The Role Of Evaluation In the Quality Assurance Of e-Learning

Professor Grainne Conole, Professor in Educational Innovation in Post Compulsory Education at the University of Southampton, and Co-director of the eLearning Research Centre

Introduction

The growth in the use of the Internet in the past five years has been paralleled by a growth in the number of online distance learning courses. The perceived benefits of this form of learning include the opportunity to learn anytime, anywhere and to communicate and collaborate virtually across countries. For teachers online courses have been seen as beneficial as a way of reaching new student markets, offering more flexible learning opportunities for students, facilitating the tracking of student progress and activities, as well as providing an opportunity for creating new and innovative learning environments.

The appropriate use and evaluation of learning technologies is now widely recognised as being an integral part of the development and delivery of learning and teaching materials. Although much research has been done on evaluating the effectiveness of online courses, many research questions remain unanswered (Conole, Oliver and Harvey, 2000). How effectively do these kinds of systems support learning? Are they more effective than face-to-face learning? Which aspects of learning are best suited to online learning and which to face-to-face? How much time does the development and implementation of online courses take? What skills do teachers and students need in order to use online learning environments effectively?

Furthermore, few academic staff have had the opportunity to develop the pre-requisite expertise to design and implement an effective strategy for acquisition, use and evaluation of either new materials or methods of delivery. In order to provide these practitioners with support and encouragement easy-to-use guidelines and resources are required. Not only must these be based on sound, tested pedagogical theories, but also first and foremost they must be practical for academics using (or evaluating the use of) learning technologies.

What is evaluation?

In one sense evaluation is about understanding and reflecting on a particular set of activities. Oliver argues that there is no single definition of evaluation (Oliver, 2003), but goes on to suggest that a useful starting point is: The process of making judgements about the worth (costs and values) of something. Furthermore he argues that evaluation can also be used in the context of descriptive studies, intervention studies (e.g. formative evaluation), empirical research, monitoring and quality assurance processes.

Phillips argues that:

“As human beings we naturally ask questions about how useful and how valuable our activities are. We can think of evaluation as a process of considerably sharpening this natural activity of checking on our ongoing work. A more formal definition is to think of evaluation as providing information to make decisions about the product or process.”

Phillips, 2000

He goes on to stress that evaluation is not equivalent to research, although it employs research techniques as a means of generating the necessary information, and uses similar criteria for the reliability and validity to judge the quality of the evidence and that evaluation tends to be broader than research, as it usually requires information about a range of situations, products and processes. However, the main difference between evaluation and research is that evaluation also involves making judgements about the value of what is being evaluated.

Phillips states that in one sense (evaluation) in an educational setting is the process whereby we seek evidence that the learning experiences we have designed for students are
effective. He believes that we evaluate educational activities for two overlapping reasons:

1. to obtain information that can inform the ongoing design and development process (often referred to as formative evaluation);

2. to decide whether an innovation is worth retaining (often referred to as summative evaluation). These forms of evaluation often meld together, and each can be difficult to undertake properly.

Frameworks for evaluation

A variety of evaluation frameworks have been developed. This section picks out four frameworks which have been extensively quoted in the UK; see Franklin et al for a more detailed review (Franklin et al, 2004). The Open University has developed an alternative evaluation framework (Jones et al, 1996). The evaluation of software on Open University courses focuses on three main themes: context, interaction and outcomes. Several methods of data collection are used, including questionnaires sent out prior to the start of the course, postal and on-line questionnaires completed after computer use, interviews with staff and students, post-course questionnaires, and logs of computer usage and terminal time. These last were found to be particularly important. The table above summarises these points.

The Teaching with Independent Learning Technologies (TILT) project’s framework adopts an illuminative approach to evaluation (Draper et al., 1996; 1997). It aimed to evaluate the course as a whole, rather than simply the resource being used, and improve learning by integrating learning materials as effectively as possible. TILT’s framework is predicated on the assumption that the evaluation must take place in context, since it aims to evaluate the course’s use of educational technology, not the educational technology alone. The Situated Evaluation of CAL (SECAL) framework (Gunn, 1996; 1997) is predicated on the premise that experimental evaluations fail to identify which single or combined factors supported learning. It is argued that evaluations should be designed in order to account for these factors, rather than attempting to balance or disregard them. SECAL attempts to provide evaluation in context and the evaluation of context. Evaluation in context examines the primary effects of CAL use; evaluation of context examines factors affecting integration at a university level which indirectly influence learning. As a result of this, authenticity is a pre-requisite of the framework. The SECAL framework involves case-study work, adopting methodologies in an opportunistic manner. It is intended to be used with small sample sizes, making it ideally suited to action research evaluation. It is this small scale, together with its aim of providing rapid and immediately applicable results, that sets it apart from illuminative evaluation.

The JISC-funded evaluation toolkit (http://www.ltss.bris.ac.uk/jcalt/) developed out of the BP-funded ELT project (Oliver and Conole, 1999) and the LTDI evaluation cookbook (Harvey, 1998) and consists of six steps:

1. Identification of the audience for the evaluation.
2. Selection of an evaluation question.
5. Choice of data analysis methods.
6. Selection of the most appropriate format(s) for reporting the findings to the audience.

These steps can be thought of as a combination of contextual (1, 2 and 6) and mechanical (3, 4 and 5), or alternatively as strategic and tactical, with the needs of the audience driving

<table>
<thead>
<tr>
<th>Rationale</th>
<th>Context</th>
<th>Interactions</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past evaluations and literature suggest that context must be considered.</td>
<td>Need to look at interactions in order to focus on the learning process.</td>
<td>Learning outcomes and affective outcomes (changes of perception or attitude) must be considered when assessing effectiveness.</td>
<td></td>
</tr>
<tr>
<td>Course/CAL designers’ aims, policy documents and meeting records.</td>
<td>Records of student interactions, student diaries, and on-line logs.</td>
<td>Measures of learning, changes in attitudes and perceptions.</td>
<td></td>
</tr>
<tr>
<td>Interviews with course designers, analysis of policy documents.</td>
<td>Observation, diaries, video/audio and computer-use records.</td>
<td>Interviews, questionnaires, tests.</td>
<td></td>
</tr>
</tbody>
</table>
the whole process. At each of these steps, as described above, activities are provided which allow users to make informed decisions that allow them to progress to the next step.

Stages in the evaluation process

Evaluation differs in particular from research in that it is heavily orientated towards a specific output or endpoint and in particular to addressing the needs of the identified stakeholders of the evaluation. This contextualisation of evaluation is important in terms of shaping the focus of and methodologies used in the evaluation process. The evaluation process consists of three main phases: planning and contextualising the evaluation, data collection and analysis and presentation of findings to stakeholders. The planning stage helps to define and scope an evaluation. This includes identification of the intended audience for the evaluation (stakeholder analysis) and definition of the core evaluation question(s). It also consists of consideration of defining the complexity or scale of the proposed evaluation, giving particular attention to associated time and resource (both financial and human) implications. The next stage is definition of the key evaluation questions which are to be addressed and mapping of these to stakeholder interests. From this appropriate data collection and analysis are chosen, for which a wide variety of research instruments and methods can be used, see Conole for further details (Conole, 2003). The final stage is communication of the findings of the evaluation to the stakeholders.

The role of evaluation in the quality assurance process

Strategies for quality enhancement rely on the identification of areas of potential improvement and the specification and implementation of plans to address these. Evaluation can fulfil a variety of roles in the quality assurance process, including acting as part of the quality assessment process or as a structure for devising quality enhancement plans (Oliver and Conole, 2000). By providing activities that require recorded outputs, evaluation can produce documentary evidence of assumptions, processes and outputs. These provide a rich source of evidence for quality assurance and assessment purposes, and are of value to individuals seeking recognition for professional development through assessed reflective portfolios. Explicit alignment of evaluation with QA processes can be designed to contribute to quality enhancement procedures. One example of this would be to get practitioners to evaluate their current practice, assessing the strengths and weaknesses highlighted by this process, and then devising alternative approaches that redressed these. Finally, evaluation can also contribute to the traditional notion of quality as excellence, by bringing good practice within the reach of all practitioners in a usable format. This allows widespread innovation and improvements to quality, in marked contrast to the implicit and tacit expertise that frequently remains with the early adopters within communities. What makes evaluation particularly relevant in the context of quality assurance is the importance of sound procedures and documentary evidence for decision making. Evaluation can be used as a vehicle for enabling practitioners to embed e-learning into their courses, whilst also provide a mechanism for generating a range of evidence and outputs that can be incorporated into quality procedures.

In conclusion, this paper has attempted to demonstrate the value of evaluation in the quality assurance and enhancement process and of its relevant in educational development through improved practice. However, to date evaluation remains primarily outside mainstream quality procedures. Clearly, further work is required in order to make more explicit links between evaluation and QA, but also there is a need to incorporate evaluation more closely into everyday practice. This will allow the value of evaluation to be recognised through quality auditing procedures, but more importantly, good practice and models will be made available to all practitioners in a flexible and easy-to-use format.

Grainne Conole

g.c.conole@soton.ac.uk
References


Oliver, M. & Conole, G. (1999), From theory to practice: A model and project structure for toolkit development. BP ELT report no. 12, University of North London.


Introduction

Open and distributed learning (ODL) has faced an ongoing struggle to establish its credibility, legitimacy and equivalence to traditional provision, even when its quality is good. Its success in achieving these has varied among countries and institutions. Quality assurance for ODL has occupied uneasy ground in relation to the formal quality assurance systems designed for ‘traditional’ higher education. Uncertainty has revolved around whether ODL programmes should have separate quality assurance requirements or the same as those for traditional campus-based programmes and whether they should be generic or specific, mandatory or optional. Different countries have made different choices. What is certain is that sound and practicable quality assurance systems are essential for ODL’s credibility, given the huge world-wide expansion of ODL programmes and persistent scepticism about their value.

Inside the UK Quality Assurance box

The Quality Assurance Agency (QAA) has defined the approach to managing quality in UK higher education, though a few universities (or departments within them) have also adopted other quality management systems in parallel (for example, ISO 9000 and Investors in People certification). In international comparison, the UK approach to quality assurance in higher education is highly centralised and specific. At the other end of the spectrum are countries that have no national or state quality assurance bodies for higher education and no national standards for ODL, with quality assurance residing almost entirely in the control of individual institutions. In some cases, collaborative provision of ODL programmes involves UK universities with partners in countries at the other end of the spectrum. Most collaborations generally work through conformance to UK requirements (where collaborations are successful) rather than through accommodation to different systems.

The UK’s QAA mapped useful Guidelines (1999) for the management of ODL quality and took an integrated approach to it (that is, the Guidelines were based on those for traditional provision with variation as appropriate). This integration had its strengths and weaknesses. On the one hand, it signaled the legitimacy of ODL as part of higher education and offered a coherent approach. On the other, it provided a framework and perspective that did not altogether fit with the needs and quality management processes of ODL.