Narrowing the Digital Divide in New Zealand

Te Whakamana te tamaiti

To uplift/raise the child

New Zealand has long been known for its history of innovation. Isolation from the rest of the world means at times we have to think differently. The very nature of our geography and distance between cities, towns and schools makes for a unique set of issues concerning the implementation and integration of effective Information and Communication Technologies into schools. Our current government has implemented, and is continuing to work on, a number of strategies to ensure New Zealand children are equipped to deal with the information age and a rapidly changing future. This paper will examine some of these strategies, with particular reference to how these are narrowing the digital divide in our country.

Since the reforms of “Tomorrows Schools” in 1989, New Zealand schools have been self-managing, run by a board of trustees made up largely of parents whose children attend the school. As such the government does not directly tell schools what to do, however provides the legislative requirements that schools must work under. It is then up to each school to implement these in a way that will bring about the best learning outcomes for children in their care.

The current government has a vision for New Zealand to continue to move forward to develop as an innovative and thriving knowledge society. Mallard (2002) claims to be able to move forward, education and ICT have a fundamental role in developing such an innovative and thriving knowledge society. The current ICT strategy “Digital Horizons – Learning through ICT” provides an overall framework for the development and implementation of this, providing a blueprint for action and a pathway forward.

ICT in New Zealand is firmly based in sound pedagogical practice, where the focus is not on learning a set of skills, but using the technology available to enhance learning in the classroom. Teachers are encouraged to find ways to link ICT to what they are already doing in their classroom and use ICT as a tool to access information and subsequently share their findings. As a result of this, there is the belief, teachers and learners will be confident and capable of using any combination of modes of discourse and types of resources to meet their curriculum goals and individual learning needs (Ministry of Education, 2002).

How is the government supporting to support learning through ICT in New Zealand?

Current government vision states, “…all learners will use ICT confidently and creatively to help develop the skills and knowledge they need to achieve personal goals and to be full participants in the global community” (Ministry of Education, 2002). The current strategy focuses on seven key action areas:

- Learners
- Teachers
- Leaders
- Maori
- Families, communities, businesses, and other stakeholders
- Curriculum and learning resources
- Infrastructure

In order to achieve this the strategy outlines the need for firstly, the fostering of a deeper understanding of the role of ICT in developing the essential skills of the curriculum, especially
higher order thinking. Secondly, extending the capability of teachers and school leaders through cluster based and online professional development activities. Thirdly, building partnerships between schools, government, communities and business. Finally, developing and delivering quality online learning resources, and enhancing the effectiveness and sustainability of infrastructure (Ministry of Education, 2002).

The Ministry of Education, and advisers alike, see the integration of teaching and learning as crucial to moving forward and achieving further gains. To date to achieve its aims the Ministry of Education have implemented a number of strategies aimed at empowering New Zealand teachers and leaders to successfully use and integrate the equipment in their schools.

Prior to the release of Digital Horizons – Learning through ICT, a strategy for schools, 2002-2004, the New Zealand government, with partnerships between business and community, had built some firm foundations for the development and implementation of ICT into New Zealand schools. These include…

- Principals attending ICT planning workshops
- Access to funding for networking
- The introduction and continuation of ICT professional development clusters
- The establishment of a bilingual education website – Te Kete Ipurangi
- The recycled computer scheme
- Kaupapa Ara Whakawhitia Matauranga (KAWM) linked classes in wharekura, Maori boarding and East Coast schools via video conferencing
- The allocation of recycled computers to identified schools
- Introduction of an Internet Safety Kit
- The launch of Digital Opportunity programmes – FarNet, GenXP, Notebook Valley and Study Support Centres
- The establishment of an annual ICT conference
- NetDay
- Computers in Homes
- OtagoNet
- School Web Challenge

Current aims of the government include…

- High speed internet access to schools and most provincial communities by the end of 2004
- Laptops for secondary teachers – reimbursing up to 2/3 of leasing costs
- 5-year project to develop digital learning objects – a partnership with Australia
- A further 20 ICT clusters
- Provide principals with laptops, an online network and website – Leadspace
- Provide schools with a Microsoft software package
- Provide an ICT Helpdesk for schools (Ministry of Education, 2002)

In order to equip educators in New Zealand with access to all the latest information, the Ministry of Education commissioned the development of Te Kete Ipurangi (TKI). TKI was first launched in 1999, as a major initiative of the "Interactive Education: An Information and Communication Technologies (ICT) Strategy for Schools" document. TKI, as a bilingual education portal for the New Zealand education community, is intended to:

- Provide easy access to useful and relevant information on the Internet for New Zealand school communities and whanau;
• Help New Zealand educators to find reliable and relevant information on the Web quickly and easily by delivering a clear path to quality online information, services, and resources to meet a diverse range of school needs;
• Provide access to quality information and resources provided by the New Zealand Ministry of Education;
• Provide a gateway to useful and relevant education-related content available in the wider world of the Web;
• Establish a community of learners, who are sharing information, with the development of the site being shaped by user feedback (Ministry of Education, 2002).

One of the associated problems with such an initiative as this, and others that are web based is the issue of bandwidth. In New Zealand schools, for either financial reasons or geographical location, are not all able to currently access the high-speed bandwidth to make effective use of resources such as TKI, video conferencing, online forums etc. To address this, the Ministry of Education, is currently working with communication companies to provide high-speed bandwidth to all schools in New Zealand by the end of 2004.

The government has earmarked tens of millions of dollars for the broadband initiative, which is being funded from both the education and economic development units (Education Gazette, 2002, 81:11).

The rollout will enable remote schools to have the same ICT options available to them that city schools have, whilst considerably reducing the isolation factor currently experienced by rural schools. Staff will be able to access up to date professional development and students access to information that previously wasn’t available to them. With access to broadband interactive web based resources, video and audio files and video conferencing for teaching and learning will suddenly become a useful and valuable part of what New Zealand schools do (Education Gazette, 2002, 81:11). Wenmouth (cited in Education Gazette, 2002, 81:11) comments that broadband will also enable schools to deliver education in a more collaborative way – moving from teacher/student relationships towards the development of learning communities.

**Software**

For the first time in New Zealand, businesses are cooperating with the New Zealand education sector to ensure our children do not miss out. In an unusual departure from decentralised financial responsibility and management, the New Zealand government made the licensing agreement with Microsoft to ensure that all schools could have free access to the latest software and teaching tools (Jones, 2002).

The deal ensures that all state and integrated schools in New Zealand are able to use Windows XP Upgrades, OfficePro XP, Frontpage, Publisher, development tools, Encarta and server access licenses. The deal, which has meant considerable savings for schools, must be negotiated after two years (Jones, 2002).

**Professional Development**

A crucial factor in ensuring that all the equipment, software and broadband are used effectively is the provision by schools of effective professional development programmes for teachers. Jenny Mc Nicol, principal of Tauranga Primary (cited in Gray, 2002), believes in order to implement ICT successfully into the school, and in particular the curriculum, schools must get the balance right between teachers’ professional development and the introduction of new hardware and peripherals.
In recognition of the need to train teachers in the effective use of ICT the government has established ICT professional development clusters. These are selected through a contestable process and represent a wide range of geographical location and decile rankings. One lead school is contracted for three years and receives $115,000 per year. The lead school is responsible for providing the facilitation of professional development for ICT in those schools it has clustered with. The emphasis in most clusters again is how can ICT be used most effectively to support learning within the classroom.

A further avenue of support for those not yet involved in ICT clusters is access to ICT advisers through School Support Services. School Support Services is contracted by the Ministry of Education to provide support and guidance to schools. ICT advisers are able to provide ongoing support to schools by supporting individual teachers, organising whole school professional development or running courses that focus on differing aspects of ICT.

Leadership
A growing focus for the development of ICT in schools is the role of leadership. De’Ath (Education Gazette, 2002, 81:5), project director of two ICT/PD projects, believes that professional development for principals is a key factor in the success of the ICT/PD Lead schools project. In order to further empower school leaders the government has implemented a plan, which will see every state and integrated principal in New Zealand with access to a laptop. The laptops will then enable principals to access Leadspace, a new web portal for principals.

What are New Zealand Schools Doing?
Whilst some teachers are still struggling with the successful integration of ICT into their classrooms, more teachers appear to, from my observations, seem to be using or desiring to use more ICT in their classrooms.

Schools are continuing to look at how they can best prepare the children in their care for a rapidly changing future. Many schools are finding that the effective use of ICT is challenging the pedagogy of teachers. From observations and my work as an adviser with schools, those that are focussing on inquiry approaches to learning appear to be making the most effective use of ICT as a means to gather and present information.

In addition to this, as mentioned earlier, there are a growing number of opportunities for schools to take part in. Projects such as the Digital Opportunity programmes – FarNet, GenXP, Notebook Valley and Study Support Centres, Kaupapa Ara Whakawhiti Matauranga (KAWM) where classes in wharekura, Maori boarding and East Coast schools are linked via video conferencing, NetDay, Computers in Homes, OtagoNet are ensuring that there are opportunities available to those schools that focus on narrowing the digital divide and make the attempt to ensure equitable access for all.

References


Ministry of Education (2002). *First Stop TKI (CD)*. The Learning Centre Trust, Wellington, NZ.