

THE DEVELOPMENT OF EDUCATION

National report of New Zealand

By

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**1. The education system at the beginning of the twenty-first century: an overview**

New Zealand is situated in the South Pacific Ocean, 2000 kilometres south-east of Australia. It has a total land area of 269,000 square kilometres (three-quarters the size of Japan). The capital is Wellington and the largest city is Auckland. The population of New Zealand is 4.06 million (as of July 2004), with four-fifths of European ethnicity, 1 in 7 are Maori (the tangata whenua), 1 in 15 Asian and 1 in 16 of Pacific Island origin. New Zealand is an increasingly multi-cultural society.

Within New Zealand, Māori and Pasifika have more youthful populations, and according to the 1996 Census, they contained roughly twice the proportion of children under 15 years as their European or Asian counterparts; about two-thirds of their populations are under 30 years, and their median ages are about 13 years lower than their European counterparts. At the other end of the age scale, only 3 percent of all Māori, Asian and Pacific Island peoples are 65 years or over, compared with 13 percent for the European population. Half of the overall population is over 35 years of age, and about 1 in 8 is over the age of 65. The Maori and Pacific populations are projected to increase at a faster rate than that of other ethnic groups, with official population projections expect that by 2021, 45 percent of all children in New Zealand will be Maori (28 percent) and Pacific (17 percent).

**1.1 Major reforms and innovations in the education system at the beginning of the 21<sup>st</sup> century.**

a) Objectives and principal characteristics of current and forthcoming reforms

In May 2003 the New Zealand Government released “Education Priorities for New Zealand”. The objectives and principle characteristics of Government reforms focus around two main goals – to build an education system that equips New Zealanders with 21<sup>st</sup> century skills and reduce systematic underachievement in education. The four priority areas where the New Zealand education system is expected to deliver results are:

- I. Providing all New Zealanders with strong foundations for future learning.** All New Zealanders need to master the basic skills of literacy and numeracy; be confident, motivated and healthy; and have a strong sense of identity. These basic foundations are critical for success in schooling, for coping with the demands of modern society and for engagement in learning throughout life.
- II. Ensuring high levels of achievement by all school leavers.** Strong foundations are necessary but not enough. All students need to attain school leaving qualifications which attest to this achievement and

which enable them to make a successful transition to work, tertiary education and adulthood.

**III. Ensuring that New Zealanders engage in learning throughout their lives and develop a highly skilled workforce.** Opportunities to gain good qualifications and training are equally important for those already in the workforce as for those entering it. All school leavers and working-age adults need to participate in further learning to acquire new skills and knowledge – whether this is at work, at home or in formal education institutions. There needs to be a wide, flexible range of relevant and quality learning opportunities, and employers need to invest in skill development and training.

**IV. Making a strong contribution to our knowledge base, especially in key areas of national development.** The knowledge and research of our tertiary sector makes an important contribution to New Zealand's economic, cultural and social development through innovation and creativity, increasing workforce capability and lifting our productivity. We must make the most of this contribution, ensuring that the tertiary sector effectively interacts with other sectors.

In addition to recently published Early Childhood Education and Tertiary sector strategies, a Schooling Strategy Discussion Document was released for public consultation in early 2004. When completed, the Schooling Strategy will set out clear priorities for strengthening schooling over the next three to five years. It will draw together current work and will help Government to clarify the shifts in thinking, understanding and ways of working needed to achieve New Zealand's key education goals.

b) The legal framework

Legislation across a number of acts covers the early childhood, school and tertiary sectors and sets up a number of Crown entities with education-related functions. Since 2000, major legislative changes have focussed on:

- improving standards in the teaching profession by better registration and disciplinary processes;
- new procedures for deciding enrolment at schools that have reached maximum capacity;
- new planning and reporting requirements which require schools to be more explicit about their objectives for (and expectations of) student learning by changing the way schools plan and report long-term and updated priorities for improvement to their communities and the Government;
- fairer procedures for student discipline; and
- modernising the apprenticeship system; and reform of the tertiary accountability and funding system; and
- reform of education Crown entities to improve the administration of education.

Two Crown entities, one concerned with providing special education and the other with promoting early childhood education were disestablished and their functions

transferred to the Ministry of Education. A new Crown entity (the Tertiary Education Commission) has been set up to manage tertiary sector resourcing.

c) The organisation, structure and management of the education system

At all levels of the education system, administrative authority for most education service provision is largely devolved from central government to the elected and/or appointed governing boards of individual educational institutions. These education providers work within the framework of guidelines, requirements and funding arrangements set by the central government and administered through its agencies.

The Ministry of Education ([www.minedu.govt.nz](http://www.minedu.govt.nz)), established under the Education Act 1989, is the Government's main advisor on education policy and is responsible for research and data analysis on the overall performance of the education system. The Ministry delivers funding to schools and early childhood services and owns school property on behalf of the Crown. It administers most education regulations, and implements a variety of government programmes across the education system. The Ministry's Special Education group provides special education services across the education sector, including direct provision of services to children and families.

Other independent, education-related government agencies work closely with the Ministry. The New Zealand Qualifications Authority (NZQA, [www.nzqa.govt.nz](http://www.nzqa.govt.nz)) operates the upper secondary school qualification system, the National Certificate of Educational Achievement (NCEA), and the national Qualifications Framework. The NZQA sets qualifications standards, quality assures and registers all post-schooling education providers other than universities. [The New Zealand Vice-Chancellors' Committee ([www.nzvcc.ac.nz](http://www.nzvcc.ac.nz)) has statutory powers to quality assure university qualifications.]

The Education Review Office (ERO, [www.ero.govt.nz](http://www.ero.govt.nz)) is a stand-alone government department responsible for assisting Early Childhood Education providers and schools to undertake self-evaluation and review, and reports publicly on the quality of education provided by ECE services and schools.

The Teachers Council ([www.teacherscouncil.org.nz](http://www.teacherscouncil.org.nz)) is responsible for setting professional standards for early childhood and school teachers, approving teacher qualifications and for the professional registration of teachers. (Also see section 2.4.)

The Tertiary Education Commission (TEC, [www.tec.govt.nz](http://www.tec.govt.nz)) is responsible for government funding to all post-compulsory education and training offered by New Zealand's tertiary education providers, and oversees implementation of the Tertiary Education Strategy (TES).

**Early Childhood Education (ECE)**

As it is the foundation for all future learning, the Government's vision is for all New Zealand children to have the opportunity to participate in quality early childhood education. ECE plays an integral part in the education system in New Zealand, and there are a broad range of ECE services for children from birth to 6 years old, including kindergartens, ECE education and care centres, playcentres, nga kohanga

reo (Maori-language based ECE services), Pasifika ECE services, home based care networks and playgroups.

ECE is non-compulsory in New Zealand, and ownership is mainly held by community-based and non-profit organisations and private sector providers. Government's role in the sector includes licensing providers and providing funding, support and a regulatory framework. The government sets requirements and standards for matters such as teacher qualifications, staffing ratios, health and safety, and curriculum. The Education Review Office reviews and publishes regular reports on all licensed and chartered providers.

Government has a strong collaborative partnership with the sector that enables sector-driven developments to be supported, disseminated and implemented. While the sector remains decentralised in terms of ownership and management, the Government has taken a more 'hands-on' approach than it had previously to planning and coordinating the expansion of supply of ECE services and increasing participation with the ten year strategic plan for ECE, *Pathways to the Future: Nga Huarahi Arataki*.

*Pathways* was released in 2002 after extensive consultation with the ECE sector. It has three main goals: increasing accessibility and participation in quality ECE services; improving the quality of ECE services; and promoting collaborative relationships. Improving ECE participation is vitally important, especially because the greatest benefit is for those least likely to attend. In addition, the Ministry itself has strengthened its capability in regional and local offices to work closely with groups with low ECE participation rates.

To support the Strategic Plan for Early Childhood Education, a new funding and regulatory system is currently being developed in the ECE sector. One key feature of the new approach (announced in Budget 2004) is that beginning in January 2007, all 3 and 4 year olds will be eligible for 20 hours free ECE per week in community-based centres. This proposal will help all families where cost is a barrier to participation, which is crucial since research shows that intensive and regular ECE participation improves long-term outcomes for children. A second major change is that from April 2005, resourcing will more closely reflect the cost drivers faced by ECE services. This will provide greater support and incentives for providers to employ qualified staff and increase the quality of ECE services.

Maori participate across the range of ECE services, most notably in education and care centres, kohanga reo (immersion) and kindergartens. Traditionally, Maori participation in ECE services has been lower than non-Maori, but the gap is closing as Maori participation rates have increased nearly 4% since 2000. In 2001, Government set in place deliberate initiatives to raise Maori participation, including the successful Promoting Participation Programme (see section 2.2). In addition to using the Government's Discretionary Grants Scheme (DGS) to increase ECE participation, the Government introduced seven network provision co-ordinators to work with targeted communities (including Maori) to find participation solutions. The population trend for the number of Maori enrolled in licensed kohanga reo is positive, currently sitting slightly above 1/3<sup>rd</sup>.

### **Primary and secondary education**

Schooling is free from age 5 and attendance at a registered school is compulsory for all New Zealand citizens and residents aged from 6 to 16. The New Zealand school year usually runs from the end of January to mid-December, and is divided into four terms. Both single-sex and co-educational schooling options are available and state (public) schools are secular. Primary schooling starts at Year 1 (age 5 or 6) and continues until Year 8, with Years 7 and 8 mostly offered at either a primary or a separate intermediate school. Secondary schooling covers Years 9 to 13, during which students are generally aged 13 to 17.

Each state school has a Board of Trustees, with a majority of members elected by local parents and also includes the principal and staff (and for secondary schools, student) representatives. The board is responsible for ensuring a quality education and safe learning environment, for appointing the principal and assessing his or her performance, for setting school policy and overseeing the management of property, finance, personnel and administration. Principals are effectively chief executives of their schools, responsible for appointing and managing all school staff, providing educational and administrative leadership and implementing the policies of the Board of Trustees.

The Board establishes a School Charter and an annual plan. These documents set out the aims and objectives of the school and establish measurable goals against which the Board must report to its community and to the Government.

Schooling improvement initiatives, which aim to significantly improve and sustain student achievement, typically involve clusters of schools that may be defined geographically or share common characteristics. The initiatives operate with a partnership approach between schools, the community and the Ministry. In the partnership there is:

- joint ownership and responsibility for relationships;
- joint decision making on plans for improvement;
- joint accountability for outcomes produced, and;
- joint responsibility for plans to sustain and continue the improvement.

Schooling improvement is therefore a change management process with both a task focus and a relationship focus.

Statutory interventions introduced into the Education Act in 2001 are intended to better protect the interests of students and support schools at risk. They allow the Ministry of Education to act flexibly to meet the varying needs of schools where the operation of the school or student welfare or learning is at risk.

The statutory interventions provide the Ministry with an enhanced opportunity to support, guide, and direct schools towards high achievement in student learning and welfare, and efficient and effective operations. There are certain conditions and principles which guide consideration of the use of a statutory intervention in order to enhance the opportunities the interventions present and to minimise the risks:

In planning and implementing their programmes and curriculum, schools and teachers must adhere to the New Zealand Curriculum Framework, and the national curriculum statements for the seven essential learning areas it includes. The curriculum

framework is based on the premise that the individual student is at the centre of all teaching and learning. The curriculum documents provide national direction and definition of learning outcomes while allowing for local discretion in the design and delivery of schooling.

The primary legislation in the schooling sector is the Education Act 1989 ([www.legislation.govt.nz](http://www.legislation.govt.nz)) and its related amendments and regulations, covering:

- the establishment and management of schools;
- establishment and regulation of boards of trustees to govern schools (these have a parent majority);
- requirements for enrolment and attendance and welfare of students, including students who are not New Zealand citizens;
- registration of teachers;
- curriculum; and
- reviewing of schools and early childhood centres by the Education Review Office.

In schools, kaupapa Maori (immersion Maori) education initiatives have grown from Maori effort, and a large part of their success is that they are designed and delivered to meet Maori needs, characterised by reo Maori (Maori language), tikanga Maori (Maori culture) and whanau (family) involvement. Over 29,000 students, or nearly 4 percent of the total school population, are involved in Maori medium education. The kaupapa Maori sector is diverse and contains the more traditional movements that are based on total immersion schools, through to bilingual units and immersion classes within mainstream schools. And the sector is increasing, with the number of immersion schools over doubling between 1999 and 2003. In schools offering any form of Maori-medium education, the number of kura kaupapa and immersion schools increased from 75 to 94 between 2000 and 2004, representing 4 percent growth in the sector.

In 2002, a new National Certificate of Educational Achievement (NCEA, [www.ncea.govt.nz](http://www.ncea.govt.nz)) was introduced to replace the various qualifications previously offered to senior secondary school students. The new qualifications allow students to be assessed in a wider range of courses and achievements, and offer a more complete picture of educational attainment. The NCEA is a standards-based qualification with students assessed against defined competency levels for each subject. Rather than students being graded against each other with results “normed” to a curve, all students meeting the defined standards receive the qualification. NCEA Level 1 (Year 11) is broadly equivalent to the English General Certificate of Education (GCE). NCEA Level 3 is equivalent to English ‘A Levels’ and Australia’s Higher School Certificate (HSC).

### **Tertiary education**

New Zealand has an integrated tertiary education system that covers all of post-school education and training, including adult basic and second chance education, vocational training and “higher” education degrees and advanced qualifications. The range of tertiary education providers includes 35 public tertiary education institutions (universities, polytechnics, colleges of education and Maori wananga), approximately 50 industry training organisations and several hundred private training establishments (these range from full degree-training institutions to English language schools).

In the tertiary sector, legislation covers:

- establishment of public sector tertiary education institutions;
- establishment of councils to govern tertiary education institutions;
- accountability requirements;
- establishment of the Tertiary Education Commission to fund tertiary institutions, including tertiary providers in the private sector; and
- regulation of matters relating to international students.

The academic autonomy of universities is protected by legislation. Public tertiary education institutions are governed by Councils comprised of a mix of elected and appointed members. The Councils are responsible for approving Charters, and negotiating “profiles” that define the range of teaching and research for which they will be funded by the Tertiary Education Commission. Councils appoint and assess the performance of their institution’s Chief Executive, who is responsible for the overall management and administration of the institution.

To be recognised and funded by the government, non-university qualifications must be registered on the national qualifications framework and all courses toward these qualifications are registered, approved and reviewed by the NZ Qualifications Authority.

Funding for tertiary education institutions comes from a mix of government funds, student fees and private sector contributions. Government funding includes enrolment based “student component”, research funding through both the education and research, science and technology budgets, and a variety of strategic change funds targeted to assist institutions to reorganise and improve in response to the new Tertiary Education Strategy. Student fees (determined by the institutions within constraints set by government policy) are charged for most forms of tertiary education. The government provides direct financial support to some students in the form of needs-tested living allowances, and a student loans scheme allows students to borrow for fees, course costs and living expenses. Student loan repayments after graduation are income-contingent and made through the tax system.

As tertiary participation increased in the 1990s in New Zealand, the tertiary education sector became fragmented and its effectiveness was undermined by unnecessary competition, duplication and poor collaboration. The New Zealand Government has, over the past few years, undertaken a major review of tertiary education in New Zealand.

In May 2002, the Government released the *Tertiary Education Strategy (TES) 2002/07*, a high level document identifying key aspects of the tertiary education system that must change in order to increase the tertiary system’s contribution to New Zealand’s social and economic development. The Tertiary Education Commission (TEC), was established early the next year to be responsible for government funding to all post-compulsory education and training offered in New Zealand. TEC also oversees implementation of the TES, and is active in facilitating collaboration and co-operation in the tertiary system, with greater connectedness to New Zealand businesses, communities, iwi (indigenous Maori tribes), and enterprises.

In tertiary sector, Maori had the highest rates of participation of any group at aged 25 and over in 2002. Enrolments by Maori at degree level and higher have also grown faster than non-Maori. Wananga (Maori tertiary institutions) continued their significant growth, increasing from 26,000 in 2001 to 45,500 in 2002. Wananga now represent 11 percent of all students who studied at tertiary institutions in 2002.

d) Curricular policies, educational content and teaching and learning strategies

To help achieve the government's stated education goals of creating an education system that equips New Zealand with 21<sup>st</sup> century skills and reduce systematic disparity in achievement, New Zealand's national curriculum policy is learner centred and flexible enough to meet the needs of New Zealand's diverse student population, and allow students to experience success in a wide range of areas.

The New Zealand Curriculum is permissive and outcomes focused, meaning that content coverage is not specified or prescriptive. Innovation and change are at the heart of the way the curriculum is delivered in schools, and the achievement objectives ensure students have opportunities to achieve in seven essential learning areas and eight essential skill sets. The seven essential learning areas (in which all school must develop teaching programmes for Years 1 – 10 students) are Social Studies, Science, Mathematics, Languages, Technology, Health and Physical Education, and the Arts. Each school can choose the content relevant to their students and communities in each curriculum area. Schools can also promote the attitudes and values which are core to the community. The eight essential skills of the current curriculum are numeracy, communication, self-management and competitive, work and study, information, social, co-operative, and physical skills. In Years 11 – 13 the curriculum statements continue to underpin many teaching and learning programmes, but it is not compulsory for each student to learn in every curriculum area.

Between 2000 and 2003, the Ministry of Education undertook a stocktake of the national school curriculum, which considered adaptations to the curriculum to reflect the changes of the last decade and anticipate the needs of New Zealand in the near future. The stocktake found that in general, the New Zealand Curriculum provides a cohesive and coherent framework for learning in New Zealand schools which is comparable to international curricula ([www.minedu.govt.nz/goto/csr](http://www.minedu.govt.nz/goto/csr) or [www.tki.org.nz/e/community/nzcurriculum](http://www.tki.org.nz/e/community/nzcurriculum)).

The New Zealand Curriculum Project, which resulted from this stocktake, is currently underway and contributions are being made to the process. One key policy decision has been that by 2008 all Year 7 – 10 students should have opportunities to learn a second language. A revised curriculum is expected to be published in 2006. (Please also see section 2.3 regarding the Curriculum Project.)

The 1996 International Adult Literacy Survey showed that raising foundation competencies of much of the adult population would be one of the significant challenges across OECD countries. In 2002, nearly one in five New Zealand school leavers left school with no qualifications, and these people are more likely to have low levels of foundation skills. At the same time, there has been a steady increase in the proportion of school leavers moving directly into tertiary education. The Tertiary Education Strategy (TES) has a strong emphasis on raising foundation skills and

competencies over the next several years so that all New Zealanders can participate in a knowledge society. This will be achieved with a focus on increased access to foundation learning, clearer accountability for quality and outcomes, a common understanding of the problem and best practice teaching, and improved linkages between secondary and tertiary.

Quality teaching has been identified as the most influential point of leverage on student outcomes by domestic and international research, across a range of different outcome measures and educational systems. One way the Curriculum Project seeks to improve the quality of teaching in New Zealand is by incorporating and promoting the findings of the *Quality Teaching for Diverse Students: Best Evidence Synthesis (BES)* through curriculum policy.

The BES is a synthesis of New Zealand and international research into effectiveness of teaching on student achievement outcomes, focusing on students in class groupings in schooling. It is intended to enhance the development of evidence-base policy and practise in schooling, and contributes to ongoing and evolving dialogue amongst policy makers, educators and researchers in order to optimise outcomes for students in New Zealand.

Key findings presented in this BES include:

- Studies show up to 59% of variance in student performance is attributable to differences between teachers and classes whereas only up to 21% (but generally less) is attributed to school level variables;
- The central professional challenge for teachers is to simultaneously manage the complexity of learning needs of diverse students;
- Teaching needs to be responsive to diversity within ethnic groups and to recognise the diversity; and
- Evidence shows that teaching that is responsive to diversity within individual students – influenced by intersections of gender, cultural heritage(s), socio-economic background and talent – can have very positive impacts on low and high achievers at the same time. (Please also see section 3.2 for more on this topic.)

The Te Kotahitanga research project, led by Dr. Russell Bishop, investigated how Year 9 and 10 Maori student achievement in mainstream schools could be improved. On the basis of suggestions made by Maori students (as well as parents, teachers, principals and international literature), the research team developed an Effective Teaching Profile. This profile formed the basis of a professional development intervention which was implemented with 11 teachers in four schools.

Raising foundation skills is a high priority in the tertiary sector. The TES has four key objectives to signal that improvements in foundation skills are critical to the social and economic development of New Zealand:

1. increased access to foundation learning in a range of learning contexts for the achievement of good levels of literacy and numeracy and other foundation skills;
2. clearer accountability for quality and outcomes within foundation education, including a greater focus on assessment;

3. a common understanding of the definition of foundation skills and of best practice teaching in this area; and
4. improved linkages between secondary and tertiary education, and improved stair casing for learners within tertiary education.

**1.2 Major achievements, both quantitative and qualitative, and lessons learned especially in terms of:**

a) Access to education

- The Promoting Early Childhood Education Participation Project is an initiative to increase the level of active involvement of Maori and Pacific families and whanau (communities) in quality ECE, specifically targeted at 4 year olds.
- Project PROBE (Provincial Broadband Extension), a major joint initiative with the Ministry of Economic Development, is designed to deliver high speed broadband and internet access to schools and communities in rural and isolated areas of New Zealand, giving them access to ICT and e-learning tools.
- Group Special Education (GSE), located within the Ministry of Education, is responsible for special education service provision. The vision is to have an educational context available to all children and young people that maximises their wellbeing, their inclusion, their learning and achievement while embracing their uniqueness, their creativity and their participation. The GSE goals are to provide leadership and direction to the education sector, provide specialist education services, provide funding, promote sector development, and monitor and evaluate service provision.
- Special supplementary grants for tertiary students with disabilities is funding intended primarily to meet the needs of a small proportion of students with disabilities who have high cost service needs. The additional funding is provided to all public Tertiary Education Institutions to improve the access of students with disabilities to educational opportunities at tertiary institutions, increase the level of enrolments of students with disabilities at tertiary institutions, improve the levels of educational achievement by students with disabilities, and increase the accountability of tertiary institutions for their support of students with disabilities.

b) Equity in education

- Government funding helps ensure that resourcing is at least equal for those in lower socio-economic status communities, and a range of resourcing policies target additional funds to lower socio-economic groups. There is an equity funding system in Early Childhood Education, decile-based funding in schools including Targeted Funding for Educational Achievement (TFEA), and Special Education Grants (SEG). And tertiary education funding includes special supplementary grants for institutions enrolling disabled (see above), Maori and Pasifika students.

- *More Than Just Words: The New Zealand Adult Literacy Strategy* is a focused programme to improve adult literacy. Its three stated goals are to increase opportunities for adult literacy learning, develop the capability of adult literacy providers to deliver high quality education, and improve quality assurance mechanisms.
- *The New Zealand Adult ESOL strategy* has as its primary goal that all New Zealand residents from non-English speaking backgrounds be able to participate in all aspects of New Zealand life. (Please also see section 2.2.)
- ‘Computers in Homes’ is a programme that operates in the lowest socio-economic decile schools, and assists low income families to access computers and increases skills and participation in the use of electronic technology. Similarly, the ‘Books in Homes’ programme provides literacy opportunities for students in low decile schools and encourages students in these schools to participate in reading activities.

c) Quality (particularly in terms of relevance) of education

- Literacy and Numeracy Strategies and related initiatives take a system-wide approach to improving fundamental skills by clarifying expectations of student achievement, lifting teaching capability and developing community capability. (Please also see section 2.4.)
- The Early Childhood Primary Link (ECPL) programme helps students manage transitions between ECE and primary school. Set in low socio-economic areas, students in the programme have reached expected reading levels in a very short time. Improving transitions into secondary school, and then to tertiary or the workplace, are also areas of concern and ongoing progress.
- New NCEA qualification standards (described in section 1.1c) in secondary schools recognise what students have achieved and create broader, more flexible learning pathways. Assessment, monitoring and evaluating of system and individual performance through PISA (Programme for International Student Assessment), TIMSS (Third International Maths and Science Study), NEMP (National Education Monitoring Project) and SEA (School Entry Assessment).
- The asTTle (Assessment Tool for Teaching and Learning) diagnostic programme allows primary school teachers to customise tests based on learning needs, measure their students’ achievement and progress in relation to other schools and national standards, and generate feedback on student strengths and weaknesses.

d) Content of education (major trends and challenges for curriculum development processes)

(Curriculum information is covered comprehensively in sections 1.1(d) and section 2.3. This section will therefore highlight areas in the technology curriculum.)

- *Digital Horizons: Learning through ICT* is the Government's strategy to make sure all learners use information and communications technology confidently and creatively to help develop skills and knowledge they need to achieve personal goals and be full participants in the global community.
  - Te Kete Ipurangi (TKI, [www.tki.org.nz](http://www.tki.org.nz)) is the overarching website for teachers and is a key part of the Ministry's ICT strategies, as well as being the central point through which all the other officially funded sites and many other teaching related web-based resources are channelled. TKI gives teachers access to teaching/education information, and the ability to communicate with colleagues.
  - The LeadSpace website ([www.leadspace.govt.nz](http://www.leadspace.govt.nz)) is designed for principals and school leaders, and provides a "one stop shop" for all information requirements pertaining to school leadership. The website is divided into five main parts (e-Net, Leadership, e-Admin, Tools, and Knowledge) and houses the principals' electronic network. This network is confidential and for registered users, and gives principals access to more of their colleagues and provides a wider forum for discussion and issue resolution on education and educational leadership issues.
  - The TeachNZ website ([www.teachnz.govt.nz](http://www.teachnz.govt.nz)) helps promote teaching as a profession, develop teacher supply initiatives, inform overseas teachers of employment opportunities in key shortage areas, and deal with inquiries from overseas teachers interested in positions in New Zealand schools.
  - SchoolSMART is a web-based monitoring and reporting tool that is designed to provide indicator information to schools about themselves and in relation to others. A school can see (in graph and table form) how it compares to its geographic area, regionally and nationally on a wide range of indicators.
  - An e-learning Advisory Group (eLAG) was established in 2001 to provide advice on innovative ways to achieve a strategic direction for e-learning in New Zealand's tertiary education sector.
- e) Policy dialogue, partnerships and participation by civil society in the process of educational change
- Hui Taumata Matauranga is a process run by Maori for Maori, in which Maori feed what they want to see back to the Government as part of a cooperative working relationship designed to identify priorities and prepare solutions which will improve educational achievement.
  - Alignment and co-ordination of schooling and tertiary sectors with the larger Growth and Innovation Framework (GIF) process, which sets out the Government's sustainable economic growth objectives.
  - Partnerships with Maori organisations and Pasifika communities have contributed to an integration of education with community development,

Maori language revitalisation and iwi (tribal) development in a way that has seen significant lifts in engagement with education.

- ‘Feed the Mind’ is a public information campaign to support and encourage parents, family members and communities to feel confident and more aware of their ability to help their children read, write and do maths through everyday activities.
- New Zealand participates as a full collaborative partner in The Le@rning Federation, a joint programme also involving the Australian federal and state governments. This provides access to curriculum digital content appropriate to the New Zealand education sector and allows teachers and students access to high quality educational materials in the priority curriculum areas of mathematics, numeracy, science, literacy and languages.
- The School Board of Trustees model is a major civil engagement programme in itself, with nearly 2700 elected community boards. Each new board member receives a guide published by the Ministry of Education that is designed to provide readily accessible information to guide and support new trustees in their governance roles and responsibilities.

### ***1.3 The main problems and challenges facing the education system at the beginning of the 21<sup>st</sup> century***

*Underachievement.* While New Zealand’s education system has many strengths, and many students achieve very well compared with students in other countries, performance on international studies consistently shows disparities in achievement across the population that are as large or greater than the international averages. Of particular concern is that some groups in the community are over-represented in the tail of underachievement, including the growing Maori and Pasifika populations, and migrants (especially refugees and migrants with English as a second language). These achievement gaps have persisted for a long time and they represent a very significant challenge to both social and economic wellbeing, particularly given that the Maori and Pasifika populations are a growing proportion of the populations. Raising achievement for all and reducing disparity are the main missions of the Ministry of Education.

*Growing Diversity.* New Zealand faces increasingly diverse communities due to population and social changes. The education system needs to respond to different cultures and diverse aspirations, with a view towards ensuring that all individuals will be able to participate fully in society. With people living longer, a greater emphasis on educating an older workforce is required, as well as on adult literacy and lifetime learning.

*Technology and Information.* New technologies are advancing rapidly, creating new demands on the New Zealand education system in terms of the skills its’ people need for the future. Technology also creates many opportunities for new ways to deliver education and for learning to take place.

*Globalisation.* New Zealand is part of an increasingly interconnected economy, and globalisation is increasingly influencing what happens to New Zealand labour market and education system, both of which are becoming more international. Workplace changes happen rapidly, requiring workers to have greater flexibility and more transferable skills.

## **2. Quality education for all young people: challenges, trends and priorities**

### **2.1 *Education and gender equality***

In 2000, the Ministry of Education released a comprehensive literature review covering the period 1989-1999 on gender issues, *Explaining and Addressing Gender Differences in the New Zealand Compulsory School Sector*. The report was instructive in helping to clearly identify and explain gender differences, describe strategies used to address gender differences, and report available evidence of the effectiveness of those strategies.

Education outcomes across all levels show the greatest disparities are primarily socio-economic related, with some gender differences. While New Zealand appears to have a positive work place learning culture, there are some gender participation issues. Women comprise 45% of the labour force but tend to be under-represented in industry training and are less likely to be involved in job-related training. For example, six percent of current participants in the Modern Apprenticeships initiative are female. To address this, changes have recently been made to the contracts for the co-ordinators who recruit Modern Apprentices. From July 2004, stronger performance indicators will require co-ordinators to encourage and support the recruitment of modern apprentices from underrepresented groups, including women.

In many achievement areas girls outperform boys. Progress that can be seen on gender issues includes more women being enrolled at public Tertiary Education Institutions than men; participation rates for women in industry training having increased; and on average, girls attaining higher scores than boys for oral language, early literacy and numeracy. Behaviourally, retention rates of students at school beyond school leaving age show that boys leave more often than girls, that boys make up a large majority of those suspended from school, and boys are also ahead of girls among students leaving school with no formal qualifications.

Results from the *National Education Monitoring Project* (NEMP) which tests New Zealand students at Year 4 and Year 8 indicated that boys were more successful in physical education, mathematics and science, whereas girls were more successful in writing, reading and speaking.

Evidence from New Zealand's participation in the 2000 *Programme for International Student Assessment* (PISA 2000) indicates that there are 15 year-old boys and girls and members of all ethnic groups who are highly literate. Similarly, there were students from each of these groups who were low performers. The performance differences within these groups were greater than the differences between these groups (i.e., there was more variation in performance *among* girls than there was *between* boys and girls). PISA 2000 showed a gender gap in favour of girls exists for

reading literacy, although on average boys were still performing above the OECD mean. There was no significant gender difference in the areas of mathematical literacy and scientific literacy.

Results for NCEA Level 1 show that across all standards, 71 percent of standards entered were achieved. Girls achieved 74 percent of standards they entered and boys 68 percent. The most significant gender gap exists in favour of girls for English standards.

At the compulsory schooling level in New Zealand:

- boys are more likely to appear in the school disciplinary system;
- boys are 6% less likely to be retained at school to age 16 (This figure has remained relatively constant since 1995);
- boys and girls are referred to the District Truancy Services and the Non-Enrolled Truancy Service at similar rates; and
- boys are over-represented in Alternative Education.

In 2002 the Ministry of Education commissioned a pilot study, the Gender and Diversity Project, to explore approaches to understanding gender and addressing gender issues in secondary schools. The primary principle that underpinned the professional development aspect of this work was an understanding that gender issues form an integral part of teachers' work with students in the classroom. Schools participating in the programme are mainly working toward improving the quality of their teaching. This programme aligns with the Ministry of Education's continued focus on excellence in teaching and contributes to the Ministry's goal to raise achievement and reduce disparity.

In 2003 and 2004 the Ministry of Education developed a work programme to examine ways of enhancing the educational achievement of boys in compulsory schooling in New Zealand. Research into best practice for improving learning outcomes for boys was commissioned in April 2004, and an expert reference group is to be formed to provide advice on issues relating to the educational achievement of boys.

The New Zealand Curriculum "is a gender-inclusive curriculum, which acknowledges and includes the educational needs and experiences of girls equally with those of boys, both in its content, and in the language, methods, approaches, and practices of teaching". *Social Studies in the New Zealand Curriculum*, compulsory to the end of Year 10, requires that programmes in schools:

- examine issues related to sexism and explore ways to promote non-sexist attitudes and behaviour in the school and the wider community;
- develop learning experiences that encourage students to explore and value both traditional and non-traditional gender roles and the contribution and status of both women and men in different cultures, places and times; and
- ensure that boys and girls take active and valued leadership roles in activities and that they both have equitable access to resources, including teachers' time, learning assistance, and technological equipment.

As part of the current New Zealand Curriculum/Marautanga Project, a wide ranging consultation process is planned to engage lecturers, teachers, principals, students and others in revitalising the New Zealand curriculum. A number of focus groups will be

looking at specific aspects of the curriculum, including a group that will examine values in the NZ Curriculum and another on key competencies (skills and attitudes). This process will ensure the curriculum is effective in meeting the learning needs of New Zealand's diverse student population.

## ***2.2 Education and social inclusion***

New Zealand's education system is challenged by the fact that while it has enjoys high levels of above average achievement, by international standards it has a wide gap between its highest performing students and its lowest achievers. The wide variance in New Zealand learner achievement creates an imperative to do better for all our learners. There is a double-imperative when considering demographic projections, which indicate the education system is serving an increasingly diverse student population. Whereas Pakeha (European descent) learners have comprised a majority of the student population, within the next three decades it is predicted that Maori and Pasifika will comprise the majority of those in ECE and schooling. In addition, just in the last ten years the proportion of international and Asian students in New Zealand schools has grown from 4% to nearly double that.

The Iterative Best Evidence Syntheses (iBES) have worked with the concept of diversity in its identification and synthesis of research, which has been commissioned by the Ministry of Education as part of a commitment to strengthen the evidence-base that informs educational policy and practice in New Zealand. The use of the term 'diversity' rejects the notion of a 'normal' group and 'other' or minority groups of children/learners, and constitutes diversity and difference as central to education practice. That means all learners, including Pakeha, including high and low achievers, and so on.

Diversity encompasses many characteristics, including ethnicity, socio-economic backgrounds, home language, gender and sexuality, and special needs (including disability and giftedness). Within the commitment to diversity in New Zealand sits the related idea of social inclusion. A wide variety of programmes across the Ministry of Education seek to promote social inclusion and address the needs of affected groups, including Maori, Pasifika, international, at-risk, special needs and migrant/refugee students.

### *Maori*

At a national level, there have been small but positive improvements in recent years: Maori participation in ECE has increased, slightly more Maori are staying at school longer, more Maori are going directly from school to tertiary education, and Maori participation in tertiary education continues to grow.

- A key programme for providing educational information to under-performing learners, parents and communities is Te Mana – Ki te Taumata (Get There with Learning). This programme combines a national advertising campaign with materials and local events to promote positive messages about education to Maori and other groups, emphasising that making the right choices (and having access to information that supports these choices) can dramatically change and improve lives.

- Since it began in 2001, the Promoting Participation Programme has involved more than 41 organisations contracted across the country to work with Maori communities to develop local solutions that support Maori participation. In the 2002/03 year, nearly 2000 Maori children were enrolled in ECE as a result of this programme.
- The Ministry's *Tertiary Education Strategy (TES)* sets out a vision for the tertiary sector over the next five years. While all six aspects of the *TES* relate to Maori tertiary education, the second of the six strategies, 'Te Rautaki Matauranga Maori – Contribute to the achievement of Maori development aspirations', provides a particular focus on issues related to skill development, research and capability-building for Maori.
- Te Kotahitanga is a research project seeking to investigate how Year 9 and 10 Maori student achievement in mainstream schools could be improved. On the basis of suggestions made by Maori students (as well as parents, teachers, principals and international literature), the research team, led by Professor Russell Bishop, developed an Effective Teaching Profile. This profile formed the basis of a professional development intervention which was implemented with 11 teachers in four schools. The Te Kotahitanga project has shown significant evidence of improvements in Maori students.

### *Pasifika*

Pasifika Education Plan was announced in 2002. The key strategy direction of the Plan is to increase Pasifika learners' achievement in all areas of education by increasing participation, improving retention and focusing on effective teaching. The Plan has a long-term focus, informed by consultation with Pacific communities and educators, and it recognises that Pacific peoples must be supported to take charge of solving many problems themselves, in partnership with Government and education providers at all levels.

Within the Tertiary Education Strategy are incorporated the tertiary goals of the Pasifika Education Plan as four specific objectives aimed at educating for Pasifika peoples' development and success:

- encouraging and assisting the development of skills that are important to the development of both the Pacific and New Zealand;
- a tertiary education system that is accountable for improved Pasifika learning outcomes and connected to Pasifika economic aspirations;
- Pasifika for Pasifika education services which are assisted to grow their capability and enhance Pasifika people's learning opportunities; and
- increasing the proportion of Pasifika staff at all levels of decision-making at all levels of the tertiary education system.

### *At-risk*

The Suspension Reduction Initiative (SRI) is aimed primarily at Maori students, who are suspended, stood-down, truant or excluded from school at higher rates than non-Maori. However, it has succeeded in reducing suspensions not just for Maori but for all students. Schools and communities work together to share best practice and meet the needs of at-risk students. In addition, funding schools for enhanced learning and

study support centres are examples of positive initiatives being developed to encourage increased student participation.

There are also other measures to support at-risk students, including:

- contestable funding to support schools' initiatives to address poor achievement;
- community liaison officers, health and social workers to support students and their families in low socio-economic communities;
- alternative education opportunities for students alienated from the school system, from alternative class arrangements in schools to programmes purchased from other providers;
- sharing best practice in managing student behaviour;
- in addition to the SRI, other initiatives to reduce stand-downs, suspensions and truancy such as peer mediation and support, anger management, anti-harassment policies, and eliminating violence and restorative justice programmes.

### *Special needs*

The Enhancing Effective Practice in Special Education project is a two year programme examining the impact of education provision in a range of settings for children and young people with special education needs who require significant adaptation to the curriculum. The project aims to identify ways to increase the participation and learning opportunities for these learners. The project is taking place in primary and secondary schools (regular and special), and kura kaupapa Maori. It involves components of action research in educational settings, and professional development for teachers.

The Enhancing Effective Practice in Special Education project explores effective practice in New Zealand schools as well as provides professional learning opportunities for teachers. Ultimately we want to find out what teaching and assessment strategies most effectively support increasing the outcomes for learners, and then ways to support teachers to build on their strategies. A resource kit for facilitators to work in schools is being developed, as well as highlighting a networked approach within and across schools.

### *Migrant/refugee*

English for Speakers of Other Languages (ESOL) programmes can help raise student achievement. In 2000, 2400 students received ESOL (compared with nearly 15,000 adults receiving either formal or informal ESOL). Approximately 42% of ESOL students are Pacific students, nearly 70% of whom were born in New Zealand. Refugee students representing 40 language groups and 51 ethnic groups comprised 6% of ESOL students in 2000. Since 2000, Refugee Education Co-ordinators have been appointed to work with schools employing bilingual tutors from major language/ethnic groups.

The Government provides ESOL initiatives for state schools for international students, migrants, refugees and Pasifika, believing such programmes create a more cohesive community of learners, a higher level of achievement and improved education outcomes. Each year schools are invited to participate in a series of

professional development workshops for the effective teaching of international students in Years 1-6, and Years 7-13.

Relating to this, the TESSOL (Teaching English in Schools to Speakers of Other Languages) qualification aims to give teachers effective practical techniques for enhancing students' language development through the curriculum. Each year the Ministry of Education offers scholarships to teachers all around the country to study for TESSOL qualifications.

#### *Other areas*

In New Zealand, education relating to HIV/AIDS is inherent within sexuality education, one of the key areas of learning within the health and physical education curriculum. Sexuality education learning includes knowledge, understanding and skills regarding sexual and reproductive health, enhancing relationships and relating to sexual development (physical, emotional and social). These programmes encourage students to develop positive and responsible attitudes towards their own health and lifestyle.

### **2.3 *Education and competencies for life***

Well aware of the need to redefine the objectives and functions of secondary education for the 21<sup>st</sup> century, the Secondary Schooling Futures Project ([www.secondaryfutures.co.nz](http://www.secondaryfutures.co.nz)) is an example of how New Zealand is addressing and dealing with this challenge.

The Project aims to develop a broad ranging discussion about what secondary schooling in New Zealand should look like in 20 years time. Its main focus is to develop ways to improve teaching and learning so that we continue to improve student outcomes in the face of the many challenges and changes impacting on the secondary schooling sector. Secondary Futures is designed to be a positive exercise, highlighting successes and positive developments rather than simply identifying problems. In this unique endeavour, the Government serves as a contributor and active participant rather than the leader or 'owner' of the process.

A focused group of key stakeholders will debate specific issues and test ideas, receive and present ideas and feedback from the wider community, and keep sector groups informed and involved in the project. The process is designed to be open-ended, without a focus on deadlines and reports, and the result of Secondary Futures will not be a specific set of reports or a binding document. Instead, the Project will create a process for the Government and education sector to work together in a flexible and innovative environment. It will also chart a way forward for improving teaching and learning processes.

The types of questions that will be addressed include:

- what should the core purpose of secondary education be in 20 years time;
- what constitutes a successful school leaver;
- how can we ensure more school leavers are successful;
- how will the role of teachers change in the next 20 years;
- how can teachers and effective teaching practices be supported and enhanced;
- and

- how will the role of government, the profession, primary and tertiary sectors, family and community need to change to support an effective secondary school system?

In the last few years, different initiatives have been established in secondary schooling that provide young people with flexible learning opportunities and life-skills development. By augmenting and enhancing traditional curriculum, they are helping to equip senior schooling students with the skills needed to transition successfully into further education or the professional workforce. Two of these programmes are STAR and Gateway.

The STAR (Secondary Tertiary Alignment Resource) programme assists senior secondary school students to find suitable work or further study at secondary or tertiary level. STAR is available to all senior secondary students at state and integrated schools, and it aims to enable schools to:

- facilitate smooth progress and access from schooling to employment, by providing students with opportunities to undertake work-based learning or tertiary study or training; and
- improve retention in senior secondary schooling.

Gateway is a programme that integrates structured workplace learning with senior students' classroom based learning. Students achieve credits in the workplace, which they can use towards qualifications on the National Qualifications Framework.

Gateway has a proven record of facilitating education achievement for Year 11-13 students and supporting them as they move into further education or employment.

Gateway opportunities will be available to over 6000 senior school students in almost 160 schools by 2005, compared with 4000 senior secondary school students in 126 schools this year. Gateway opportunities will be available to all decile 1-6 schools in 2008.

The Curriculum Project will build on the Curriculum Stocktake's recommendations by modifying the curriculum to reflect the changes of the past decade, as well as those anticipated in the future. The project aims to:

- clarify and refine outcomes;
- focus on quality teaching;
- strengthen school ownership of curriculum; and
- support communication, and strengthen partnerships with parents/whanau and communities.

Consultation with trustees, principals and teachers this year will centre around developing draft curriculum documents containing the purposes, principles, values, skills, attitudes, and essence statements for each essential curriculum area. These will be compiled by expert focus groups, and consultation will take place in different ways, including web based input as well as face to face contact. Further consultation will follow a revised draft in 2005. Additionally, materials will be developed to support quality teaching and help schools to create curricula to suit the needs, cultures and backgrounds of their students and communities. Strategies for increasing parent and community involvement in raising learning expectations and supporting student achievement outcomes are also underway.

As part of the revision of the New Zealand Curriculum, the attitudes, skills and values of the national curriculum are being reviewed. In line with the OECD's Defining and Selecting Competencies (DeSeCo) work, consultation is underway on the following key competencies. The proposed framework of key competencies outlines what is needed by everyone for a good life and well-functioning society. These key competencies integrate essential skills, knowledge, attitudes and values.

The proposed framework has five overarching (and interconnected) groups of key competencies. Key competencies can be thought of as generic skills needed by everyone across a variety of contexts. The proposed key competencies framework is consistent with the draft tertiary education framework and aligns with the Learning Outcomes of Te Whaariki (Early Childhood Curriculum). It is also consistent with the OECD framework.

Individual competencies do not operate on their own. If particular competencies are not explicitly stated, they may be expressed in combinations of skills, attitudes and values. For example: generating knowledge results from a combination of language, literacy and numeracy, and creativity.

The key competencies become meaningful when combined with values and competencies specific to context and purpose. Skills, the disposition to use them, values and sensitivity to occasion all go together. It's not just what students know and can do but also whether they use them for good ends.

### Skills and Knowledge

Key competency groups consist of:

- **Thinking** – This group identifies types of thinking needed in all contexts, including cognitive (critical) and meta-cognitive (logical) thinking. Other competencies can be used effectively only if used in combination with the relevant thinking skills.
- **Belonging, participating and contributing** – This competency is concerned with opening doors for students so that they can belong, participate and contribute to a range of communities in particular contexts.
- **Relating to others** – This group is about the skills needed for relating to others, and also about the skills needed to live, work and play with other people, such as bi- and multi-culturalism, conflict resolution and co-operation.
- **Managing self** – This competency focuses on managing oneself as an individual and achieving and setting goals, persevering, self-monitoring and taking responsibility while remembering that one always acts in a social context.
- **Making meaning** – This competency group is about enriching students' ability to secure wide varieties of meaning from many forms of representations of ideas such as language, symbols, text, information and technology.

## Values

Relative to other countries, New Zealand has very low levels of language learning. In 2003 however, Government agreed that within five years, every Year 7 – 10 student should have the opportunity to learn a second language. This will enable students to develop greater understanding of the other cultures. In addition, the curriculum stocktake proposed that the essential learning areas/ngā wāhanga ako should place greater emphasis on certain themes. These themes may not result in a list in the next iteration of curriculum statements, but rather act as a tool to ensure the curriculum is cognisant of wider concerns, such as social cohesion; citizenship; education for a sustainable future; biculturalism; multiculturalism; enterprise and innovation; and critical literacy (including digital literacy).

### **2.4 *Quality education and the key role of teachers***

Teaching quality is a major influence on educational outcomes. Research shows that what teachers do can make a major difference to educational outcomes for students who are currently not achieving. New Zealand is in the early stages of a significant shift in the focus of policy interventions towards strengthening the culture of classrooms and the effectiveness of learning that occurs in the classrooms, a commitment that is reflected by ‘Excellence in Teaching’ being one of the Ministry of Education’s vital few outcomes. Assessment *for* learning as well as *of* learning is a critical part of this view.

A key feature of New Zealand’s work to enhance the status and role of teachers has been the establishment of the New Zealand Teachers Council, which was created in early 2002 to replace the Teacher Registration Board. The Teachers Council is the professional body for all registered teachers working in early childhood, primary, secondary and tertiary settings, and all teachers in New Zealand state schools must be registered through it.

The Council determines standards for teacher registration and the issue of practising certificates, establishes and maintains standards for qualifications that lead to teacher registration and approves teacher education programmes, in conjunction with quality assurance agencies. A code of ethics for teachers will be adopted by the end of 2004. In addition, a joint research project between the Ministry of Education and the Teachers Council beginning in 2004 will examine the ‘Status of Teachers’. This project will be on-going, with surveys being conducted over an extended period.

The Ministry of Education Iterative Best Evidence Syntheses (iBES) has drawn together in a coordinated way the available evidence about what works to improve education outcomes, and what can make a bigger difference for the education of all students. Based on the iBES research, quality teaching for diverse students has been made a key priority for schools for the next three years.

A main focus has been on improving the role of principals as teaching leaders and managers. Before 2000, principals’ professional development was unstructured, lacked depth and practical relevance, and failed to draw upon the knowledge of experienced principals. In 2001, a package of initiatives was announced and included: an induction programme for first time principals, development centres for experienced principals, a professional development guide, and an electronic

principals' network, including the provision of leased laptops. A principals' reference group was established to assist the Ministry of Education to implement these four initiatives.

The First-time Principals' Induction Programme is designed to provide new principals of all school types with the knowledge, skills and competencies required for successful school leadership. It consists of residential courses, a mentoring scheme, and a website for new principals that sit within the LeadSpace portal. The cost of the programme, including travel, is free to all principals appointed to their first permanent principalship. To ensure that all principals can access LeadSpace, the Ministry of Education provides a laptop leasing programme available to all principals (which all but 13 principals in the entire country have accessed).

The purpose of the Principals' Development Planning Centres (PDPC) is to provide an opportunity for experienced principals to work with their peers and on-site facilitators to reflect on, and evaluate, their professional skills and knowledge. The PDPCs are still being designed and piloted. It is anticipated that as a result of the process the principal will be supported in the development and implementation of a medium-term professional development plan to enhance his/her practice. Depending on the success of the pilot, the PDPCs will be open to all experienced (5+ years) principals beginning in later 2004.

Professional development for teachers, both pre-service training and in-service development, have also been addressed. Ministry of Education research is increasingly combined with professional learning to build teacher and Ministry knowledge about effective professional development for teachers.

There are a number of centrally funded and managed professional learning development initiatives focused on Government priorities such as numeracy, literacy, and assessment. Professional development to support the implementation of the National Certificate in Educational Achievement (NCEA) has been offered to all secondary teachers. The Numeracy Projects, which have shown that professional development for teachers can be effective in raising students' achievement regardless of the students' gender, ethnicity or socio-economic background. Weaknesses in teacher knowledge and understanding in a subject area contributes to their lack of confidence, leading to disappointing student achievement. The Numeracy Project results are important indicators of what can be achieved, and provide positive evidence that it is possible to overcome barriers and reduce disparities in achievement. Significant challenges remain, but the evaluations show that with high quality and effective teaching, all children can enjoy and achieve success learning mathematics. The projects have been extended to include all teachers in primary settings, including Maori immersion, with nearly 10,000 teachers participating so far.

The Literacy Leadership Programme was aimed at helping children in Years 1-8, and the Programme provides workshops and mentoring for principals and school literacy leaders so that they can lead and manage change in literacy policies, programmes and practice in their schools. Workshops are supported by professional development materials that focus on specific issues such as transition to school and working with Maori students. The Literacy Leadership Programme for secondary schools was offered to all secondary schools beginning in 2002.

A newly developed tool to assist teachers in effective teaching of all students is the Assessment Tools for Teaching and Learning (asTTle), which provides valid and reliable assessments in literacy and numeracy in both English and te reo Maori. Created by the Ministry and the University of Auckland, this remarkable tool has the built-in capacity to analyse data with pointers to assist teachers and schools to use the information gained. An individual student's strengths and weaknesses can be discovered so that teaching can be suited to their learning needs, teachers can see how their students are progressing in relation to national standards, and data can be provided to compare individual students, particular subgroups, or whole classes.

The Government also supports a range of Maori pre-service and in-service teacher training programmes. Te Ataarangi has developed strong links with institutions preparing teachers of Maori and in some areas plays a key role in training teachers for Maori language immersion schools. Te Kotahitanga and Te Kauhua are research and professional development projects focused on improving the teaching and learning of Maori students, and Te Whakapiki Reo aims to improve language competency of Maori language teachers, assist interpretation of the Maori curriculum, and improve teaching practices. Resource Teachers of Maori and Maori Advisers provide professional development and support for teachers in Maori language and Maori immersion programmes.

New Zealand has experienced a shortage of secondary teachers in some subject areas, and since 2002 the Ministry of Education has paid allowances in three instalments to graduates who are accepted into secondary teacher education programmes in English, Physics, te reo Maori, mathematics, chemistry, biology, physical education and computing/ICT. Scholarships are also available for Maori and Pasifika graduates and non-graduates. Loan repayments are available for third year Physics, te reo Maori and mathematics teachers as an incentive for retaining them in the profession.

## ***2.5 Education for sustainable development***

In the Early Childhood Education sector there is emphasis on the importance of the child's environment, including their physical environment, in fostering learning and development. One of the five strands focuses on learning through actively exploring the environment so that children develop ways to make sense of their natural, social, physical and material worlds. Since there is extensive research evidence that gaining strong foundation skills in the early years of life is important to reducing disparities, the Government is continuing to invest heavily in these early years to increase participation in high quality ECE.

Learning about the environment has long been a part of the New Zealand curriculum for schools. Decisions about students' participation in environmental activity are made at the school level, with the New Zealand curriculum providing many opportunities for engagement with the environment:

- All four strands of the *Science in the New Zealand Curriculum* relate to knowledge of the environment: "Making Sense of the Living World", "Material World", "Planet Earth and Beyond", and "The Physical World". The

integrating strand, “Making Sense of the Nature of Science and its Relationship to Technology”, also includes aims relating to the environment.

- *Technology in New Zealand Curriculum* aims to have students develop their awareness and understanding of the impacts of technology on society and the environment over time, and in local, national and international settings. Students’ technological activities must be carried out in seven different contexts, including the environment and energy.
- *Health and Physical Education in the New Zealand Curriculum* includes outdoor education, which gives students opportunities to develop personal and social skills to become active, safe and skilled in the outdoors, and to protect and care for the environment.
- The three processes involved in *Social Studies in the New Zealand Curriculum* are: inquiry, values exploration and social decision making. These require students to learn about, and for, the environment. Two of the five strands directly link to environmental education.

At the tertiary level, the Tertiary Education Strategy (TES) includes a focus on environmental sustainability and outcomes as national goals with significant implications for providers and other stakeholders. Polytechnics run National Certificate programmes on conservation, ecological management and sustainable land management, as well as programmes for the Agriculture Industry Training Organisation that aims to improve awareness of the importance of sustainable agriculture. In addition, Centres for Research Excellence (CORE) have been developed to raise the quality of research undertaken in areas of strategic importance to New Zealand.

From 2001, the Ministry of Education has developed materials supporting environmental education in schools (including resources in the Maori language, Te Reo Maori), provided additional professional development, and funded a sustainable organic school garden initiative.

In 1999, the Ministry of Education published *Guidelines for Environmental Education in New Zealand Schools*, followed in 2000 by a national programme that trained regional facilitators and environmental educators from local authorities to use these guidelines in planning school programmes. In 2001, these facilitators and environmental educators provided professional development for teachers from 200 primary and secondary schools. This programme extended to more areas in 2002 and 2003.

Over the past few decades, particular efforts have been made within New Zealand’s educational institutions to diversify and expand environmental education within the wider community itself. To this end, the Ministry of Education does not work on environmental education by itself, but rather alongside or in collaboration with other agencies, primarily the Ministry for the Environment, the, the Ministry of Agriculture and Forestry, the Ministry of Youth Affairs and the Department of Conservation.

- The Ministry for the Environment is responsible for developing and implementing the 1998 strategy for environmental education, *Learning to Care for Our Environment: Me Ako kit e Tiaki Taiao*. The strategy advocates an integrated national approach to environmental education across all sectors of the community, and links to government's long-term environmental and educational strategies. In addition, this Ministry funds local environmental education activities through the Sustainable Management Fund (SMF). These activities encourage local government, iwi and other community groups to develop policies and action plans that acknowledge their roles in environmental education and encourage partnerships to make the best use of limited resources and existing strengths.
- The Ministry of Agriculture and Forestry sends kits to schools and provides on-line information on sustainable agriculture.
- The Ministry of Youth Affairs has developed the Conservation Corps and Youth Service Corps programmes to encourage young men and women to get involved in conservation or local community projects, and to learn new skills through education and challenging recreation.
- The Department of Conservation's initiative *Conservation Awareness: Working with the Community* includes projects targeted at promoting public awareness of conserving the environment. Some of these projects involve rural and urban conservation advocates working with communities to raise conservation awareness of local conservation areas. One initiative provides local site-based education resources and teacher workshops for mainstream and Kura Kaupapa (Maori language immersion) schools to encourage greater use by schools of conservation sites.

Additionally, the New Zealand Association of Environmental Educators (NZAEE) focuses on providing an environmental education network. They do this with a newsletter, by promoting a national framework for Environmental Education, promoting Environmental Education initiatives, and promoting environmental education training for the formal and informal sectors. As part of the Sustainable Management Fund (mentioned above), the NZAEE has produced a National Directory of Environmental Education Resources as an on-line and print resource.

As New Zealand's population becomes younger, more ethnically diverse and people are living longer, reducing disparities between groups and raising the overall level of achievement need to remain the principle goals through all levels of education. In relation to this, education plays an important part in building a sustainable economic, social and natural environment. More engagement of Maori and Pasifika, and wider communities as a whole, in all types of education, including environmental, leads to greater involvement and allows people to participate more fully in all aspects of society.

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