

Strategic e-learning implementation

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Summing-up: July 25-28, 2005

Pre-Discussion Paper

'E-learning' is defined by the New Zealand Ministry of Education (2004, 3) as "learning that is enabled or supported by the use of digital tools and content. It typically involves some form of interactivity, which may include online interaction between the learner and their teacher or peers. E-learning opportunities are usually accessed via the internet, though other technologies such as CD-ROM are also used in e-learning." It would be an extremely rare tertiary institution that does not have a Learning Management System (LMS) for online delivery, and a body of staff already using it in their courses.

Foundational to the strategic success of e-learning is an understanding that education institutions are based on systems. Moore and Kearsley (1996) make a simple yet enduring observation:

A common misperception among educators who are not familiar with a systems approach is that it is possible to benefit from introducing technology into education without doing anything to change the way in which education is currently organized... According to this view, once the technology is in place, there is little else to be done except to let teachers get on with their craft as they always have done... you cannot just 'go it alone' and maintain high quality and low costs. (pp. 6-7).

Yet for all of the interest in e-learning, activity in many institutions is remarkably ad-hoc even though standard LMS tools are typically made available to academic staff. In most institutions, the requirement to 'get a course online' (whatever that means) invariably results in courses that do not realize the possibilities. The differences between the application of technology from course to course is often hidden from individual staff (who tend to focus on their own papers), but it is all too clear to students. In an ad-hoc e-learning environment, tools are either supplemented by staff-specific systems (in the case of the embracers) or else woefully under-utilised. Ad-hoc e-learning environments fail to recognize the importance of systems thinking and, as a result, compromise educational quality.

In addition, educators who are early-adopters (so-called 'embracers' of technology) tend to make high-end use of LMS applications, and may bypass institutional processes and policies somewhat to make the technology subservient to their course needs. The vast majority of academic staff however are either tentative or potential users, or else are satisfied with the status quo. The strategic challenge tertiary institutions currently face is how to engage this extremely large majority in appropriate e-learning practice without restricting the activities of the embracers. In other words, how to efficiently coordinate e-learning development without stifling innovation, or how to help general academic staff up without pulling the innovators down.

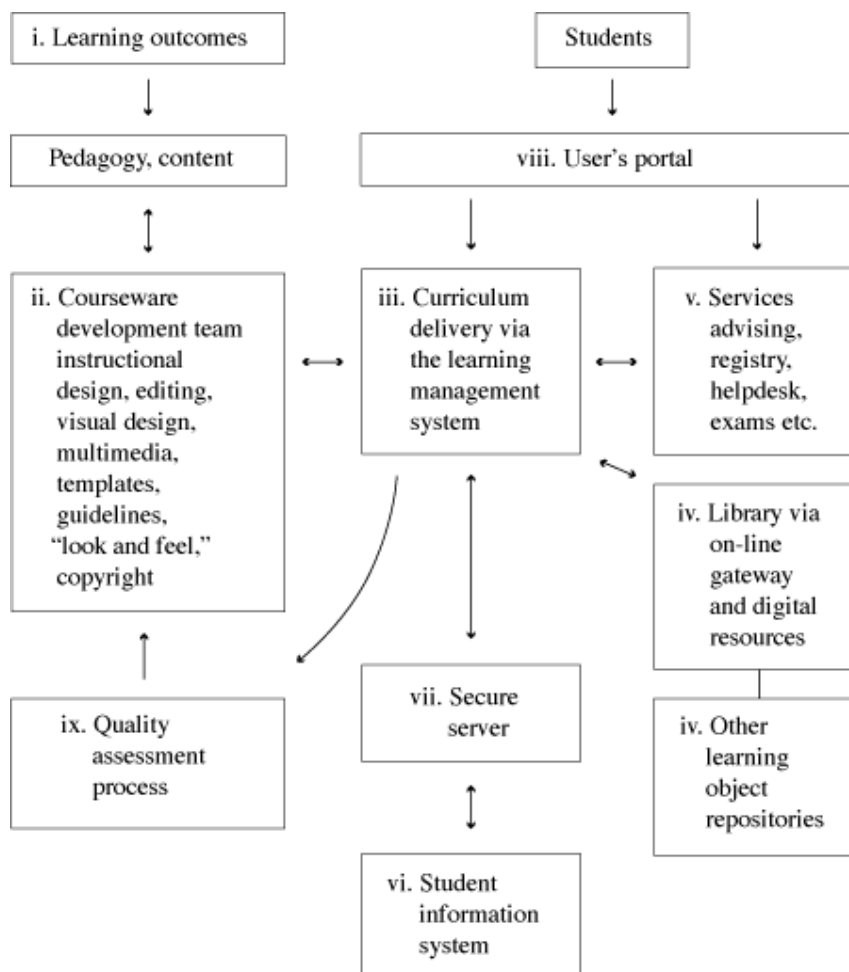
E-learning will ideally be employed by institutions for reasons of enhancing the individualisation of instruction, improving educational quality, increasing access, reducing costs, and sustaining innovation (Twigg, 2001). The New Zealand Ministry of Education (2004) goals of accessibility, relevance and quality are similar. Small ad-hoc

initiatives in pursuit of these goals do make a positive difference, but it can be difficult to transfer the successes of technology-embracers on an institutional scale. The reality is that realizing effectiveness, access and efficiency gains requires coordination of development and changes in systems. Such coordination reflects an institutional desire to implement e-learning strategically. But what might strategic e-learning coordination look like?

Coordinating e-learning activity

The case for coordination can be clearly stated:

- Systems thinking demands that e-learning be seen in its overall context which is made up of various internal systems, each of which are potentially influence or are influenced by the use of e-learning tools: enrolments, IT support, library services, staff development, quality assurance processes, timetabling, and others. An online systems framework is provided by Davis (in Anderson and Elloumi, 2004, 102):



It is clear that changes in course design can have far-reaching implications. Issues of resource duplication (in the case of CD-ROMs, print materials, etc.) and continuity are not addressed in this diagram (though the latter might certainly be a part of the quality assessment process) because of the diagram's focus on 'online', but such issues are still important elements of the distance education systems that form e-learning's typical context.

- Tertiary institutions are usually resource-constrained, meaning that development effort needs to be well targeted – and well managed. A coordinated approach may also make expectations and funding opportunities for e-learning initiatives clearer to academic staff (see below; 'core' activities might become a part of an academic's standard job, 'custom' activities might be funded on a project basis).
- Coordination results in an improved longevity of investment. When an embracer leaves an institution, they tend to take the knowledge required of how their paper makes specific use of technology with them. A coordinated approach can ensure that at least a base-level of e-learning application remains.

- A coordinated approach might result in wider adoption of embracers' techniques, as transferable innovation can be rolled out across other papers. This may also lead to institutional user-support and staff training for embracer-designed applications.
- Within qualifications taught by both embracers and general academic staff there can be a standardization/innovation tension; coordination can ensure that this tension is managed within clear boundaries.
- The student experience can become more consistent, with the associated benefits of less orientation time across new courses, clearer expectations, and more confident use of e-learning tools.
- Coordinated development may become self-perpetuating, assisting with the assimilation of new staff and enhancing the ability of existing academic staff to support one another.

The last of the points above is very significant as institutions seek to engage wider e-learning adoption. Without coordination, staff who are asked to place course materials online will tend to do just that and nothing more – for reasons ranging from resistance or time constraints, through to a lack of knowledge of what is truly possible. Number of courses in an LMS system is one thing; quality of practice is quite another!

Coordination sounds simple, but in practice it is quite complex because it must be based on firm answers to various groups of questions that have a managerial bias. The first questions relate to *scale*. What is the scale of the coordination? Is it intended to be within a programme, department, college or institution? The second group of questions relates to the *scope* of coordination. Should entire courses be templated, or just parts of courses (such as administrative information)? What, if any, are the boundaries for e-learning practice beyond the standard? Will coordination apply to the first iteration of a course, or to all updates as well? Coordination also requires an in-depth understanding of institutional systems and policy, and which of these are negotiable. The final questions relate to the *systems* of coordination. How will the standard be decided on? How will it be enforced (or will it be?) Will responsibility for coordination be centralized, or spread across the scale of coordination? How will a coordination system complement or supercede other systems already in place? What should be the parameters of standardisation, that is, how flexible and wide-reaching should the standards themselves be?

Core and custom pedagogies – a potential model for coordination

The remainder of this paper considers a potential *system* of coordination (there are others) that focuses particularly on pedagogies. The system is tentatively called 'core and custom pedagogies'. Before outlining how this might work it is useful to reflect on the nature of e-learning interventions.

The nature of e-learning interventions

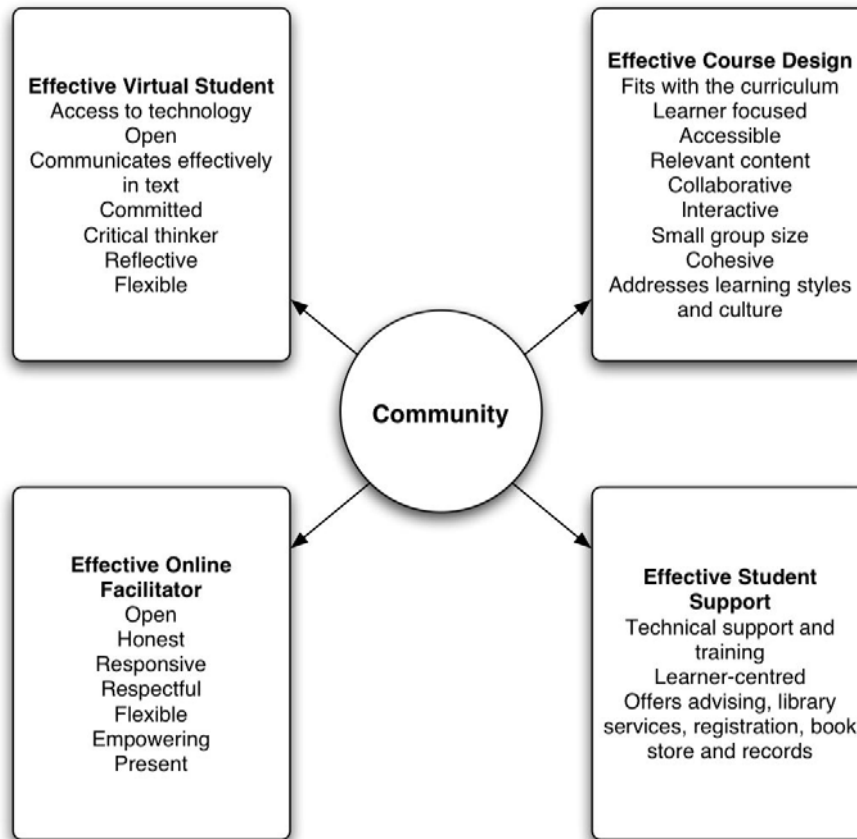
The following sets a framework of understanding for e-learning interventions.

- E-learning pedagogies are *probabilistic* (see Reigeluth, 1999), that is to say, there is no such thing as the 'perfect' approach because of the diverse contexts within which e-learning tools are applied, including the diversity between the students themselves and the varying teaching and learning demands of particular courses.
- E-learning pedagogies are *constrained* by institutional factors, including the technologies and applications supported by the institution, quality assurance policies and standards, availability of staff training and support in e-learning, the existing level of staff proficiency in technology and e-learning, the perspectives of staff responsible for coordinating e-learning development, and the amount of time and funding made available for e-learning practice.
- E-learning pedagogies must be *defensible*, that is, not used haphazardly but rather intelligently – preferably with some reference to proven educational practice. While e-learning pedagogies could be considered as specific to technological settings, they must also be underpinned by accepted educational theory.
- E-learning pedagogies are *evolving* in the sense that new modes of practice and enhanced technological tools are continually emerging. E-learning practice cannot remain static, but should instead seek to make the most of new opportunities.

This framework reinforces the importance of coordination of e-learning effort, and suggests that core and custom pedagogies must be carefully set and subject to regular review. Core pedagogies must be broad enough to enable quality use of e-learning while not disqualifying the use of additional, 'custom' approaches.

Core pedagogies

In their 2003 book, *The virtual student*, Palloff and Pratt suggest the following as a model for high-quality online courses (p.121). This (somewhat simplistic) model will be used as the basis for illustrating how a coordinated institutional e-learning approach using core and custom pedagogies could be operationalised.



This community-centred instructional model could serve as the basis for a pedagogical core, that is to say that all e-learning within the sphere of coordination should share the community-centred approach Palloff and Pratt suggest. At the very least, therefore, online courses should require some form of online interaction in the form of personal introductions and topic-related discussion. They should also encourage collaborative learning and make all course requirements, assessment expectations and online norms clear. If uploaded content becomes a part of the core, standards on file types, size and document format would be set. Staff requirements for online interaction should also be explicit.

Such a core might require staff to use a particular LMS template to ensure that a particular tool set is used within the course. It might also feature templates for syllabus or course outline information, which could be uploaded directly into the LMS with various policies and student services already inserted. Templates might also be created for online discussions or collaborative tasks to ensure that expectations are made clear to students. The use of the template might be reviewed by departmental peers, a programme leader, Head of Department, or dedicated e-learning facilitator. Variances to the template would need to be defended; the 'core' represents the baseline or minimal level of e-learning application.

Custom pedagogies

While adopting a set of core practices is useful, it may stifle innovation and limit e-learning to the scope of what is possible in LMSs such as Blackboard, WebCT, or Moodle. A coordinated approach to e-learning within an institution should actively encourage flexibility according to opportunity or necessity, implemented on a project basis subject to funding and the four factors identified earlier in the framework for e-learning interventions. The

following are suggested as potential reasons for *potential* custom e-learning development (potential because a solution may not necessarily lead to a role for technology):

- Conceptual difficulty – what do students traditionally find difficult to grasp, or what is traditionally difficult to teach? There may be a creative use for e-learning tools that will improve the situation. The work of Jonassen et al (1997) demonstrates how this might be achieved. Experience indicates that most academics are already aware of how the conceptual difficulty might be addressed.
- Multi-media and simulation opportunities – there may be particular aspects of a course that might benefit from the use of static or interactive media.
- Academic staff member interest – there may be a particular interest the staff member has to do with technology that could become the focus of an e-learning project.

Part of the custom offering within a department or university might consist of a number of pre-assembled custom solutions (such as online role-plays, the use of blogs, e-portfolios, etc) that could be readily applied as required. The freedom for innovation would be bounded only by the requirements that it not compromise the core and that innovative solutions are subject to the framework for e-learning interventions.

Endnote

It must be stressed that the ‘core and custom’ approach is but one of many possible methods of coordination. The method most applicable to a given situation depends on the scale and scope of coordination desired.

Discussion questions

1. Does the proposed ‘core and custom’ model seem to place managerial interests above those of academics? Of students?
2. Does academic freedom relate to methodology or subject content? Where should the bounds of managerialism in education design and standardization lie? To put it provocatively, are academics free to teach their students poorly?
3. As an academic, how would you respond to the ‘core and custom’ model if it were applied in your institutional setting?
4. What are some of the strengths and weaknesses of coordination? Of the ‘core and custom’ approach?

Post-discussion summary

In our pre-discussion paper we aimed to suggest a model that might be implemented in tertiary institutions wishing to effectively implement e-learning on a broad basis. As the discussion developed, we invited participants to suggest specific educational practices that might form a part of the core.

After summarizing the various interactions that took place during the discussion, we will conclude with an overview of the other issues raised during the discussion and some final comments relating to the ‘core and custom’ model itself.

An alternative model for strategic implementation

While there was broad acceptance of the ‘core and custom’ model, one participant proposed an alternative. Michael Scriven proposed a model he termed the “PD” (‘Performance-Driven’) approach as a substitute for the ‘core and custom’ model. Michael suggested that academics’ e-learning work be evaluated as part of an e-learning competition, with the prize consisting of reduced teaching load and institutional recognition. Michael conceded that the “quality of evaluation” would be key to the system’s success. Bill Williams viewed Michael Scriven’s model as “extremely powerful” but saw the quality of evaluation as a “key weakness”. In the authors’ reply, it was suggested that the quality criteria required for the success of the PD model could form the basis of a core approach.

Identifying the core

In analysing the various posts concerned with the core it became apparent that some aspects of the pre-discussion paper may have been misunderstood by participants. The following must be appreciated in the analysis that follows.

- The ‘core’ is the normative set of e-learning systems and practices put in place across a programme of study, that is, it consists of those e-learning tools and approaches that are expected to be characteristic of all courses. The ‘custom’ is the flexible element of e-learning use that can be course-specific, which is applied in addition to the core. The core is incomplete without the custom. The core is the essence of strategic e-learning implementation, but it is seriously limited without custom additions that are more course-specific.
- The ‘core and custom’ approach is concerned with e-learning pedagogies, not learning management systems (LMSs) or the technology itself. The core and custom approach is concerned with pedagogies and application, not programmes and applications. Further, the core should not be perceived as restricted solely to LMS functions. In some circumstances, for example, the use of specialist lectures delivered live might be considered core (which may require Web-videoconferencing as a technological solution).
- The ‘core and custom’ model does not necessarily require an adjustment to a course’s curriculum. It is concerned with practice, not the formulation of learning outcomes.

Andrew Higgins mentioned that the core should be concerned with learning outcomes, teaching strategies and assessment. The actual use of an LMS is, in Andrew’s words, “subsidiary”. In a somewhat different interpretation, Bronwyn Hegarty suggested that simply adding an LMS “immediately puts in place a core system to which the teaching staff are expected to comply”, as if an LMS itself represented a particular imperative of practice. Bronwyn pointed out various constraints of LMS systems, which seemed to imply that a managed adoption of LMS tools is necessary. Bronwyn cautioned that a standard approach would stifle creativity, a possibility that the ‘custom’ part of the core and custom model anticipates.

Brent Muirhead proposed Norris et al’s (2003) work as the basis for building sound metacognitive skills in students. Brent added that “programs vary in the quality of their classes and some offer poor learning experiences characterized due to flawed design, inappropriate content or sequencing of learning activities and inconsistent teacher feedback”, based on the work of Janicki and Liegle (2001). Each of these aspects, it was suggested in response, could be addressed within the core. Brent added that “there must be a degree of flexibility”, adding credence to the addition of a custom element to a standard or core approach. Later, Brent cited Bruning et al (2004) to underscore the importance of a dedicated educator in online learning.

Donna Russell contributed the term “creation of meaning in online workspaces”, and argued that creating meaning in the mind of the student is the goal of online learning. Donna raised various issues associated with online learning:

- What types of learning are intended?
- How can learning opportunities be developed that meet learning goals?
- How can learning and interaction be assessed?
- Is the course structured for meaning-making, or is it merely modularized?
- How can we assist all online learners to be successful?

These could all be considered in the design of the core. In a later post Donna suggested that Jonassen’s (not referenced) characteristics of “meaningful learning” should also be considered in the core. According to Jonassen (not referenced), meaningful learning is active, constructive, intentional, authentic, and cooperative. Liz Stevenson was also in favour of an educational environment characterized by such values.

In the online exchange that took place there was good argument for and no disagreement with the place of metacognitive development and meaning making in the core. However we see the development such skills as the *goal* of the core and not a definition of it.

Managerialism and e-learning

Michael Scriven and Bronwyn Hegarty were somewhat cautious of the core and custom model, believing it to be too managerialist (though Michael’s main concern was that the core and custom approach seemed more complicated than it needed to be). Still, Bronwyn Hegarty stated that the core and custom model had the benefit of “a consistent and uniform approach to support for staff and students if it is done well.” Bill Williams also felt that the “managerial benefits” of the core and custom model justified its use, and introduced the term “learning-

management-system-environment” as a key consideration for strategic e-learning (inferring that the management systems surrounding e-learning application are essential for the implementation of e-learning). Learning, management and systems are all interdependent in a formal education setting. The ‘core and custom’ model has the potential to optimize the relationship between the three.

Andrew Higgins mentioned that “the costs of the LMS... put them in the limelight in ways that traditional teaching strategies [do] not”. Andrew is in favour of a risk-management strategy that monitors quality of teaching and qualifications, stating that managers “have a right to be interested, even if to help protect taxpayers’ (the public) input into the cost of tertiary institutions.”

It was also suggested that the core and custom model is already reflective of practice. Bronwyn Hegarty assumed that staff already use LMS systems in various ways (though these ways are not managed and tend to be haphazard), and in a response to David Jones’ suggestion that ‘plain’ (as opposed to ‘e’) learning might benefit from a ‘core and custom’ approach it was suggested that ‘plain’ learning, in both its face-to-face and distance education forms, is already characterized by an implicit core and custom approach.

David Jones shared the developer- and adopter-based theories of ‘innovation diffusion’ from Surry and Farquhar (1997). Developer-based theories focus on enhancing the innovation; adopter-based theories “focus on the human, social, and interpersonal aspects of innovation diffusion”. In reply to David it was suggested that the core would probably tend toward a developer-based bias, but that custom elements would focus more on the adopter.

Other issues raised

Norman Robinson mentioned the importance of section 508 accessibility, pointing out that it is a “basic requirement”. While Norman’s comments were particularly aimed at the pre-discussion paper’s compliance with section 508, his contribution also establishes what might be termed a core consideration. Unless section 508 compliance is somehow built in to an e-learning core it may not become a standard part of e-learning practice across a programme.

Andrew Higgins raised the issue of staff development, suggesting that it is no surprise if teaching staff cannot effectively apply e-learning if they have not been adequately trained to do so (Bronwyn Hegarty later added that staff developers are in fact well qualified). Perhaps if a set of core pedagogical practices for e-learning were developed, good pedagogical practice could be embedded across an institution.

David Jones suggested that the ‘core and custom’ model may be focussing on the symptoms of the problem and not the cause. David reasoned that the question “Why don’t academic staff do more with e-learning?” is central. In response it was suggested that staff efficacy with technology tends to be the predominant reason, and that a core use of IT might help alleviate the problem.

Final comments and suggestions for further discussion

There was broad agreement that the model was a worthwhile one, and the authors would like to express their gratitude for the different perspectives that were offered during the discussion. We are satisfied that the core and custom model has considerable merit as a means for implementing e-learning strategically.

The challenge to practitioners is now to consider the actual shape of the core pedagogies that should be applied across institutions or programmes of study. Much discussion was concerned with identifying the educational values that should underpin the core, but now our focus should be one of implementation. Various other questions also arise post-discussion. What personnel should be involved in a core and custom initiative? What criteria or process might be used to determine whether a particular approach should be core or custom? How frequently should a core be revised? What support systems should be in place for customized pedagogies? Should core and custom components be differentiated for face-to-face and distance-based courses? How should the effectiveness of the approach be measured?

Again, thanks to the members of IFETS and DEANZ who actively contributed to the discussion. Your collective insight has been of much worth in our own thinking, and we trust to that of other, ‘read-only’ participants.

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