



Managing quality improvement of eLearning in a large, campus-based university

Quality
improvement of
eLearning

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Abstract

Purpose – This paper seeks to discuss the characteristics that shape a model to manage eLearning in a large, predominantly campus-based university. It focuses on how such a model can provide a sustainable approach to supporting eLearning for more than 40,000 students while still managing basic quality assurance for the University executive and the individual disciplinary needs of faculties.

Design/methodology/approach – Prior research and theoretical issues related to a generalised course development and teaching process are discussed followed by an analysis of a case-study from a large metropolitan Australian university. The case-study illustrates key aspects of the management model providing insights into how staff are empowered and supported to develop meaningful eLearning resources for students, how quality improvement is managed, and how organizational learning takes place.

Findings – Following the analysis of how key aspects of the model relate to the university discussed in the case study, several challenges for quality improvement at the level of both course and university are identified. The case-study reveals the complexity of quality improvement strategies, which (mainly due to the fact that eLearning complements the face-to-face learning experience) require a relational and embedded approach. Key principles for managing eLearning development and evaluation for campus-based universities are abstracted from the case-study and offered as a guide to universities who face similar challenges

Research limitations/implications – Although not all aspects of the case-study can be applied to other contexts, the key principles of the proposed management model are likely to apply to other campus-based universities which share the same focus on integrating eLearning in sustainable ways but also wish to foreground quality assurance issues.

Originality/value – The paper integrates the discussion of theoretical approaches and models for eLearning management in higher education with the description of a case-study from a large, diverse, campus-based university, while highlighting the complexity and practical challenges of implementing such a model.

Keywords E-learning, Quality improvement

Paper type Case study

Introduction

Universities based on a United Kingdom (UK) model of Higher Education (Ramsden, 1992; 2002), typically those in the UK and Australasia, often make use of a devolved learning and teaching system. In this model, university-wide strategic planning, policy-making and global resource allocation are at the centre, while ultimate responsibility for the quality of learning and teaching rests with the faculties. In terms of quality assurance for learning and teaching, this type of model is appropriate as it locates the main responsibility for quality learning with those most closely associated with it, the teachers and students. It also helps to provide some central coordination



and efficiencies without restricting the academic freedom and inventiveness of faculties, especially those in large comprehensive universities. For these reasons, while this is not a hard and fast organizational aspect of all universities, it is not an unusual characteristic of learning and teaching systems in many institutions.

While a devolved learning and teaching system is beneficial for quality assurance and for faculty independence and creativity, this paper argues that it creates a number of challenges for faculties and universities seeking to strategically embed eLearning. A separation of the responsibilities for resource allocation and for quality learning outcomes can be problematic when teachers want to integrate eLearning into course design (a “course” in this study is a component of a program of studies leading to a university award). This is because decisions based on learning and teaching imperatives often have implications for the resourcing base of the information and communication technologies (ICTs) underpinning eLearning. If those making the decision do not have control over key resources or their direction, then they are not really in a position to make learning and teaching decisions that have medium-term implications (those that last more than one semester) such as a decision to start developing a percentage of the student learning experience online. Without a sustainable institutional approach to managing eLearning across the needs of diverse faculties and many thousands of students, faculties cannot have the confidence to pursue such medium-term strategic goals. A discussion of appropriate characteristics for a management model for eLearning for a large comprehensive, predominately campus-based institution is one of the goals of this paper. In particular, how management of eLearning in such institutions is contingent on how it *relates* to the face-to-face experience will be emphasised.

To discuss such issues in a holistic way, this paper will first consider some ideas for quality assurance and management of eLearning and then, using these, present a case-study from a metropolitan Australian University, the University of Sydney. This will involve using a generalized course development and teaching process as a way of analysing the extent to which central, college and faculty decisions for eLearning are embedded. In doing so, the case-study will discuss issues related to the question:

How can a large, predominately campus-based, comprehensive university adopt a sustainable approach to the management of eLearning that allows for some economies of scale while still addressing both basic quality assurance for learning and the individual needs of many diverse faculties?

Defining eLearning

The Higher Education Funding Council for England (HEFCE) adopts the definition of eLearning as any learning experience supported by information and communication technologies (ICTs) (HEFCE, 2005, p. 5):

We believe we should limit the scope of our strategy, to be sufficiently focused, to the use of technologies in *learning* opportunities. The Government eLearning strategy defines eLearning as any learning that uses ICT. In embedding this strategy we want to ensure that there is confident use of the full range of pedagogic opportunities provided by ICT.

The use of the term “eLearning” means different things in different universities. In a broad sense, it refers to the use of technologies to support students in achieving their learning outcomes. The way it is used is often closely related to the geographical

location of the university and its students. For example, campus-based institutions can capitalise on their urban infrastructure to provide local, high-bandwidth, media-rich, ICT-based teaching opportunities, whereas distance-education universities need different solutions to solve bandwidth problems (Ellis and Moore, 2006). The mission of the university is also likely to influence the scope of learner support for eLearning. Where eLearning is seen as part of core business, solutions for its support and use by students and teachers need to be robust. Unfortunately, where eLearning is not conceived as part of core business (often the case in campus-based universities), the size and scope of support for students online may suffer.

Since the meaning of the term eLearning is contingent on contextual factors typical of the learning context under discussion, the reader should keep in mind that it may mean similar but slightly different things in each context.

Prior research and theoretical background

Quality assurance for higher education is a vexed term as it may have connotations that emphasise the notion of quality as accountability at the expense of quality as improvement (Harvey and Knight, 1996; Bowden and Marton, 1998; Biggs, 2001). In fact, quality as accountability does little for learning in higher education as it cannot help to develop an understanding about processes, which is necessary to understand how to improve them. A relationship between process and improvement is shown in Figure 1.

Figure 1 is a simplified model of the quality assurance of a process that could be applied in a variety of contexts. Here it is used to understand how a university may assure the quality of a process in order to improve it and better understand related quality standards. The bottom left-hand box will be conceived of as the course development and teaching process (see Table I) which is the focus of the review activities and will be discussed in some detail below. The top right-hand box identifies the reflective aspect of the model (Schön, 1991). Through reflection, especially cyclical periods of reflection in which initial outcomes can be compared to subsequent outcomes, understanding of the nature of the process develops, allowing improvements to be made – the bottom right hand part of the model. At the same time, minimum standards of each part of the process, the top left-hand part of Figure 1, can be articulated because the review of the process is facilitating understanding of quality issues.

To understand the model in ways that situate it in the context of managing quality assurance for eLearning, a number of key questions are worth considering:

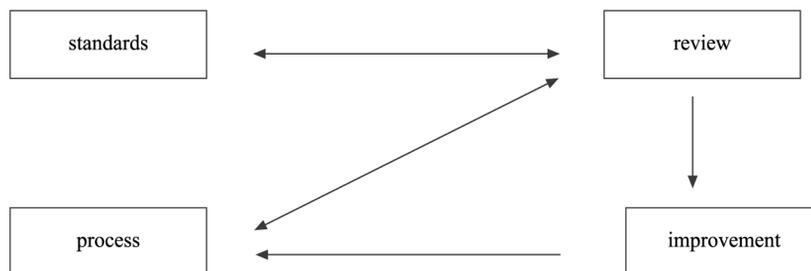


Figure 1.
A simplified quality
feedback loop for
understanding quality
standards and systems

Table I.
The course development
and teaching process

No.	Key stages in the development and teaching process
1	The decision to develop or redevelop a course with ICTs
<i>Development</i>	
2	The planning and proposal decisions which consider – issues of T&L: objectives, learning activities assessment, outcomes – resourcing issues; the availability of ICTs, their sustainability and feasibility – staff development and staffing
3	Design and development decisions – including assessment strategies and trialling of materials/activities
<i>Teaching</i>	
4	Learning, teaching, assessment
5	Evaluation decisions

- What are the key aspects or *stages of the process* (the course development and teaching process) being reviewed?
- What strategies are built into the process that allow universities to continually *review and improve* current practice of integrating eLearning into an historically face-to-face experience?
- What are some of the strategies used to *maintain cohesion* in the process so that there is continual review of eLearning in the redevelopment and teaching of courses? (adapted from Biggs, 2001)

Key stages of the process being reviewed: the course development and teaching process
The three key questions adapted from Biggs (2001) presuppose that a university has a good understanding of the processes supporting the integration of eLearning into courses. This is not always the case, as the introduction of eLearning into pre-existing teaching and learning systems can involve considerable cultural change over a period of time (Taylor, 2003), often accompanied by mixed attitudes towards the changes, practical difficulties in embedding changes in pre-existing processes, and personal appraisals of the cost-benefit of introducing the changes (Rogers, 1995).

To understand how eLearning processes can be embedded in course design for the purposes of evaluation and review, question 1 requires the “process” in Figure 1 to be unpacked. One way of unpacking it is to conceive the integration of eLearning into courses in terms of a development process that realises courses. Key stages of a course development and teaching process, those which can be understood as representing the scope of decisions that a teacher may make when deciding if, when and how to integrate eLearning into the course design, are presented in Table I.

The process which is used to describe how eLearning can be integrated into courses is conceptualised in terms of five stages. These stages are meant to represent the broad stages teachers may go through when redeveloping courses with eLearning. The use of Table I here is not meant to suggest that all teachers, when redeveloping courses to integrate eLearning, go explicitly through each stage; rather these stages represent the scope of activities in which teachers might engage. The stages are in some sense artificially separated here for purposes of analysis, whereas in reality, they are iterative

and entwined. This is particularly true for activities involving design, development and trialling.

While at first glance the stages may seem fairly straightforward and obvious, they are actually quite complex for a number of reasons. Firstly, knowledge from diverse research in areas such as learning and teaching, educational technologies, project management and evaluation is usually touched on and requires synthesis in the decision-making of teachers going through the process, either implicitly or explicitly. Secondly, any model used for the quality assurance of learning in higher education must have a theoretical base, otherwise the purpose of the model, how to improve student learning, cannot be articulated (Harvey and Knight, 1996; Bowden and Marton, 1998; Biggs, 2001). For the purposes of this paper, key aspects of the quality model are that it is student-centred and evidence-based. The research underpinning such a quality model could align with more than one type of theory of learning, such as those that underpin student learning research (Entwistle and Ramsden, 1983; Ramsden, 1992; Marton and Booth, 1997; Prosser and Trigwell, 1999), different strands of constructivism (Biggs, 1999; Jonassen *et al.*, 2003), or other evidence-based student-centred theories of learning. Thirdly, decisions in the design and development stage of eLearning often include consideration of the balance of educational media used (Laurillard, 2002), production and teamwork issues, the staff development necessary to be able to teach with the redeveloped curriculum, prototyping, editing procedures and trialling. For all of these reasons, and others, the possible combination of these issues for teachers weaving their way through the five stages of course redevelopment makes the process complex.

Strategies to review and improve the integration of eLearning into courses

Having identified the nature of the processes to be reviewed, it is necessary for practical reasons to identify when are the most opportune times to evaluate them. There are two points at which quality assurance review mechanisms are probably most efficacious: at stage 5 and at the end of stage 3 (Table I). We start with stage 5, as an aligned approach would require the evaluation outcomes of stage 5 to be mirrored by the trialling strategies during stage 3. In stage 5 if the university is claiming to be student-centred in its approach to learning and teaching, surveys used by a university to evaluate the quality of learning would need to include items that address the relational nature of how eLearning complemented the students' whole learning experience. How is eLearning helping students to better understand the course material they are studying? What strategies do successful students adopt towards eLearning and why do they adopt those strategies? What do students learn through the discussion of a key topic in class and on a bulletin board? How is the online environment complementing the learning in the face-to-face environment? Are the outcomes of the eLearning activities meeting the needs of a wide range of stakeholders (for example, employers may seek generic attributes from eLearning such as problem-solving/teamwork)?

Similarly, at the end of stage 3, if the university wishes to improve how eLearning is integrated, trialling the learning materials and activities developed is necessary. Key questions include: Are the materials and activities supporting the learning outcomes of the students? How do they complement the face-to-face experience? Do they work well in the blended learning context? What adjustments need to be made to the way

teachers are being supported by central services in order to embed eLearning into course design?

Strategies to maintain cohesion of course development and teaching processes

One way of addressing the third question related to Figure 1 is to discuss strategies designed to maintain the cohesion of the processes involved so that continual and systemic review can occur at both the level of the course, and at the level of the university.

There are a number of quality assurance approaches for eLearning at the course level. Evaluations at the end of stages 5 and 3 (Table I) as mentioned previously are key amongst them. However, when different areas of the university are responsible for different parts of course development and teaching processes, a number of additional management strategies are required to mitigate against disintegration of its cohesion, so that the findings from stages 5 and 3 can be integrated into subsequent iterations, especially of stages 1 and 2 (Table I).

At the level of the University, quality improvement of eLearning can be facilitated if the activities arising from embedding eLearning into course design are captured, their implications are aggregated and analysed upwards to the level of faculties, and integrated into the planning for the following year. Analysis of this information needs to occur to ensure that the implications for individual course design are considered in terms of faculty academic administration processes. For example, what are the workload issues and costs for staff in developing eLearning materials and activities? What are the faculty budgeting issues for tutors when staff move some activities online (Bacsich and Ash, 1999).

The following case-study draws on some of the key ideas from the first part of the paper as a way of structuring the experience of eLearning at the University of Sydney.

Case-study – The University of Sydney

This case-study discusses key aspects of a management model for eLearning currently operating at the University of Sydney. It focuses on how key strategic eLearning projects are managed and reviewed for quality improvement in ways that facilitate faculties and their colleges prioritizing how the resources are used.

Institutional structures

While the University of Sydney is structurally complex, there are three main portfolios that are most significant in the coordination of large eLearning projects. These are: the Academic Portfolio, which provides the strategic direction for learning and teaching; the Resources Portfolio, which provides centrally located technical infrastructure; and the College Portfolio, in which 17 faculties are grouped under the three Pro-Vice-Chancellor College offices. It should be noted that large projects of the size discussed in this paper would not happen without the endorsement of the Offices of the Vice-Chancellor and Chief Financial Officer. These areas of the university are visually represented in Figure 2.

The Academic Portfolio has established an eLearning initiative in which managers, project managers and educational designers work with the colleges to support strategic eLearning projects. These projects represent the University's strategic commitment to

eLearning and are conceived of as a way of embedding eLearning knowledge and processes into the way courses are developed and taught across the University.

The learning technologies underpinning the eLearning initiative are centrally managed within the academic portfolio. Broadly speaking this includes a proprietary learning management system (LMS) at the centre, WebCT™. Two faculties have their own LMS, (Blackboard™, and an in-house program), and while these are not centrally managed, they adhere to university standards for management and student support. The Academic and Resources Portfolios also provide middleware to help with the design of courses on the LMS (such as Respondus™ for rapid quiz design), and development software for production of materials that are delivered on the LMS. Development software support from the centre is usually restricted to strategic projects, which will be discussed in the next section, and is dependent on the learning outcomes sought by each project. Development software used includes Flash™, Authorware™, etc. In the next 12 months, additional software to complement the LMS will be trialled. This trial will include some type of streaming software such as Macromedia Breeze™, Horizon Wimba™ or Ectus™, as well as interactive learning software such as Learning Activities Management System™ (Dalziel, 2003).

Resources portfolio

The resources portfolio is responsible for the building blocks of the physical and virtual environments of the University. This includes the large and small teaching spaces, including their audio-visual facilities, wireless access on campus, the underlying IT network for the University and the helpdesk for most technical support issues. It manages the hardware needs for eLearning such as servers and databases, and provides desktop support to staff for operating and enterprise software issues.

College portfolio

An essential step towards managing strategic eLearning projects is collaboration amongst the Offices of the Pro-Vice-Chancellor (Teaching and Learning) and the three Offices of the Pro-Vice-Chancellor Colleges. Colleges are key stakeholders in the process and are the logical location for making decisions on how to allocate the resources available for strategic eLearning projects. As a consequence, each of the three college Pro-Vice-Chancellor Offices established an academic role, to be responsible, amongst other responsibilities, for leading decision-making on how resources for eLearning are allocated to faculties. This partnership between the

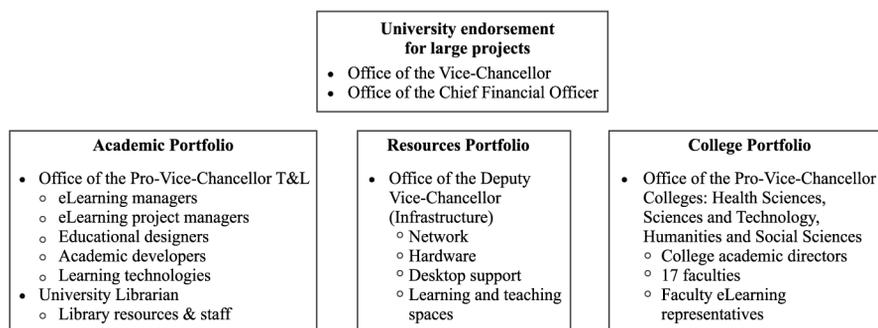


Figure 2.
Key areas of the
University of Sydney
supporting eLearning
Academic Portfolio

academic and college portfolios is essential to finding a balance between central coordination of resources, college/faculty control of prioritisation and systematic and cyclical review.

While each of the Colleges has set up eLearning management and leadership functions in their area generically described here as an academic director, this does not suggest that they are replicas of each other. Rather, they are increasingly developing their own specialized role in how eLearning is rolling out throughout the University, perhaps reflecting the disciplinary, cultural and strategic differences amongst the faculties in each of the Colleges. To ensure that each faculty contributes to the deployment of the resources for eLearning support, each Dean has a nominated faculty representative. These representatives work with the Academic directors during expressions of interest from faculties for access to the eLearning support.

Faculties are by no means homogeneous parts of the university. Some of the smaller faculties are similar in size to some of the schools, or even departments, in the larger faculties. Some are located only on the largest campus while others are spread over three or more of the University's ten campuses. Table II provides an approximation of student numbers by faculty.

By any account, the University of Sydney is a large, diverse, comprehensive, predominately campus-based university.

Approximate total student enrolments by faculty 2004/2005		Total
<i>College of Sciences and Technology</i>		
Agriculture, Food and Natural Resources		750
Architecture		1,300
Engineering		3,000
Rural Management		1,000
Science		6,600
Veterinary Science		630
	Total	13,280
<i>College of Humanities and Social Sciences</i>		
Arts		7,500
Conservatorium of Music		650
Economics and Business		7,000
Education and Social Work		2,300
Law		3,400
Sydney College of the Arts		550
	Total	21,400
<i>College of Health Sciences</i>		
Dentistry		350
Health Sciences		5,000
Medicine		2,100
Nursing		1,200
Pharmacy		1,000
	Total	9,650
<i>Total</i>		44,330

Table II.
Approximate student
numbers by Faculty

Approaches to managing strategic eLearning projects

To discuss how the University is approaching its management of the strategic eLearning projects across its seventeen faculties, this section focuses on the University's resource allocation provided for the development of strategic eLearning projects.

To help meet some of the needs related to eLearning in the 17 faculties, the University decided to make available 12,000 hours per annum of support for strategic projects to address key learning and teaching goals. These hours are provided by staff with project management and educational design expertise, encompassing all areas of educational media. An allocation of hours was thought to be a more efficacious way of dealing with budgeting for projects than dollars, as it was simpler and required the team of people providing the support to develop any additional skills necessary so as to retain those skills as a University. Dollars may have encouraged the use of consultants, whose expertise would come and go, leaving little knowledge capital for eLearning within the University. Management of the 12,000 annual hours of strategic support for eLearning occurs collaboratively through the Academic and College portfolios.

To show how Academic and College portfolios collaborate in the development of the strategic projects, the following section discusses an expression of interest (EOI) process that faculties engage in to access a portion of the 12,000 hours of support allocated to eLearning projects. The EOI process and its ensuing development processes can be understood as a type of university-level course development and teaching process.

The expression of interest and development processes for eLearning projects

The EOI process, and the subsequent development processes for prioritized eLearning projects, is conducted annually with an option to run a smaller EOI process half way through each year if the 12,000 hours are not fully allocated.

Deciding

The EOI process, and its subsequent development stages, can be conceptualized within the course development and teaching processes identified in Table I. There is a *decision* period at the college level involving submissions from faculties for support from the 12,000 hours. This is a collaborative exercise with faculties and their staff and is led by the college academic directors. Submissions are prioritized according to the perceived strategic benefit to the college. For example, key projects supported in 2004 included one that pulled together case studies of successful course development at the University using substantial eLearning resources and another that put together significant eLearning resource materials for students wishing to improve their writing skills in both the humanities and the social sciences. Such projects can be prioritized above others because of the demand from faculties within the colleges for the outcomes of these projects. Some other projects were more discipline specific. For example, one of the projects was designed to improve eLearning support for second year psychology students. This was prioritized for three reasons: it involved a large group of students (over 600); it built on an established and useful eLearning project for first year psychology students; and it provided a local model of eLearning across a full year for other schools and faculties to investigate.

One of the challenges when it comes to decisions about EOIs is the scoping of resources for each project. This is an important area of learning for the University. Without any prior systematic, university-wide resource allocation to eLearning, the University as an organization has not been developing an understanding of the cost-benefit outcomes of eLearning projects. With the allocation available, the eLearning projects are providing a context which is requiring the University to improve its understanding of scoping projects so that the resources allocated are realistic and worthwhile in terms of the outputs they will provide and the outcomes that these realize for the University.

Designing, developing and trialling

While a variety of projects may be prioritized at the college level of the university, broadly speaking they can be categorised in two areas: those that address the particular needs of a degree program in a single faculty and those that potentially address the needs of a variety of degree programs across a number of faculties. Figure 3 visually represents these stages of course development within the five stages.

After decisions are made through the EOI process (box 1 in Figure 3) strategic eLearning projects at the University of Sydney go through design, development and trialling stages (boxes 2, 3a, 3b) before they are introduced as part of the students' experience in their award courses (box 4) and then evaluated (box 5). Figure 3 draws on Laurillard's learning design process (2002) as a way of understanding the relationships amongst processes. Key characteristics of stages 2 and 3a/3b are iteration and revision amongst stakeholders which is indicated by the cyclical positioning of the three boxes and their associated arrows. For individual award course projects, close collaboration between the academics, who are conceived of as the content specialists responsible for the quality of the content for the project, and the educational designers is essential. While this initially occurs during the deciding and scoping stages, during which the learning objectives are defined, the learner's needs assessed and an educational model is agreed upon (box 1a in Figure 3), real clarification of the way the materials will address the learners' needs is realised as the drafts go back and forth between the educational designers and the

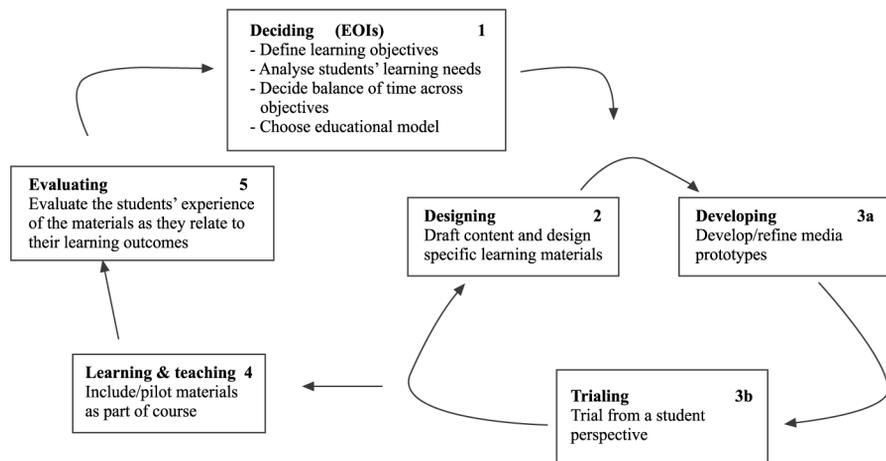


Figure 3.
Course development and teaching processes for strategic eLearning projects

Source: After Laurillard (2002)

academics involved. Draft 1 is usually a single page concept outline of the intended learning materials and the educational media in which they are to be realized, draft 2 is a complete version of the resource used for trialling, editing and revision, and draft 3 is the final version, which is then published on the intranet. This process can be used to conceptualise development processes involving a variety of educational technology media: Narrative (such as print, videocassette), Interactive (such as online library databases, multimedia, and other web-based resources), Adaptive (such as simulations), Communicative (such as online discussion tools, chat rooms, email list serves) and Productive (such as microworlds) (Laurillard, 2002). In terms of quality assurance at this stage of the process, the most important activity is the trialling stage; this can occur formatively or summatively during the drafting process, depending on costs. At the very least it should include someone, a type of proxy student, trialling the materials from a student perspective to see the extent to which they relate to the learning outcomes of the course they were designed for. At best, some actual students would trial the materials outside of their regular course structure. The results of the feedback from the trial can then be included in the penultimate edit of the learning materials. The learning materials are then piloted in the students' course and evaluated at the end of their first use in the students' experience of the redeveloped course.

Once trialled and released, students and staff interact with the eLearning resources through learning, teaching and assessment activities (box 4 in Figure 3). It is outside the scope of this paper to consider these activities in detail, as the integration of eLearning into a single course could represent a study in itself.

Evaluative data

To identify the issues, challenges and benefits arising from embedding eLearning in course design, a wide range of data is captured, both immediately preceding the students' using the materials and activities and then once the course has finished. Table III outlines the types of data usually captured, by whom and when.

When collecting evaluative data, a balance between sufficient data collection and over-surveying students and staff must be struck. While the range of data collected is varied, it is possible to group it into four areas: integration, course websites, users and support. Responsibility for collecting this data lies with those most closely associated with it. Timing is decided in relation to practical and strategic criteria; often enough to capture data while it is still fresh, not so often that it becomes unsustainable. Capturing the data and interpreting it is essential but incomplete in terms of managing for improvement. Dissemination of the implications of the evaluations is necessary if improvement is to occur.

University-level review and dissemination

It is at this stage of the discussion that there is overlap between Figures 1 and 3. Evaluation at the course level has already been referred to in the early sections of the paper. For large-scale approaches to managing eLearning in campus-based universities, one key challenge is to be able to aggregate the implications of individual course evaluations to make sense of them at the Faculty level and above. To help the University understand and embed the outcomes of evaluating the eLearning strategic projects, a reporting cycle on their outcomes has been integrated across the portfolio structures, providing input into the decision-making processes at different

No.	Description	Captured by	When
<i>Evaluation of integration of eLearning resources into whole course</i>			
1	Course evaluations	Course coordinator	End of course (stage 5)
2	Oversight of quality and integration of academic content for course websites	Academic content writers	During development processes (stages 2 and 3)
3	Trialing integration of student materials in course websites	Educational designers/proxy students	End of stage 3
4	Focus groups	Course coordinators	During learning and teaching (stage 4)
<i>Evaluation of course websites</i>			
5	Appropriateness of educational design of course websites	Academic content writers/educational designers	During development processes (stages 2 and 3)
6	Technical stability and robustness of course websites	Educational designers	End of stage 3
<i>Evaluation from users</i>			
7	Student ratings	Course coordinators	End of course (stage 5)
8	Teacher/academic ratings of eLearning resources and support provided	Project managers/eLearning managers	Bi-annually
<i>Evaluation of eLearning support processes</i>			
9	EOI processes	Academic directors/eLearning managers	Annually
10	Project management processes	Project managers/eLearning managers/academic directors	Annually

Table III.
Types of
eLearning-related
evaluative data captured
at the University

levels of the institution. Figure 4 shows the dissemination and planning cycle associated with the eLearning projects.

The clearing house for reports arising from the strategic eLearning projects is the University eLearning Governance committee (the left-hand side of Figure 4). This committee receives reports containing data from all the sources identified in Table III and passes on recommendations for eLearning to stakeholders at all levels of the University (the right-hand side of Figure 4). These recommendations are then taken into consideration in the annual planning processes at all levels in the University. It would be an overstatement to imply that this is a fully-matured system which has already resolved all issues dealing with embedding eLearning into the university's teaching and learning system. Rather, it is the capturing and integrating of the experience of eLearning into planning processes which is the strength of the approach being developed.

Evaluation of eLearning projects is reported to relevant stakeholders. At the university level, issues to do with sustainability (for example, the costs involved in maintaining the eLearning infrastructure, and the amount of student and staff support needed), cultural change (for example, how eLearning is shaping the role of academics), and infrastructure implications (for example, the increased need for eLearning services in teaching and learning spaces to meet growth of course websites) are emphasised. At the college level, strategic alignment of the college ICT in teaching and learning goals with the University's overall strategic plan and the plans of the individual faculties within each college are emphasised. At the faculty level, the implications for everyday academic enterprise, workload implications and strategies, and the classifications of teaching positions, such

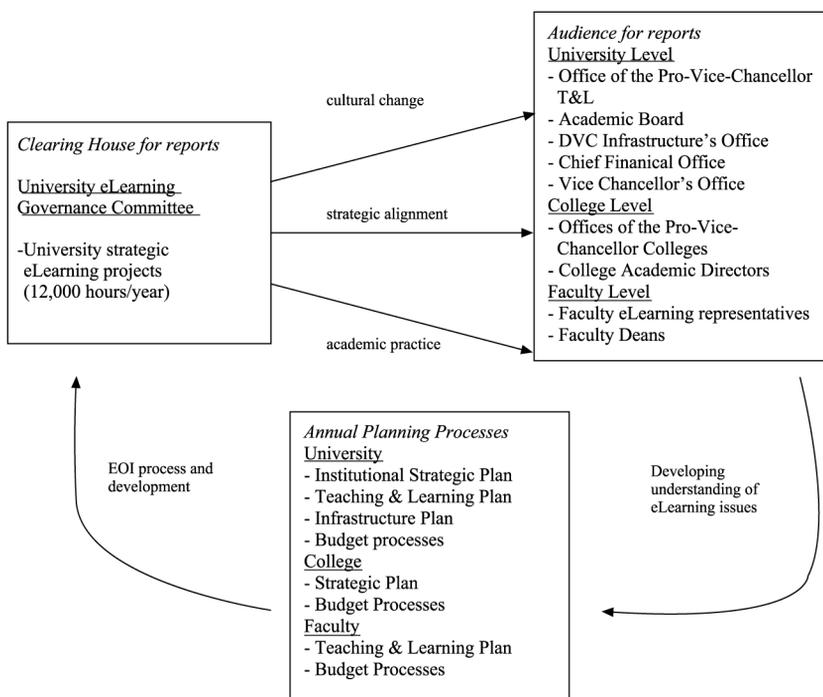


Figure 4.
Dissemination and
planning cycles associated
with the University
strategic eLearning
projects

as on-line tutors, are emphasised. While these are the types of key issues arising in recent reporting cycles, it is not to suggest that they have all been resolved. However, in comparison with past years, the University is now capturing its experience of embedding eLearning into the design of courses and that this lived-experience is providing context-specific information about how to deal with some of the related and increasingly important issues. These issues can then be considered by those responsible for planning and budgeting at different levels within the university.

Discussion and conclusions

This paper has focused on quality and management issues for the integration of eLearning into the learning and teaching system of a predominately campus-based university. It began with a model for quality improvement, and contextualized the model for a University educational context by identifying course development and teaching processes in which the eLearning activities could be embedded.

Embedding eLearning into a large campus-based institution presents a number of challenges for its quality management across a University. Quality assurance is required at many levels if it is meant for the purposes of improvement. At the level of a course:

- eLearning in predominately campus-based universities is largely a relational phenomenon, that is, its management needs to relate it to, and embed it as part of, the face-to-face experience. Consequently, assuring the quality of eLearning involves embedding its evaluation in terms of holistic course evaluations.

- While the contribution of eLearning to a whole course is important, evaluating the design and development processes that embed it through trialling is equally important from a quality perspective if improvements to these stages is to be ongoing.
- The outcomes from end of course evaluations and the trialling processes at the end of the development stage need to be promulgated at faculty and university levels if improvements to the management of eLearning are to be achieved.

At the level of the university:

- Managing the quality assurance of development processes for eLearning across projects that involve many faculties is complex. Where, for reasons of economies of scale, there is central management of the resources for eLearning development, there can be a tension between their management and control of priorities at faculty levels. One way to resolve this is to devolve the resource allocation mechanism from the centre towards the faculties. At the University of Sydney, this is achieved by giving control of priorities for eLearning resources to the Colleges, who work with their faculties in clarifying strategic eLearning needs.
- Devolving the resource allocation mechanism to colleges and faculties allows the diverse needs of many faculties to be met through their self-determined goals. Rather than the University centre setting the eLearning strategic goals, the colleges and faculties determine the goals and their priority. By giving faculties control over the allocation of resources for eLearning, it also encourages them to become cognizant of the expectations they may reasonably hold for those resources.
- Quality assurance for improvement is realized through systematic and cyclical reporting on eLearning activity. At the University of Sydney, the strategic projects are providing the opportunity for the university to pilot processes for this ongoing reporting so that institutional knowledge of what it will take to embed eLearning appropriately in the University's teaching and learning system.

It is not anticipated that all aspects of the case-study will be transferable to other contexts. However, it is argued that some key principles that have underpinned the experience at the University of Sydney are likely to be of use to other campus-based universities wishing to embed eLearning in the student experience in sustainable ways with an eye on improving quality.

References

- Bacsich, P. and Ash, C. (1999), "The hidden costs of networked learning: the impact of a costing framework on educational practice", *Responding to Diversity, Proceedings of the 16th ASCILITE Conference, Brisbane, December*.
- Biggs, J.B. (1999), *Teaching for Quality Learning at University*, Society for Research into Higher Education & Open University Press, Buckingham.
- Biggs, J. (2001), "The reflective institution: assuring and enhancing the quality of teaching and learning", *Higher Education*, Vol. 41, pp. 221-38.
- Bowden, J. and Marton, F. (1998), *The University of Learning – Beyond Quality and Competence in Higher Education*, Kogan Page, London.

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- Dalziel, J. (2003), "Implementing learning design: the learning activity management system", *Interact, Integrate, Impact, Proceedings of the 20th ASCILITE Conference, Adelaide, 7-10 December*.
- Ellis, R.A. and Moore, R. (2006), "Learning through benchmarking: developing a relational, prospective approach to benchmarking ICT in learning and teaching", *Higher Education*, Vol. 51, pp. 351-71.
- Entwistle, N. and Ramsden, P. (1983), *Understanding Student Learning*, Croom Helm, London.
- Harvey, L. and Knight, P.T. (1996), *Transforming Higher Education*, Open University Press and the Society for Research into Higher Education, Buckingham.
- Higher Education Funding Council for England (2005), *HEFCE Strategy for E-Learning*, HEFCE, JISC, HEA, London.
- Jonassen, D., Howland, J., Moore, J. and Rose, M. (2003), *Learning to Solve Problems with Technology: A Constructivist Perspective*, 2nd ed., Merrill/Prentice-Hall, Columbus, OH.
- Laurillard, D. (2002), *Rethinking University Teaching: A Framework for the Effective Use of Educational Technology*, 2nd ed., Routledge, London.
- Marton, F. and Booth, S. (1997), *Learning and Awareness*, Lawrence Erlbaum Publishers, Hillsdale, NJ.
- Prosser, M. and Trigwell, K. (1999), *Understanding Learning & Teaching: The Experience in Higher Education*, Society for Research into Higher Education & Open University Press, Buckingham.
- Ramsden, P. (1992), *Learning to Teach in Higher Education*, Routledge, London.
- Ramsden, P. (2002), *Learning to Teach in Higher Education*, 2nd ed., Routledge, London.
- Rogers, E.V. (1995), *Diffusion of Innovations*, 4th ed., Free Press, New York, NY.
- Schön, D.A. (1991), *The Reflective Practitioner: How Professionals Think in Action*, Arena, Aldershot.
- Taylor, J.A. (2003), "Managing staff development for online education: a situated learning model", *Journal of Higher Education Policy and Management*, Vol. 25 No. 1, pp. 75-87.

Glossary

- ICTs* information and communication technologies
- LMSs* learning management systems, also known as Virtual Learning Environments (VLEs)
- EOI* expression of interest, a submission by faculties to the university to receive strategic eLearning support in the form of project management and educational design

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