



Tracing International Differences in Online Learning Development: An Examination of Government Policies in New Zealand

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Abstract

In 2006 the North American Council for Online Learning surveyed the activity and policy relating to primary and secondary e-learning, which they defined as online learning, in a selection of countries. They found most were embracing e-learning delivery of education as a central strategy for enabling reform, modernising schools, and increasing access to high-quality education. While North American countries appeared to be using the internet as a medium to provide distance education at the secondary level longer than most countries, the lack of a guiding vision has created uneven opportunities for students depending on which state or province they live in. In New Zealand, the government has sought to provide a vision or guiding framework for the development of e-learning. In this article we trace that vision by describing three policy documents released by the New Zealand government over the past decade, and how that vision for e-learning has allowed increased development of primary and secondary online learning.

Keywords: distance education; e-learning; K-12; North America; policy

Introduction

E-learning is a powerful instructional strategy because it transcends the boundaries of traditional classroom instruction. In fact, it creates virtual schools that allow learning to occur at the student's initiative—any time, any place. E-learning also holds promise for promoting equity by providing students with access to courses that otherwise might not be available, such as accelerated courses in remote rural areas (Blomeyer, 2002, p. 1).

E-learning offers opportunities and possibilities unknown to educators over a decade ago. "E-learning has the capacity to grow, and the early results demonstrate the benefits of students and parents being given the choice of a variety of learning options, from fully online courses at a distance, to classroom-based courses, with blended learning options in between" (Watson, Gemin & Ryan, 2008, p. 10). In 2006, the International Association for K-12 for Online Learning¹ (International Association for K-12 for Online Learning [iNACOL], 2009) surveyed several

¹ While iNACOL is an international organisation, the term K-12 is commonly used in North America to refer to the primary and secondary school sector.

countries and highlighted the most up-to-date information about “current initiatives, funding, student populations, content development and quality control, professional development, and current trends and obstacles” (Powell & Patrick, 2006, p. 3) in the area of primary and secondary e-learning. One of the findings of this international survey was that, when it comes to secondary e-learning, different countries have taken a variety of approaches ranging from a total lack of policy, or actions that actually hinder the development of e-learning, to specific national visions to promote e-learning.

In this article, we briefly define and operationalise the term *e-learning* as *online learning*. Then we examine the international context of primary and secondary online learning with a focus on Canada and the United States—two countries where there has been significant growth but an absence of policy. Next, we provide a lengthy discussion of a series of reports from New Zealand that set an ambitious goal for developing secondary online learning. The contrast between the North American examples and the policies pursued by New Zealand provide an interesting juxtaposition for models of how to develop primary and secondary online learning.

E-learning: Defined and operationalised

The term e-learning has been used in many contexts to refer to or mean different things. For example, in the Blomeyer (2002) quotation at the beginning of this article, Blomeyer used the term e-learning to refer to online learning. He was specifically referring to the virtual school movement in the United States, where a virtual school is defined as “a state approved and/or regionally accredited [organisation] that offers secondary credit courses through distance learning methods that include Internet-based delivery” (Clark, 2000, p. i). While the evolution of virtual schooling in the United States has expanded beyond the secondary environment to include students in all parts of the school sector (Watson, Murin, Vashaw, Gemin, & Rapp, 2010), the term e-learning is generally used as a synonym to online learning. In fact, in North America it is quite common for e-learning to describe online learning, computer-based training (CBT), web-based learning, distributed learning, and/or electronically enabled distance learning (Cramer, Krasinski, Crutchfield, Sackmary, & Scalia, 2000).

However, we understand that, outside of North America, the term e-learning tends to be broader than simply an online form of distance education. For example, within the New Zealand context Wright (2010) conducted a literature review focused on e-learning and its potential for New Zealand schools that included literature relating to Web 2.0 and other web-based tools, gaming, virtual worlds, and mobile devices—to name a few of the topics beyond online distance education. This expanded view of e-learning was consistent with the Ministry’s own understanding, “learning and teaching that is facilitated by or supported through the smart use of information and communication technologies [ICT]” (Ministry of Education, 2006a, p. 2). This broader view is also consistent with other recent examinations of the impact of many of e-learning initiatives within New Zealand (e.g., Ham & Wenmoth, 2010; Lai, 2005).

For the purposes of this article, we acknowledge that the e-learning policy and direction outlined by the New Zealand Ministry of Education is intended to include all forms of ICT-supported teaching and learning. However, we will examine these policies through the lens of their potential to support the development of primary and secondary online learning, and contrast that with the policy—or lack thereof—to support or hinder the development of online learning in other jurisdictions.

A selected international overview of primary and secondary online learning

In 2006 the North American Council for Online Learning (NACOL)² sought to survey the activity and policy relating to primary and secondary online learning in countries around the world. The organisation contacted Ministries of Education and other key stakeholders in over 100 countries to learn more about how others were implementing these new technologies in learning. The survey was completed by 15 different countries (Powell & Patrick, 2006).

The data indicated that countries were embracing online delivery of education as a central strategy for enabling reform, modernising schools, and increasing access to a world-class education. For example, China had digitised their entire primary and secondary curriculum and was working to train master teachers to teach online so that they could scale high-quality education through e-learning to 100 million students over the next 10 years. Singapore shut down their physical schools for 1 week each year to engage students in an e-learning week. Mexico had also digitised their entire primary and secondary curriculum and trained teachers in their universities to teach online. India was working on developing an internationally benchmarked, digital, primary, and secondary curriculum through the EduComp project, a private–public partnership. At the same time, the Indian government was to developing a \$10 laptop to aid in the new distribution model for education that was technologically driven. Finally, South Korea had introduced a national virtual school that offered online courses as a way to equal the playing field for students who were unable to afford private tutoring. All of these examples represented change models driven by blended and virtual learning as a key strategy for global education reform and modernisation.

Two countries with relatively long histories of primary and secondary online learning are Canada and the United States. Both countries also have a more substantial literature base that traces their development and current status, at least compared with most nations. Both countries are also two of the few jurisdictions where primary and secondary online learning has been organised into formal school units that operate alongside traditional schools (Barbour, 2009). The following sub-sections briefly describe the development of online learning in these two countries, and how the presence or absence of policy has affected that development.

Canada

While education in Canada is in provincial and territorial jurisdiction, the federal government does fund some initiatives, particularly those related to implementing technology. The federal government has provided funding for internet access to schools and the general public, creating a national high-speed network, and increasing technology use for all students (Ertl & Plante, 2004; Plante & Beattie, 2004). Additionally, the Ministries of Education in each province and territory formed the Council of Ministers of Education Canada (CMEC) to collaborate on matters of common interest in education policy.

Each of the provinces and territories has made progress in implementing online learning, whether in the form of a province-wide distance education programme or through district and private school initiatives. But although provincial and territorial cooperation exists through the CMEC, a national plan for online learning has not been developed (Powell & Patrick, 2006). Over the past 3 years, the *State of the Nation: K–12 Online Learning in Canada* report has indicated British Columbia (BC) was the only province “where the Government has created a specific regime to govern the operation of distance education” (Barbour & Stewart, 2008, p. 5). The other provinces

² Now known as iNACOL.

and territories regulate distance learning programmes in much the same way as they do the regular brick and mortar schools (i.e., there is no separate policy or regulations for distance education programmes).

The first online or virtual schools were in BC around 1993 (Dallas, 1999), followed by Ontario and Manitoba in 1995–1996 through a variety of district and school-based programmes (Barker & Wendel, 2001; Barker, Wendall, & Richmond, 1999; Haughey & Fenwick, 1996). At present, BC has enrolled the most students in online learning through a variety of initiatives (with over 71,000 or roughly 10% of the K–12 student population enrolled in one or more distance education courses), while every Canadian province and territory had some form of distance education for primary and secondary students (Barbour, 2010). Of the countries that participated in iNACOL’s international survey, Canada was the only country where online learning was developed across the entire country, and where education funding and regulations were provided at the provincial/state level rather than federal level.

Because of the inconsistency in policies for online learning it is difficult to determine the size and scope of implementation across the country. Barbour (2010) estimated it to be between 150,000–175,000 students, or 2.9–3.4% of all primary and secondary students enrolled in one or more distance education courses. BC was the only province to have created policy for the delivery of online learning (or, as they termed it, *distributed learning*) within the schools’ sector and this policy regime could be used as a model for the rest of Canada and other countries with similar structures. School districts in BC must sign a contract with the Ministry of Education to operate a distributed programme. After the agreement has been signed, the distributed schools operate under their own set of policies. These programmes are not limited to the traditional calendar year, and students from other districts within the province are allowed to enrol in other distributed learning programmes within the province as long as they are not taking a seat away from a student located within the home district. Another innovative aspect of the province’s policy is that the per-pupil funding follows the student, based on how they choose to complete their coursework. For example, “if a student is enrolled in six courses in their brick-and-mortar school and two courses in their district’s distributed learning programme, then the school would receive six-eighths of the FTE [full-time enrolment] and the distributed learning programme would receive two-eighths of that FTE” (Barbour & Stewart, 2008, p. 27).

BC is one of 13 examples (i.e., one per province and territory) that could have been used. However, it was the only jurisdiction that had established specific policy relating to the delivery of online learning to the schools sector—which may explain why the proportion of students engaged in online learning was three to four times higher than the national average (and represented between one third to one half of all primary and secondary students engaged nationwide). Simply put, BC was an example of a jurisdiction where policy supported the expansion of online learning opportunities for students, rather than trying to limit them.

United States of America

Since 1996, primary and secondary online learning has grown at an average rate of 30% annually across the United States (iNACOL, 2009) and, according to Picciano and Seaman (2009), the overall number of primary and secondary students engaged in online courses in 2007–2008 was estimated at 1,030,000 (or approximately 1% of all students). Like Canada’s e-learning initiatives, online learning in the United States is implemented at state level. According to the 2010 *Keeping Pace with K–12 Online Learning* annual report, 48 states have significant supplemental e-learning programmes, or significant full-time programmes (in which students take most or all of their courses online), or both (Watson et al., 2010). Online learning in the United States has been implemented through a variety of organisational structures to provide opportunities for a number of students with different needs.

According to providers of online learning opportunities in the United States, e-learning gives students access to a variety of online courses and services through online and blended learning, including Advanced Placement and International Baccalaureate courses; dual enrolment courses in partnership with higher education institutions; expanded options for core courses in mathematics, science, and foreign languages; and remediation and/or credit recovery for struggling students who may need multiple pathways to personalise instruction. Other opportunities give students the ability to enrol in online courses and schools because they need to secure employment, have special needs, or lack access to courses in their district (e.g., they are in rural communities). Other reasons for enrolling for online courses include teen pregnancy, the need to travel (military families, athletes, actors, etc.), or being homebound because of medical issues. However, according to the National Center for Educational Statistics' (NCES) report *Distance Education in Elementary and Secondary Public School Districts* the number one reason, as cited by 80% of K–12 school districts, for offering courses at a distance was “the course was otherwise unavailable” (NCES, 2005). Four states even require students to complete an online course as part of their high-school graduation requirements, based on a belief that this will prepare them for lifelong learning opportunities.

According to *A Synthesis of New Research in K–12 Online Learning*, the primary reason that school districts offer online courses is to expand options and provide equal opportunities for students (Smith, Clark, & Blomeyer, 2005). However, initiatives to train pre-service and in-service teachers to teach online, and to use and create digital resources in both their face-to-face and online courses, are lacking in the United States. A small number of universities provide certificate programmes, while an even more limited number have systematic initiatives to address this method of educational delivery. For example, the Georgia State Department of Education has taken the lead and created an online teaching endorsement for their teacher certificate (Deubel, 2008). Further, the Florida Virtual School has entered into partnerships with several universities to allow teacher-education programmes to offer online student teaching opportunities. However, the majority of e-learning programmes and schools in the United States are required to provide their own training for teachers, thus duplicating resources within states and making this one of the largest barriers in expanding e-learning opportunities (Barbour, Kinsella, Wicks, & Toker, 2010).

As evidenced by the lack of tertiary preparation for teachers to facilitate online learning opportunities, which is simply one example, the growth of primary and secondary online learning in the United States has occurred largely in the absence of formal government policy. In fact, the annual *Keeping Pace with K–12 Online Learning* report regularly documents government policies that are designed to hinder or limit the growth of primary and secondary online learning. However, even with the absence of policy to support its growth—or in some cases policies designed to do exactly the opposite—primary and secondary online learning is flourishing in many different contexts in the United States.

E-learning in New Zealand

The foundations for online distance education in New Zealand were laid well before the use of the internet was even considered. The development of The Correspondence School in 1922 provided a model for how primary and secondary schooling could be delivered at a distance (Te Aho o Te Kura Pounamu – The Correspondence School, 2011). More recently, the development of the Canterbury Area Schools' Association Technology (CASAtech) project in 1993 was a precursor to the e-learning clusters that currently operate under the umbrella of the Virtual Learning Network (VLN) (Wenmoth, 1996). The online distance education offered by the VLN clusters is delivered through the combination of a synchronous virtual conference lesson and

asynchronous content and activities housed in a learning management system (Lai & Pratt, 2010; Roberts, 2009). At present 18 geographic e-learning clusters provide some form of online distance education to students at half of the area and secondary schools in New Zealand as a part of the VLN (Roberts, 2010).

Over the past decade e-learning or the use of information and communication technologies in education has been a priority of the New Zealand Ministry of Education. One of the ways this has been evidenced was through the release of three key documents to implement their information and communications technologies (ICT) and e-learning strategies: *The Digital Strategy 2.0* (Ministry of Economic Development, 2006); *ICT Strategic Framework for Education* (Ministry of Education, 2006a); and *Enabling the 21st Century Learner: An e-Learning Action Plan for Schools 2006–2010* (Ministry of Education, 2006b). The national digital strategy was developed by several sectors of the New Zealand government to form “a strategy about how a digital future for all New Zealanders will be created, using the power of information and communications technology to enhance all aspects of our lives” (Ministry of Education, 2009, ¶ 1). Their goal for education in this strategy is to “improve learner achievement in an innovative education sector, fully connected and supported by the smart use of ICT” (Ministry of Education, 2006a, p. 2). Since then, the Ministry has developed an infrastructure for education with the goal of providing students, teachers, and administrators with access to digital content and opportunities to support high-quality learning opportunities for both teachers and students.

The following sub-sections examine these three key policy documents through the lens of how they have promoted or allowed for the development of the kind of online distance education offered by the VLN. Our discussion of these documents will focus on their goals and how that direction provides a framework for the development and growth of online distance education programmes and opportunities.³

Digital Strategy 2.0

New Zealanders sometimes think of their country as “small, remote, and sometimes irrelevant” (Ministry of Economic Development, 2006, p. 4), an interesting complex that has pushed the country to be creative and innovative—even leaders—in using digital technology. The government’s vision for the country’s future was that “New Zealanders should be leaders in the digital world and use digital technologies, skills and opportunities to contribute to a prosperous, sustainable and vibrant society” (p. 2). The government’s desire is to connect to the rest of the world, spread awareness of the potential for these new technologies, and bring everyone in the country on their journey—including students and teachers. “People are the bedrock of Digital Strategy 2.0. New technologies foster innovation, but it is people—entrepreneurs, researchers, creatives and people working to make a difference in communities—who are the real source of creativity” (p. 7). The government’s role in the strategy was to provide the infrastructure to enable creativity, innovation, and collaboration to move the country forward as an international leader in our new digital world by creating high-value content for themselves and to export in the areas of e-learning, e-health and online gaming to enhance productivity and global competitiveness.

The plan, which was designed to create a prosperous, sustainable, and vibrant society, was broken down into sections on becoming smarter through digital means to improve the economy, the environment, and their communities and culture. The government planned to invest \$500

³ For a thorough consideration of the effectiveness of these visions, and the programmes designed to implement them, we recommend Ham and Wenmoth (2010).

million and the private sector an additional \$2.5 billion over the next 5 years (i.e., 2007–2012) to ensure open, fibre, or equivalent high-bandwidth networks would be installed in all government, business, and educational institutions by 2012, and an additional “\$160 million [was to] be invested in broadband across the health and education sectors ... [so that] by 2012 all educational institutions will have access to a high-speed National Education Network, transforming the way our children learn” (p. 9). At present, the Government appears to be well underway in their investment into the next generation of connectivity (see Ministry of Economic Development, 2010).

Education was a priority in the original strategy. Investments in professional development and content creation were implemented, as well as investment in the initial infrastructure. “High quality information will be stored digitally and shared safely and securely across the sector, giving educators and learners better access to digital content, resources and services” in a safe and secure environment (Ministry of Economic Development, 2006, p. 16). Teachers were trained in the pedagogy of teaching online and the ability to create and use digital resources in their classrooms. Content was also created and digitised to use throughout the nation’s schools. This education network allowed schools and educators to share resources with each other, whether they were related to the content or to a specific student in a seamless system.

Through this new education network, the government made it their goal to prepare all students for the 21st century workforce. The Ministry set two targets for education in the Digital Strategy: 1) “by 2012, the fill rate for ICT related jobs increases to 75 per cent” (in 2007 it was 53%); and 2) “by 2012, there has been a 100 per cent increase in the number of graduates entering digital careers” (p. 36). The strategy not only provided students with access to digital resources throughout their education, but also aimed to ensure that students would gain digital literacy, internet safety and technical ICT skills. Similarly, it was a goal of the strategy to ensure that teachers would engender students to be creative and provide them with the skills to work together in groups. In order for students to become productive in the 21st century workforce, the government was working to implement professional standards and international benchmarks for ICT qualifications with local computer societies to allow teachers and students to better understand which skills they needed to master in order to be successful in this new workforce. Digital technology guidelines for years 11–13 were also being developed to ensure students leave school with the technology skills to enter into an ICT-related career (Ministry of Economic Development, 2006). With these newly acquired skills, the Department of Labour could help recruit these students into digital careers.

ICT Strategic Framework for Education

The *ICT Strategic Framework for Education* followed *Digital Strategy 2.0*. The framework was designed to “provide the mechanism to guide and co-ordinate ICT investment towards the government’s vision of improved education and outcomes” (Ministry of Education, 2006a, p. 3). The *ICT Strategic Framework for Education* aimed to create:

1. A more learner-centred education system transcending organisational boundaries.
2. More informed decision making within the education sector by learners, teachers, parents, communities, public, businesses, researchers, policy makers, and administrators.
3. Increased ease and opportunity of access and reduced compliance costs for all participants.
4. Increased confidence, capability and capacity from the use of ICT by all participants in the education sector.
5. Greater opportunities for the generation, application and sharing of new ideas and technologies.
6. More effective and efficient investment in ICT by education sector government agencies (p. 2).

The Ministry hoped to achieve these goals in a variety of ways. The first was to develop a more learner-centred environment that focuses on the outcomes and the learner, instead of solely on

the technology. The second was to create an easy-to-access-and-navigate system that allowed learners to communicate with each other on both a local and national scale. The third was to focus on coherence through open standards rather than standardisation and on a user-focused approach to implementing the technology. The final way was to establish and maintain an environment that supported and nurtured a collaborative and innovative culture where students were encouraged to be creative and share their ideas with each other.

The Ministry had developed a detailed strategy, focused on the learning, for how they would approach these goals. The Ministry wanted to move away from the industrial age or collective approach. This new approach considered numerous elements to ensure each student was successful, as shown in Figure 1 below.

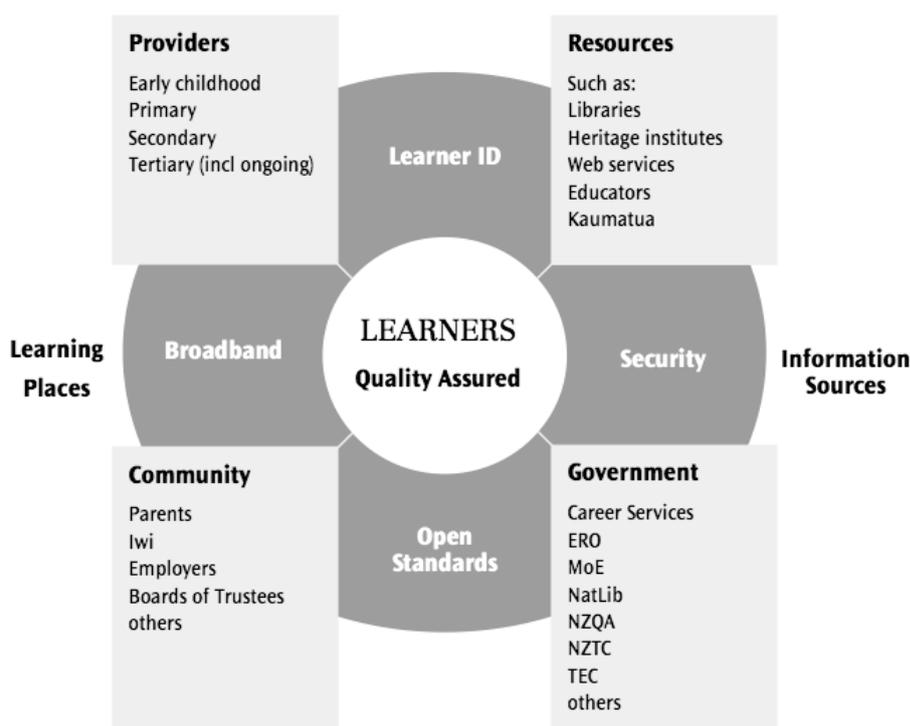


Figure 1 Learner-centred approach (Ministry of Education, 2006a, p. 7)⁴



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Collaboration between all of these groups and sectors would help reach the government's goals as well as provide a more personalised educational experience for each student. This model had also created a path to implement e-learning in New Zealand's schools.

e-Learning Action Plan

The *Digital Strategy 2.0* and *Framework for ICT in Education* documents provided an overall framework and goals for the nation, whereas the e-learning action plan outlined a more detailed plan for implementing the technology. In *Enabling the 21st Century Learner: An e-Learning Action Plan for Schools 2006–2010*, the government developed “the foundation for effective e-learning practices to be integrated into New Zealand educational practices” (Powell & Patrick,

⁴ The *ICT Strategic Framework for Education* was developed by the Education Sector Standing Committee.

2006, p. 15). The goal was simply to make e-learning seamless within the traditional school and the traditional classroom.

The action plan built on the strategic framework's focus of learner-centered education for students through e-learning. "E-learning has the potential to transform the way we learn. It's about exploiting technologies and using ICT effectively across the curriculum to connect schools and communities and to support evidence-based decision making and practices in schools" (Ministry of Education, 2006b, p. 3). The report described the goals specifically for e-learning, along with projects, tools, and resources that would be developed to support e-learning from 2006–2010. The priorities included:

- all students experience effective teaching;
- children's learning is nurtured by families and whanau;
- evidence-based practices are used by all involved in schooling (p. 4).

Through e-learning, these priorities would help "provide accessible, relevant, and high-quality learning opportunities so that every student is better able to achieve their full potential" (p. 4). The schools' e-learning action plan chart (see p. 5 of *Enabling the 21st Century Learner*) provided a roadmap for how the country planned to implement e-learning in the schools.

Prior action plans helped lay the foundation for the implementation of e-learning and online learning throughout the country. The previous plans provided for teacher professional development, collecting and/or creating digital resources for teachers to use in their classrooms, procuring and deploying the technological infrastructure, and integrating technology into the culture of schools (Ministry of Education, 2006b). From 1998 to 2006 these foundations were laid, allowing for a more learner-centered education for each child. The technology infrastructure had been built, and during this time-frame schools found "a particular strength [had] been a focus on increasing the capability and confidence of teachers to use ICT to support student learning" (p. 6). ICT was now a part of the school culture and was seen as an integral part of a teacher's professional practice. However, these new practices were not fully embedded in all teachers' lessons and practice.

The goal of the new e-learning plan was to make that systemic transition. The government was researching and evaluating the best and most effective ICT teaching practices to adopt throughout the school system. These investigations focused their change and innovation in schools on "a bottom-up model with support and guidance from the centre" (p. 7). It was hoped that this model would encourage teachers to reflect and collaborate within their community of peers.

Through this new e-learning action plan, the Ministry planned to keep teachers updated on the most effective e-learning teaching practices using the ICT tools themselves to model best practices. Using this new communication model, the Ministry would provide technology for students, teachers, and the community to develop communities of practice and e-learning environments for collaboration to improve teaching practices and student learning using a variety of resources. Throughout these new systems, teachers would have the opportunity to work with students, administrators, and other teachers to learn new technologies and to support one another in order to advance e-learning opportunities.

To achieve effectiveness, the Ministry provided teachers with professional development to create new blended and e-learning environments, and on how to use the customised ICT tools to create these environments effectively and efficiently. With the new tools and professional development from the Ministry, teachers were able to build partnerships around the country and to streamline communication and learning in order to provide a customised learning experience for each student (Ministry of Education, 2006b).

School administrators and school boards of trustees were also assigned specific actions and outcomes in the e-learning plan in order to support teachers and students in e-teaching and learning. Their role was to provide leadership and insight to expand options for students and teachers through ICT. School administrators and community leaders were seen as key in the implementation of e-learning environments in their schools. Through their leadership the provision of training, tools, and support for their teachers, all essential to the success and effectiveness of the programmes, would be ensured. Additionally, while “schools use their existing and operational funding to provide online learning for students, however there [was] specific funding provided by the government available for e-learning” (Powell & Patrick, 2006, p. 15). School leaders could access these additional funds to pilot new projects and initiatives if they had the vision to expand opportunities for students through e-learning.

Research and development of effective practices and technologies was the final item discussed in New Zealand’s e-learning action plan. “As new technologies and media expand rapidly in students’ lives outside the classroom and schools adopt new technologies and services, educators also need to stay abreast of the evidence on how to maximise these opportunities for learning in the classroom” (Ministry of Education, 2006b, p. 17). However, as Barbour (2009) argued, e-learning innovation and practice are outpacing the availability of useful research. The government recognised this reality and encouraged their teachers and administrators to be innovative, but to also be reflective about the effectiveness of those innovations and to share their findings with others in their professional communities. The Ministry’s investment in the professional development of their teachers also needed to be evaluated to understand how it could be improved. “This [required] the ongoing development and implementation of appropriate monitoring, assessment, and evaluation methodologies and tools that will enable educators to modify and improve their current practice and to design new directions for e-learning” (Ministry of Education, 2006b, p. 18). This evaluation process was to be accomplished through evaluating current e-learning initiatives throughout the country and, on an international level, to inform ongoing e-learning policies and initiatives.

Online learning and these key policy documents

As we indicated earlier, our intent was not to evaluate the effectiveness of these policies against their ability to foster primary and secondary online learning programmes in New Zealand. Our intent was to describe how these three policy documents provided a framework that created an environment that encouraged the development of these kinds of initiatives.

We believe it should be transparent to the reader that a friendly e-learning environment has fostered the VLN online learning initiatives. It was an environment in which teachers felt comfortable with the introduction and use of technology into the classroom, and teachers felt comfortable with the potential of technology to expand students’ curricular capabilities. It was also an environment in which administrators felt comfortable with creating open school concepts (Stevens, 1992; 1999; 2000; 2001; 2003; Stevens & Moffatt, 2003), and that allowed for the provision of online distance education to expand students’ curricular opportunities.

The changing attitudes and aptitudes of teachers, and the changing beliefs held by administrators (both of which have been fostered by the political climate) created by these key policy documents have allowed the developments seen in the VLN throughout New Zealand. While our intent is not to assess the actual effect of this environment, it is worth noting that over the past decade the VLN e-learning clusters have grown from two in 2001 (i.e., the Canterbury Technology Schools Project [or CANTAtech] and OtagoNet [Pullar & Brennan, 2008]) to 18 clusters today.

Conclusions and implications

Online learning at the secondary level, and even at the primary level, is occurring around the world. In some jurisdictions, online learning is used as a way to provide educational opportunities to students who would not normally have access to a formal education experience. In other instances online learning is used to level the playing field between those who have the economic means to provide a high-quality education and those who don't. Finally, there are also cases where online learning is used as for emergency preparedness. Two of the first jurisdictions to begin using the internet as a means to deliver distance education to secondary students were Canada and the United States, where secondary online learning has largely developed as separate school entities that operate in conjunction—and sometimes in competition—with traditional schools.

In North America, the first secondary online learning schools or virtual schools developed in Canada. While the federal government has been actively involved in providing technology infrastructure and connectivity to schools across the country, education falls under provincial jurisdiction. As such, online learning has developed in a unique manner in each province and territory. In some jurisdictions, the provincial or territorial government has sought to create a regulatory regime that would foster the growth of secondary online learning. However, some jurisdictions have simply failed to recognise online learning separately in their educational policy. Similar situations exist in the United States, where education is controlled at the local level. Some states have created regulatory regimes that cultivate the development of both supplemental and full-time online learning opportunities—at both the primary and secondary levels, going so far as to require students to have e-learning experiences in order to graduate from secondary school, and allowing teachers to gain teacher certification specialisations in teaching in online learning environments. Yet, as in Canada, the development of primary and secondary online learning has been uneven—with some states having much more favourable policy and, as a result, much greater development.

Unlike the Canadian and American examples, where primary and secondary online learning has developed in an uneven manner—and often in the absence of government policy and formal support—in New Zealand the Ministry laid the foundation and created a framework for implementing e-learning solutions, such as online learning. Most recently, this foundation began with the *Digital Strategy 2.0*, which was designed to provide the infrastructure to allow New Zealand to become leaders in a digital world in all aspects of society—from business to health care, and from leisure to education. This was followed by the *ICT Strategic Framework for Education*, which had a specific focus on the education system and a goal to integrate the use of technology into the education system and to use that technology as a way to transfer to the teaching and learning experience. Finally, *Enabling 21st Century Learner: An E-learning Action Plan for Schools 2006–2010* was designed to extend technology integration in the classroom to using technology to deliver education, both to students who were physically present in the school (i.e., in a blended fashion) and also students who were not in the school (i.e., in an online fashion).

Assessing the effectiveness of each of these visions and the level of fidelity each achieved is beyond the scope of this article (see Ham & Wenmoth, 2010). The purpose of this article was to trace how the various government initiatives over the past decade have encouraged the development of primary and secondary online learning. It is our conclusion that New Zealand has made great progress in implementing online learning at the secondary and, more recently, primary levels—and this progress has been facilitated by the government's policies related to e-learning. With 18 secondary e-learning clusters in operation—some for a decade or more—and the recent introduction of the VLN's primary initiative, the development of online learning in New Zealand followed in the wake of these visionary policy documents. Yet there is still little

empirical research beyond the Ministry's own reports and e-learning plans. There is therefore a need for further exploration of the success of these government initiatives in fostering the development of primary and secondary online learning, including identification of specific examples of the effective design, delivery, and support provided to successful online learning programmes. These exemplars would provide a model that could be used by schools with less maturity in online learning initiatives (possibility as lessons for other kinds of e-learning initiatives), and serve as an example of how to implement primary and secondary online learning in other countries.

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