

What's Needed for E-learning to Take Off? Designing a Suitable National and Institutional Policy Runway

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INTRODUCTION There are many educationists and technologists who have worked enthusiastically over at least two to three decades on applying information and communication technologies (ICTs) to education. With the coming of the ubiquitous personal computer, the World Wide Web, relatively easy technologies for the non-technologist to use, and growing computer literacy in the general population, we seem to have at last found useful technologies for education which can be adopted widely and sustainably—what we now are calling *e-learning*. It helps with course administration and management, with assessment and transmission of content, but is at its best when its interactive potential is used to the full, to allow each person to have active engagement in his or her learning.

For the purposes of this paper, I will make some strong assumptions. E-learning can be useful, if applied properly in an appropriate educational context. Quality is important and has been a concern, but we know ways to assure ourselves of it—or at least we can assure ourselves of the quality of e-learning as well as we can for conventional teaching and learning (Higgins, 2006).

In particular, I will assume that in New Zealand the applications of e-learning will be predominantly supplementing face-to-face education (*blended learning*). This is important because it means e-learning will affect virtually all tertiary teaching, and it will not be isolated to fully online or distance education. It is certainly not to say that e-learning will only be applied to blended learning. Distance education is likely to grow, and increasing independence from a teaching room of even campus-based courses is also highly probable. But the strength of the new technologies is that they are not difficult to apply in educationally useful and sometimes exciting ways to conventional teaching situations, and when we talk about mainstreaming e-learning, that is where most of the mainstreaming will happen. This is consistent with international experience. A recent OECD survey of tertiary e-learning development, for example, concluded, “On-campus enhancement through ‘blended learning’ was the dominant focus of most campus-based universities” (Centre for Educational Research and Innovation, 2005).

The question I want to address is not whether there is something useful

technology can do for education, but why the uptake has not been quicker. We seem to have a sophisticated e-learning plane ready for takeoff, yet it bumps awkwardly along the runway, sometimes seeming to take to the air, but in fact still short of takeoff in the sense of sustained integration into teaching practice.

WHERE ARE WE? Our present position is certainly not due to a policy vacuum. There has been intensive effort at a governmental level, particularly in the Ministry of Education, to think out the national strategic policy issues. As we shall see, they came to similar conclusions as their counterparts internationally. For example, drawing from the New Zealand National Digital Strategy, the *Interim ICT Strategic Framework for Education*, which is for the whole education sector (Ministry of Education, 2005), lists the "4 Cs" as the components of the strategy:

Connectivity: Access to a robust national open standards-driven ICT infrastructure for education.

Content: Digital content from a variety of sources, and repositories for many purposes and users to support teaching, learning, research, and administration, including support for lifelong learners and the preservation of New Zealand's digital heritage for future generations.

Confidence and Capability: All New Zealanders have or are developing/acquiring the skills and confidence needed to turn the information into knowledge; collaborative working practices are utilised to deliver education outcomes for all.

There has been a strong focus on ensuring that there are (open) standards

for connecting between institutions and government agencies (beginning with administrative needs), encouragement for the creation of content and the means to make that available, applied research that will assist the development of e-learning in New Zealand, and collaboration within the sector. The strategy and resulting actions have to date been largely at the national level, with tertiary institutions drawn in through enticements (such as capability funds, see below) rather than explicitly targeted actions or requirements, presumably out of respect for their autonomy.

In the earlier *Interim Tertiary e-Learning Framework* (Ministry of Education, 2004), the vision was "a networked, flexible tertiary education system offering increasingly **accessible, relevant, high quality** learning opportunities to all New Zealanders," with the emphasis on the words in bold. It identified seven key action areas (p.15ff): community of practice, e-learning research, professional development (which it reported "many organisations have identified as their most pressing issue"), standards, electronic rights management, recognition of flexible learning pathways, and marginalised learners.

An action plan to address these areas is still in draft, but considerable progress has been made on standards, and e-learning research is ongoing. Although sometimes stirring controversy, many of the community and entry-level courses offered by the Institutes of Technology and Polytechnics (ITPs) and wānanga (tertiary education institutions that provide education in a Maori cultural context) are making progress in addressing the needs of marginalised learners. The largest gaps are in professional development (of which

community of practice can be seen as part), electronic rights management (particularly a new statutory basis), and flexible learning pathways. The last of these is the subject of a Strategic Review of Pathways and Staircasing by the Tertiary Education Commission (TEC) (see the World Wide Web site <http://www.tec.govt.nz/funding/et-reviews/s-reviews/pathways/pathways-staircasing.htm>). In terms of getting the plane of sustainability flying, professional development therefore seems to be the missing piece; much can be done without hitting the barriers of insufficient technical and statutory basis for electronic rights management and absence of flexible learning pathways.

Empirically, local studies have provided evidence that professional development and associated staff capability or capacity issues such as time, incentives, and priorities are critical factors. For example, see Wenmoth, Gilmore, & Trewern, 2005, and Hegarty & Penman, 2005, which in turn cites similar findings from a number of other studies. These are consistent with a U.K. study into success factors in the pedagogic use of ICTs (Lewis & Goodison, 2004), based on subject reviews from a broad range of disciplines in 12 U.K. universities. It found, for example, "Overall, ICT developments had not been significantly hindered by physical resource considerations," but:

For staff, the major concern was time for development and updating of ICT-based materials. A further issue arose in respect of the relationship between face-to-face and on-line tutoring and how the latter was integrated into staff timetables. The integration of ICT into learning and teaching also raised the question of the incentive

(in terms of professional status) for staff to engage in such developments. (p. ii)

Recognition of the need for supporting tertiary staff development at a national level is growing. It has been the subject of a number of government-funded projects through the e-learning Collaborative Development Fund (eCDF), Innovation and Development Fund (IDF), and the Tertiary e-Learning Research Fund (TeLRF). However, projects concerning tertiary staff development have shared the weakness of many of the other projects: difficulty incorporating their results into mainstream practice. It is acknowledged by the agencies administering these projects that the sophisticated and often exciting tools, systems, and content they have produced need "broader uptake" (Tertiary Education Commission, 2006, p. 8), a problem not unique to New Zealand (see discussion below). The annual Tertiary Teaching Excellence Awards have similar difficulties; while they raise the profile of outstanding teachers, dissemination of their good practice is problematic. It is hoped that the new National Centre for Tertiary Teaching Excellence (NCTTE) or Ako Aotearoa will assist in dissemination and other professional development.

At the institutional level, some have e-learning strategies (or variants such as flexible learning strategies) and most have Teaching and Learning Strategies, sometimes explicitly incorporating e-learning. Anecdotally, their effectiveness is variable.

While there is certainly much more to do in setting standards and ensuring the physical infrastructure is in place, these no longer appear to be bottlenecks

to progress, certainly in the universities, and in some cases never were. Work must continue in addressing the needs of marginalised learners, creating flexible pathways for qualifications, and defining a statutory basis for intellectual property rights that matches the open practice of the connected digital world. We still have the situation that e-learning is not in general mainstreamed or sustainable, despite notable pockets of achievement.

I have argued above that staff development is a critical factor in achieving this sustainability. I am including in “staff development” not only professional training and support but also the organisational culture that encourages staff engagement in development of teaching and learning in the institution. The remainder of this paper considers some of the international experience in encouraging e-learning development, particularly as it addresses staff development, and finishes by looking at possibilities for New Zealand.

INTERNATIONAL EXPERIENCE In considering the New Zealand experience, it is always instructive to look at what other countries are doing. This is not the place for a thorough international survey, but such a project is underway by a Massey University team headed by Bill Anderson, funded by the Ministry of Education’s TeLRF (Anderson, Brown, Mentis, Murray, & Simpson, 2006; Murray, Brown, Anderson, Simpson, & Mentis, 2006).

At this stage of their analysis of national e-learning policies in Australia, Canada, the United Kingdom, some EU states, the federal United States and a sample of its states, and the more developed Asian countries, Anderson, et al., can only reach tentative conclusions.

However it is notable that, overall, their conclusions include some themes to which I have already alluded.

Firstly, there is a difficulty in aligning government and institutional strategies. Anderson, et al., state, “The separate area reviews have also shown that tensions between various levels of governance can exist as institutions, nations and supra-national organisations each attempt to pursue their own agendas for (e)learning.” A possible exception is the Australian Vocational Education and Training (VET) sector.

Furthermore, collaboration between those involved, and “openness in dissemination of knowledge and resources associated with (e)learning” appeared to be associated with effective e-learning implementation.

While Anderson, et al., found successful national plans in the Nordic countries—Iceland, Norway, Sweden, and Finland—Australia and Saskatchewan (Canada) stood out as not only having developed sophisticated strategies but also having undertaken critical evaluation of their efforts (in the Australian case, of the VET sector only). Their closing comment about these two strategies is therefore particularly important (p. 52):

A significant characteristic of the two examples that were evaluated—the Australian VET experience and the Saskatchewan TEL Action Plan—was the commitment to professional development for faculty and support for learners. These features of both plans might normally be considered to be part of institutional level planning, but both featured strongly in what were evaluated as effective

approaches to the development and implementation of (e)learning.

The United Kingdom has a further national programme which has also been thoroughly evaluated. It developed e-learning as a result of a more general teaching and learning development strategy and was therefore not discussed by Anderson, et al. It is therefore worth considering the Australian and U.K. programmes in more detail.

Australia

Looking first at Australia, the strategic approach for all sectors was based on five key themes. Anderson, et al. (p. 41), state them as follows:

People: Supplying the skills to drive the information economy; including improved career advice for students and professional development for teachers, trainers, content developers, researchers, and all other workers in education and training.

Infrastructure: Reliable and sustainable telecommunications and information technology infrastructure including high bandwidth.

Online Content, Applications, and Services: New approaches to education and training content, applications, and services, and a quality assurance framework including the development of standards for technical interoperability and intellectual property rights management.

Policy and Organisational Framework: Promoting a shared national vision for education and training to support the information economy and knowledge society, including the maintenance of collaborative organisational structures.

Regulatory Framework: A regulatory framework in areas such as telecommunications and copyright to support the needs of education and training without inhibiting progress and change.

While having many similarities to the New Zealand "4Cs," the explicit attention given to skill development for both students and staff and to the national policy and regulatory framework are notable, and perhaps reflect a higher-level commitment to the strategy.

The VET sector *Australian Flexible Learning Framework* from 2000 to 2004 was based on the same themes. It also emphasised collaborative rather than institutionally based approaches. Anderson, et al., note that 41 percent of the five-year A\$80 million funding for the framework was for staff development, with a similar proportion (42 percent) for the development of online content and supporting applications and services. However the resulting course development was primarily blended rather than fully online.

There have been several evaluations of the results of the framework. Anderson, et al., report (p. 43):

However, level of uptake overall is rather small in overall terms. Less than 10% of VET activity is effectively supported by technology. There is considerable untapped potential, but the VET sector is not yet equipped in either a personnel, technological or policy sense to meet the challenges of the new national VET strategy with its strong emphasis on flexible learning. A central thread is the need for a commitment to work that will help the VET sector realize and

sustain the investment made in the 2000–2004 period.

Accordingly the 2005 framework is focusing on solidification of what has been developed: “Sustainability of practices; development of synergies between activities; and a call for a strong accountability focus. In addition the document is now quite explicit about the need for and development of links to the wider VET policy environment” (ibid.). In particular it is emphasising enhancement of the “engagement by VET institutions and staff, and businesses involved in VET” (ibid., p. 44).

United Kingdom

Until about the turn of the millennium, the United Kingdom appears to have had rather ad hoc development of its strategies for developing not only e-learning but teaching and learning in general. However, it is currently taking a highly integrated approach, realising (in the words of Anderson, et al., p. 10), “In order to embed (e)learning they will need to review and revise their current strategy for teaching and learning.” This has progressed from an initial priority on getting infrastructure in place. The emphasis now is on good teaching and learning practice and accessibility to all citizens. Hence institutions will be asked to embed e-learning within their wider teaching and learning strategies rather than have specific e-learning strategies.

There have been separate reform proposals for Higher Education and for Further Education and Training. The latter, in a document called *Success for All*, is more specific regarding e-learning, including a recommendation to develop a national e-learning strategy. This has been created through a pan-sector strategy, *Harnessing Technology*.

According to Anderson, et al.,

The Success for All reform strategy identifies four key elements:

- Meeting needs, improving choice
- Putting teaching, training and learning at the heart of what we do
- Developing the leaders, teachers, lecturers, trainers and support staff of the future
- Developing a framework for quality and success

Within these elements (e)learning is a notable feature, particularly in the teaching, training and learning area. Specific actions relating to (e)learning are identified and obstacles to the success of (e)learning are acknowledged. Success for All has undergone evaluations on an annual basis.

Similarly, the Post-16 e-learning Strategy Task Force report *Get On with IT*, which is specifically focused on e-learning and ICT, has, according to Anderson, et al., a central theme running through it, which

... is not the need for increased infrastructure but the need for increased skill acquisition for all learners in the post-16 sector Like many other UK education sectors, post-16 also appears to be entering a second phase of (e)learning where the emphasis is on developing capacity, skills and knowledge of leaders, managers, practitioners and learners to make the most of technology, to embed its use in their core activities and programmes, and to extend the programme more widely across the whole post-16 sector.

They summarise these developments, noting, "The UK appears to be entering a second phase of its (e)learning policy development and implementation. It is undergoing a reshaping exercise that is seeing less emphasis on infrastructure and more on connecting pedagogy with technology in a new blended approach to learning and teaching" (ibid., p. 11).

Given this trend in the U.K. to integrate e-learning policy with learning and teaching policy in general, it is useful to look at its broader strategies in this area. England has followed a teaching development strategy through the Teaching Quality Enhancement Fund (TQEF) which is not specific to e-learning. It has three complementary tracks: individual, academic subject or discipline, and institutional. The individual track has some similarities with New Zealand's national Tertiary Teaching Excellence Awards and the subject/discipline track has some of the capability-building elements of our eCDF and IDF. Evaluation of the U.K. experience is therefore particularly useful for New Zealand.

The individual track consists of the National Teaching Fellowship Scheme (NTFS), recognising exemplary teaching by individual academic staff, originally providing individuals with awards of £50,000 for projects that would make a significant contribution to learning and teaching, but more recently (as a result of the review described below) individual awards of £10,000 for personal and professional development of both academic and support staff, and contestable funding for projects by teams including an NTFS winner undertaking projects designed to improve the student learning experience.

The subject track funds a network of 24 subject centres and Fund for the Development of Teaching and Learning (FDTL) projects.

The institutional track funds higher education institutions (HEIs) to develop their learning and teaching on the basis of institutional learning and teaching strategies approved by the Higher Education Funding Council for England (HEFCE). The actions institutions take as a result must be reported in an annual monitoring statement.

This was evaluated in 2005 (Higher Education Consultancy Group & CHEMS Consulting, 2005). Its conclusions regarding the individual track were, "Although the NTFS has had an impact at the individual level (in terms of raising the status [as teachers] of the majority of academics who have won a fellowship), it has had substantially less impact at departmental and institutional levels, and its value for money is questionable" (p. 7).

With regard to the subject level, its conclusions were mixed. Absence of evaluative data

... inevitably mean that conclusions on the benefits and impact of the subject strand are difficult to make with any certainty. Generally those with subject-related perspectives tend to be broadly, even strongly, disposed towards the potential utility of the relevant subject centre, although there are exceptions. Where individuals have had positive experiences of working with a subject centre or using the outputs, that correlates with their view of the usefulness of this strand. (p. 7)

However the institutional track was judged a success:

Overall, this evaluation concludes that partly through TQEF funding there is now evidence in the learning and teaching strategies that many HEIs have taken major steps to build capacity for enhancing learning and teaching in much more systematic ways than previously. This also applies to many—not all—research intensive universities. In most institutions surveyed, the data were clear that earmarked TQEF funding has generally been of real benefit. (p. 8)

It was also noted that this led to growing use of ICT. For example, “Use of ICT in learning and teaching is no longer the province of enthusiasts and is rapidly becoming mainstream behaviour for academic staff” (p. 26). There was a strong professional development aspect to the learning and teaching strategies, especially in the first few years. However they also included a wide range of student-focused objectives.

Overall, the TQEF was rated a success, and the report recommended that the funding of institutional teaching and learning strategies continue for a further three years in light of the likely pressures of the 2008 Research Assessment Exercise (the U.K. counterpart to the PBRF). This recommendation seems likely to be the last extension of the programme, after which the funding is to be rolled into recurrent institutional funding.

For New Zealand, TQEF’s institutional track provides a model that is apparently effective in encouraging institutions to develop their teaching and learning. I will return to this shortly. Its individual and

subject tracks also provide lessons that seem applicable to our teaching awards and capability funds.

THE GAP There are a host of pedagogical, technical, infrastructural, policy, legal, and funding issues that will benefit from further attention. I have deliberately put those to one side, not with the intention that we should ignore them (far from it), but because it appears that even in countries where work on these issues is more advanced than in New Zealand, the largest barrier to adoption is involving the people who will drive the changes: academic staff. Until they have accepted the worth of these developments, have the skills and support to use them, and are the ones driving new initiatives arising from their interactions with learners, sustainable integration into general teaching practice is near impossible.

This is not to turn away from a learner-centred view of educational priorities. That must remain a cornerstone. But it is to recognise the obvious: teachers are still essential to the greatest part of formal learning.

So how do we go about it? I do not pretend to lay down a prescription. But it seems inescapable that, starting from the basis of the motivations and values of individuals, we need supportive institutional and national policies that encourage them in the desired directions.

Individuals

Individuals have a variety of motivations including workloads, professionalism, career and promotion aspirations, and pressures from peers and students. For any individual it will be a different mix of those motivations, so addressing any one of them is likely to be insufficient.

Workload pressures include teaching loads, the level of technical, pedagogical, or administrative support, student-staff ratios, the competition between research and teaching for their time, and the demands of administration. Some of these issues are raised with e-learning because it forces a conceptual disaggregation of elements which are present in any course, conventional or not—learning objectives, design, content, assessment, quality assurance, etc.—and can open to full view costs which were either hidden or not incurred because they were not fully carried out. However some of the time costs are new, either permanently or once-off startup costs of learning and infrastructure. Some are changes in the balance of existing workload elements.

Professionalism can bring scepticism about the value of e-learning, and can bring reluctance to take new steps without sufficient pedagogical knowledge and technical confidence.

Career aspirations (internationally and in New Zealand) are driven in universities by research and the desire for recognition in salary reviews, promotions, and status.

Peer pressure encourages an individual to take steps into e-learning if peers are doing it, and **student pressure** can make adoption of e-learning more likely if more students ask for it.

Institutions

How can institutions help motivate their staff? Again, this does not pretend to be an exhaustive or flawless list. The point is to suggest that, to address the “people gap,” institutional policies and strategies need to think about creative ways to motivate staff.

Workloads can be addressed by properly resourced and designed workload policies, adequate technical, educational, and administrative support, and clarity about the need to balance the relative priorities of research and teaching.

Professionalism can be supported by senior management and heads of departments being knowledgeable and supportive, adequate staff development facilities and resources, peer support by recognised “champions” of e-learning in a wide range of disciplinary areas, and teaching-focussed disciplinary links with other institutions in New Zealand and abroad.

Career aspirations can be addressed in promotion criteria which recognise teaching performance on an equal basis with research; peer evaluation of teaching, if possible in ways that parallel peer evaluation of research; the establishment of senior positions (perhaps with new titles) that recognise outstanding teaching performance; consistent public recognition (beyond the rhetorical) of the importance of good teaching with the aim of bringing about a parity of esteem between teaching and research.

In addition, institutions have their own motivations which in turn determine the degree of their support for such directions among their staff. For each institution these motivations include its financial position, strategic priorities, and reputation.

Financial position is affected by government funding, by the institution’s teaching and learning environment being an attractor (or at least not a repellent) of students, and negatively by teaching competing for staff time,

which may otherwise bring in PBRF and other types of research or consultancy income.

Strategic priorities include the viability of departments if student numbers fall; increasing enrolments by encouraging new types of students (such as older students or those wanting professional qualifications) for whom flexibility is essential; and responding to government strategies (if they are backed by funding or limits on funding). In this regard, it is worth considering that e-learning may become a strategic tool, crucial in attracting centres of teaching of specific disciplines, and providing access to a national constituency of students (perhaps studying off-campus) if the current reform programme, as is proposed, calls for greater specialisation of institutions. It would be logical for the government to be more prepared to support a specialist centre of teaching in an institution if its courses can be offered off-campus, including to students in other institutions. Similarly it may be in the institution's own interests to offer nationally and perhaps internationally those of its courses which are unique. In addition, government calls for increased flexibility in the provision of education are sure to become more insistent.

Reputation is enhanced by positive student views which may be driven by good learning experiences, the prestige of good facilities (including technology infrastructure for learning), and good evaluations.

Government

The final step is to consider how government policies and strategies can assist institutions to help motivate their staff.

One of the hot issues here is how directly the government should be involved in addressing matters such as the staff issues I have outlined. There are issues of institutional autonomy that need to be considered. But looking at the international experience, there is a very strong case that an e-learning strategy—indeed a general teaching and learning strategy—cannot be effective without addressing those matters.

Government can assist via the institutions by ensuring there is adequate funding to address workload issues, clarifying its thoughts regarding strategic selection of disciplines and the consequent effects, and providing objective information to students so that institutions can rely more on real improvements in teaching and learning rather than superficial selling points to attract students.

It can assist directly by addressing some needs such as assisting staff development activities (as it already does to a limited extent through establishment of the National Centre for Tertiary Teaching Excellence, Tertiary Teaching Excellence Awards, and capability funds), evaluating the effectiveness of these initiatives, and providing research-based information about alternative models of staff recognition and recognition of teaching. It could consider supporting subject/disciplinary networks or centres, taking the U.K. experience into account.

Perhaps the most interesting possibility is to learn from the successful experience of the institutional strand of the U.K.'s TQEF. This funded an approved teaching and learning plan in each institution, subject to implementation and reporting requirements. It is very similar in concept, although smaller in scale, to "investing in a plan" which is one of the

foundation stones of the tertiary reforms currently being developed. "Investing in a plan" asks the institutions to develop an Investment Plan, which will then be agreed with the TEC as the basis for their funding, as part of a "national network of provision." The new funding regime includes explicit funding elements providing mechanisms for the government to fund desired "priorities for focus"; to support change, including developing necessary staff and operational capabilities; and to encourage and support innovation. An early such initiative could be for e-learning development—or perhaps more plausibly for teaching and learning development, including e-learning. By investing in an approved e-learning or teaching and learning plan in each institution, the government would be able to give general direction to institutional priorities without becoming so directive that institutional autonomy is at risk. It allows each institution to design a strategy within these parameters that matches its particular character, stage of development, and priorities.

This type of approach is doubly applicable to e-learning. Firstly it addresses a strategic need of the tertiary education system. But secondly, many of the barriers to sustainable adoption of e-learning are essentially startup costs, both financial and staff skills and time. Assisting institutions with those costs for a limited number of years would allow them to proceed using their own resources once the startup barriers have been passed.

CONCLUSION Both international experience and day-to-day observation of our tertiary institutions strongly suggest that sustainable progress in developing e-learning is improbable without directly

addressing the development needs of staff, including considering what will motivate both them and the institutions they work in to put the necessary additional resources into teaching and learning. This should not be a surprise. Innovation in teaching is unlikely without the acceptance and commitment of teachers. Equally, it should not be a surprise if it takes many years for innovations to be absorbed into the mainstream to the point where it is an unremarked part of everyday practice.

What this paper provides evidence for is the usefulness of national and institutional strategic approaches to staff development and the organisational structures that will motivate them. So far, national policy has been weak in addressing staff development at a tertiary level, and there is great variation between institutions in how they are addressing these needs. In addition, national policies—principally the PBRF—have exacerbated the competition for academics' time between research and teaching that has always existed. International experience suggests that the existing policy counterweights—national teaching excellence awards and a national centre for teaching excellence—will be lightweights.

Additional national involvement in coordination and direction therefore seems justified. There are examples from overseas of successful methods of nudging institutions in the right direction without raising concerns about threats to autonomy. Some of these would fit well with the current tertiary reforms. These methods encourage institutions to work in their own ways to develop their teaching and learning, and this paper has suggested some ways that could be done.

Perhaps then the e-learning plane will take off.

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