

Case Study: University

E-learning and higher education: understanding and supporting organisational change

Stephen Marshall



Author:

Dr Stephen Marshall

Stephen.Marshall@vuw.ac.nz

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Ako Aotearoa National Centre for Tertiary Teaching Excellence

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Summary of Case Findings

This case illustrates the challenges facing many universities as they attempt to define how technology can improve the quality and efficiency of tertiary education while also responding to a rapidly changing social and economic context. The apparently slow pace of change in the university sector is well-recognised. It reflects the complexity and scale of their operations as well as the need for changes to be undertaken collegially and with an appreciation of the needs of diverse disciplines and stakeholders.

Organisational Context

University NZ-C is a medium-sized New Zealand university with a traditional focus on face-to-face education and an emphasis on research and postgraduate education. A well-established institution, the university is financially secure but faces significant challenges resulting from the current Government's decision to change the funding model from one of growth to one where numbers are capped and entry is based on academic success. As with all New Zealand universities, research performance is measured externally by the Performance Based Research Fund (PBRF), while educational performance is measured by a set of performance indicators focused on student retention in study, course completion and qualification achievement. The PBRF ranking and contingent funding depends substantially on individual staff productivity, which is sampled in six-yearly periods with the current period completing at the end of 2011.

eMM Assessments and Change Projects

Methodology

The e-learning Maturity Model (eMM) assessments were conducted as described in Marshall (2006; 2010b). The figure displays a summary of the eMM assessment with dark squares indicating a stronger capability than light as described in the legend. Each of the 35 key processes is described on five dimensions: *Delivery*; *Planning*; *Definition*; *Management*; and *Optimisation*. An initial eMM assessment was conducted in 2010 generating a report for the institution that was used to inform a change workshop and identify change projects that were implemented in 2010/2011. An additional eMM assessment was performed in late 2011 to identify changes in capability arising over the 18 months of the project.

Initial Capability Assessment

The capability assessment for University NZ-C in 2010 is shown in the figure compared to that of a number of international universities. The assessment is consistent with that seen in other New Zealand universities (Marshall, 2010a) and is, in general, weaker than that seen in the international universities. Capability is concentrated primarily in the *Delivery* dimension, with some strength in the areas relating to student support and the technical infrastructure. This pattern is similar to that seen in a number of institutions that have treated e-learning purely as a technological challenge.

A number of the processes show gaps in capability in the *Planning* dimension consistent with the observation that the institution has policies and strategies in place supporting the use of technology, as well as individual staff initiatives, but that operational systems are lacking. This reflects the general observation that there is an absence of a planned intentionality in the way many institutions are engaging in the use of e-learning. While all institutions are making use of learning management systems, many are not placing the use of these systems within a framework of strategy and guidance to teaching staff that will transform learning. There is a definite sense that existing approaches for teaching and learning are being carried over to technology without reflection and planning. A clear example of this is in the absence of linkages provided to students between the learning objectives of courses and the technologies and pedagogies they encounter, as seen in the assessments for processes O6 ('Students are provided with information on e-learning technologies prior to starting courses') and O7 ('Students are provided with information on e-learning pedagogies prior to starting courses').

The *Evaluation* area process capabilities convey clearly the lack of systematic incorporation of e-learning into institutional evaluation and review procedures. Comparing the assessments in the *Evaluation* processes for students (Process E1 'Students are able to provide regular feedback on the quality and effectiveness of their e-learning experience') and staff (Process E2 'Teaching staff are able to provide regular feedback on quality and effectiveness of their e-learning experience') illustrates the weaknesses in the information and evidence-gathering activities of the institution. These are also apparent in the very weak *Management* dimension capability assessment, with little evidence of students or teaching staff being asked to provide their perspectives on the impact or consequences of technology use. There is almost no evidence of institutions capturing research-based evidence of successful e-learning technology or pedagogy use. Nor are there systems monitoring the quality or nature of activities. There is little evidence of rewards or other incentives for teaching staff to invest their time in developing and improving teaching and thus student learning, let alone investing the substantial time needed for e-learning.

The lack of impact of e-learning on the governance and operation of institutions is also evident in the capabilities assessed for *Organisation* processes O2 ('Institutional learning and teaching policy and strategy explicitly address e-learning') and O9 ('E-learning initiatives are guided by institutional strategies and operational plans'). There are no empirically measureable strategic outcomes for e-learning generally within the institution (seen in the assessments for processes O2 and O9). The assessments show that University NZ-C has adopted an approach to the use of technology that is informal. It is driven primarily by the use of core infrastructure, to support primarily administrative activities within courses dependent on the skills of individual teachers, rather than a systematically driven and supported core aspect of learning and teaching. There is very little evidence of systematic updating of learning and teaching policy to reflect the differences and challenges consequent to the use of e-learning nor is there much evidence of business goals and strategies driving investment in e-learning infrastructure.

	University UK-A			University UK-B			University USA-A			University AUS-A			University AUS-B			Uni NZ-C 2010			Uni NZ-C 2011			Uni NZ-C Changes			
	Delivery	Planning	Management	Delivery	Planning	Management	Delivery	Planning	Management	Delivery	Planning	Management	Delivery	Planning	Management	Delivery	Planning	Management	Delivery	Planning	Management	Delivery	Planning	Management	
Learning: Processes that directly impact on pedagogical aspects of e-learning																									
L1. Learning objectives guide the design and implementation of courses																									
L2. Students are provided with mechanisms for interaction with teaching staff and other students																									
L3. Students are provided with e-learning skill development																									
L4. Students are provided with expected staff response times to student communications																									
L5. Students receive feedback on their performance within courses																									
L6. Students are provided with support in developing research and information literacy skills																									
L7. Learning designs and activities actively engage students																									
L8. Assessment is designed to progressively build student competence																									
L9. Student work is subject to specified timetables and deadlines																									
L10. Courses are designed to support diverse learning styles and learner capabilities																									
Development: Processes surrounding the creation and maintenance of e-learning resources																									
D1. Teaching staff are provided with design and development support when engaging in e-learning																									
D2. Course development, design and delivery are guided by e-learning procedures and standards																									
D3. An explicit plan links e-learning technology, pedagogy and content used in courses																									
D4. Courses are designed to support disabled students																									
D5. All elements of the physical e-learning infrastructure are reliable, robust and sufficient																									
D6. All elements of the physical e-learning infrastructure are integrated using defined standards																									
D7. E-learning resources are designed and managed to maximise reuse																									
Support: Processes surrounding the support and management of e-learning																									
S1. Students are provided with technical assistance when engaging in e-learning																									
S2. Students are provided with library facilities when engaging in e-learning																									
S3. Student enquiries, questions and complaints are collected and managed formally																									
S4. Students are provided with personal and learning support services when engaging in e-learning																									
S5. Teaching staff are provided with e-learning pedagogical support and professional development																									
S6. Teaching staff are provided with technical support in using digital information created by students																									
Evaluation: Processes surrounding the evaluation and quality control of e-learning through its entire lifecycle																									
E1. Students are able to provide regular feedback on the quality and effectiveness of their e-learning experience																									
E2. Teaching staff are able to provide regular feedback on quality and effectiveness of their e-learning experience																									
E3. Regular reviews of the e-learning aspects of courses are conducted																									
Organisation: Processes associated with institutional planning and management																									
O1. Formal criteria guide the allocation of resources for e-learning design, development and delivery																									
O2. Institutional learning and teaching policy and strategy explicitly address e-learning																									
O3. E-learning technology decisions are guided by an explicit plan																									
O4. Digital information use is guided by an institutional information integrity plan																									
O5. E-learning initiatives are guided by explicit development plans																									
O6. Students are provided with information on e-learning technologies prior to starting courses																									
O7. Students are provided with information on e-learning pedagogies prior to starting courses																									
O8. Students are provided with administration information prior to starting courses																									
O9. E-learning initiatives are guided by institutional strategies and operational plans																									

Unchanged
 Improved one rank
 Improved two ranks
 Decreased one rank
 Decreased two ranks

Not practised/not adequate
 Partially adequate
 Largely adequate
 Fully adequate
 Not assessed

Figure: University NZ-C eMM Assessments for 2010 and 2011, compared with international universities, changed capability shown in red and green on the right

The following areas were identified as priorities for action by University NZ-C:

- The way that technology changes the nature of learning and teaching needs to be explicitly acknowledged and addressed in a systematic way in University NZ-C's teaching and learning strategies.
- Improvement of the course outlines and supporting documentation to include detailed information on course assessment and other learning activities aligned explicitly with the learning objectives and the technologies being used to support student learning.
- An increased emphasis needs to be placed on professional development in course design for all teaching staff, with support and resources developed to encourage innovation and effective use of new technologies.
- The relationship between feedback, assessment, and student learning should be made more explicit in course designs and in university policy, with an emphasis on responsiveness and structured relationships within the pedagogical model of courses.

Change Projects Undertaken Following the eMM Assessment

The figure shows the updated capability assessment for University NZ-C for 2011 next to that of 2010. Clearly very little has changed. During the last year University NZ-C established a working party to examine what role technology played and could play in the operations of the university. The working party included participants from across the university and was tasked with developing a strategic plan for technology use that would support the main university strategic plans. This group met over a six-month period and developed an extensive report for the university management that reviewed in detail the wider context for technology use by universities, how technology was currently being used within the university, and outlined a range of possible strategic options for the senior management.

The working party developed a clear understanding of the magnitude of the challenge facing the university and concluded that while a leadership position in the use of technology to support learning was a worthy aspiration, it was not plausible to propose an immediate strategy aimed at that objective. Instead, a two-phase strategy was proposed with the first phase being the recognition of the strategic importance of technology. This would involve a commitment to embrace and embed digital technologies across a broad range of academic programmes in all faculties, and a formal acceptance that this was a critical determinant of realising the goals and objectives laid down in the overall university strategic plans. The second phase, commencing in a three- to five-year period, would see the adoption of a more transformative plan intended to achieve international leadership in the use of technology for learning and teaching.

The first phase response has been structured around three main areas of work: addressing the *Strategy and Vision* for technology at the university; building the organisational *Capability* to use technology effectively; and developing the *Knowledge* needed to inform operational and strategic activities. The first area sees the university committing to develop a strategic vision and commitment for technology use by drawing on the collective ideas of staff. This is intended to be a collegial process that stimulates an attitude of innovation and change, rather than being a formally imposed strategic vision. The intention is that strategy making will generate the initial stages of change in the culture of the organisation and the expectations that staff and students collectively have for their experience.

The building of capability reflects the recognised shortcomings in the ability of University NZ-C to take advantage of existing and future technologies for learning and teaching. These deficits are both in terms of barriers to implementing and using new technologies, as well as the capability of staff throughout the university. Here the model is one intended to stimulate change by embedding much of the new support within schools and faculties, ensuring greater visibility, responsiveness and relevance of the support. A new model of infrastructure development is intended, one that explicitly recognises the need for experimentation, agility and managed innovation, rather than administrative convenience.

Finally, the shift in direction and investment of scarce resources must be justified by evidence of the impact the work is having on the organisation, staff and students. An increased awareness of what is occurring within courses and the realities of student and staff experiences of learning and teaching will also stimulate new ideas for innovations and improvements.

Lessons for Other Institutions and for the Sector

About 85 institutions in the Western World established by 1520 still exist in recognizable forms, with similar functions and with unbroken histories, including the Catholic Church, the Parliaments of the Isle of Man, of Iceland, and of Great Britain, several Swiss cantons, and...70 universities" (Kerr, 1987, p184)

During the four-year period of this research project, the four universities that initially expressed interest all engaged in major reviews and restructuring of their support of learning and teaching. These were driven by financial reasons and in response to the increased external scrutiny being placed on universities as attention shifts from their research productivity to their teaching quality. New Zealand universities are consequently, along with other parts of the sector, engaged in a significant self-evaluation of their roles and priorities. In part this is driven by the economic and social pressures facing the country in general, but it is also a consequence of the pace of change resulting from new information and communication technologies. While university students and staff are not 'digital natives', they do have rapidly evolving expectations about how information is accessed and used, and increasingly, how those technologies and digital literacies might be reflected in learning and teaching.

The response to date at University NZ-C is very much within the mainstream for universities with an investment in a technological infrastructure without any substantive changes to the model of learning and teaching or the experience of staff and students. The problem facing all universities is that the model of funding in place in New Zealand now means that revenue and student numbers are capped by the Government, and so change must be driving improvements in the quality and efficiency of operations, not supporting growth in access to larger numbers of students. The traditional model of adding costs that are balanced by increases in the scale of operation can no longer apply. Somehow the costs of new technologies have to be balanced by reduced costs elsewhere; something else must change.

Despite these well-appreciated issues, and compared to the rapid changes that have been observed in other types of institutions in this research, the University NZ-C response appears slow, almost disinterested in the consequences of technology. This has, however, been a difficult year to stimulate changes to learning and teaching in universities generally as the

census period for the current PBRF ends on 31 December 2011. The scale of a university presents challenges for strategic and operational change as universities have multiple stakeholders and varied disciplines with quite different models of learning and teaching. This is also a strength, in that diversity offers many opportunities for innovative ideas to be identified and the scale means that resources are potentially more available than in smaller institutions, and certainly at a lower operational risk. In this context, University NZ-C has mapped a plan for a change in direction that it is hoped will see a change in capability led by the strategic vision of the university, but which stimulates and draws upon the ideas of staff and students. The challenge is in achieving this before the institution is left behind.

The 2010 Sloan Survey of Online Education in the United States (Allen and Seaman, 2010) noted that in the United States online enrolment growth (21 percent) was significantly outpacing growth in the overall student population (< 2 percent for all forms of university enrolment). Almost 75 percent of public institution leaders described online education as critical to their institution's long-term strategy, although less than half of them had strategic plans addressing online courses – highlighting the delay between strategic realisation and strategic implementation. The survey also noted that virtually all recent growth in online enrolments has come from existing offerings by established providers, not from institutions new to online delivery – suggesting the possibility of a widening gap between institutions that are engaging actively and those that are engaging minimally. This gap may ultimately become impossible to bridge if institutions are unable to respond to the need for change.

History grants no essential or eternal role to the modern research University, and it is necessary to contemplate the horizon of the disappearance of that University. Not to embrace the prospect of its vanishing, but to take seriously the possibility that the University, as presently constituted, holds no lien on the future (Readings, 1996, p129).

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