultancy with IES, please contact Máire Kerrin on 01273-873433, or by e-mail at [maire.kerrin@employment-studies.co.uk](mailto:maire.kerrin@employment-studies.co.uk).

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