

Embedding Quality in e-Learning Implementation through Evaluation

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ABSTRACT

In relation to quality, evaluation is often used synonymously with quality assurance and monitoring processes (Ehlers et al, 2004). However, evaluation has other purposes, such as for development and knowledge (Chelimsky & Shadish, 1997). In this paper, I present a view of evaluation as an instrument of quality enhancement rather than quality assurance, one that can be used creatively and powerfully to strengthen an initiative. The case example is a five-year evaluation study of an institution-wide implementation of e-learning. The evaluation framework developed for this study has been constructed with three purposes in mind: monitoring, development, and knowledge. In this paper, I argue that the participatory nature of the devised evaluation framework has enhanced the quality of the initiative and afforded its embedding within pedagogical, technological, cultural, and organisational domains.

Keywords

Evaluation, Quality enhancement, e-Learning implementation, Organisational change

Introduction

“When one sees the best, it is something to be cherished. Quality is related to cherishing, an intellectual emotion. It can be felt by groups but remains tied to personal experience” (Stake, 2004, 287).

In the context of e-learning, quality comes in many forms and has a range of foci. Quality can be perceived in terms of degree of sophistication, satisfaction surveys, adherence to guidelines, “fitness for purpose,” and so forth. A further dimension of quality emanates from the teacher’s expectations of course quality as the alignment of teaching tasks, learning activities, and assessment as well as reported levels of student satisfaction. In this dimension, there is no distinction between e-learning and conventional learning. Consequently, in the e-learning evaluation area, there has been a tendency to adopt measures that are widely accepted in the general field of training and education, based on evaluation models such as Kirkpatrick’s four-level model (1998). General quality instruments (ISO, EFQM, TQM) have also been applied variously, and only rarely have new metrics been devised that consider in detail the quality aspects specifically of integrating e-learning into educational programmes, such as the Embedded Learning Technologies Institutionally (ELTI) project (2003) and Bacsich’s 2005 benchmark taxonomy.

A predominant focus in discussions of quality in e-learning centres on the product of e-learning, such as a course, a tool, or even a new mode of delivery. There is a tendency to regard the product in isolation from the systems, processes, and culture surrounding its implementation and consequently pay little attention to the requirements and responsibilities of a wider group of stakeholders than the course or product development team, tutors, and students. A distinctive feature of e-learning is, however, its dependence on institutional infrastructure and access to technologies beyond the control of the tutor. The course, therefore, is reliant upon a greater range of services than those courses that do not make use of e-learning. The focus on e-learning as a product is prevalent in e-learning tool or content development, but also in consideration of e-learning courses. For example, Connolly, Jones, and O’Shea (2005) consider a model of quality assurance that fits with the UK quality-assurance regime. They identify four aspects of quality assurance in relation to e-learning, where e-learning signifies the delivery of courses within university learning contexts using web-based technologies, often blended with face-to-face delivery. They have developed a model that assures quality through examining the coherence in the structure of the course, the quality of the materials, and students’ testing of those materials, and have made adjustments accordingly. The focus of their study is bounded by the extent of the course and, to some extent, its delivery. This approach, however, does not make explicit the reliance on those designing and delivering the course to make the adjustments required to assure, or improve, quality.

I contend that quality cannot be assured or enhanced at this level alone; the responsibility for quality is far broader and reaches up, down, and through the organisation. For an institution to develop e-learning provision, it needs to acknowledge its effects at an organisational level. With e-learning, the fundamental concept of course-based learning is challenged, and the emphasis shifts more to the learner, wherever and whenever they engage: “This form of learning, for example, makes it possible to match provision to individual needs after the fashion of ‘learning just in time’ and to move away from the Taylorian principle of learning and teaching, ‘the same for all at the same time and place’ (in the instructional paradigm of a classroom scenario)” (Ehlers et al., 2005, 71).

E-learning challenges the tutor to adopt new roles and accept new modes of learner engagement, which, in a blended learning context (where some face-to-face learning still continues), requires substantial re-thinking of the entire curriculum. This is contingent on institutional priorities, strategies, and resources.

I argue that e-learning development has an impact on the existing teaching and learning environment and on ways of thinking and practising within the organisation, as well as within the disciplinary specifics of the courses offered. The introduction of these new processes places the implementation in the arena of organisational change management, which seeks largely to overcome barriers to change and promote innovation. There is a rich literature on change management, although it has been criticised for reinforcing “the dominance of the view that organisational change is inevitable, desirable, and/or manageable” (Sturdy and Grey, 2003). Sturdy and Grey perceive a recent trend in change management theory away from more managerial perspectives with considerations that extend “beyond the organisation as an isolated entity” (p. 653). They argue in favour of “stability” as a challenge to the discourse of perpetual change. In the context of a higher-education organisation, upholding quality is a mark of that stability. The rapid pace of change that technology demands of the educational environment, with upgrades and new technical possibilities emerging continually, heightens the tension between the urge to innovate and the need to ensure suitable quality processes are in place. Integrating evaluative approaches into the innovations eases this tension to some extent, as I intend to demonstrate in this paper.

In this paper, I am therefore more concerned with e-learning implementation as an ongoing process or programme rather than a technology product or course offering. The case I discuss here relates to a large-scale implementation of a specific learning technology, namely a virtual learning environment (VLE), as an enhancement to the learning and teaching infrastructure of one particular university. Although e-learning took the form of an initiative driven by senior management, it was a long-awaited response to a need within the faculty base and amongst many students in 1998 for there to be greater access to technologies for learning and research, in particular web-based technologies (Deepwell & Syson, 1999).

Background to the case study

Coventry University is a medium-sized, modern university in the Midlands of the UK. As with most other modern universities in the UK that were former polytechnic institutions, the student body is largely undergraduate and very diverse. The university specialises in a few high-profile courses and research areas and has well-established links to the commercial and public sector, which generates so-called “third stream” funding (in addition to the two traditional funding sources of research and teaching).

In 1997, the institution launched a major change management initiative to revitalise the learning and teaching practices within the institution under the name: Teaching, Learning and Assessment Taskforce. The taskforce comprised more than 20 experienced academic innovators who debated and developed new ways to deliver higher education into the 21st century. Through the various projects under the taskforce initiative, it became evident that access to suitable technologies was one of the biggest barriers to improvements in practice (Deepwell & Beaty, 2005). In light of these findings, the university management responded by deciding to offer a fully supported virtual learning environment across the institution, which provided easy access to a range of basic web tools. From the outset, evaluative processes were set in motion. It is these processes and the emerging framework that have influenced the development of e-learning implementation within the university and ensured that the focus of technical developments remains on academic-quality enhancement.

There have been several phases in the e-learning implementation, starting with a major pilot from September 1998 (in one faculty), a full-scale roll-out in 1999 (across the university), further expansion in 2000 (across the university and related partnerships), and continuing process and technical improvements and enhancements since then.

Role of evaluation within quality assurance and quality enhancement processes of e-learning

“Quality is seen differently by different people. It is not the job of the evaluator to find a consensus but to weigh the evidence, make judgements, and report the different ways merit and shortcoming are seen. Observations and interpretations that do not agree do not necessarily indicate a failing of evaluation but perhaps the complexity of

the program and its contexts. It is problematic to assume that there is a simpler world behind the world that people see” (Stake, 2004, 286).

According to Ehlers et al.’s (2004) EQO model for the analysis of quality approaches, there are a number of classifications that determine the nature of the approach to quality. Three examples are: **the focus**, that is, whether the quality inheres in the product or the process; **the method**, for example, benchmarking, evaluation, or management approaches, and whether **the approach** is of a quality model or quality instruments, or both (Ehler et al, 2004, xx).

Evaluation has a role to play in all these classifications. However, I suggest that in considering a large-scale organisational intervention, such as the implementation of an e-learning initiative, the approach is most productive when the focus is on the process and is presented as a quality model that makes use of a wide variety of quality instruments but does not prescribe them. Another aspect of the quality dimension is that it applies to all levels within the organisation, from the micro level of the individual instance of a learning encounter, through the meso level of programme and departmental decisions and strategies, to the macro level of the whole organisation’s policies and practices.

My focus in this article, therefore, is on evaluation methodology as a powerful means by which to ensure that quality, and stability, is considered as an integral part of e-learning implementation. Consequently, the methodology for evaluation that I propose is closely related to programme evaluation (Shadish, Cook, & Leviton, 1991) as opposed to course evaluation or student evaluation. Programme evaluation is normally concerned with the evaluation of social interventions, such as school development plans, housing schemes, and children’s welfare reform. The implementation of e-learning involves a similar degree of complexity in that the initiative cuts through many organisational divisions and makes explicit the processes that support student learning in the widest possible sense. This is reflected in the detail in the UK’s Quality Assurance Agency guidelines for distance learning, including e-learning (QAA, 1999). The six areas identified are briefly:

- system design
- academic standards
- management of programme delivery
- student development and support
- student communication and representation
- student assessment.

Evaluation of e-learning clearly reaches beyond the bounds of the formal extent of a technological or pedagogical initiative and into areas of activity that may not initially see the intervention as relevant for them (finance, registration processes, assessment regimes, study support, etc.) and may influence policy far more widely than anticipated by institutional or departmental e-learning strategies. The introduction of e-learning affects not only the learners and tutors directly involved in its delivery, but it also affects the spectrum of institutional processes to support all learners off-site, and at all hours of the day or night. E-learning also impacts on what is not e-learning, for example in a blended learning mode, there needs to be a balance and coherence about what is encountered by the learner online and in the classroom. These two aspects of the blended learning should be complementary rather than additive to the load on both learner and tutor. Similarly, the quality assurance mechanisms need give validity to both aspects.

Evaluation of e-learning as a quality mechanism, therefore, should extend into these complex areas. There are a number of methodologies current in programme evaluation, although recent evaluations of social programmes in the US and increasingly in the UK are encouraged to adopt the “gold standard” of randomised control trials rather than more responsive (Stake, 2004), deliberative, democratic (House, 2001) empowerment (Fetterman, 2001) and other similarly exploratory practices in evaluation. However, I propose that it is the more organic and naturalistic methodologies, rather than controlled experimentation research, that help to define the “process use” (Patton, 1997) of the evaluation, and frequently yield the more practical benefits of evaluation for quality assurance and enhancement. As Stake and Schwandt (2006) assert in a recent chapter that explores quality in evaluation and distinguishes between quality-as-measured and quality-as-experienced: “Evaluation studies are fundamentally a search for and claim about quality” (Stake and Schwandt, 2006). The balance between measuring (using broadly quantitative techniques) and experiencing (using perceptual and qualitative techniques) is a fine one. In the case of Coventry University’s e-learning implementation, an evaluation framework has evolved, a framework that attempts to harness some of the finer details through participative, contextualised inquiry, interviews, and observations as well as through the application of quantitative measures, such as surveys and statistical reports.

A structured, conversational approach to evaluation

The evaluation framework proposed here draws on three main influences: a countenance approach (Stake, 1967); action evaluation (Rothman, 2003) and report and respond (Stronach & MacLure, 1997). Distinctive to the approach is that it permits insider evaluation, led by internal agents within the organisation who are well placed to use the evaluation research on an ongoing basis to guide and influence decision-making.

Stake's countenance approach to evaluation is represented schematically with three phases: antecedent, transaction, and outcome. At each phase there are two categories of data: descriptive data and judgement data. The process of countenance evaluation is to portray both the degree of congruence between the descriptive data and the judgement data and the logical contingency between the intents and outcomes of each phase with the next. The term "portrayal" is significant here, because a distinctive aspect of countenance evaluation is the generation of depictions of what is observed. What is observed is then compared with the intended outcomes of the programme, and inferences can then be formulated. These inferences not only identify the intended outcomes that have or have not been achieved, but also identify the unintended and observable outcomes of the programme (Stake, 1967). For the evaluation of the e-learning implementation, the strength in this approach lies in its facility in organising a large amount of quite diverse data.

A second guiding influence on the development of the evaluation framework is taken from the arena of conflict resolution, namely, action evaluation. In action evaluation, there are similarly three phases: baseline, formative, and summative. Action evaluation is, unlike countenance evaluation, very much a participatory evaluation method and involves stakeholders from the outset. The purpose of the evaluation is to make a difference to the actions of individuals and groups within the stakeholder body. Therefore, stakeholders are involved at all stages of the evaluation. For example, in the first, baseline phase, stakeholders identify what the terms of success might be for the intervention on an individual, group, and organisational level. The emphasis is not only on the "what," but also on the "why," thus making explicit inner motivations for action (Rothman, 2003). This approach was helpful in providing a context for the evaluation meetings held intermittently throughout the evaluation process.

The third major element to the evaluation framework is a reporting method taken from Stronach and McLure's work on educational evaluation (1997). According to this method, the evaluator presents a structured report to the stakeholders at a number of points within an evaluation. In the report the evaluator makes provisional, and sometimes provocative, statements resulting from analysis of documentation, discussions, and observations. The report raises questions for consideration by the readers, and provides space within the printed document for the insertion of stakeholder responses, be they further clarification, correction, support, or objection to the evaluator's formulations. This approach enabled early feedback on the evaluation work and brought to light useful additional viewpoints and facts that increased the validity of the evaluation work.

The evaluation processes and where the different approaches sit are represented schematically in figure 1.

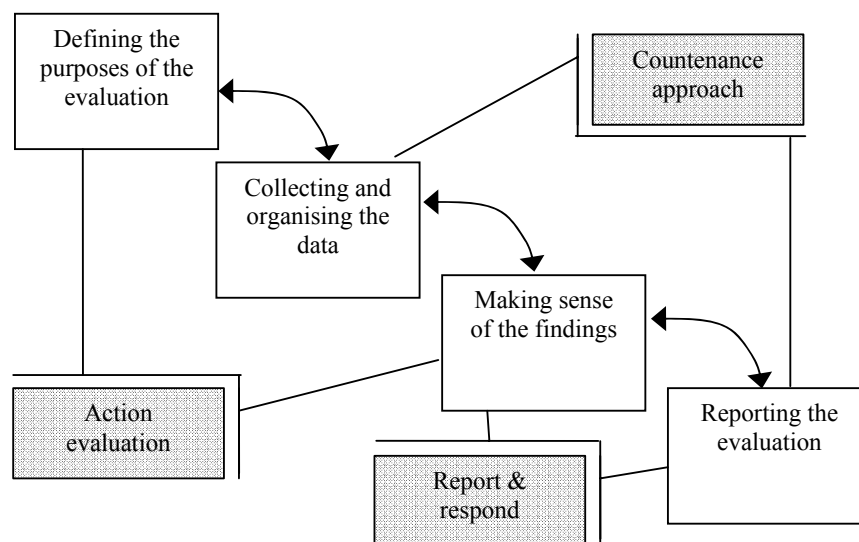


Figure 1: Needs Title Here

How these three approaches were combined in the case study

Together, these three influences shaped an evaluation that was conversational in tone and yet structured around some clear statements of intent and jointly agreed measures.

Consequently, in the first instance and at a very early stage in the initiative, the evaluation sought to identify what the intended outcomes of the initiative were. In the e-learning implementation there were clear drivers from management that defined the intended outcomes, but other stakeholders' perspectives were also incorporated into some initial statements of intent. These initial statements were presented at a stakeholder meeting early in the evaluation process, and ideas were generated at the meeting and through an ongoing open dialogue on ways to gather data that might assist the evaluation process. Electronic means of communication and data collection were exploited as far as possible. Email exchanges, websites of information about the initiative, and interactive feedback sites were established. Over the first year of the initiative, one stakeholder maintained a diary in the form of daily emails to herself about her experiences and interactions relating to the e-learning implementation.

At other key stages in the evaluation cycle, there were opportunities for exchange. The evaluation was presented for discussion at the annual staff conference and at team meetings, and regular submissions were made to the university learning and teaching committee with questions to prompt discussion of interim findings. From the outset, therefore, the evaluation of this initiative was interwoven with quality processes.

Overview of data collected for the evaluation

In line with the methodological approach of the evaluation, data collection for the evaluation was located within the institutional processes, and stakeholders were encouraged to collect data through small-scale evaluations within their own areas. In addition to the application of centralised evaluation tools, the evaluation was undertaken more locally, through the critical mass of informants in the taskforce, which included innovators in e-learning, other teaching innovators, educational developers, and technologists.

Much of the data was collected through observations and evaluation processes within naturally arising settings such as awaydays (off-site workday meetings), course and departmental meetings, and annual quality processes. As already mentioned, the evaluation made use of the interactive elements of the Internet. The virtual learning environment itself was used to elicit feedback from users, as were email and Internet surveys and feedback pages on the web. There were some local questionnaires and focus groups organised mainly in collaboration with teaching colleagues and often within an action research paradigm. There was also an annual feedback survey for students completing the induction session on e-learning. (All entry students, both undergraduate and postgraduate, attend a one-and-a-half-hour induction into online facilities based upon familiarisation with the virtual learning environment but also including the online library and general computing.) Data was derived from reports and committee documents, such as the quality-monitoring course reviews and faculty reports submitted annually to the quality assurance committee. These reviews and reports identify good practice in relation to learning and teaching developments, as well as clarify actions to be taken on particular concerns that are often raised by external examiners or students on course-consultative committees. Case studies have also been developed of specific instances of e-learning use in order to assist others in the development of their own e-learning practices. However, these also yielded some valuable data regarding motivations for using e-learning, disciplinary preferences, student and peer feedback, and fit of the innovative approach within the broader subject or departmental context. In figure 2, I have attempted to tabulate the different data sources in terms of institution-wide (centralised) sources and local (distributed) sources.

Centralised data sources	
	<ul style="list-style-type: none">• student surveys (annual)• staff-impact surveys (annual)• server data• VLE statistical data• Quality monitoring reports• Committee and working party reports• Interactive websites• Workshops and seminars
Distributed data sources	
	<ul style="list-style-type: none">• Diaries and personal accounts• Interviews

	<ul style="list-style-type: none"> • Focus groups • Action research projects • Observations • Peer reviews of teaching • Web access patterns • Course review documents • Case studies • Intra-institutional consultancy
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Figure 2: Data sources informing the evaluation

A comment on data derived from server statistics

Also collected, analysed, and distributed were data regarding the web-usage statistics, which were generated from the main server that hosts the virtual learning environment. Because of the interest that usage statistics generate, particularly amongst managers within the institution, it is worth saying just a few words about the web statistics and how they have been used within this particular evaluation. Depending on the virtual learning environment architecture and the version of the software, there are different ways to harvest data on usage statistics. The account here relates to various versions of WebCT — from version 1.3 to Campus version 4 and into the pilot phases of using WebCT Vista.

From within the virtual learning environment itself, the data that can be collected is presented as tracking data, gathered cumulatively over time. The views of the data can either be in relation to individual student access (to the site, the content pages, discussion postings, quizzes, or surveys) or content access (how many users have looked at the pages and for how long; how many have completed the quiz and what their scores are). Also, on the server itself are usage statistics that show, for example, the frequency of access to the server over a period of time, where users have accessed the site from, how many users have accessed the homepage of a site, how many times a file has been viewed, and how many discussion postings an individual user has read or posted.

In the evaluation case presented here, tutors made some use of the internal data in conducting their own evaluations of usage and determining participation and performance rates. The statistics collected centrally were also largely based on internal statistics. The emphasis was placed on numbers of initial visits to the homepage of the module site as an indication of e-learning activity, or online sessions. The figures were not used in isolation, but were related to the number of students registered on each module, and a calculation of activity was generated. The actual figure produced is not significant in itself, since there are too many uncertainties about the nature of the visit that generated the statistic. However, the figures do become interesting when they are compared with the activity figures of other modules and when they are charted over time. In this way, the evaluation began to compose a pattern of usage across the institution, which could be represented at the departmental level, and shows relative growth over time. In the three years that such data was systematically analysed (2000–2003), there was a rise from 24% active usage of modules to nearly 50% across the entire curriculum. Within this aggregate statistic, however, there was substantial variation between university departments. For example in 2002–2003, all modules in economics and disaster-management courses fell into the “active” category. In a further seven discipline areas, including computer science, sports science, environmental, and business courses, it could be seen that the active measure was between 75–90% of modules.

The picture that emerges from the usage statistics is acknowledged to be partial, since it measures only one aspect of interaction with e-learning, namely, access to the virtual learning module site. There are other e-learning activities that have not been part of the map of usage, for example, where course level activity is high (as opposed to the module level), or where modules are delivered either together or in sub-components and therefore use additional sites which fall outside those that are counted.

Analysis of developments in the four domains

These wide-ranging data sources listed above have fed into a detailed analysis, organised around Stake’s countenance approach to evaluation (1967). It was particularly insightful to compare the intended outcomes with the observed outcomes in the early stages of the implementation and subsequently. Stake’s approach also helped to extract the contingency of outcomes on each other. The overall analysis of the e-learning initiative can usefully be divided into four broad domains: pedagogical, technological, cultural, and organisational. There are

elements in each of these four domains that have been strengthened through the participative evaluation methodology applied in this case, and in this regard, therefore, I argue that they have enhanced the quality of the e-learning implementation.

Considerations in relation to the four domains identified above are represented in figure 3.

<p>Pedagogical Domain</p> <ul style="list-style-type: none"> • Disciplinary and interdisciplinary cultures • Teaching, learning, and assessment regimes • Educational development practices • Profile of students 	<p>Technological Domain</p> <ul style="list-style-type: none"> • IT support • Access (on and off site) • Virtual learning environments, • Software availability and expertise • Licensing conditions
<p>Cultural Domain</p> <ul style="list-style-type: none"> • Language • Visions • Resistances • Personalities • Communities of practice • Change agency 	<p>Organisational Domain</p> <ul style="list-style-type: none"> • Rules and procedures • Policies and strategies • Reward structures • Resources • Quality assurance and enhancement agendas

Figure 3: Representation of developments in the four domains (adapted from Cousin, Deepwell, Land, & Ponti, 2004)

Pedagogical domain

Pedagogical developments in relation to the e-learning implementation include disciplinary and interdisciplinary cultures: teaching, learning, and assessment regimes, educational development practices, and profiles of students.

The evaluation afforded opportunities for re-considering how educational development practices are conducted. Early discussions within a strategy group resulted in setting up two strands of central and faculty-based support for colleagues using the e-learning system — one more pedagogical, from an academic colleague, and the other more technical, from a member of the technical support team. The quality of support provided by academic colleagues for their peers proved to combine pedagogical and technical assistance and was rated very highly. As well, the role was developed into a more strategic academic one. Technical support from technicians was rarely sought for anything beyond password access, and it emerged through interviews with the technical colleagues, that the role was not sustainable. More generally, the faculty-based and central support fostered collaborative developments on both small and larger scales, for example, peer reviews of sites, holding focus groups with student groups on specific courses, collaborating in developing a distance learning certificate in peace and reconciliation (Courtney, 2004), fostering goal-setting techniques through e-learning in first-year undergraduate sports scientists (Smith & Deepwell, 2004), and researching student motivations in e-learning (Davidson & Orsini-Jones, 2002).

Technological domain

Technologically, the enhancements through evaluation were evident in areas such as access to information technology and support provided to users. Virtual learning environments were also evaluated against a set of criteria formulated at a workshop with stakeholders. One significant example of the evaluation influencing policy relates to software and licensing conditions, in which the evaluation provides evidence that the majority of users of web-based services accessed the services off-site rather than on-site. The information service group had to alter licensing arrangements accordingly and start to provide more comprehensive off-campus computing facilities. The quality of the e-learning service provided to staff and students has consequently been enhanced. Another aspect in this domain relates to the provision of third-party software that is user-friendly for faculty to use in developing their teaching materials to distribute in the VLE, and the associated support materials for such software that extends the functionality of the central e-learning package, such as tools for building web pages, quiz construction, compression of large presentation files, etc. The demand for support materials online has led to the ongoing development of web-based support materials, which increasingly use screen movies to demonstrate the use of tools and functions within the e-learning environment.

Cultural domain

In the cultural domain, the evaluation paid attention to language and the emerging visions for the future. It also considered the resistances (perceived and actual), personalities, and power relations within the stakeholder groups. One major group of stakeholders was a set of 25 innovative teachers, the previously mentioned taskforce for learning, teaching, and assessment, who worked individually on educational development projects and simultaneously contributed as change agents within their local settings. (For more about the taskforce with respect to the e-learning implementation, see Deepwell & Beaty, 2005.) Through an engagement with the participative evaluation processes, many of this group of stakeholders became evaluation researchers of their own practice and presented case studies at local seminars, the annual university-based learning and teaching conference, and national and international forums on e-learning. This evaluation activity contributed to the cultural climate that launched a 2005 initiative to establish a pedagogical research network with e-learning as one of the identified strands of activity, thus further building the capacity to research and evaluate practice.

Organisational domain

Within the organisational domain, the evaluation raised considerations for adjustments to rules and procedures, policies, strategies, reward structures, resources, and quality assurance and enhancement agendas. The pedagogical lead that was taken in the e-learning initiative by the Centre for Higher Education Development was valued by many of the academic colleagues, since it preserved to a large extent the autonomy of academic colleagues over their online teaching space, whilst providing a starter template already populated with some central resources and student registrations. This lead was not so highly valued by many of the middle and senior managers, however, unless they were still actively teaching in their disciplines, since they were not directly involved in the processes of change. Within this group of stakeholders there was a reliance on twice-yearly production of the student usage statistics, since this soon came to be a performance indicator for senior managers, upon which their bonus salary depended. Internally, the e-learning initiative rapidly became a core activity, reflected in membership of key policy and strategy development groups, as well as in, for example, ICT skills as a requirement listed in most job advertisements for new teaching staff. Externally, the quality of the profile of the university was raised, too, with presentations and publications emanating from the various aspects of the initiative and its evaluation. Several stakeholders acted as consultants to other institutions, too, such as neighbouring colleges of further education and other universities in the UK and abroad.

Conclusion and implications in e-learning quality

In this paper, my theme has been the integration of evaluative approaches into the development of e-learning in order to enhance and assure the quality of the e-learning implementation. The context described in the case study here was institution-wide and set within a broader change management initiative. The evaluation processes were embedded within the regular cycle of the implementation, and data was gathered both purposively and opportunistically. Evaluation research was used to guide the processes, and a framework was applied that helped organize the wide range of disparate data collected. The gathering of data occurred both from a central point and from distributed sources. In this sense, therefore, the evaluation was a collaborative activity in itself.

The participatory and conversational elements of the evaluation were attended to, in order to increase buy-in to the e-learning initiative as well as the evaluation process. In consequence, the evaluation was influential in decision-making with regard to technical infrastructural demands, which require cross-institutional co-operation, if not collaboration, to achieve.

Conversely, the evaluation team also faced great pressure from management to report annually on the statistical uptake of e-learning. The annual return on module activity was effective in prompting local action. However, in response to the variation in uptake across different courses, for instance, there was not necessarily any substantial consideration of the underlying factors, such as a lack of reliable computer provision in offices or out-dated teaching facilities.

The evaluation approach taken has raised awareness of research and publication opportunities within e-learning and disciplinary learning and teaching areas. Because of the involvement of a wide group of academic colleagues as active evaluators of their own teaching areas, there has been a growth in evaluation capacity within the institution.

Through a discussion of the evaluation framework and the analysis of evaluation findings described in this article, I have sought to identify some of the complexity of evaluating an e-learning implementation. The developmental aims of the evaluation process adopted for this e-learning implementation can be summarised as follows:

- enabling more effective decision-making processes
- achieving widespread buy-in and growth of the initiative
- fostering cross-university collaboration
- creating opportunities for research and publication
- building greater capacity for evaluation within the organisation

In this paper I have reported on a completed cycle of evaluation that accompanied the first major phase of e-learning developments at Coventry University. The evaluation framework has combined Rothman's action evaluation as an underlying philosophy, Stake's countenance evaluation as a data organisation and analysis technique, and Stronach and McLure's report-and-respond method for engaging stakeholders. The evaluation has yielded a rich array of outcomes and findings which have been used to assure and enhance quality within the developmental stages of the initiative.

As outlined above, the evaluation outcomes include development of capacity and understanding of evaluation within the organisation. This, I contend, has been achieved through the development of embedded, participatory, and quality-enhancement-focused evaluation practices. A second cycle of development with a new generation of e-learning systems is now underway.

Epilogue

This paper arose out of a conference presentation in which I likened the evaluation approach described here to the actions of the swallow in Oscar Wilde's fairy tale of the Happy Prince. In the story, the Happy Prince is a statue that sits high above the city where the actual prince used to rule. From this vantage point the statue can see the injustices beneath him (the need for improvement) and decides that he can make a difference. He commands a swallow to take his jewels and gold leaf and to distribute the riches into the community below, thus spreading happiness and improving the quality of life. The swallow is delicate and unobtrusive, but the impact of its actions is significant.

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