

## **Creating a National E-Learning Strategy in the Open Learning Environment: A New Zealand Case Study.**

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### **Introduction**

The purpose of this paper is to explore and discuss some of the major factors influencing the development of a national e-learning strategy for one Commonwealth country, namely New Zealand. What follows is an abridged version of the Report of the E-Learning Advisory Group entitled *Highways and Pathways: Exploring New Zealand's E-Learning Opportunities*. The author worked as member of that Advisory Group in the development of this report under the leadership of Shona Butterfield, a COL Executive Member.

### **International context**

E-learning is a global phenomenon fuelled by a variety of economic, technological and social forces as well as student demand. There is a growing awareness among nations that knowledge holds the key to their future prosperity and social well-being. Governments and businesses around the world are increasing their capacity to learn and are placing a premium on the development of a knowledge economy.

New Zealand is now part of a global marketplace, serviced by increasingly sophisticated communications systems. In this new global economy, New Zealand must compete by developing a highly skilled population which is constantly improving its skills and knowledge base.

In such a society, ongoing learning is integral to the lives of all individuals and communities. It assumes there will be increasing numbers of people participating in learning and that there will be a vigorous pursuit of excellence in teaching and research.

It also assumes the free and rapid exchange of knowledge and ideas, which is where e-learning has such a crucial role to play.

E-learning's potential is already well established globally. By the end of 1999, more than 196 million people were using the internet worldwide and this figure is expected to reach 638 million by 2004. In the United States alone, knowledge services in the school, tertiary and corporate markets is already worth \$740 billion dollars. It is estimated that the global industry is worth \$2 trillion.

Different countries have approached the e-learning challenge in different ways. The European Commission recently announced a US \$13 billion three-year e-learning action plan to deliver technology-based education. The United States is also moving towards a systematic national approach to e-learning and has established a Web-based Education Commission to maximise the educational promise of the internet across all levels of education.

The United Kingdom and Australia are debating the merits of establishing national "virtual" universities while Canada already has one up and running online.

The challenge for New Zealand is to decide where it should sit internationally in the provision of e-learning services, mindful of the fact that it has many competitors at home and abroad in this e-learning market. New Zealand must identify where its competitive edge lies and where international links might usefully be fostered.

### **Overarching Educational Issues**

In addition to these global trends, there are a number of educational pressures which are driving change in this area. First, there is rapidly increasing demand among learners, employers and communities for lifelong learning opportunities. There are also many opportunities for people to continue their education, including those with a low record of academic achievement at school.

At the same time, there is also awareness among educators of the need to enhance the quality of traditional education learning by enabling greater inter-activity and collaboration between teachers and learners.

Further, new technology enables functions that have traditionally been provided by a single institution to be more easily shared among a number of providers. This unbundling of services provides significant new opportunities which, given New Zealand's size, would benefit from collaborative approaches.

Overall, many educators are looking for opportunities to embrace new technology to enhance the quality of the learning experience and to make education accessible for students who choose not to or cannot attend classes on campus.

### **The way forward – a learner-centred approach**

E-learning can deliver many benefits, but only if learner-centred opportunities are developed that ensure it is an effective educational tool. This means giving learners much greater choice in how their learning is delivered, enabling them to interact easily with teachers and access appropriate levels of administrative, educational and technical support. It means designing our systems in ways that best fit the circumstances and needs of our learners.

Effective e-learning also means ensuring that online resources and assessment are of equivalent or superior quality to those available in a traditional learning environment. We must ensure that the knowledge and skills that students gain online, or already have, can be assessed and credited towards nationally-recognised qualifications and future learning pathways. All of this has major implications for educators. There will be a growing demand for student-centred e-learning. E-learning does not mean the demise of bricks and mortar institutions. Rather, there might be an expanded role for providers to use e-learning to enrich traditional classroom-based learning, at all levels of education, as well as meet the needs of students who cannot travel to a local campus.

## **Current situation in New Zealand**

The Government has a number of strategies underway to utilise Information Communications Technologies in schools and the tertiary area. Across the education sector, providers are enhancing traditional teaching with new web-based courses, some of which are internationally aligned.

To date much of the debate about e-learning has focused on the merits of online versus face-to-face teaching. However, there is an emerging consensus that the real issue is less about delivery methods than how technology can be used in an educationally sound way to meet a wider range of learner needs.

The Advisory Group sees that central government has a key role in helping to facilitate this national strategy and providing incentives for providers to further national goals. Aspects of this strategy might involve all providers acting together but there must also be scope for autonomous action at institutional and local level.

It is extremely difficult to predict what is the best single way forward. It is therefore very useful for the strategy to include a sufficient range of options so that lessons can be learned from the range of activity underway and the overall strategy adapted as this occurs.

A number of national priorities have already been identified by the government's Tertiary Education Advisory Commission (TEAC). Specifically the need to:

- Foster an e-competent workforce;
- Strengthen New Zealand's e-business capabilities;
- Provide global access to learning opportunities for students based in New Zealand; and
- Provide a further avenue for New Zealand institutions to access international markets for their educational services.

To achieve these priorities, it is important that a strategy is developed that encourages and enables all institutions to contribute to these strategic goals where they are able.

What this means in practice is that each institution must see their work as part of a wider tertiary learning experience and enable their students to enhance their e-literacy while studying. Students must be able to access a range of e-learning options, whether it be at the institution or at home or in the workplace. The tertiary education system as a whole needs to have the capacity to support this range of e-learning options for students.

This means having the capacity to provide students with web-based information about courses and services. It also means a full range of online support services particularly for non-campus-based students and learning venues. It means the provision of web-based courses and an integrated online learning service such as enrolments and enquiries.

All of this will offer a significant opportunity for specialisation and cooperation across existing and new tertiary alliances and boundaries. It is envisaged that institutions will contribute to this system to different degrees, according to their capabilities and resources.

The fundamental assumption is that wherever students are learning they will have access to an integrated quality e-learning system with appropriate connections and support, where that adds value for that learner's purpose.

### **Fresh approaches**

This strategy is not just about doing more of the same. To be successful, it must usher in new approaches and fresh contributions. For example, the Advisory Group is excited about the potential of e-learning, with its emphasis on participatory and interactive learning, to be a powerful education tool for Maori. This will require effective partnerships with iwi and Maori providers to develop Maori learning objects.

The Advisory Group believes it is vital that the principles of the Treaty of Waitangi inform the development of an e-learning strategy and ensure its success for all New Zealanders.

There is enormous potential for e-learning to give Maori greater control over their learning and reduce current disparities in achievement. There are other exciting gains to be made in areas such as workplace and adult learning or in regions where people are geographically isolated. And, as we have noted, there are opportunities for enhancing the quality of learning in campus-based institutions.

The potential gains, however, will only be realised if there is a common vision of what an e-learning future can offer and institutions prepare their own strategies in ways that contribute to the tertiary system as a whole.

The Advisory Group believes that over time, this collaborative approach will work to considerably strengthen the position and capacity of participating institutions in terms of teaching, learning, staff development and technological capacity.

Our vision for e-learning

The Advisory Group shares a vision where all New Zealanders will access:

- Learner-centred e-learning opportunities that maximise choice and flexibility ;
- E-learning of world-class quality, that draws on the best offerings, from here and overseas;
- E-learning that reflects New Zealand's unique cultures, Treaty-based responsibilities and the special strengths of its teachers and educators; and
- A cost-effective system that benefits from the involvement of both public education providers and private enterprise

### **Our strategy**

There are a number of e-learning opportunities that need to be explored within the context of an overall national strategy. Building on the vision outlined above, these might be summarised as follows:

Maximise choice and flexibility

- Provide students with comprehensive information about learning opportunities in NZ.
- Arrange systems of mutual accreditation for agreed qualifications.

### World Class Quality

- Provide assistance to tertiary education institutions collaborating in the development and delivery of e-learning.
- Foster and fund quality assurance systems ensuring world class status.

### New Zealand's uniqueness

- Foster learning based on NZ research and best practice.
- Encourage research and practice-based teaching strategies using electronic and other methods.

### Cost Effectiveness

- Establish funding regimes that foster rather than penalise the adoption of e-learning and distance education strategies.
- Create reward systems for tertiary institutions undertaking effective collaboration with industry.

### **Maori Case studies**

The following case studies are drawn from the E-Learning Advisory Group Report to show some of the implications of E-Learning for a minority group.

#### **Te Whanau Apanui - Learning Online**

Te Whanau Apanui is a rural tribe. Sixty-three percent of its members are under 30 and 80% live outside the tribal rohe. The tribe is using e-learning programmes as a cost effective means of upskilling people and helping them 'pathway' them into the IT industry.

The tribe sees that online training solutions enable people to easily refresh and update their skills, gain additional certifications and learn about new advances in technology. They can learn at their own pace when they have time and make progress in manageable amounts.

Their vision is to exist as a tribe in the "knowledge economy" and be in control of their own destiny. The tribe has developed relations with Cisco systems and has academies

operating in two low decile high schools in the Tairāwhiti. An Academy was recently launched at Tangaroa College (South Auckland). The tribe's main task at present is investigating deployment options and delivery costing models into other areas. The e-learning model it is developing will allow them to deliver up to 1,300 IT and Desktop courses and 200 business e-learning courses to any Te Whānau ā Apanui member (or others) anywhere in the world so long as they have access to the Internet.

### **Case Study - Te Rau Puawai**

Te Rau Puawai is a Māori mental health workforce development programme established as a joint initiative between the Ministry of Health and Massey University. The programme began in early 1999 and currently provides financial and learning support to 123 undergraduate and postgraduate Māori students. As the majority of Te Rau Puawai students are mature Māori who are studying part-time from a distance, distance learning support is integral to Te Rau Puawai's learning support model. The wealth of knowledge, academic and employment experience among students has led to an exploration of ways to assist Te Rau Puawai students to access each other, communicate and participate in collective learning at an affordable cost.

The Te Rau Puawai website is designed to provide secure access to the Te Rau Puawai support team, graduates and students through electronic introductions, photos and email contacts, discussion groups and learning support material. Several design factors have been incorporated, including a virtual whare or meeting house and group photo features, to ensure that the site reflects the student body and reinforces the notion of a designated 'meeting place' which belongs to Te Rau Puawai.

The online support however has not been developed in isolation. In recognition of the importance of *kanohi ki te kanohi* (face to face contact) and *whakawhanaungatanga* (the importance of building relationships) Te Rau Puawai has developed the online support avenue as *one* aspect of a complete learning support package which includes: compulsory biannual hui; a monthly Newsletter; an 0800 number; peer mentoring through a weekly call centre and regional visits twice a year. Developing a whānau or community of Māori students online must be a part of a wider learning support package for maximum utilisation and participation.



A recent evaluation revealed that 78% of students found the electronic introductions useful and 79% found the discussion groups useful. However only 50% said they used the website regularly, primarily due to lack of time, computer access and familiarity with the Internet.

This outcome is consistent with the year 2000 annual student evaluation, conducted by the Te Rau Puawai office, where only 50% of students reported the website to be useful all or most of the time. Based on these indications, Te Rau Puawai is currently implementing a range of strategies to increase participation including the provision of group and individual tutorials and the distribution of a user-friendly guide to the website.

The experience of the Te Rau Puawai programme in developing a community and whanau on line has reinforced that, as a tool the Internet has enormous potential in bringing Maori students together and encouraging the utilisation of collective learning strategies and support. However to maximise that potential, a number of factors need to be considered from the onset and built into a continuing development process.

### **Bridging the Digital Divide**

There is a significant gap between Maori and non-Maori in Internet access and participation. This reflects a number of factors, including:

- lack of economic resources;
- lower levels of educational achievement;
- fear of technology;
- high cost of digital technology
- lack of phone connections within Maori homes;
- preference for face-to-face contact;
- lack of appropriate Maori digital material; and
- lack of Maori providers offering a culturally appropriate learning environment.

While Maori enrolments in IT courses and the number of computers in Maori homes have increased, this has not led to high levels of technological literacy or achievement among Maori. A key point therefore is that participation alone is not a barometer of

success. Strategies for involving Maori in e-learning must focus on the quality of learning taking place and outcomes achieved.

Research relating to the experience of indigenous learners in other countries will be important to identify useful parallels and lessons to be learned. There is opportunity here, too, for Maori to develop a leadership role internationally through sharing and possibly promoting successful approaches.

At the same time, Government must challenge tertiary education providers to act proactively in this area and improve access to technology for local Maori communities. Initiatives might include mobile e-learning units, community classes in e-learning with a Maori focus and flexible use of institutional resources during the weekend and in the evening.

It is a priority to develop Internet resources and other digital material for a Maori audience. For example, the nationwide portal proposed earlier must have a Maori presence, including a Maori cultural component and a full Maori language environment. The Ministry of Education's Te Kete Ipurangi site could also be expanded to provide material for Maori adults. This would involve expanding its current brief as a site for primary and secondary learners.

More must be done to assist those who are disadvantaged, such as the unemployed and other beneficiaries. It is recommended that entry-level computer classes be run for these groups to get them started. Fees should not be charged. It will be important that secondary schools and tertiary education providers involve themselves in developing these programmes so there is the potential for students to carry on to higher levels of study. Steps also need to be taken to meet the professional development needs of Maori involved in e-learning education and development so that Maori have the capacity to develop e-learning in the way that best suits their needs.

### **Risk management**

Earlier in this report, the Advisory Group looked at the possibilities of e-learning in terms of a value chain. The value chain was underpinned by three essential requirements:

- effective leadership and governance;
- high standards of quality assurance; and
- sufficient capability in terms of systems, people and infrastructure.

These three elements are the foundation of a successful educational endeavour.

We have noted that e-learning is simply the use of particular electronic tools to support the learning process. All reputable institutions will in future need to offer some of these options to their students, who will often wish to combine an e-learning experience with being part of the campus community. Others will be seeking a learning experience that does not require their attendance in any particular place at any particular time. Clearly, the institutional strategies for e-learning will be different depending on their particular mission and the profile of the institution including the characteristics of the students they seek to serve.

#### Governance and Leadership

It is vital that the regulatory and legislative environment for e-learning provides for effective governance and leadership. Councils of institutions need to have a sound grasp of the issues and develop effective e-learning strategies as part of the system as a whole. Many institutions have willingly shared their current e-learning strategies. They indicate that across the sector there is significant differentiation.

Institutions are clearly developing their e-learning strategies in ways that build on and strengthen their core competencies and comparative advantage. This is what the country needs. The challenge for the TEC will be to foster e-learning and to ensure that institutions are mutually supportive in the emerging e-learning environment. Institutions also need to have an understanding of how their own e-learning strategies fit within national priorities so that chances for collaboration and strategic partnership are enhanced. The Advisory Group recommends that documentation of an e-learning strategy be part of an institution's Charter and Profile requirements.

Governing bodies and tertiary leaders also need to understand the economics of the strategies they are pursuing. Anecdotal evidence suggests this is not well understood. It would be helpful if TEC took a lead role in developing this information base as

suggested earlier. It could also facilitate workshops for chief executives to address this issue.

Most New Zealand tertiary education providers are committed to delivering at least some education online within the next few years. This will introduce governance and quality challenges that they may never have encountered before. These could relate to investment decisions, intellectual property issues, student and teacher access, course selection as well as security and privacy issues.

Authoritative independent advice and guidance is a critical issue, especially for smaller institutions that simply do not have the resources to evaluate options appropriately. Some institutions may be too small to provide comprehensive training for their staff in the range of new skills and knowledge required in an e-learning environment. The Advisory Group recommends therefore that advice and guidance to institutions on e-learning, strategic and infrastructure issues and options be made available via the tertiary portal.

Some of the governance issues are complex and will require careful consideration by TEC Councils. An obvious area is intellectual property and copyright. Our assessment is that there is very poor understanding of the legal environment surrounding intellectual property, copyright, and moral rights, and this is a potential risk if not appropriately managed. This is also an area where there is much to be gained from having a single independent source of advice for institutions.

### **Assuring Quality**

Currently there are two agencies with statutory responsibility for quality assurance in the tertiary sector – the Vice-Chancellors' Committee in the university sector and the New Zealand Qualifications Authority (NZQA) for the remainder of the tertiary sector. In the case of polytechnics, NZQA has delegated responsibility to the New Zealand Polytechnic Programmes Committee and the New Zealand Colleges of Education Council. Both agencies are required to address Maori issues in quality assurance.

In order to attract public funding, all tertiary programmes and qualifications must be accredited by one of these bodies and they are also subject to regular review. Currently, in both the University and NZQA environment these quality assurance appraisals are performed against a single set of standards and expectations that apply regardless of delivery medium or mode.

Quality assurance agencies around the world are now moving to develop appropriate guidelines for e-learning, and there is debate about how to apply specific benchmarks to e-learning. It could be argued that virtual education is such a new phenomenon that all stakeholders require greater assurance of its quality than can be provided through the existing quality assurance system. With a growing international market for education, there is also the need to ensure that quality assurance standards have international credibility.

On the other hand, it could be argued that quality standards should be related to core educational processes and outcomes, rather than the mode of delivery. Given the trend to more mixing or blending of modes this approach seems most appropriate, and the Advisory Group recommends accordingly.

The Advisory Group finds that the current approach of the accreditation and quality assurance agencies in New Zealand has the potential to work well with online programmes. The standards do relate to core educational processes and outcomes. The onus is on the institution to provide appropriate evidence for how the standards are met. The major issue is to develop an understanding amongst accreditation and audit panels about the different kinds of evidence that are acceptable.

For example, a traditional requirement has been that institutions demonstrate they have a library with adequate spaces for students, appropriate book stock, and journal subscriptions. Addressing quality in an e-learning environment is in many instances raising questions that refocus the quality standards for all modes of learning. In this instance the primary question that should be able to be answered, irrespective of mode, is “Do students have timely access to the information that is relevant for them to succeed in their course?” This may be provided through Internet access to databases: it may also be found that in the traditional situation despite the fact that there are books in the

library, the students cannot gain access to them in a timely fashion, because there is insufficient quantity.

The Advisory Group was struck by the potential for the focus on quality for e-learning to raise the stakes in relation to the quality of any learning. That presents an opportunity to address quality issues in a non-threatening way by framing them in a paradigm where everyone is being required to learn new ways of working.

### **The need for agreed standards**

It is clear that developing common standards for learners and educators to create, find, evaluate, reuse and share electronic content will be crucial if New Zealand is to develop e-learning objects that are accessible and valued by learners.

New Zealand needs an e-learning environment where learners can easily search, identify and retrieve content no matter where they are. This means that learners must be able to access learning objects developed by one institution even if they are using different platforms at other institutions.

Achieving universal agreement on how learning objects should be created, stored, retrieved, assembled and delivered is fundamental for creating an e-learning environment which transcends technology and meets the needs of learners.

The bringing together of all these elements and players will require careful co-ordination and effective leadership. The Advisory groups sees that a Consortium for e-learning could play a leading role in this regard.

We must do all we can to ensure the learners are able to seamlessly navigate New Zealand's e-learning environment and receive information of interest to them in ways that are tailored to their needs. Consistency of standards will be an essential in the development of such a system.

### **Summary**

New Zealand's learning environment is being transformed by new advances in technology, electronic media and the Internet. E-learning, the provision of learning

through the electronic media, has the potential to be an enormously useful educational tool.

Many exciting developments in e-learning are already underway in tertiary education providers around the country. These range from on-line tutorials to dual-mode campus-based courses to courses that are entirely web-delivered.

At present, however, these initiatives are not part of a coherent national e-learning strategy. If New Zealand wants to truly realise the potential of e-learning, it must develop a shared vision of the kind of learning environment it wants to create which reflects our unique identity and strengths and the changing needs and expectations of learners. We must establish an inclusive system that can cater for people of all ages and educational backgrounds.

E-learning will not replace campuses but it will change the way students learn when they are there. It will also open up new learning pathways and make it possible for people to more effectively undertake tertiary learning from home, work and other centres in the community.

The challenge is to shape our system to meet these diverse demands. This will require a much more collaborative approach to e-learning between government, tertiary education providers, communities and industry.

New Zealand needs an e-learning vision that fits within the overall vision for learning in the tertiary sector and is underpinned by a learner-centred approach. Technology alone will not achieve our goals. What is required is a focus on the needs of learners and an unflagging commitment to quality in governance, teaching and learner support. These elements and a willingness to collaborate will be the hallmarks of New Zealand's success and the key to our being internationally competitive in e-learning.

We must build on our impressive record of accomplishment in creating flexible and adaptable learning solutions that are tailored to student needs. This could be done in a number of ways and the Advisory Group has recommended the phased implementation of the following initiatives:

- The establishment of a tertiary e-learning consortium comprising institutions with appropriate expertise in the area. The consortium would be funded by government to coordinate the development of e-learning within the tertiary sector;
- The creation of a single electronic point of entry, a portal, for people to gain access to a wide range of information, services and resources offered by New Zealand's tertiary education sector. Over time it is envisaged that students would be able to enrol, learn, be assessed and credit transfer between providers and programmes using this portal;
- The establishment of a Collaborative Development Fund (CDF) to provide capital for tertiary providers to access funds to develop their e-learning capability.

E-learning in New Zealand will only be successful if it is based on sound pedagogical approaches. Increasingly New Zealand will require educators who have the skills to work confidently in an internet environment as well as a lecture theatre. A new generation of students is emerging from New Zealand secondary schools who are technologically capable and expect e-learning to be part of their educational experience.

Government has a central role to play in providing incentives for institutions to collaborate but there must also be scope for innovation and autonomous action at institutional and local level.

E-learning will come of age in this country when students have access to an integrated, quality e-learning system, with the right connections and support no matter when or where they choose to learn. The case studies in this report show the many different directions that e-learning is already taking us. It will be an exciting journey but ultimately success will rest on our ability to work effectively together.



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