

## ICT Strategic Framework 2008 - 2012

### Foreword

As we move further into the 21<sup>st</sup> Century, we face an environment that is marked by increasingly rapid change. For New Zealand to take a leading place in the world of the 21<sup>st</sup> Century, the education system must equip all New Zealanders with the knowledge, skills and values to succeed in this challenging environment. To this end, the education sector includes in its priorities strong learning foundations; increasing participation, engagement and achievement; and successful education organisations.

There are many people and organisations involved in delivering education. Across these the ICT Strategic Framework for Education 2008-2012 covers all dimensions of education – learning and teaching, research, and administration and support – and establishes goals and target outcomes that will see education delivery enhanced through effective use of ICT.

The Government established the Education Sector Information and Communications Technology (ICT) Standing Committee in 2003 to oversee the collaborative development and use of ICT across the education sector. Although, as members, we represent the nine central education agencies, our brief is to take a whole of sector approach. Reflecting this, the Framework has been drawn up in close consultation with the sector.

ICT is a very effective resource, but can be expensive. Working together, both between and within organisations, is the key to maximising its effectiveness. The ICT Strategic Framework provides us with the shared targets to achieve this.

Karen Sewell  
Secretary for Education  
Chair, Education Sector ICT  
Standing Committee

Lester Oakes  
Chief Executive  
Career Services

Graham Stoop  
Chief Review Officer  
Education Review Office

Helen Anderson  
Chief Executive  
Ministry of Science Research  
and Technology

Penny Carnaby  
National Librarian  
National Library of NZ

Karen Poutasi  
Chief Executive  
NZ Qualifications Authority

Peter Lind  
Director  
NZ Teachers Council

Roy Sharp  
Chief Executive  
Tertiary Education Commission

Mike Hollings  
Chief Executive  
The Correspondence School

# ICT Strategic Framework for Education

## 2008 - 2012

### A Framework to Inform and Guide the Education Sector on ICT Investment

Advances in information and communication technology (ICT) are making huge changes to the way people live and work. These changes are occurring in the delivery of education in all its dimensions: learning and teaching; research; and administration and support.

ICT cannot substitute for the experience, skills and knowledge of the people in education. But it does open the prospect of new ways of learning, new techniques and resources for teaching, better access to high quality research and information resources, and improved administrative and support systems.

Technologies enable: easy access to curricula; collaborative communication; access to ICT infrastructure and knowledge building tools; flexible and distance learning opportunities; seamless transition of students and information within and between education organisations; development and use of digital knowledge repositories; and personalised and enhanced on-line learning materials.

Effective and integrated use of ICT across all parts of the education sector is critical to accomplish this. Really effective use of ICT means looking beyond our own particular place in the education sector. Education organisations – which include early childhood services, schools, tertiary education and research organisations, libraries, and government agencies – can maximise the value that ICT adds by working together to improve access to ICT for all, share experience, ideas and resources, provide high quality digital content, and increase information literacy skills. This requires some consistency of approach across the sector in investing in ICT and developing ICT systems.

The ICT Strategic Framework for Education has been devised to achieve such consistency of investment and development. It provides a context to inform and guide the education sector on ICT investment to support improved education outcomes.

The ICT Strategic Framework for Education is aligned with, and supports, the New Zealand Digital Strategy, Digital Content Strategy, Enabling Transformation - Strategy for e-Government 2006, the Development Goals for the State Services, the New Zealand Research Agenda and the international e-Framework for Education and Research.

## **Vision**

**Learning and research supported and enhanced by the smart use of ICT**

## **Goals**

The following goals shared across the education sector will assist in achievement of the vision:

- Equal opportunity and ease of access to ICT
- Users who are capable and confident in using ICT
- Investment in ICT that is well-informed, effective and efficient
- Creation, application and sharing of new ideas and technologies
- Minimising compliance costs wherever possible

## **Some Examples of Innovation in ICT**

*[Vignettes (attached as Annex 1) will be placed here and throughout the published document.]*

As the education sector work collaboratively towards this Framework's Vision and Goals, it is important that it takes account of the components of the New Zealand Digital Strategy<sup>i</sup> (Connection; Confidence; Content; and Capability) as well as the internationally endorsed dimensions<sup>ii</sup> of education (Learning and Teaching; Research; Administration and Support). The Framework brings these together as categories under which target outcomes can be articulated.

		Learning and Teaching	Research	Administration and Support
<b>Connection</b>	<i>What</i>	Improved access		
	<i>How</i>	Connected networks		
	<i>What</i>	Shared resources		
	<i>How</i>	Standards for access and interoperability Shared services		
<b>Capability</b>	<i>What</i>	21 <sup>st</sup> century literacy		
	<i>How</i>	Policy and programme advice and guidance Coordinated change management Monitoring and compliance		
	<i>What</i>	Digital technologies, skills and competencies		
	<i>How</i>	Digital technologies guidelines		
	<i>What</i>	Effective, efficient systems		
	<i>How</i>	Learning, teaching, research and administration systems		
	<i>What</i>	Working together and sharing resources		
	<i>How</i>	Online learning communities Sharing resources and effective practices		
	<i>What</i>	Education organisations delivering value-for-money		
<b>Confidence</b>	<i>How</i>	Shared planning and monitoring		
	<i>What</i>	A safe digital environment		
<b>Content</b>	<i>How</i>	Appropriate security Cyber safety education		
	<i>What</i>	Discoverable content in digital repositories		
	<i>How</i>	Open standards-based digital repositories Discovery tools		
	<i>What</i>	Data, information and knowledge management		
	<i>How</i>	Data, information and knowledge management practices		
	<i>What</i>	Support for lifelong learning		
	<i>How</i>	Lifelong learner information		

## Targets

The tables below set out a series of target outcomes for the education sector. Most of the outcomes relate to all three dimensions of education. Where a target relates to only one or two dimensions, it is annotated accordingly: **LT** for Learning and Teaching; **R** for Research; **AS** for Administration and Support.

Connection		
Outcomes		By 2012
<i>What</i>	Improved access	Every education organisation uses a reliable and affordable high speed network connection
<i>How</i>	Connected networks	<ul style="list-style-type: none"> <li>All early childhood education, schools, tertiary, research, library and agency networks interconnect efficiently via open standards-based protocols</li> <li>Education organisations are making use of local, regional, national and international networks</li> <li>Every education organisation is able to use a network to interact with others</li> </ul>
<i>What</i>	Shared resources	Every education organisation shares ideas and resources through integrated and interoperable ICT systems
<i>How</i>	Standards for access and interoperability	<ul style="list-style-type: none"> <li>Interoperability standards for collaborative tools and environments are clearly defined and readily available</li> <li>Meeting education sector ICT standards for access and interoperability is one of the measures of the quality of an education organisation</li> </ul>
	Shared services	<ul style="list-style-type: none"> <li>Core shared services support collaboration between education organisations and are easily accessed and used across the education sector</li> <li>The education sector takes advantage of existing shared services in the wider government and public sector</li> </ul>

Capability		
Outcomes		By 2012
<i>What</i>	21 <sup>st</sup> century literacy	Learners, teaching staff, researchers and administrative staff are proficient in a range of complex literate environments so that they can contribute effectively to a society characterised by diversity and technological change
<i>How</i>	Policy and programme advice and guidance	<ul style="list-style-type: none"> <li>Across the education sector, there is a shared understanding of 21<sup>st</sup> century literacy and its contribution to the key competencies (LT)</li> <li>Programme and curriculum support documents in schooling and tertiary contain clear and consistent references to these literacies (LT)</li> <li>Advice and guidance is provided to inform policy and programme developments in schools and tertiary education organisations, including programmes for teacher education and professional development (LT)</li> </ul>
<i>How</i>	Coordinated change management (including communications, training and support)	<ul style="list-style-type: none"> <li>Education sector capability is strengthened through coordinated change management</li> <li>All education sector participants are trained to use new ICT tools, systems and services</li> <li>Ongoing technical support is provided for all ICT tools, systems and services</li> </ul>
<i>How</i>	Monitoring and compliance	<ul style="list-style-type: none"> <li>Capability standards for educational processes using ICT are being met by educational staff (LT)</li> <li>21<sup>st</sup> century literacy skills and competencies are incorporated in standards for the quality assurance of teaching and teacher professional development programmes, including those for tertiary teaching (LT)</li> <li>Student evaluations show an increased capability in 21<sup>st</sup> century literacy (LT)</li> </ul>
<i>What</i>	Digital technologies , skills and competencies	<ul style="list-style-type: none"> <li>Learners have the opportunity to develop specialist digital technologies, skills, knowledge, competencies and credentials that are appropriate for tertiary institutions and the workforce</li> </ul>
<i>How</i>	Digital Technologies Guidelines	<ul style="list-style-type: none"> <li>Teachers are provided with a planning environment to deliver specialist and in-depth skills to years 11 to 13 (LT)</li> <li>Professional learning is provided to support schools to revise their existing programmes for years 11 to 13 (LT)</li> </ul>
<i>What</i>	Effective, efficient systems	Systems used by learners, teachers, researchers, administrators and support staff are effective and efficient
<i>How</i>	Learning, teaching, research and administration systems	<ul style="list-style-type: none"> <li>Learning, teaching, research and administration systems: <ul style="list-style-type: none"> <li>- meet minimum usability standards</li> <li>- are developed in line with national and international best practice</li> </ul> </li> </ul>



Capability		
Outcomes		By 2012
<i>What</i>	<b>Working together &amp; sharing resources</b>	<b>Learners, teachers, lecturers, researchers and administrators use a range of collaborative tools to work together effectively</b>
<i>How</i>	<b>Online learning communities</b>	<ul style="list-style-type: none"> <li>Online communities of practice are an integral part of professional learning</li> <li>Collaborative virtual workspaces for subject, institutional and regional groupings are widespread</li> </ul>
<i>How</i>	<b>Sharing resources and effective practices</b>	<ul style="list-style-type: none"> <li>There are protocols and policies for national and international collaboration and the sharing of information</li> <li>Resources and effective practices are shared within and between education organisations</li> </ul>
<i>What</i>	<b>Education organisations delivering value-for-money</b>	<b>ICT investment is managed effectively throughout the sector</b>
<i>How</i>	<b>Shared planning &amp; monitoring</b>	<ul style="list-style-type: none"> <li>Education organisations have agreed processes for planning, managing and monitoring ICT investment</li> <li>There is a co-ordinated process for decision-making on ICT expenditure by education agencies</li> </ul>

Confidence		
Outcomes		By 2012
<i>What</i>	<b>A safe digital environment</b>	<b>Learners, teachers, lecturers, researchers and administrators are confident that information they provide and access through ICT in the sector is safe and secure</b>
<i>How</i>	<b>Appropriate security</b>	<ul style="list-style-type: none"> <li>Security and privacy policies and mechanisms are in place for education sector services and resources</li> </ul>
	<b>Cyber safety education</b>	<ul style="list-style-type: none"> <li>Ongoing programmes educate learners, teaching staff, researchers and administrative staff about safe and responsible use of ICT</li> </ul>

Content		
Outcomes		By 2012
<i>What</i>	<b>Discoverable content in digital repositories</b>	<b>Individuals and communities of interest easily find, access, use and share relevant content hosted in national and international repositories</b>
<i>How</i>	<b>Open standards-based digital repositories</b>	<ul style="list-style-type: none"> <li>Resources and data are held in specialised standards-based repositories for digital learning, teaching, research, administration and reporting</li> <li>Attributed, open access and open use licensing of resources is widespread</li> </ul>
<i>How</i>	<b>Discovery tools</b>	<ul style="list-style-type: none"> <li>Tools exist that enable individuals and communities of interest to easily find, access, use and share content held in digital repositories, irrespective of location</li> </ul>
<i>What</i>	<b>Data, information and knowledge management</b>	<b>All education participants effectively use and share data, information and knowledge held across the sector</b>
<i>How</i>	<b>Data, information and knowledge management practices</b>	<ul style="list-style-type: none"> <li>Effective practices are used for managing data, information and knowledge within and between education organisations</li> </ul>
<i>What</i>	<b>Support for lifelong learning</b>	<b>All learners can acquire and update their abilities, interests, knowledge and qualifications from pre-school to post-retirement</b>
<i>How</i>	<b>Lifelong learner information</b>	<ul style="list-style-type: none"> <li>Individuals are able to create and manage a personal repository of material about 'me', 'my learning', 'my research' and 'my career'.</li> <li>Electronic record keeping procedures support seamless participation in learning (LT, AS)</li> <li>Learners navigate and manage their way through education and tertiary trade training information to have a more comprehensive understanding of their decisions and connections with the labour market (LT, AS)</li> </ul>

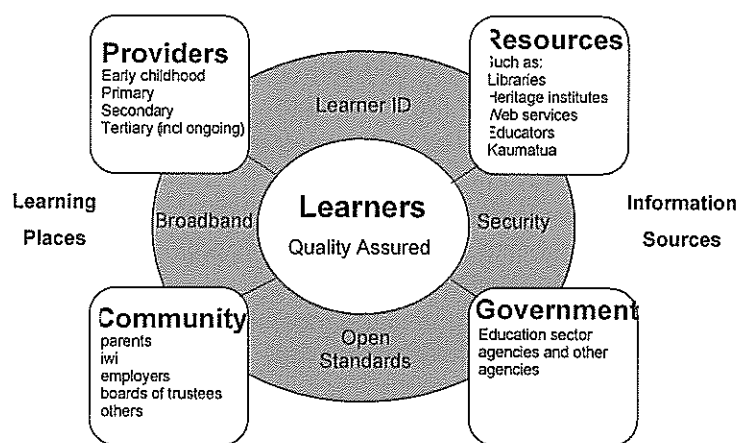


## Approaches

In order to achieve the vision and goals of the ICT Strategic Framework for Education, the following approaches in the education sector have been identified as essential to investment in ICT that is fully effective.

### 1 Learner-centred

A 'learner-centred' approach means striving to meet learners' differing needs rather than offering a 'one-size-fits-all' system. Individual learner needs must be considered when making decisions about the content, structure, teaching methods, learning activities, resources and support provisions associated with any learning activity.



### 2 User perspective

ICT initiatives provide from the users' perspective assurance of quality, usefulness, reliability, timeliness, sustainability and security of resulting information and services.

Information products and services are provided at the best value. Participants within the education sector will be able to supply data to and get information and knowledge from education agencies. Data will be collected once and shared for a multiplicity of agreed purposes.

### 3 Successful design, development and implementation

This means the design, development and implementation of ICT initiatives that make the best use of innovative approaches and technologies to continuously improve education outcomes.

There is ease of access to, and between, systems and information so that education sector participants can engage as and when required, and decision-making is better informed at all levels.

Platform-independent solutions that support the diversity of the education sector ICT are promoted. Agile, flexible and rapid innovation is encouraged within a framework of open standards rather than standardisation. A services-oriented approach allows systems and applications to be developed as modules which can be reused by other systems and applications.

Education organisations need to balance between local choice and national direction, and to recognise and accommodate the considerable legacy<sup>iii</sup> investment and levels of ICT capability and resources across the sector.

#### **4 Sector-wide collaboration**

Collaboration means sharing strategies, plans, ambitions, aspirations and information openly:

- between and within organisations; and
- between New Zealand and appropriate international partners.

Collaboration includes:

- the provision of common and shared services, including the centralised hosting of key infrastructure and support;
- interagency governance and management of education sector ICT initiatives;
- the development of a virtual education agency (i.e. all government education agencies working seamlessly together in the delivery of education outcomes); and
- the establishment and maintenance of a cooperative culture and communities that support and nurture innovation, creativity and the sharing of ideas, knowledge and practices.

#### **5 Best practice**

Regular engagement with, and monitoring of, national and international organisations and strategic groups will ensure alignment with endorsed 'best' practice.

Membership of selected groups and organisations will be important to ensure that New Zealand is both contributing to, as well as drawing from, this pool of knowledge.

Experience and practice is communicated within and between national and international organisations.

## Associated relevant strategies

Other strategies relevant to the ICT Strategic Framework for Education include:

Strategy	Relevance to ICT Strategic Framework for Education
The Digital Strategy – Creating Our Digital Future <a href="http://www.digitalstrategy.govt.nz">www.digitalstrategy.govt.nz</a>	The Framework is based on the components of the National Digital Strategy <sup>1</sup> : Connection, Confidence (which includes security), Content, and Capability (which includes skills). It aligns with the overall outcome that all New Zealanders can enjoy benefits of ICT, including access to knowledge resources, digital skills and confidence to find and use information, seamless delivery of government information, services and processes, etc.
e-Framework for Education and Research <a href="http://www.e-framework.org">www.e-framework.org</a>	The Framework has been developed across the e-Framework's dimensions of Learning and Teaching, Research and Administration and aligns with the e-Framework's approaches to ICT infrastructure in education and research.
Enabling Transformation – Strategy for e-Government 2006 <a href="http://www.e.govt.nz/about-egovt/strategy">www.e.govt.nz/about-egovt/strategy</a>	The Framework includes targets for the delivery of services to the education sector, the provision of and access to reliable and secure information, the adoption of standards, the development of ICT skills and competencies frameworks, all of which are congruent with the aims of the Strategy for e-Government.
The Development Goals for the State Services <a href="http://www.ssc.govt.nz">www.ssc.govt.nz</a>	The Framework supports all the Development Goals, but in particular those relating to networked and accessible state services.
Creating a Digital New Zealand – New Zealand's Digital Content Strategy <a href="http://www.digitalcontent.govt.nz">www.digitalcontent.govt.nz</a>	The Framework's Content targets fit with the goals for the creation, protection, accessibility, discoverability, sharing, use, comprehension, management and preservation of New Zealand's digital content.
The New Zealand Research Agenda: a government strategy for New Zealand research, science and technology <a href="http://www.morst.govt.nz">www.morst.govt.nz</a>	The Framework's goals and targets are consistent with the New Zealand Research Agenda. The Agenda identifies directions for research, science and technology in New Zealand with an outlook to 2020, and supports the development and use of digital tools to improve the sharing of knowledge.
Foundations for Discovery – Supporting Learning in Early Childhood Education through ICT <a href="http://www.minedu.govt.nz/goto/10417">www.minedu.govt.nz/goto/10417</a>	The Framework's goals and targets are consistent with <i>Foundations for Discovery's</i> goals of sharing knowledge, accessing resources, introducing effective practices and systems, and assisting ECE educators to become confident and capable ICT users.
Enabling the 21 <sup>st</sup> Century Learner – An e-Learning Action Plan for Schools 2006–2010 <a href="http://www.minedu.govt.nz/education/Sectors/Schools/Initiatives/ICTInSchools/ICTInitiativesAndProgrammes/EnablingThe21stCenturyLearner.aspx">http://www.minedu.govt.nz/education/Sectors/Schools/Initiatives/ICTInSchools/ICTInitiativesAndProgrammes/EnablingThe21stCenturyLearner.aspx</a>	The Framework is aligned with the broad goals for ICT-assisted effective teaching; ICT-facilitated communication with families and whanau; evidence-based e-teaching practice promulgated across the teaching community; sustainable and reliable ICT infrastructure in schools; supporting access to information and resources; improved management, planning and business processes and systems.
Taking the Next Step – The Interim Tertiary e-Learning Framework <a href="http://cms.steo.govt.nz/eLearning/Downloads/Tertiary+e-Learning+Framework/showall.htm">http://cms.steo.govt.nz/eLearning/Downloads/Tertiary+e-Learning+Framework/showall.htm</a>	The Framework broadly upholds the goals for the adoption of common technical standards; the institution of effective professional development around ICT; the development of national mechanisms/protocols for electronic rights management and sharing information and resources; and the encouragement and facilitation of online communities of interest.

[NB: URLs to be simplified before publication.]

## Glossary

Term	Definition
Cyber safety	The safe and responsible use of information and communications technology
Education organisations	Any organisation in the education sector including early childhood centres, schools, tertiary education and research organisations and libraries.
Information and Communication Technologies (ICT)	Includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning.
21 <sup>st</sup> century literacy	A shifting set of literary practices that all learners need to develop to be able to contribute effectively to a 21 <sup>st</sup> century society characterised by increasing diversity and technological change.
Lifelong learning	All learning activity undertaken throughout life, with the aim of improving knowledge, skills and competence, within a personal, civic, social and/or employment-related perspective.
Open standards	Standards which are endorsed by a standards registration body and which are used to ensure interoperability (connectivity) between applications. Open standards used in New Zealand must be aligned with the e-Government Interoperability Framework (e-GIF).
Specifications	Specifications from which standards can be registered. Education ICT specifications are developed by working groups such as IMS Global.

## Notes

<sup>i</sup> The ICT Strategic Framework for Education is based on the components of the National Digital Strategy: Connection, Confidence (which includes security), Content, and Capability (which includes skills). The goals of the 2008 Digital Strategy are:

Connection	The widespread availability of fast and affordable broadband meeting the needs of New Zealanders
Confidence	Internet and telecommunications security that is consistent with promoting New Zealanders' social and economic wellbeing and maintaining an effective network infrastructure
Content	New Zealanders are world-class at creating, discovering and using digital content to create value, improve their lives and communities, and enable sustainable development
Capability	Digitally capable and confident New Zealanders transforming our economy, strengthening national identity and enhancing sustainability

<sup>ii</sup> New Zealand is working with the Joint Information Systems Committee (JISC, higher education ICT, UK) the Australian Department of Education, Employment and Workplace Relations, and the SURF Foundation (higher education and research, the Netherlands) on an international e-Framework for Education & Research. The New Zealand ICT Strategic Framework for Education has been developed to align with the dimensions of Learning and Teaching, Research and Administration.

<sup>iii</sup> While new systems will need to work alongside legacy systems in the short to medium term, it is envisaged that legacy systems will (over time) be replaced or redeveloped in line with the ICT Strategic Framework for Education.



---

## ANNEX 1: 21<sup>ST</sup> CENTURY EDUCATION VIGNETTES

Students' goals are at the centre of e-learning networks where students, their families and teachers develop a customised learning programme that reflects the students' passions, interests and aptitudes. Students work in a range of ways: with their peers, with other adults and on their own, in learning and social modes that allow them to integrate knowledge and develop relationships that set them up as learners and future citizens. Students have a strong sense of their culture and sense of themselves as New Zealanders and champions for Aotearoa. Teachers, lecturers, tutors and researchers are part of dynamic learning networks where they are continually increasing their capacity for supporting students' learning.

### EXPERTS ARE EVERYWHERE

Kiritina is a Year Seven kura kaupapa student with a history project to do during the school holidays. She needs to gather some more information, so she logs on to anyquestions.co.nz from her home computer. AnyQuestions.co.nz is a website that enables school students to get research help from a librarian in real time. Kiritina has the choice of navigating the site in either English or Māori. Soon she's online to a librarian from the National Library and identifying her problem in te reo Māori. With the librarian's help, Kiritina identifies relevant e-resources, navigates through websites, and finds the information she needs for her assignment.

That's enough to get her started. After working through the information she has, Kiritina visits Matapihi, *Matapihi.co.nz*, a website containing the combined digital collections of 14 New Zealand museums, libraries and galleries, the window on visual resources to which the librarian referred. She uses the search function to find what she wants without having to ask for further help.

AnyQuestions.co.nz is a service made possible through collaboration between libraries, educators, and the information sector. Its aim is to offer a service where school students are only one click away from a librarian, who can help them find what they need from relevant, quality online resources.

### THE CLASSROOM WALLS ARE COLLAPSING: DISTANCE AND BLENDED LEARNING

James is a senior secondary student at Mt Aspiring College. Though he lives in Wanaka, he is studying agriculture through Telford Rural Polytechnic, 230 kilometres away in Balclutha – a course offered through Otago Net. James spends most of the week at Mt Aspiring College. Some of his classes, such as English and maths, are classroom-based, but geography is another OtagoNet course, taught from Blue Mountain College at Tapanui. For both agriculture and geography, James takes part in class activities through videoconferencing and accesses course information on the intranet using learning management systems such as Moodle and Scholaris.

On Fridays James gets on-the-job training by working on a local farm. He also attends edays and camps in the holidays to sit practical assessments. James is gaining both theoretical and practical skills, working towards his National Certificate of Educational Achievement (NCEA) and National Certificate in Agriculture.

All of this is made possible through OtagoNet, a distance-learning programme offered by all the Otago rural high schools, and Gateway, a Tertiary Education Commission programme that provides structured workplace learning for senior secondary students.

OtagoNet was started in 2001, when the visionary principals of Otago's 11 rural high schools grouped together to share teachers and courses.

### LEARNING IS AUTHENTIC – WORKING WITH SCIENTISTS

Forests of Life is a real-life learning programme helping school students in New Zealand get hands-on experience with big sustainability issues. KAREN (the Kiwi Advanced Research and Education Network) enables teachers, students and scientists to discuss world problems about nature through collaborative workspaces. Students at the seven schools participating in Forests of Life ([www.forestsoflife.org.nz](http://www.forestsoflife.org.nz)) can meet with Crown research institute scientists online to plan

---

projects and experiments that help them understand some of the questions faced by real scientists every day.

### **STARTING DIGITAL LITERACY EARLY**

The children of Manaia Kindergarten spot a praying mantis devouring a live cricket. Using a digital microscope connected to a computer, they capture the whole event on video, which is then posted to their centre's blog to share with their families and children at other centres. When parents wonder how their child's learning is going, they simply go online to the secure section of the centre's website.

### **SPECIAL NEEDS STUDENTS BENEFIT FROM VIDEO CONFERENCING**

Jane and Jim are special needs students who use video conferencing through OtagoNet to chat each week with other special needs students and plan outings, activities and Edays as part of their work. During eDays they meet with these students. Teachers supporting Jane and Jim note how animated and excited the two become during video conferencing sessions when they interact with other young people like themselves.

### **TWO HEADS ARE BETTER THAN ONE WHEN IT COMES TO PREDICTING EARTHQUAKES**

Auckland University scientists studying the impacts of earthquake patterns are able to connect with national and international research partners in real-time to share information and discuss the subject, through KAREN an advanced research network developed for this purpose. Being able to predict the size of earthquakes reduces the number of lives lost and costs incurred through damage caused by the quake.

### **CAREER OPTIONS ARE JUST A 'CLICK' AWAY**

16 year old Wiremu is currently studying mathematics and design technology-woodwork at school. Unsure about his career options once he leaves school, he visits the Career Services website for help. Using the Subject Matcher tool on the website, Wiremu obtains ideas on job options that suit the subjects he's currently studying at school. Deciding to pursue a career in building, he uses the CV 4 Me and cover letter template tools on the website to create a profile of himself for passing on to three local builders. Wiremu is successful in obtaining building work experience for a week over his school holidays.

### **WHAT'S IN YOUR E-PORTFOLIO?**

17 year old Andy from Papanui High school is able to record and share his achievements through a web based learning platform- MyPortfolio. Developed as an educational and developmental tool for students, Andy collects and presents information about himself, his learning and his career goals or CV's in an e-portfolio on the platform. The social networking capability of MyPortfolio enables Andy to share this information with his peers, teachers and prospective employers. In addition, Andy can set up learning communities and interest groups with other schools owing to the platform's national service capability. Thanks to MyPortfolio Andy has a great way to reflect on and direct his learning and career planning, while demonstrating his achievements.