CHAPTER 6

THE PACIFIC REGION: AUSTRALIA, NEW ZEALAND AND THE PACIFIC ISLANDS

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REGIONAL OVERVIEW

The Pacific Region comprises Australia, New Zealand and the group of countries and states known as the Pacific Islands. While all these countries are surrounded by the Pacific Ocean, they each have unique characteristics, both geographic and political, which provide different challenges when it comes to meeting the communication and education needs of the dispersed populations.

Australia is characterised by a number of large urban centres located along its coastline, with the rest of the population dispersed thinly across a large expanse of inland area, much of it desert. Australia's school system is administered differently in each of the eight states and territories, with limited direction or intervention from the federal government (although the federal government has provided substantial amounts of funding to seed initiatives in distance education and the use of telecommunications technologies in recent years).

In New Zealand, a third of the population lives in its largest city, Auckland, while another third are spread among a handful of smaller centres located on both the North and South Islands. The remaining third live in rural towns and isolated settlements scattered up and down the two main islands and a number of smaller, off-shore islands. Schools in New Zealand follow a national curriculum framework, and since the education reforms of 1989, they have been responsible for their own governance and management. The Ministry of Education maintains a central role for policy and resourcing.

Both Australia and New Zealand have a long history of attending to the educational needs of students in rural and remote parts of their respective countries. The New Zealand Correspondence School has been providing correspondence education to students for over 80 years, and in Australia, the Schools of the Air programme has been running since 1951 in conjunction with the Flying Doctor service. The number of Schools of the Air has steadily grown, although there is currently a move towards replacing the use of radio technologies with terrestrial broadband and satellite communications.

The 22 Pacific Island countries and territories support a combined population of around 2.3 million, varying from 50 in Pitcairn to 775,000 in Fiji. Many of these countries and territories comprise a collection of small islands and atolls, with populations concentrated on one island or state. The population densities range from as low as eight people per square kilometre in Vanuatu to 430 people per square kilometre in Nauru.

The development of countries in this region has traditionally been hampered by their dispersed populations, small size and the vast ocean distances separating them. These circumstances impose large costs on service provision, including education. While the University of the South Pacific has provided a tertiary-level education at a distance for residents of many of the islands, educational opportunities for primary and secondary school students are often developed through intergovernmental aid programmes, mostly with Australia and New Zealand.

ICT USE AND ACCESS

The level of use and access to information and communications technology (ICT) varies considerably among these countries. Both use and access have grown dramatically in both New Zealand and Australia over the past decade, but has remained low in the Pacific Islands.

Australia

Australians have been quick to embrace new technologies. Statistics for November 2000 show that 37.1 per cent of Australian households were online and 50 per cent of Australian adults accessed the Internet (from any site) in the previous 12 months. Internet connectivity and use in Australian schools is also very high, with each state and territory implementing a variety of strategies to increase access. Much of the funding and policy direction for these initiatives originates at the Commonwealth (national) level with the implementation plans developed locally.

New Zealand

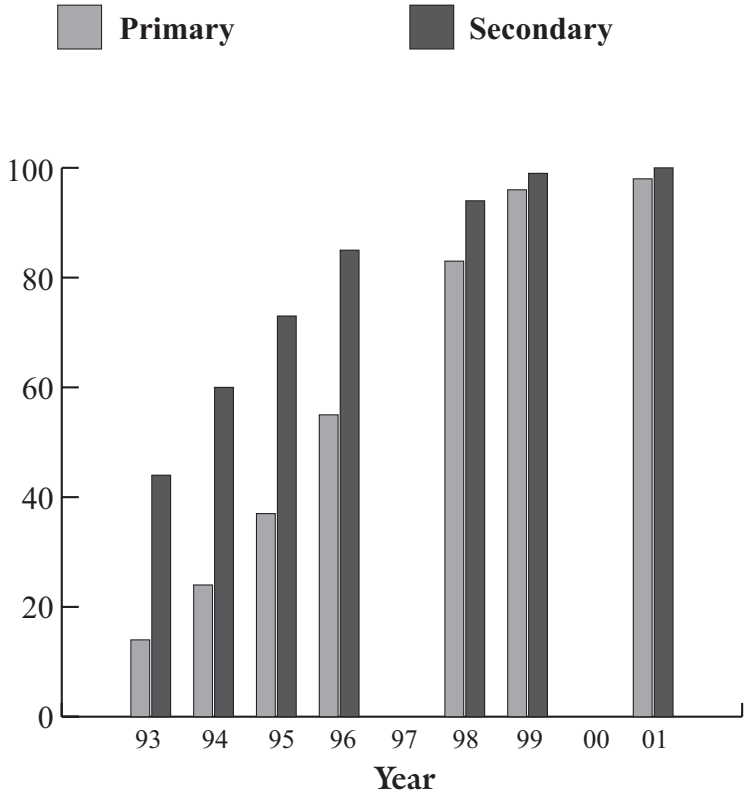
New Zealand has the world's highest access to telecommunications per capita, with the cost of accessing the Internet being almost as low as it is in the United States. Research shows that New Zealanders are usually quick to embrace new technology. They have been buying computers, signing up to Internet service providers (ISPs), and going online at an internationally impressive rate. By March 2001, 46.6 per cent of New Zealand households had a computer, and in the final quarter of 2001, 72 per cent of New Zealanders were able to access the Internet from any location.

Figure 6.1 below shows the growth in Internet access in New Zealand schools from 1993 to 2001.

Pacific Islands

Internet access — or lack of it — is a key issue for the Pacific Islands, where it is estimated that less than 25 per cent of the population have access. It is not financially viable on some of the islands to develop a basic telecommunications infrastructure, and telecommunications and power provision are generally limited to urban areas in most countries, and concentrated on few of the islands in those countries consisting of many islands.

Figure 6.1: *Internet access in New Zealand schools*



Note: No figures are available for 1997 and 2000.

According to the ITU basic indicators and the ITU Internet indicators (ITU 2001), the rate of Internet connectivity and personal computer (PC) ownership in the Pacific Islands is less than 20 per cent of the world average. This fact is particularly problematic given the distances between different islands in the same country, and the remoteness of the islands relative to the rest of the world. Underlying this problem are even more basic issues relating to telecommunications infrastructure, quality of service and costs. While all countries in the region now have some form of Internet access, the price inhibits growth. A recent UNESCO survey revealed that prices vary from USD9 to USD50 for 10 hours of Internet connectivity, compared with USD4.30 in New Zealand (UNESCO 2002).

DRIVERS FOR SCHOOL NETWORKING

In each of the three regions, Australia, New Zealand and the Pacific Islands, the drivers for school networking are similar, although the methods of achieving the goals differ. The drivers are reflected in strategic, national-level goals, as well as those identified at the local level.

In a recent OECD report, the ICT drivers were identified as economic, social and pedagogic (OECD 2001). An emphasis on citizens of these countries being able to take their place in a knowledge-based economy is a feature of planning in each country, with many commentators noting the likelihood of two classes of economy emerging in the next five years: the information-rich and the information-poor. Each of these countries

proposes the development of network infrastructures as a means of ensuring they are included in the information-rich category.

It is clear that in each of these regions the drivers for school networking are closely related to the drivers for ICT networking of government and business at a national level. To achieve school networking, the governments of the region have recognised that national-level infrastructures are required, which in turn require strategic decision-making and resourcing at a national level.

In Australia and New Zealand, there has been a significant investment in ICT in schools over the past decade, and now, as schools seek to fully realise the potential of the Internet to provide access to resources and opportunities for learning, the barriers of limited bandwidth and Internet services is inhibiting this development. Therefore, the provision of broadband access is a high priority in both countries, and government-level strategic policies support such initiatives.

An Australian report published by the Education Network of Australia (Moran et al. 1999) described setting out a vision for the future and a roadmap for change, and identified three priorities: bandwidth, professional development and online content. Each state in Australia is currently supporting initiatives to address these priorities.

In New Zealand, the ICT strategy for schools 2002–2004 (Ministry of Education 2002) identifies seven priority areas, five of which address the needs of particular stakeholders (students, parents, community, etc.) The other two areas are curriculum and learning resources and infrastructure, reflecting closely the goals in the Australian document.

In both New Zealand and Australia there are growing concerns about the inability of the existing school structures to provide the rich and rounded educational experiences that students entering the knowledge economy may need. An expanding curriculum, issues of teacher supply and small schools in remote locations, combined with a change in pedagogical focus from the "delivery of courses" to "making learning happen" with an emphasis on promoting learner choice and autonomy, are all factors that are driving change. In both countries, the networking of schools is seen as a means of addressing many of these issues.

Similar issues are driving the development of school networks in the Pacific Islands, although the widely dispersed populations and the associated costs of providing educational services mean that the rate of progress is likely to be slower and will require a greater extent of international co-operation to achieve the desired outcomes.

The Pacific Islands have embarked on an ambitious plan to provide "information and communications technologies for every Pacific Islander" (Draft Pacific Islands Regional Information and Communications Technologies Policy 2001). The focus of this policy and the subsequent strategic plan are to implement ICT solutions that will help to overcome barriers of distance, as well as contribute to the social and economic development of the region. Education is one of the major focus areas in this region, with a particular emphasis on secondary school level.

ORGANISATIONAL ENTITIES

Australia

Because of its size, history and structure of both federal and state governments, Australia has a number of organisational entities that contribute to the development of school

networks. Besides the very strong directives from the central government, and the well-researched and implemented plans at the state level, there are a number of national-level organisations that have emerged to address the particular needs of schools. The Education Network of Australia (EdNA) provides an important role in co-ordinating many of the national-level initiatives, providing a point of reference and information about them. The EdNA Web site (*www.edna.edu.au*) is an extremely valuable resource in this regard.

New Zealand

Following the education reforms of 1989, schools in New Zealand have been self-managing, and the central Ministry of Education has adopted more of a policy and curriculum support role. This has led to a number of corporate entities taking responsibility for the development of ICT initiatives. Most noticeable of these has been NZ Telecom, which introduced its Telecom Education Foundation in the early 1990s. Projects initiated and supported by Telecom to benefit New Zealand schools have included the provision of a dedicated telephone to all schools for the use as a telecommunications link at no charge, a series of teacher professional development programmes across the country and the establishment of the NZ Telelearning Network, which existed in the first half of the 1990s as means of linking together schools and organisations that were using online technologies.

More recently, it has been recognised that there needed to be more strategic direction and support provided from central government, and in 1998 the first ICT Strategy for Schools was launched, followed by an updated version in 2002 called Digital Horizons. The first strategy focused primarily on ICT competence and establishing ICT infrastructure, while the second built on this theme with a focus on teaching and learning. One of the important developments from the first strategy was the formation of a national online resource centre for teachers, Te Kete Ipurangi (TKI). The bilingual TKI site provides an ever-increasing range of support material for teachers, including curriculum support, professional development opportunities and ICT resources.

A significant development with the second strategy has been the co-operation between the Ministry of Education and the Ministry of Economic Development to support a project that will see broadband technologies rolled out to every school in New Zealand. The Provincial Broadband Extension (PROBE) will be achieved through partnerships between various telecommunications providers, local governments and regional councils.

Pacific Islands

In the Pacific Islands, leadership from governments and partnerships with businesses, non-government organisations (NGOs), religious groups and the community at large is required to facilitate participation in the knowledge society. In his environmental scan of five of the Pacific Islands States, Brandjes (2002) observed there to be no formal Ministry or Department of Education policy for the use of ICTs at the administration, teacher training or school level, although he acknowledged a number of "local champions" in schools and government who are working to make things happen. This includes a variety of government, mission and private schools in each country, mostly at the secondary school level, who have introduced ICTs on their own initiative.

A workshop sponsored by the governments of Australia, France and New Zealand and jointly organised by the South Pacific Applied Geoscience Commission (SOPAC), the Forum Secretariat and the Secretariat for the Pacific Community (SPC) in August 2001, brought together representatives from Pacific Island countries and territories to

complete a draft regional ICT policy, which included a set of guiding principles for the development of future policy and for the co-operation by the Pacific Islands Countries and Territories (PICTS)

CASE STUDIES

Each of the case studies below describes an approach used to address the needs of senior secondary school students whose choice of subject or ability to participate in learning may be restricted because of their isolation. In each case the Internet is used as the network backbone, involving the establishment of a co-ordinated infrastructure for the services provided. The differentiating factor for each case study is the level at which the solution has been developed. In Australia there is a strong emphasis on the role of the central government to provide a co-ordinated "top-down" approach, while in New Zealand the initiatives have been started at the local school level and grown from the "bottom up." In the Pacific Islands there is a strong dependence on international aid projects to assist with the building of the core infrastructure to support these initiatives.

Virtual Schooling Services Pilot: Queensland, Australia

Australia has been a pioneer in the use of telecommunications technologies to link schools together, and for more than 10 years there have been a number of networking initiatives across all states of the country. Currently, most states have programmes in place to connect schools. These include projects such as the Learning and Teaching in Schools (LATIS) project of the Northern Territories Department of Education which aims to roll out education services to remote schools using satellite technologies, and Connecting Tasmanian Schools, a joint Commonwealth, Telstra and Tasmanian Government project to provide local and wide area networks to link Tasmanian schools.

In Queensland, there have been significant efforts to establish ICT-enabled networks among schools. Through its Connect-ED and School LANs projects, Education Queensland has made significant progress towards providing a state Wide Area Network (WAN) necessary to underpin the connectivity needed by students, school and state in the future.

In 1999, the Director-General of Education commissioned an innovative pilot project — the Virtual Schooling Service — to determine the viability of synchronous and asynchronous online delivery of senior school subjects to small numbers of students at schools where teaching expertise in certain subject areas was not available. The needs of remote or external students were traditionally met by distance education lessons, which were delivered using a combination of print and high-frequency radio. The Virtual Schooling Service sought to expand the range of communications channels by which students receive educational services remotely.

The Virtual Schooling Service chose to use a combination of the following communications modes:

- Audiographic conferencing lessons delivered twice per week to small groups of students
- E-mail and telephone contact between individual students and the teacher
- E-mail discussion lists for ongoing multipoint interaction between students and teacher

- Chat or conference tutorials
- Curriculum materials provided via a Web site and on CD-ROM

The pilot study two-year review (Prendergast et al. 2002) concludes that the Virtual Schooling Service should be an ongoing feature of Queensland's education service provision because of its potential to provide a significantly enhanced pedagogical model of distance education.

New Zealand Cluster School Networks

Of the 350 secondary schools in New Zealand, 110 of them have rolls of less than 120 students in the senior three years of study. This demographic poses particular problems with respect to curriculum provision and the supply of specialist teachers. In response, over the past decade there has been a development of clusters among these smaller, rural secondary schools, using various forms of telecommunications technologies to enable teachers and students to interact for both professional development and the provision of senior secondary curriculum.

One of the earliest of these clusters formed in 1994 and involved seven area schools (years 7 to 13) in the central part of the South Island. The CANTAtech project drew on the similar experiences in South Australia, using audiographics technologies to enable specialist staff in one school to teach a "class" comprising students at one or more of the other schools in the cluster. Students who may otherwise have had to move to a major centre to be able to study the subjects they chose now had the opportunity to remain in their local school and complete their studies. This project required careful planning and co-operation among the cluster of schools to co-ordinate timetables, assessment practices and staff workloads.

The success of the CANTAtech project and the valuable experiences that have been gained and documented have led to the development of other clusters. In 2001 a cluster of nine rural secondary schools in the lower part of the South Island, with support from the Ministry of Education and Telecom NZ, collaborated to establish a virtual private network over which they could share lessons by videoconference, supported by online resources and discussion forums. The New Zealand Correspondence School was included in this cluster, providing courses in subjects where no local teacher was available.

Today, over a quarter of all the secondary schools in New Zealand are connected in some way to a cluster, with the NZ Correspondence School providing a support role, providing subjects where required, and brokering the opportunities for schools from one cluster to interact with a teacher from another cluster in some cases. In addition, correspondence schools provide some of the professional development required for teachers from the cluster schools.

It is anticipated that participation in such clusters will continue to grow over the next few years to the point where all schools will have the opportunity to have their educational experiences enriched and expanded through these networks. The Ministry of Education has announced its intention to provide support to clusters of schools that present a suitable business case, and Telecom NZ is well advanced in its plans to introduce a service to schools that will provide a secure virtual private network within which the bridging of videoconferences can be scheduled and conducted, Web resources can be accessed and online forums and discussions conducted.

Pacific Islands Network (PIN)

The Pacific Islands Network (PIN) is an initiative of the UNA-USA Hawaii Division and is currently the leading initiative to promote school networking in the region. Although a small initiative, it is currently the most active project to develop schoolnets in the region. Together with Schools Online (*www.schoolsonline.org*), a California-based non-profit organisation, PIN has equipped Samoa College with computers and, more importantly, has started to encourage the use of ICTs across the curriculum through collaborative online projects.

The PIN programme helps to establish online links between schools within the region and Hawaii to allow teachers and students to interact and learn about each other's culture, history, geography and environment. The programme is modeled after Internet links developed between Hawaii schools and other countries, and was started in July 2000 by Dr James McDivitt, an advisor to the United Nations Association. Dr McDivitt is working with other NGOs and related programmes — such as PREL (Pacific Resources for Education and Learning), PEACESAT, UNESCO and the Peace Corps to name a few — to provide free computers to schools in the Pacific. In a region where it is a goal to have a computer in every school, let alone one in every classroom, providing more computers will be an important step towards enabling networks such as this to succeed.

TEACHER TRAINING OPPORTUNITIES

The requirement for appropriate professional development to enable teachers to work effectively in these new environments is widely recognised and reflected in the strategic plans for each region. As noted by Queensland's New Technologies Project steering group:

The implementation of ICT in schools results in changes to the duties of teachers, teacher-librarians and administration staff. Ongoing professional development and training programmes are required to enable all staff to identify, integrate and manage relevant applications of ICT (Education Queensland 1999a).

Both Australia and New Zealand have identified professional development as priorities in their latest strategy documents. The Pacific Islands, too, have identified "human resources development for ICT professionals" as one of their four priority areas, however this applies across the board for everyone working with ICT and telelearning, including health professionals and other government and business agencies, and the emphasis tends to be on developing technological capability more than with the practice of teaching and learning with and through ICT.

Much of the teacher development in Australia has been developed and co-ordinated centrally, while in New Zealand the emphasis is on local schools and clusters of schools defining and developing their own approaches to professional development. Both of these two approaches have their advantages and disadvantages. In Australia there is a clear, research-based approach that is systematically made available to all teachers. The advantage is consistency of approach and message, while the possible disadvantage is a lack of ownership by teachers who feel that something is "being done to them."

The emphasis on people is clearly seen in the Queensland approach where they have established a Centre for Teaching Excellence and a Centre for Leadership Excellence, set minimum standards for teachers for learning technology and ensured that more than 20 per cent of the learning technology funding is dedicated to professional development and

training. In addition, Education Queensland has appointed 28 district education advisors (learning technology) and 50 district systems technicians.

The New Zealand approach focuses on local schools and clusters taking responsibility for initiating their own professional development. Clusters of schools are able to apply to a contestable fund for a grant over three years to help them achieve the professional development goals that address the national strategy. Each cluster is then able to appoint their own advisors, co-ordinators and systems technicians as required to achieve what they have determined in their business case.

The strong emphasis in New Zealand on teachers taking greater responsibility for their own professional learning is supported by a number of national-level projects. These include the provision of various online professional learning forums for teachers such as Think.Com and Te Kete Ipurangi, a special online professional development programme for principals called LeadSpace, and a subsidy scheme to enable principals and teachers to purchase their own laptop computers, which in turn gives them better opportunities to log on to such programmes.

Both Australia and New Zealand highlight the tensions that exist between focusing on the technological skills development and on changes to pedagogical approaches that are required to make best use of these technologies. The VSS Pilot in Queensland highlights the need to develop different pedagogical approaches that reduce or eliminate the emphasis on didactic, transmission modes of delivery (Prendergast et al. 2002).

These concerns are described in the EdNA report from Australia regarding what is happening in pre-service teacher education:

> …Australia's pre-service teacher education programmes are still locked into older paradigms of teaching and learning which do not adequately prepare students to make effective use of technology when they go into the schools (Moran et al. 1999).

Similar concerns are expressed in New Zealand and the Pacific Islands. In all of these countries, while many of the pre-service teacher education programmes include and/or require units on learning about technologies, few have yet adapted their curriculum to integrate ICTs into both content and learning processes.

The EdNA report recommends national collaboration to establish a comprehensive professional development plan that would include a major expansion of existing professional development programmes that move from basic skills to the integration of technology into classroom practice, and the development of an online professional development network that includes access to resources and discussion forums (Moran et al. 1999).

INTERNET-BASED CONTENT

Australia and New Zealand

As school-level access to online technologies develops, the imperative to provide quality online resources for teachers and students is being recognised through a number of initiatives, some local, some national and some international. In both Australia and New Zealand there are organisations that have provided resources for schools and teachers over many years.

The Education Network of Australia (EdNA), Curriculum Corporation and the National Materials Development Network (NMDN) are three examples of national organisations in Australia that have provided high-quality learning materials in traditional print and audiovisual media for a number of years. As the use of online technologies grows, each of these organisations is moving towards providing at least some level of service via the Internet. For example, EdNA has developed EdNA Online (*www.edna.edu.au*), a service that aims to support and promote the benefits of the Internet for learning, education and training. It is organised around the Australian curriculum, its tools are free to Australian educators and it is funded by the bodies responsible for education provision in Australia (i.e., all Australian governments).

As an information service, EdNA Online provides two key functions:

- A directory about education and training in Australia
- A database of Web-based resources useful for teaching and learning

As a communications service, EdNA Online aims to promote collaboration and co-operation throughout the Australian education and training sectors and to facilitate the growth of networks of common interest and practice.

A key component of the New Zealand ICT Strategy (Ministry of Education 1998) was the development of an education portal site as a major policy infrastructure initiative. Te Kete Ipurangi — the Online Learning Centre (*www.tki.org.nz*) is New Zealand's education portal and is an initiative of the Ministry of Education.

The Te Kete Ipurangi vision is to provide New Zealand schools with a cost-effective electronic platform to communicate curriculum and administrative materials, enhance teaching and learning, raise student achievement and advance professional development for school management and teaching staff.

Te Kete Ipurangi, as a bilingual education portal, 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 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 Ministry of Education in New Zealand
- 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
- Develop and shape the site by using the user feedback constructively
- Provide fair opportunities for commercial providers to promote and house resources, products and services to the Te Kete Ipurangi audience

These initiatives have tended to apply similar understandings about what constitutes a resource, matters of instructional design and quality assurance to online content as to that which appears in print or other media. As the use of the online environment is changing the way teaching and learning occur in some situations, so too is the understanding of what constitutes an online learning resource. An international trend towards breaking traditional resources into smaller, reusable components is emerging, taking advantage of the ability afforded by the technology to handle digital content in such a flexible way.

These smaller resources, known as "learning objects," are the focus of a joint Australia-New Zealand initiative called The Le@rning Federation. Over the period 2001–2006, the Initiative aims to develop online interactive curriculum content specifically for Australian and New Zealand schools. The governments of both countries, along with each state and territory, are contributing a substantial amount of money over a five-year period to support the development of high-quality online curriculum resources, services and applications available to Australian and New Zealand school systems. This infusion of funding is expected to stimulate a competitive, domestic online content market through the release of successive tenders for the provision of these "learning objects."

The project is developing systems which will allow the input and delivery of high-quality curriculum online by a range of approved content developers to an agreed set of specifications. The systems will also facilitate the breakdown of content into discrete "objects" and the reassembly and repurposing of these to suit the particular needs of teachers and students.

Commonwealth funding is being used primarily to support development and distributed access to schools systems across Australia. The final delivery to schools is a matter for individual jurisdictions. The Le@rning Federation online system (The Exchange) provides the central content management facility within which curriculum content can be submitted, stored, managed and distributed.

Pacific Islands

Schools of the Pacific Islands region have traditionally accessed resources from a variety of sources, many of these through aid projects from countries such as Australia, New Zealand and the United States. Within the Pacific Islands community, the University of the South Pacific based in Fiji has also played a prominent role in producing and distributing locally developed resources.

The ubiquity of the Internet means that these countries may soon have access to an unlimited quantity of online resources, including collections such as those being developed by The Le@rning Federation. The need for resources to reflect local culture and values is not always addressed in this way, however, and organisations such as Pacific Resources for Education and Learning (PREL) are providing some answers. PREL is an independent, nonprofit corporation that serves schools across the United States and its affiliates from Rhode Island to Palau. PREL's main office is located in Honolulu, Hawaii, with service centres in American Samoa, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia (Chuuk, Kosrae, Pohnpei, and Yap), Guam, the Republic of the Marshall Islands, and the Republic of Palau (see *www.prel.org*).

PREL's mission is "to strengthen culture, increase literacy, and improve quality of life locally, nationally and globally." The organisation is guided by the belief that learning and sharing throughout the Pacific educational community are essential in achieving their vision for the Pacific child. PREL's programmes provide resources and products developed to promote educational excellence for children, youth and adults, particularly in multicultural and multilingual environments.

CONCLUSION

The development of school networks in the Pacific Region is being driven in part by the need to address issues of teacher supply and curriculum availability, and also as a

response to the opportunities provided by access to online technologies. Factors such as isolation, technical capability and costs are resulting in different solutions being developed, but in all areas the desire to provide high-quality learning experiences for students remains an underpinning motivation for developing these networks.

Across all of the initiatives the heavy reliance on technology is noticeable, and it is not surprising that the development of broadband, secure and reliable infrastructures is a high priority for governments and other agencies in each region. As noted in the Queensland Virtual Schooling Services Pilot research:

> …the reliability of technology (incorporating hardware, software, bandwidth, Polycom devices, etc.) for virtual schooling is — at this time — the most significant factor detracting from the success of the pilot project. It is also the reason some of the schools have withdrawn from the Virtual Schooling Service pilot (Prendergast et al. 2002).

While the provision of technology infrastructure and services is essential to the development of school networks and may be seen in some cases as driving them, the real benefits lie in the expansion of educational opportunities for everyone. These include greater curriculum choice for students, professional development for teachers and the learning that comes from exposure to and interactions with people in other cultures or with different perspectives in direct and authentic ways, rather than vicariously means through textbooks or other media.

There is clearly a lot of work to be done in each of these regions to establish the balance required between the extent of centralised provision and co-ordination, and the development that needs to take place locally.

On the one hand, central intervention appears essential to ensure the development of robust infrastructures, policies and co-ordination of teacher training and resource distribution. On the other, local involvement ensures that there will be a higher level of "ownership" and sustainability, and that the programmes and products that these networks are established to facilitate are appropriate to the local context.

As the countries in the region progress plans to support and develop school networks, this balancing act will become increasingly important.

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- SPC (Secretariat of the Pacific Community): www.spc.org.nz
- VSS (Virtual Schooling Services pilot)