



OFFICE OF THE
MINISTER FOR TERTIARY
EDUCATION

TERTIARY EDUCATION STRATEGY

2007-12

INCORPORATING

**Statement of Tertiary
Education Priorities
2008-10**



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Tertiary Education Strategy 2007–12

Incorporating Statement of Tertiary Education Priorities 2008–10

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Ministerial Foreword

This Strategy brings together both the Tertiary Education Strategy and the Statement of Tertiary Education Priorities. It sets out the government's expectations and priorities for New Zealand's tertiary education system. It will guide the Tertiary Education Commission's investment decisions and act as a reference point for the government's policy making and relationship with the sector.

In August 2006, I released a discussion document on the development of the next Tertiary Education Strategy and Statement of Tertiary Education Priorities. A large number of individuals and organisations from across the tertiary education sector, business, Māori, Pasifika peoples, unions, community groups and local government responded to that document. Between late August and late October 50 formal consultation meetings were conducted across the country with an estimated audience in excess of 1,600 people. By November, 175 unique written submissions had been received.

The feedback:

- confirmed that the expectations and priorities proposed in that discussion document were on the right track
- supported a more streamlined strategy with a clearer statement of the distinctive contribution that each part of the tertiary education sector needed to make
- confirmed that New Zealanders value our tradition of a broad and inclusive tertiary education system that makes a significant contribution to the economic, social, cultural, and the environmentally sustainable development of our nation
- told us that this Strategy needed to continue the first Tertiary Education Strategy's focus on the specific contribution that tertiary education makes to the realisation of Māori development aspirations and the realisation of Pasifika peoples' development aspirations.

In the development of this Strategy, the government has responded to the feedback provided through the public consultation process. This Strategy provides a clear statement of the government's expectations and priorities, it confirms the government's commitment to a broad and inclusive tertiary education system, and it sets out the specific focus that tertiary education organisations need to have on the aspirations of Māori and Pasifika peoples.

Together with the new system for tertiary education, this Strategy will support the tertiary education system to focus on quality and relevant education and research that supports the realisation of the goals of New Zealanders and the development of our nation.

A handwritten signature in black ink, which appears to be 'Michael Cullen'. The signature is fluid and cursive, written in a professional style.

HON MICHAEL CULLEN
MINISTER FOR TERTIARY EDUCATION



**INTRODUCTION AND
CONTEXT FOR
THIS STRATEGY**



Introduction

The tertiary education system is a significant national asset. Tertiary education and research underpin the realisation of New Zealanders' goals and aspirations and the sustainable development of New Zealand's economy and society. The importance of tertiary education to broader goals and aspirations is what makes having a strategy important.

This Strategy will guide the Tertiary Education Commission's investment decisions in order to maximise tertiary education's contribution to our national goals. Instead of separate Tertiary Education Strategy and Statement of Tertiary Education Priorities documents, the government is setting out its expectations and priorities in one document.

This Strategy provides a direction for all tertiary education. It recognises that tertiary education is broader than that funded and/or regulated by government. While the actions outlined in this Strategy largely focus on the regulated and funded tertiary education organisations the government recognises that a significant amount of learning occurs in families, communities and the workplace.

The first Tertiary Education Strategy took a broad and inclusive approach to cover the diversity of tertiary education. This Strategy continues that inclusive direction but sharpens the focus. The focus is much more explicitly on what the government expects the tertiary education system to contribute and the priority outcomes for action in the immediate future.

Through a statement of the distinctive contribution to be made by different parts of the sector, this Strategy sets clear expectations for tertiary education organisations about the role they play in the system. With all tertiary education organisations focused on their distinctive contributions we will be able to continue New Zealand's tradition of a broad and inclusive system that provides access to quality, relevant tertiary education for all.

Within the broad national framework, the Strategy recognises the specific responsibility that tertiary education has for contributing to the achievement of Māori aspirations and development. The Strategy requires all tertiary education organisations to work with Māori to ensure that education and research supports the development of skills and knowledge that Māori require to manage cultural and economic assets. The Strategy recognises that a key aspiration of Māori is that Māori knowledge, Māori ways of doing and knowing things, in essence Māori ways of being, are validated across the tertiary education sector. The Strategy will continue to support wānanga and other providers to provide education and research in accordance with kaupapa Māori philosophies. Throughout this Strategy, specific explanation is provided as to how the contributions and priorities will contribute to the realisation of Māori aspirations and development.

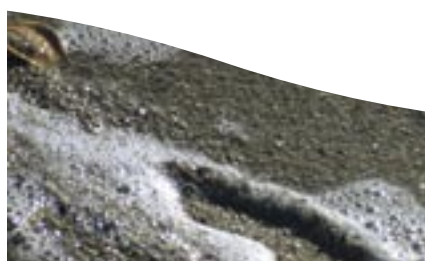
The tertiary system also needs to be responsive to the development aspirations of Pasifika peoples. Within this Strategy, explanation is provided as to how the expectations and priorities for the tertiary education sector apply for Pasifika peoples.

The tighter focus of this Strategy responds to the evaluation of the first Tertiary Education Strategy which found that students, tertiary education organisations and the Tertiary Education Commission required more guidance to support decision making. The new system for tertiary education is built around 'investing in a plan'. The success of this system will be in the quality of investment decisions made by students, tertiary education organisations, and the Tertiary Education Commission. The government is supporting quality decision making through a clear statement, in this Strategy, of government priorities for education and research.

This Strategy outlines the new tertiary education system but the detail of how that system will make the expected contributions will be subject to negotiation and agreement between stakeholders, tertiary education organisations and the Tertiary Education Commission.



Structure of this Strategy



Context for this Strategy

The New Zealand tertiary education system makes a unique and invaluable contribution to the country's national development in all dimensions – social, economic, cultural and environmental. The sector has a number of strengths, including a strong tradition of providing access to a broad range of education opportunities and an increasing focus on excellence in research.

This Strategy sets a direction to increase the contribution that tertiary education makes. This section provides an explanation of the contribution that the government expects from tertiary education towards the government's goal for New Zealand, and an assessment of the current state of the tertiary education sector. Some of the challenges and opportunities that the sector will face in the period of this Strategy are also discussed.

The Tertiary Education Sector

Tertiary education in New Zealand includes all post-school education. It includes:

- adult and community education
- foundation education, comprising literacy, numeracy and language as well as basic computing, and interpersonal skills
- certificates and diplomas
- bachelors degrees
- postgraduate qualifications, many of them requiring students to conduct substantial original research
- industry training, including modern apprenticeships.

In addition, employers provide industry-related and other training in the workplace. There is considerable formalised training activity in the workplace and some of this is funded by government while the rest is supported by business.

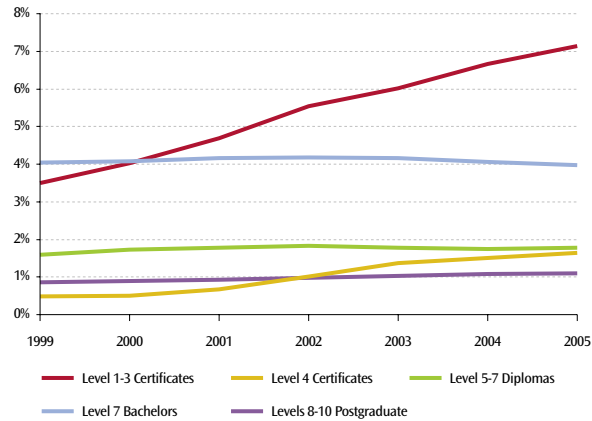
To support a shift in focus giving more attention to quality teaching and learning which is relevant to the needs of students, the economy and society, the government is changing its system for tertiary education funding. Over the next five to ten years we need to:

- increase the number of New Zealanders achieving qualifications at higher levels (e.g. trades training, diploma, degree and postgraduate education)
- ensure more young New Zealanders complete their tertiary education qualifications before the age of 25
- improve the literacy, numeracy and language skills of New Zealanders
- reduce skills shortages through improving the relevance of tertiary education to the needs of the labour market
- continue to build the excellence of tertiary research
- increase the application of tertiary research to economic, social and cultural development.



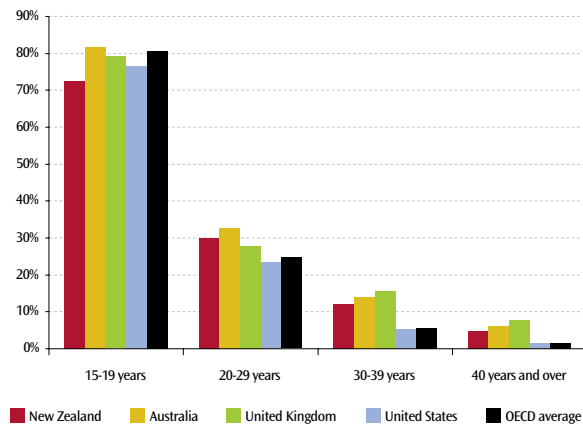
The monitoring of the sector before and during the period of the first Tertiary Education Strategy provides a picture of mixed progress.

The main growth in participation has been in level one to four certificates, with participation at higher levels steady and, in some cases, declining.



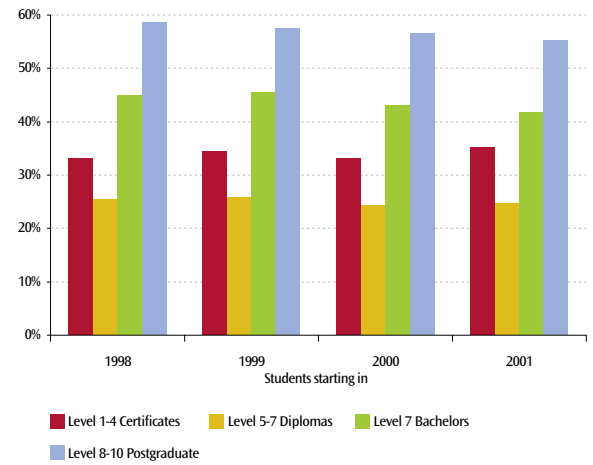
Percent of total population in formal tertiary education by qualification level

Compared with the OECD average, New Zealand has lower participation in the youngest age group but higher participation rates thereafter. This is also true in comparison with the United States of America but New Zealand's participation rates are generally lower than those of Australia and the United Kingdom.



OECD enrolment rates in formal education by age group and selected countries (2004)

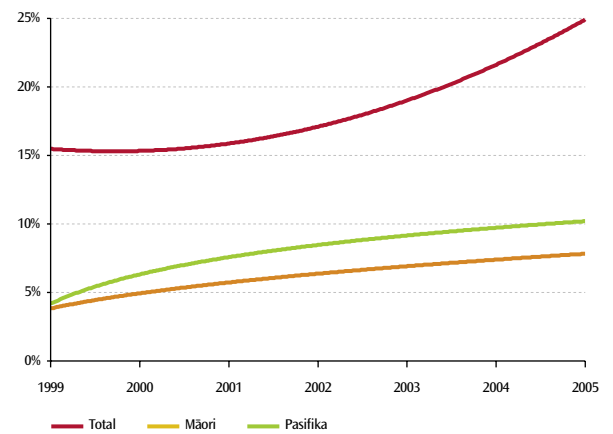
Qualification completion rates have remained steady at certificate and diploma level, but have declined for bachelors and postgraduate degrees.



Five-year qualification completion rates by qualification level

Note: Tertiary education institutions only.

While there has been an increase in the proportion of the population holding degrees, the rate of increase has been slower for Māori and Pasifika peoples.



Percent of population aged 25-39 with a bachelors degree or higher

Source: Statistics New Zealand, Household Labour Force Survey.



The Government's Goals for New Zealand

Our aim is a high income, knowledge-based economy, which is both innovative and creative, and provides a unique quality of life to all New Zealanders.

Tertiary education will help achieve that goal by providing high quality learning and research, contributing to the sustainable economic and social development of the nation and providing for a diversity of teaching and research that fosters the achievement of international standards of learning and, as relevant, scholarship.¹

The government's priorities for the next decade will be shaped by three themes to reach this goal and ensure that all New Zealanders enjoy prosperity and a high quality of life. Under each of the themes, opportunities are sketched out showing how tertiary education can contribute to social and economic outcomes.

Economic Transformation – accelerating the pace of change in our economy

Attract and encourage high-value businesses and well-paid jobs with a highly-skilled New Zealand workforce.

- **Continue** to support broad participation by New Zealanders, understand and meet the needs of businesses and up-skill the workforce with advanced skills
- **Help** New Zealand firms grow and compete globally – develop leaders with entrepreneurial and business management skills to underpin innovation and productivity
- **Help** to maximise Māori collective assets and grow Māori innovation – develop Māori business leaders with entrepreneurial and management capabilities to underpin innovation and productivity
- **Supply** research and knowledge to create commercial opportunities for New Zealand firms, connect effectively with businesses to realise these opportunities, and support infrastructure development



¹ Section 159AAA of the Education Act 1989 (as amended).

- **Promote** New Zealand internationally through international study, research and academic exchange opportunities and connections; providing high quality education for international students sustaining a high-value export education sector
- **Balance** progress with environmental sustainability by providing New Zealanders with the knowledge and skills to understand and work within environmental constraints.

Families Young and Old – providing families with the support to maximise potential

Greater personal wellbeing and security for individuals, families and whānau, and improved outcomes for children.

- **Ensure achievement** of individuals' potential to secure improved personal wellbeing and security and improved outcomes for families, whānau and children
- **Provide** quality teaching and research to support and develop New Zealand's health, education, justice and social services systems – tertiary education organisations and the Tertiary Education Commission will need to work closely with social services service providers to understand and respond to their requirements.

National Identity – pride in who and what we are

Our arts, culture, film, sports and music; our natural environment; our history and our stance on international issues.

- **Safeguard** and interpret our shared and diverse cultures and view of our place in the world
- **Support** Māori success by maintaining and developing Māori language and culture
- **Build** understanding and connections with each other, with our natural environment and with the wider world
- **Help** preserve our natural environment by promoting understanding and skills in conservation and eco-restoration
- **Foster** and develop our cultural and sporting achievement by supporting understanding and celebration of our diverse cultures. Continue to act as 'the critic and conscience of society'.

Challenges and opportunities

In the period of this Strategy there will be changes to the environment which tertiary education organisations operate in. These changes present both challenges and opportunities as outlined below.

Build global awareness²

We are witnessing rapid growth in:

- global trade – large developing economies emerging with increasingly skilled workforces
- technological change – new products, markets and trade in previously non-tradable goods and services
- global demand for skilled and talented workers – higher mobility of skilled workers.

The tertiary education system needs to respond to these trends and:

Provide education with an increased international dimension

– support New Zealand and New Zealanders to compete internationally and support New Zealand's contribution to international economic and social development and environmental sustainability, especially in the Pacific.

Attract the best students and academics to New Zealand – a focus on quality, relevant education and research that maintains and improves the academic reputation of the tertiary education system. Universities' international links will help maintain and improve the quality of our education and research.

Lift productivity and innovation

High employment and labour force participation rates mean future economic growth will rely more on increasing productivity and raising adult workers' foundation skills than increasing the size of the labour force. Productivity increases will come from a range of activities.

Work closely with industry to meet business needs – productivity increases will come from a more highly skilled workforce, more highly skilled management, capital investment (including infrastructure) and technological progress.

Support a more highly skilled workforce – a 'knowledge economy' demands abstract reasoning, problem solving and communication skills.

Raise adult workers' foundation skills – a large number of New Zealand adults have relatively poor foundation skills. Addressing this would improve workforce productivity and adaptability.

Support innovation – research to develop new technologies and better ways of doing things.

² The International Education Agenda will be released in 2007 and will focus on four key goals:

- New Zealand students equipped to thrive in an inter-connected world
- Providers strengthened academically and financially through international linkages
- International students enriched by their educational and living experiences in New Zealand
- Strong direct economic and social benefits to New Zealand.

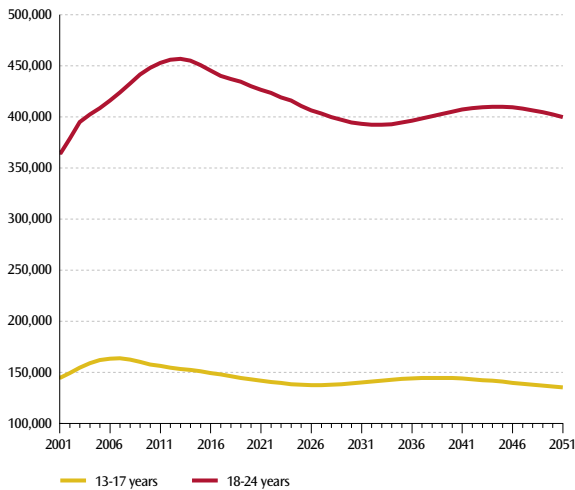
The changing face of New Zealand

The challenge is to meet the needs of students of all ages, ethnicities, abilities and educational backgrounds.

Manage the ‘baby blip’ – the large number of students achieving upper secondary qualifications and moving into tertiary over the next ten years will impact on tertiary education.

Focus on diversity – Māori renaissance, migration patterns and a growing international student population mean Māori, Pasifika and Asian peoples are all becoming a larger proportion of the population. Attracting and retaining these students and developing a culture of lifelong learning will depend on a tertiary system that is responsive to diverse students.

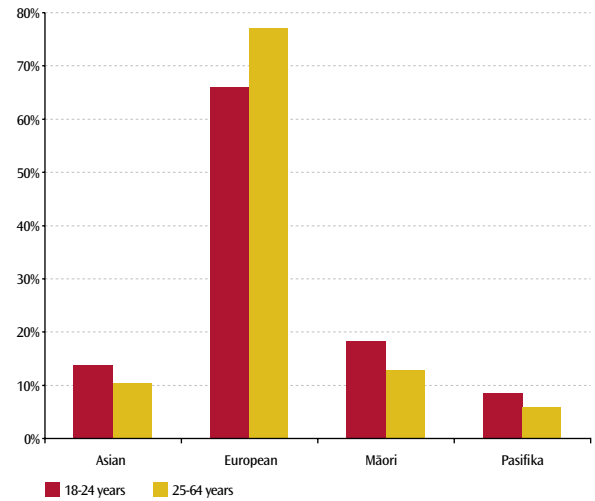
The number of 18 to 24 year olds in the population increased by more than 50,000 from 2001 to 2006, and there will be a further increase of more than 35,000 by 2011.



Projected resident population by selected age groups

Source: Statistics New Zealand, series 4, 2001 base.
 Note: Base is the estimated resident population of New Zealand at 30 June 2001.

Māori, Pasifika and Asian peoples will make up a greater proportion of the 18–24 year population in 2007, compared with the proportion of these ethnic groups in the population aged 25–64.



Estimated resident population in 2007 by ethnic group and selected age groups

Note: Percentages are calculated using Statistics New Zealand ethnic population projections (series 6, 30 June 2001-base) and Statistics New Zealand national population projections (series 5, 30 June 2001-base).

Māori living as Māori in both Te Ao Māori and in wider society

The positive development of Māori, their assets, resources, knowledge and enterprise is contributing to Māori improving their own well being and making a strong contribution to the economic, cultural and social fabric of New Zealand.

Work with Māori and take responsibility for Māori education and research outcomes – provide education and research that is relevant to Māori aspirations, including the development of mātauranga Māori. An increasing proportion of tertiary students identifying as Māori means that the quality of the tertiary education system will be increasingly measured by the outcomes of Māori students.

The Māori Education Strategy (2007) will articulate the aspirations of Māori in education for the education sector as a whole and build from the expectations and priorities set out here.

Sustainable use of natural resources

Provide knowledge to meet the challenges and opportunities of a changing world and to understand and work within environmental limits.

Help New Zealanders understand and protect our environment – key industries rely on the quality of our natural resources.

Add value to primary production, help manage increased pressure on national resources, help manage and restore our indigenous ecosystems and biodiversity – through teaching and learning, research, knowledge transfer and innovation. ■



**THE NEW TERTIARY
EDUCATION SYSTEM**



The New Tertiary Education System

The success of this Strategy relies on action from all involved. Students need to make informed decisions about what and how to study, tertiary education organisations must focus on excellent and relevant tertiary education, while stakeholders need to provide good information about the skills and knowledge they need from the tertiary education system. The Tertiary Education Commission needs to make investment decisions based on evidence of performance and government needs to provide a system that supports all this.

Support for students

The government will continue to support broad-based participation in lifelong learning by New Zealanders through:

- supporting affordable, equitable access to tertiary education through tuition subsidies and a range of student support, including student allowances, merit- and needs-based scholarships, and student loans which are interest-free for students who remain in New Zealand
- ensuring that students' own financial contributions through fees are affordable, predictable and fair.

The tertiary education system's success in developing the skills and competencies needed to attain our national goals depends on ensuring that students are studying in areas that will lead to these outcomes. Strong school to tertiary education connections that provide good information for all students' decisions about where, when and how to engage in tertiary education are needed. Tertiary education organisations and schools are expected to continue to develop connections to support students to move from one setting to the next as well as supporting students who re-enter education later in life. The government supports this through Career Services' provision of independent career advice and information to help people plan their learning and career pathways; and through StudyLink's financial advisory service which supports student loan borrowers to make sound financial decisions when investing in their education.



New approach to planning, funding, quality assurance and monitoring for tertiary education organisations

From 2008, we will progressively introduce a new approach to planning, funding, quality assurance and monitoring in the tertiary education system. In 2008 new legislation will be in place to support the implementation of this system.

The new system for tertiary education will promote a much stronger focus on quality and relevance of education and research outcomes. It will ensure that tertiary education organisations identify, plan for, and meet the needs of students, employers, industry, Māori, community groups and other stakeholders. It will do this through investing in tertiary education organisations to support and reward quality and through requiring tertiary education organisations to demonstrate that their education and research is contributing to economic, social, cultural and environmental outcomes for New Zealand and New Zealanders.

The government recognises that its investment system needs to change to support tertiary education organisations to shift their focus from participation and funding to achievement and the long term needs of stakeholders.

In this investment system, the government expects the Tertiary Education Commission to:

- make more active and considered funding decisions, with controlled funding. Funding will be linked to plans that are negotiated with tertiary education organisations. Those plans define the role of tertiary education organisations in the network of provision and the range and scale of provision the government will fund
- make investment decisions based on evidence of the quality and relevance of education and research
- use more diversified and sophisticated approaches to funding a differentiated network of provision
- take a longer-term view – this means offering greater certainty and stability of funding, and expecting greater investment in capability, quality and sustainable improvement.

To achieve this, changes have been made to increase the focus upon wise investment decisions, supported by capability building and collaborative working relationships. Government expenditure on tertiary education will no longer be ‘demand driven’, but instead will be set as a three-year funding path. The funding path will be set based on inflation pressures, expected demographic change, student demand and competing priorities within and outside the education sector.

This is not about limiting access to tertiary education, but ensuring that tertiary education resources are focused on courses that meet the goals of New Zealand and New Zealanders.

Investment in tertiary education organisations will be on the basis of a negotiated Plan. In negotiating the Plan, the Tertiary Education Commission will be looking for evidence of alignment to distinctive contributions, and to the priority outcomes of this Strategy. The Tertiary Education Commission will set out more detailed expectations in its investment guidance that supports tertiary education organisations in the development of their Plans.

One of the outcomes of these changes will be greater clarity about the government’s expectations of tertiary education organisations. This does not mean that government is trying to define all the needs and priorities for the system. The priorities are designed to reflect both national and local needs. While contributing to the national priorities, tertiary education organisations need to serve their local communities.

The new investment-based approach will expect and reward high performance. An assessment of the organisation’s performance, and assurance of its quality, will increasingly inform investment. The quality assurance and performance monitoring system will have an increased focus on outcomes. There will be greater transparency in the performance of the tertiary education system, and of tertiary education organisations within the system, as the quality of performance information improves and is made more available to students and the public.

A significant focus of the new system will be on supporting the development of capability. There will be explicit funding of capability through the Tertiary Education Organisation Component.

The new system will be focussed on a differentiated but complementary network of provision. This requires stronger collaboration between tertiary education organisations to maintain student pathways, and build on each others’ strengths. It also requires better connections with organisations and sectors outside the tertiary system, to ensure the relevance of tertiary education and research for industry, business and community groups.



Distinctive Contributions

Distinctive contributions set out the government's expectations of the contributions to be made by different types of tertiary education organisations.

A distinctive contributions approach recognises the key strengths and differences between tertiary education organisations. This is to ensure a diversity of education provision, develop critical mass and expertise, assist decision-making and minimise undesirable duplication.

The overall goals that Government has set for tertiary education are 'interpreted' at the sub-sector level through these distinctive contributions – for example, each tertiary education organisation type has a different contribution to make to "Success for all New Zealanders through lifelong learning". By working together to complement each others' contribution, tertiary education organisations will collectively achieve this goal.

Therefore, these distinctive contributions are a key part of achieving this Strategy. Outlined below is a statement of the government's expectations of different types of tertiary education organisations. Some of the changes sought to support the distinctive contributions of each sector are challenging, and will take much more than the three-year period of this Strategy. It is expected that the Tertiary Education Commission will work with sub-sectors to establish a challenging but reasonable pace of change, signalled through its investment guidance, and agreed through individual tertiary education organisation Plans.

In addition to these roles, the government will investigate the introduction of a distinctive contribution for "universities of technology".

Universities

New Zealand needs a system of high quality academic education and research that provides for the development of skills and knowledge that supports New Zealand and New Zealanders to compete internationally.

Universities are core to this system. They will continue to:

1. provide a wide range of research-led degree and postgraduate education that is of international quality
2. undertake excellent research in a broad range of fields
3. engage with external stakeholders (communities, business, industry, iwi, and the research community) in the dissemination and application of knowledge and in promoting learning.

The key shifts to advance these roles are:

- enhanced differentiation and complementarity among universities (and with other sub-sectors) to ensure an effective, high quality network of university provision
- increasing the achievement at degree and postgraduate levels of under-represented groups, especially Māori and Pasifika students, through strengthening pathways from schools and other tertiary education organisations, and enhancing support structures within universities
- enhancing the contribution that university teaching and research make to economic growth, and exploring what more can be done to further understand that contribution
- increasing collaboration and building critical mass in teaching and research, particularly in postgraduate research degree provision, and in more specialised areas of undergraduate teaching
- focusing capability building efforts to achieve increased quality and performance against international benchmarks.

Institutes of Technology and Polytechnics

Economic transformation to a high skill, high productivity, and high wage economy that is internationally competitive is a key priority for New Zealand. This requires continuous development of a productive, skilled workforce.

In order to achieve that, New Zealand needs a system of applied professional and vocational education that is of an internationally competitive quality, with a strong international reputation. Applied education needs to focus on developing individuals for productive employment, and equipping them with the adaptable skills to continue to develop New Zealand's productivity and capability for innovation. It needs to be complementary to, and have parity of quality and reputation with, other forms of learning.

The roles of institutes of technology and polytechnics reflect these aims:

1. to provide skills for employment and productivity
2. to support progression to higher levels of learning or work through foundation education
3. to act as a regional facilitator.

Applied professional and vocational education will continue to involve different types of tertiary organisations with clear roles and diverse communities of interest. The key potential of institutes of technology and polytechnics is that, as publicly-owned regional institutions, they can provide enhanced forms of support to students to progress into higher levels of learning, and can concentrate resources and capability. Further, government looks to them to provide support to the system at a regional level.



In order to achieve this potential, the following shifts are required of institutes of technology and polytechnics:

- extending the reach into high levels of learning, with all teaching informed by an understanding of advanced practice, and in some cases also by applied research
- growth in volumes of learning in applied diplomas and degrees where the impact on productive capability is the greatest
- a step-change in the extent of progression from entry level into technician level and higher learning, building on a continued focus on providing entry-level and foundation education
- building a role as regional facilitator, providing support to the system at a regional level, through building a shared understanding about the tertiary education needs of local communities and industries.
- increasing involvement in evidence-based technology development and transfer.

Wānanga

This section is about the following three wānanga; Te Wānanga o Aotearoa, Te Whare Wānanga o Awanuiārangi, and Te Wānanga o Raukawa. As the distinctive contributions highlight, the three wānanga contribute to New Zealand's overall tertiary landscape through the way they operate, through the areas they work in, and through the groups they work with. The distinctive contribution of wānanga is as follows:

1. provide quality education in accordance with kaupapa Māori philosophies, principles and approaches. This means Māori ways of organising teaching, learning and research, along with organisational administration and leadership, will be prevalent within wānanga. The overarching purpose of this is to contribute towards the survival and well-being of Māori as a people
2. continue to maintain and develop quality teaching, learning and research environments based on āhuatanga Māori in accordance with tikanga Māori. The founding iwi of each wānanga, and those iwi supporting each wānanga, have a role to play in ensuring this is appropriately upheld
3. have a continuing role to play in re-engaging learners into education. For some wānanga this will occur largely through the provision of foundation learning opportunities. Re-engaging learners will occur in the context of quality teaching and learning environments based on āhuatanga Māori and tikanga Māori and, as such, is likely to attract a high proportion of Māori learners
4. continue to develop quality learning opportunities (programmes and research) informed and embodied by mātauranga Māori.³ This will include an increasing contribution to sector-wide leadership towards continued advancement of mātauranga Māori. This will occur at all qualification levels, across academic fields of study (including the arts, sciences and commerce).



³ This will occur in the context of āhuatanga Māori and tikanga Māori based environments. Mātauranga Māori is understood to be Māori knowledge, and is considered to be an ever evolving and expanding intellectualism and practice.

Inherent within the distinctive contributions of wānanga is the premise that the iwi groups providing support to each wānanga, particularly the respective founding iwi, are well-placed for helping to ensure āhuetanga Māori and tikanga Māori are appropriately upheld within a wānanga context. This approach aligns with a key thrust of the tertiary reforms, ensuring provision is centred on the needs and aspirations expressed by key stakeholder groups, and is matched with measures that are agreed between the community, tertiary education organisations and government.

Over time the wānanga contribution towards the advancement of mātauranga Māori, and to Māori as a people, will be a distinguishing feature of New Zealand's tertiary education sector in a global sense.

The key shifts to advance the role of wānanga will be:

- focusing capability building efforts to achieve increased quality and performance against new benchmarks within the tertiary education reforms
- strengthening the engagement of iwi and Māori within the tertiary education sector to assist in guiding and supporting the delivery of wānanga provision
- strengthening of provision at the diploma and above level within the wānanga sector
- a strengthening of the wānanga contribution to sector-wide leadership to sustain the continued advancement of mātauranga Māori
- increasing cross-sector collaboration opportunities, and improving staircasing and pathways between wānanga and other tertiary education organisations to maximise Māori potential opportunities.

Industry Training Organisations

The roles of industry training organisations are not changed within the distinctive contributions approach. These will continue to be:

1. providing leadership within the industry on matters relating to skill and training needs
2. designing national qualifications and setting and quality assuring national standards
3. arranging for the delivery of industry training.

The first two roles are unique to industry training, placing industry training organisations at the interface between their industries and the tertiary education sector, to ensure that industries' skills requirements drive the provision of education and training for industries.

The significance of these roles is changing. In particular, the development of a Plan requires considerably better understanding of the current and future needs of employers (amongst other groups), and industry training organisations are responsible for maintaining such an understanding.

The skills leadership role will entail industry training organisations providing accessible descriptions of their industries' skills and education requirements, and working with other tertiary education organisations to analyse the education needs of their industry. Their advice will also be needed to support Tertiary Education Commission planning.

Therefore, the key shifts required over the next period are to:

- build industry training organisations' capability to provide skills leadership in new ways (i.e. sharing their information across a wider range of stakeholders, and with the Tertiary Education Commission)
- lift the quality and performance of industry training in line with the improvements in quality required of other parts of the tertiary sector (and in the context of the ongoing increases in investment in industry training)
- continue to respond to industry skills needs by fulfilling their third legislated role – managing the delivery of industry training.



Private Training Establishments

The private training establishment distinctive contribution is intended to support the government's investment decisions in tertiary education and the outcome expectations sought from that investment:

1. private training establishments are operated by a wide range of companies, trusts and other entities. The sector is diverse in terms of scale of operation, location, ethnicity, culture and areas of educational expertise. This enables flexibility and responsiveness.
2. this diversity provides for a range of individual responses to specific needs, including those of learners, industry, employers, communities, Māori, Pasifika peoples and other stakeholders. Individual private training establishments will have an individual contribution to make to the network of provision in line with their particular capability and should focus on this. This will contribute to a broad, comprehensive, flexible, efficient and effective network of tertiary education provision in which the various sub-sectors provide education that meets the needs of stakeholders in complementary ways.
3. investments in individual private training establishment contributions will be in line with performance within the context of the network and/or capability within the network to respond. While individual responses can be made to specific needs that arise across the system, the focus for most private training establishments will be – as now – in the areas of employment and educational progression, foundation learning where this fits with available funding mechanisms, and Māori (including marae- and iwi-based provision) and Pasifika learning environments.

Adult and Community Education Providers

Adult and community education providers are diverse in nature, ranging from universities to Rural Education Activities Programmes (REAPS), and while their approaches are naturally quite different, their provision of adult and community education is expected to align to five national priorities:

1. targeting learners whose initial learning was not successful
2. raising foundation skills
3. encouraging lifelong learning
4. strengthening communities by meeting identified community needs
5. strengthening social cohesion.

These priorities represent the distinctive contribution of the adult and community education sector. For some providers, this is their only contribution to tertiary education, and hence this represents their full distinctive contribution. For others (in particular tertiary education institutions), this represents a small part of their role, and should be delivered in support of their full distinctive contribution.

The achievement of these priorities (and hence the distinctive contribution of the adult and community education sector) is through the continued implementation of the reforms under way in quality assurance, capability building, and funding.

Other Tertiary Education Providers

Other tertiary education providers (OTEPs) each have their own contribution to make – these contributions cannot be described as a single set, but typically involve a combination of national leadership within their particular sphere of responsibility (for example through capability building work), as well as provision of education. As the other elements of the tertiary reforms progress, any implications for OTEPs will be discussed with them.



Focus on Educational Success

Central to the role of all tertiary education organisations is a focus on educational success. Educational success is achieved when engaged, effective students receive quality teaching in quality learning environments (whether that be in the classroom or the workplace). The government expects tertiary education organisations to have in place the necessary systems and structures to ensure that:

- individuals are motivated to learn, engaged and have the skills and information needed to be effective students
- educators continually update their knowledge of their subject and of effective teaching and learning; are responsive to a diverse range of students and teach a rich set of competencies in the content of a course
- they foster professional learning communities, and offer the resources and support needed for teaching and learning.



Tertiary education organisations need to be able to respond to the diverse needs and aspirations of students of all ethnicities, ages, and socioeconomic backgrounds.

For some groups the government provides additional information for tertiary education organisations on its expectations of their contribution:

- the Māori Education Strategy (to be published in 2007) will set out in more detail the evidence on how educational success is achieved to support Māori to live as Māori and actively participate in the world
- the Pasifika Education Plan sets out specific expectations of the education outcomes for Pasifika peoples⁴
- Kia Ōrite: Achieving Equity – sets out a New Zealand Code of Practice for an Inclusive Tertiary Education Environment for Students with Impairments.⁵

The government will use investment, monitoring and quality assurance to support tertiary education organisations to focus on promoting educational success for all students.

Informed contribution of stakeholders, employers and communities

The government is putting in place a system that will support tertiary education organisations to take responsibility for contributing to outcomes across the economy and society. It expects tertiary education organisations to work effectively with stakeholders to ensure that the education and research they provide contributes the skills and knowledge needed for sustainable economic, social, and cultural development.

As well as focusing on the outcomes in this Strategy, all tertiary education organisations have to respond to the needs of their communities. The government can support this by providing access to information it collects, such as the Department of Labour's labour market information. Different stakeholder groups also need to work at a national, regional and local level to ensure that the tertiary education system is getting the information that it needs to provide quality relevant education and research.

As with other employers, the government itself needs to provide good information to the tertiary education system about its current and emerging skills and knowledge needs in public service areas such as health, education and social services. ■



⁴ Available on the Ministry of Education's website www.minedu.govt.nz.

⁵ Available on the websites of Achieve www.achieve.org.nz, the Tertiary Education Commission, www.tec.govt.nz, and the Ministry of Education www.minedu.govt.nz.



3

**EXPECTED
CONTRIBUTION OF
TERTIARY EDUCATION**



Expected Contribution of Tertiary Education

New Zealand's tertiary education system is a key asset for our nation but we need to improve the focus on excellent education and research that is relevant to New Zealand and New Zealanders. Achieving this step up in the performance of the tertiary education sector is dependent on the collective actions of everyone involved.

The distinctive contributions, outlined above, set a clear expectation of the role that each type of tertiary education organisation will play in achieving an excellent, relevant tertiary education system. Together these distinctive contributions need to add up to a tertiary education system that contributes through:

- success for all New Zealanders through lifelong learning
- creating and applying knowledge to drive innovation
- strong connections between tertiary education organisations and the communities they serve.

These three areas of expected contribution provide an enduring direction for the tertiary education sector. This section sets out in more detail how the government expects the tertiary education sector to contribute to each of the three areas over the period of this Strategy.



Success for all New Zealanders through Lifelong Learning

When New Zealanders succeed in tertiary education, they can contribute fully to our economy and society. The kinds of knowledge, skills and competencies that enable people to succeed in a knowledge-based economy are increasingly similar to those that enable people to enjoy and contribute positively to their families and communities.

The focus on broad participation in tertiary education needs to be matched with a stronger emphasis on:

- relevance – learning that contributes to national and local economic and social goals
- quality – more New Zealanders achieving at higher levels of tertiary education, and ensuring high standards in the quality of tertiary education provision.

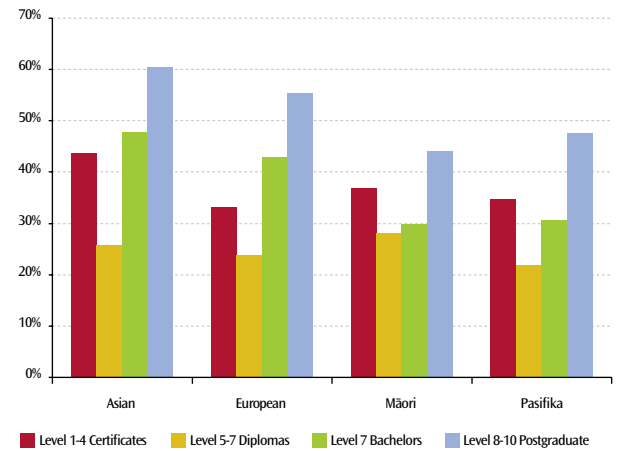
In the period of this Strategy there are five specific areas of focus for improved achievement.

1. Ensuring Maximum Educational Opportunity for All New Zealanders

Educational opportunity is about both equity of access and achievement. Currently, we know that there are areas of disparity in both access and achievement for some groups of New Zealanders. Tertiary education organisations need to identify, understand and respond to the diverse needs of their local communities. This will take a more sophisticated approach to ensuring an equitable, responsive tertiary education system.

Ensuring maximum education opportunities for all New Zealanders is not just about lifting the participation rates of underrepresented groups. It is also about ensuring that the spread of achievement across levels of study and discipline areas supports all New Zealanders to fully participate in economic, social and cultural life.

The qualification completion rates of students after five years of tertiary study show significant variations both by level of study and by ethnic group.



Five-year qualification completion rates by ethnic group, for students starting in 2001

Note: Tertiary education institutions only.

Over the period of this Strategy tertiary education organisations need to address the disparities that exist for populations such as Māori; Pasifika peoples; people with disabilities; migrants and refugees; students from lower socio-economic backgrounds; and people needing to upskill in order to re-enter the workforce.



2. Strong Foundations Skills

All New Zealanders need a 'foundation' of knowledge, skills and dispositions to support them to participate in the economy and society. Foundation learning for adults is about the application of reading, writing, speaking, listening, critical thinking, problem solving, numeracy skills and communication technology so that people can achieve their own goals in social, cultural, work and learning contexts.⁶

Adult foundation skills, especially literacy, numeracy and language, remain a priority. A lack of literacy, numeracy and language skills in the workforce impedes productivity and will, in the long run, impede economic growth. People with increased literacy, numeracy and language skills will generally have improved employment options and are able to adapt to changes in their employment environment. Increased literacy, numeracy and language skills also has positive benefits for families, whānau and the broader community.

Under the first Strategy, foundation learning has begun to move "from a relatively marginal position within the tertiary education system to being a core activity, underpinned by informed professional practice and improved diagnostic and teaching tools."⁷ We need to build on the investments made in improving the quality and effectiveness of foundation learning in order to:

- significantly increase the literacy, numeracy and language skills of the workforce at the low-skilled end
- improve settlement outcomes for new migrants and refugees
- raise the foundation skills of parents with poor educational attainment who want to support their children's learning.

The importance of raising literacy, numeracy and language skills for the workforce means that this is a priority outcome for this Strategy.

3. Successful Transitions from Schooling: Ensuring the 'Baby Blip' Generation Achieves its Potential

In the next decade, a large group of young New Zealanders will make the transition from secondary schooling into tertiary education and the workforce. Government and tertiary education organisations need to support this transition through a range of activities including ensuring that this group, through Career Services and other sources such as StudyLink, has access to quality and independent information to make informed decisions about tertiary education options and career pathways.

Ensuring this group has access to high quality, relevant education and training opportunities is a key challenge for the tertiary education system. This is a strategic opportunity to ensure our future workforce can compete with the best in the global economy.

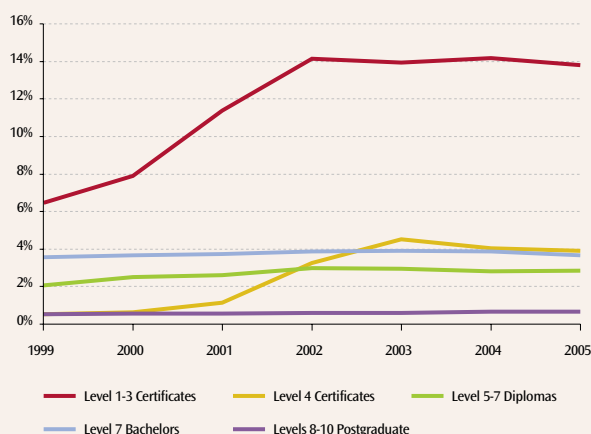
The specific opportunity presented by this group of New Zealanders means that increasing the number of New Zealanders achieving a qualification at level four and above before the age of 25 is a priority outcome for this Strategy.



Success for all New Zealanders through lifelong learning: Māori

Māori success is New Zealand's success. Māori education success today provides the platform for Māori and New Zealand's success tomorrow.⁸ In the first Tertiary Education Strategy, Strategy Two: Te Rautaki Mātauranga Māori – Contribute to the Achievement of Māori Development Aspirations set the direction for the development of a tertiary education system that supported Māori to live as Māori; to actively participate as citizens of the world; and to enjoy a high standard of living and good health.⁹ This direction has not changed.

There has been significant growth in the number of Māori participating in tertiary education. This growth has been strongest amongst older Māori, especially women, and, as illustrated below, in certificates at levels one to three.



Percent of Māori population in formal tertiary education by level

To build on the gains of recent years, areas for development with Māori student participation and achievement are:

- increasing levels of Māori language literacy, information literacy, literacy, numeracy and other foundation skills
- increasing participation and achievement – especially at bachelors level and above
- increasing participation in tertiary education from a younger age
- strengthening the provision of kaupapa Māori tertiary education options.

⁶ Drawn from the New Zealand Qualifications Authority Foundation Learning Quality Assurance Project as reported in Ministry of Education, *Learning for Living Te Ako mo Te Ora*, issue 4, December 2005.

⁷ Ministry of Education, (2006) *The System in Change: Tertiary Education Strategy 2002/07 Monitoring Report 2005*, p.26.

⁸ Ministry of Education (2006), *Ka Hikitia: Setting Priorities for Māori Education*, p.1.

⁹ These aspirations were expressed by Professor Mason Durie at the 2001 Hui Taumata Mātauranga and received endorsement from that hui.

Strengthening these areas will assist the development of the skills and competencies that support Māori development aspirations and will support the development of collective resources and leadership capability to improve overall life quality. The unique place of Māori as tangata whenua and as an indigenous population means that the tertiary education sector has a particular responsibility to work with Māori to develop and maintain the Māori language and culture. We have a strong tradition of kaupapa Māori tertiary education, but to achieve the change outlined above, all tertiary education organisations need to make changes.

The Tertiary Education Commission will look for evidence in tertiary education organisations' Plans and through the quality assurance system that tertiary education organisations are working with Māori communities and taking responsibility for providing the skills and knowledge Māori need to develop and use their resources to contribute to the economy for Māori and New Zealand.



Success for all New Zealanders through lifelong learning: Pasifika peoples

In the first Tertiary Education Strategy, Strategy Five: Education for Pacific peoples' development and success, set out a focus on the skills that Pasifika peoples need for their development, both in New Zealand and in the wider Pacific. This focus will continue in this Strategy through ensuring the success of all New Zealanders through lifelong learning.

Across education, the Pasifika Education Plan has provided a focus on lifting the achievement of Pasifika students. The goals for tertiary education include increasing Pasifika students':

- participation and retention in tertiary education
- achievement and progression in tertiary education at all levels, particularly at degree level and above.

This Strategy will contribute to the achievement of the Pasifika Education Plan's goals. Pasifika participation in tertiary education, especially at degree level, has increased and retention rates have improved. A significant number of Pasifika peoples, however, continue to face barriers to achievement due to literacy, numeracy and language issues. For Pasifika peoples who are recent migrants the challenges caused by language issues can be particularly acute.

Through this Strategy we need to focus on building on the recent successes of Pasifika peoples to lift achievement at all levels. The Tertiary Education Commission will look for evidence in tertiary education organisations' Plans and through the quality assurance system that tertiary education organisations are taking steps to ensure that the education they offer supports Pasifika students to achieve their aspirations.

4. Building Relevant Skills and Competencies for Productivity and Innovation

Through tertiary education, New Zealanders build the skills and competencies needed to make New Zealand's workforce globally competitive and to link New Zealanders to international opportunities that help build productive and innovative business and export opportunities.

There is a clear link between trades, technical and professional qualifications and the workplace. But it is not only these areas of study that contribute to innovation and productivity. Productivity and innovation will come from the development, retention and effective use of people with highly developed skills in the areas of critical thinking, problem solving and decision making. It is these skills that underpin the effective management and entrepreneurship needed to develop globally competitive firms. Tertiary education develops these skills through professional and postgraduate education and through high quality education across disciplines such as the arts, humanities, social sciences and sciences.

As well as providing comprehensive qualifications, tertiary education organisations also have a role in supporting employers and business to continuously upskill the workforce. Increasingly New Zealanders need to return to tertiary education to update and refresh their skills and knowledge.

The rebuilding and growth of formal work-based learning is a highlight of the years of the first Strategy. Work-based learning creates relevant education opportunities for workers and employers – increasing skills and productivity – and helps to address skills shortages. We need to continue to strengthen work-based learning and ensure that the growth in industry training, modern apprenticeships and other vocational education is sustainable and of high quality.

To develop the high level skills that underpin productivity and innovation we also need to maintain and strengthen New Zealand's broad and comprehensive tertiary education system. We need to support students to make informed study choices. Students must be supported to undertake higher levels of study including postgraduate and professional education. It is important that the education options available to students are high quality and provide relevant skills and competencies for the workplace.

The need to rapidly adapt to a tight labour market means that increasing the achievement of advanced trade, technical and professional qualifications is a priority outcome for this Strategy.

5. Building Skills and Competencies for Social and Cultural Development

The application of knowledge and understanding gained in tertiary education enables New Zealanders to participate in society; to understand and appreciate diverse cultures; and to contribute to social and cultural debate. Through this, tertiary education makes a critical contribution to the ongoing development of New Zealand's society and culture.

Māori communities and their indigenous culture are unique to New Zealand. Māori language is recognised as a national language. Tertiary education organisations need to contribute to maintaining and developing Māori language and culture as a unique part of New Zealand's identity.

As well as the broad competencies that support all New Zealanders to participate in their families, in their communities, and as citizens, tertiary education has a specific contribution to make to supporting the skills and competencies needed to underpin a flourishing cultural sector. Through this Strategy, the government will continue to support quality, relevant education and training options that enable New Zealanders to pursue careers in the creation and management of art, culture and heritage.

Creating and Applying Knowledge to Drive Innovation

Scholarship connects New Zealanders to the global knowledge base; extends our knowledge through research; and helps to apply knowledge to national goals. New Zealand's tertiary education sector must continue to deliver a broad and balanced portfolio of basic, strategic and applied research.

Basic research is often the driver of large scale change but we need to also improve our awareness of potential applications of the research, throughout the research process. Research and knowledge creation must be world-class, and contribute to national development through the dissemination, application and utilisation of knowledge. As reflected by their distinctive contribution, universities have a critical role in this area.

The period of the first Strategy saw the successful introduction of the Performance-Based Research Fund and the establishment of Centres of Research Excellence. Both of these contributed to an increase in the quality of research within New Zealand and we will continue to build from this platform. The introduction of Partnerships for Excellence and the Growth and Innovation Pilot Initiatives also stimulated additional research collaborations and linkages including significant co-location of activities.

These initiatives have assisted the tertiary sector to focus on building excellence in research. The three areas of focus below aim to improve the alignment of our research efforts with the national goals.



Creating and applying knowledge to drive innovation: Māori

It is acknowledged that Māori researchers for a long time have been able to respond to the research needs of communities and support development. Increasingly Māori assets, resources, knowledge and enterprise are contributing to Māori succeeding as Māori and to the success of New Zealand as a nation.¹⁰ New Zealand's tertiary research will be critical in developing and expanding Māori enterprise.

In the period of the first Tertiary Education Strategy, Māori research was strengthened by many innovations such as Ngā Pae o te Maramatanga: National Centre of Research Excellence for Māori Development and Advancement, the Centre for Māori Innovation and Development and Te Mata o Te Tau, the Academy for Māori Research and Scholarship. In this Strategy we need to strengthen the contribution of tertiary research to Māori development aspirations.

Research has the potential to support the development of the knowledge base that Māori require to manage cultural and economic assets and to maintain strong whānau, hapū and iwi. Research in tertiary education organisations supports the development of:

- Māori academic achievement
- Mātauranga Māori, Māori culture and language
- Specific technologies and knowledge that support the development of collective assets.

The Tertiary Education Commission will look for evidence in tertiary education organisations' Plans that they are working with Māori to ensure that tertiary research creates knowledge and develops mātauranga Māori that meets and supports the achievement of Māori development aspirations, and the appropriate use of Māori resource bases to benefit Māori and New Zealand.

1. Supporting Links between Research, Scholarship and Teaching

Research provides for the development of ideas, and teaches students to think using research methodologies and analytical reasoning. The scholarship of teaching, and links between research and teaching more generally, must be strengthened and the government will support this, particularly through the distinctive contributions of universities.

As the appetite for knowledge-driven innovation increases amongst our globally competitive firms, the role of the tertiary sector in not only producing the underpinning research, but also in delivering a workforce educated in these new and emerging technologies becomes ever greater. The consolidation of high quality international research in a supportive environment will have a 'magnet effect' in attracting high technology companies and dynamic researchers. Quality research, teaching and learning will establish capability in areas that are crucial to the nation's transformation into a knowledge economy.

2. Focusing Resources for Greatest Effect

The introduction of the Performance-Based Research Fund and the establishment of the Centres for Research Excellence have helped focus the effort of tertiary research on achieving excellence. These will continue to encourage tertiary research to make quality contributions across a range of economic, social and cultural objectives. Each research field, however, has its own challenges and opportunities to balance. These include increasing collaborative research with sector partners, navigating academic freedom and managing intellectual property.

Innovative and evolving knowledge economies recognise the benefits of investing in a range of research provision that includes basic, strategic and applied research. While applied research may have direct application to immediate needs, basic research has been the genesis of entire new fields of industry, such as nanotechnology and biotechnology.

The growth of research knowledge is both cumulative and intermittent. It takes time and experience to develop new fields of information and to capitalise on opportunities presented. The research effort of our tertiary sector can better contribute to national goals by concentrating resources in areas:

- uniquely relevant to New Zealand's economy, communities and environment
- where we have comparative research strength
- where we have the greatest opportunity to deliver economic and social benefits.

3. Improving Research Connections and Linkages

Stronger links between tertiary education institutions, Crown research institutes and business will make research more effective and improve its ability to service the needs of industry. Stronger links will ensure that more effective use can be made of new knowledge and the application of new technology.

Increasingly, high quality research and innovation arises from techniques and technologies which cross disciplines and knowledge boundaries. These innovations will be developed from deeper relationships than those simply focused on technology transfer. Research linkages can be improved through growth in academic consultancy, approaches that encourage researcher mobility, and recognising the value that research graduate placements have for both the student and the institution.

The research contributions of tertiary education cover a wide scope. In some cases, research areas support the work of established industries, while in some new or emergent areas there may be few immediate partners.

New Zealand's research activity constitutes only a very small fraction of the global knowledge base. To provide national benefits, tertiary education needs to be an active part of international knowledge communities and support New Zealand firms and communities to gain access to international research, knowledge and technology. Tertiary education also plays a key role in adapting and shaping international findings to add local value.

The need to accelerate the pace of change in our economy means that improving research connections and outcomes to create economic opportunities is a priority outcome for this Strategy.



Strong Connections between Tertiary Education Organisations and the Communities They Serve

Connections are not really an outcome but more a way of doing things. Connections mean greater collaboration between tertiary education organisations to identify and respond effectively and efficiently to national goals and the needs of their communities. Connections also mean employers, industry and communities actively engaging with tertiary education organisations to plan for their current and future skill and knowledge needs. The government can support these connections by ensuring that the information it collects, for example on the needs of the labour market, is made available to support the planning process.

Ministry of Education research on stakeholder engagement with tertiary education organisations¹¹ found that effective engagement requires:

- organisations and stakeholders having a common purpose for the outcomes of tertiary education and training, including an understanding of the broader goals to be achieved
- a shared understanding of the skills and capabilities required in graduates
- the ability to work responsively and flexibly to produce timely results
- regular review of needs and aspirations
- formalised processes, such as advisory groups, with a strong accountability and a focus on results.

There are three areas of focus for strong connections between the tertiary education system and the communities it serves.

1. Connections to Improve Quality and Relevance of Education and Knowledge

Strong connections both within the New Zealand education system and with educators overseas are critical to improving the quality of education and research. These include:

- professional learning communities of educators and researchers, both within each tertiary education organisation and across the tertiary education network
- international connections in research, teaching and learning
- effective partnerships with schools to ensure that all students have the best possible opportunities to make successful transitions into tertiary education and the workforce.

Educators connecting more effectively with employers in course design and delivery will help ensure that teaching and learning are relevant to employers' needs and equip students with the broad competencies they need to be productive, adaptable workers in a knowledge economy.



Strong connections between tertiary education organisations and the communities they serve: Māori

The first Tertiary Education Strategy set a clear expectation that tertiary education organisations would develop strong relationships with Māori in order to contribute to Māori development. This expectation continues. To achieve a tertiary education system that supports Māori to live as Māori; to actively participate as citizens of the world; and to enjoy a high standard of living and good health, it is important that tertiary education organisations have strong connections to Māori communities.

In this Strategy the focus needs to shift to lifting the quality of this engagement. To make a meaningful difference tertiary education organisations need to be focused on ensuring the:

- provision of programmes and innovative approaches that support the aspirations of Māori communities and have the expressed support of those communities
- tangible outcomes that support social, cultural and economic development which can be demonstrated to Māori, the wider community and government.



Strong connections between tertiary education organisations and the communities they serve: Pasifika peoples

The first Tertiary Education Strategy recognised that it was important for tertiary education organisations to work with Pasifika communities to ensure that tertiary education supported the realisation of Pasifika peoples' aspirations. The Pasifika Education Plan reinforces this through its goal – to ensure that the needs and aspirations of Pasifika communities are identified and addressed. This Strategy also expects that the tertiary education organisations will establish strong connections with the Pasifika communities they serve.

There are already a number of strong connections between tertiary education organisations and Pasifika communities focused on the recruitment of Pasifika students and supporting these students to advance. These connections need to continue and be strengthened to ensure that the education provided in tertiary education organisations is relevant to the aspirations of Pasifika peoples.

¹¹ Paterson, G., Mitchell, D., Oettli, P., White, H., Kalavite, T., and Harry, K., (2006), *Engagement of Key Stakeholder Groups with the Tertiary Education Providers*, Ministry of Education.

2. Connections to Support Economic Transformation

Both educational success and the creation of knowledge make a direct contribution to economic transformation. Strong connections can build on this through tertiary education organisations:

- supporting innovation and the development of globally competitive firms – we can do this by better understanding the research needs and opportunities of New Zealand businesses, and more effectively translating research and knowledge into application for new and existing commercial success
- understanding and addressing the educational needs and priorities of employers – this will mean that students have the skills and competencies required in the current workforce and the adaptability to respond to future change.

These connections are important across the tertiary sector. They relate to applied and academic learning, and to supporting technology transfer as well as translating original research, generated both in New Zealand and overseas, into business contexts.

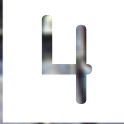
3. Connections to Support Social, Cultural and Environmental Outcomes

Educational success and the creation of knowledge can also help ensure that all New Zealanders and their families and whānau have the opportunity to reach their potential; that the cultural needs and aspirations of New Zealanders are met; and that we protect and restore our environment. Strong connections help achieve these goals by:

- addressing barriers to achievement for disadvantaged groups
- supporting social development and strengthening national identity
- supporting the development of knowledge and skills needed to manage and protect the natural environment. ■







**TERTIARY EDUCATION:
PRIORITY OUTCOMES**



Tertiary Education: Priority Outcomes

The key outcomes described above provide an enduring direction for the tertiary education sector. We know, however, that not all of this can be achieved at once or in a short time period. It is important that we identify priority outcomes for action in the immediate future in order to sequence and manage change.

The priority outcomes outlined below signal where the government believes there should be increased effort and in some cases investment, in order to achieve a shift in the system. These priorities are not an exhaustive list of all that the government values from tertiary education and research but they do signal where the government considers that the tertiary education sector needs to make a focused effort.

The government expects that the Tertiary Education Commission will use these priority outcomes to guide its investment discussions with tertiary education organisations. The Tertiary Education Commission will continue to invest, within the overall control on funding, in a broad range of quality, relevant education and research that fits within tertiary education organisations' distinctive contributions. The priority outcomes outlined below set out where the government expects to see the shifts in the provision of education and research.

The priority outcomes are:

- increasing educational success for young New Zealanders – more achieving qualifications at level four and above by age 25
- increasing literacy and numeracy levels for the workforce
- increasing the achievement of advanced trade, technical and professional qualifications to meet regional and industry needs
- improving research connections and linkages to create economic opportunities.

Increasing educational success for young New Zealanders – more achieving qualifications at level four and above by age 25

Why this matters

Successfully completing a tertiary education qualification early in adult life provides a sound foundation for lifelong learning. Increasing the proportion of young people achieving qualifications at levels four and above will contribute to developing a workforce and society with the ability to meet the challenges of today and the future.

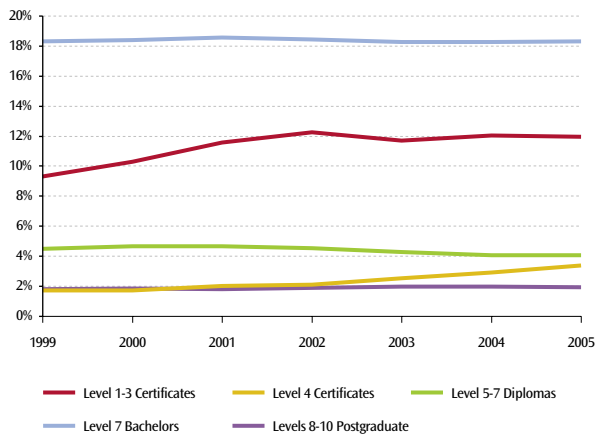
The focus of this priority is on young people as the benefits of a tertiary education are higher for those who start earlier. The OECD calculated recently that a female school leaver starting a degree can expect a return of 13 percent a year on her investment in tertiary education, while a female aged 40 when starting a degree gets a return of 7.5 percent.¹²



¹² Organisation for Economic Development and Cooperation, (2006), *Education at a Glance 2006: OECD indicators*, Paris.

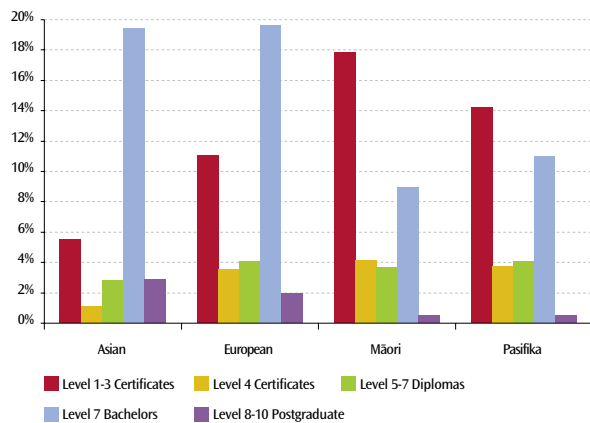
The focus is on achieving qualifications at level four and above as we know that these make a greater contribution to individuals' success. Level one to three qualifications will continue to play an important role in our tertiary education system, but increasingly, the focus should be on helping people move into higher levels of tertiary education. Ministry of Education research shows that the direct returns from level one to three qualifications are low.¹³

From 1999 to 2005, the growth in participation in tertiary education of people aged 18 to 24 has been in level one to four certificates, with participation rates at higher levels steady or declining.



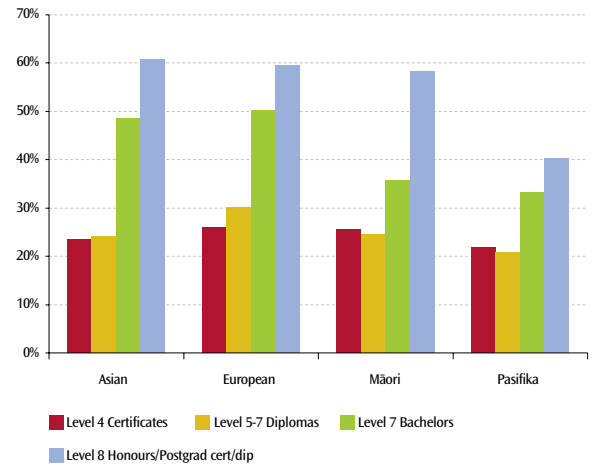
Percent of 18–24 year olds in formal tertiary education by level

Māori and Pasifika students aged 18 to 24 are less likely to study at bachelors and postgraduate levels than students from other ethnic groups, and more likely to study towards level one to three certificates.



Percent of 18–24 year olds in formal tertiary education in 2005 by qualification level and ethnic group

Qualification completion rates for people aged 18 to 24 are similar across ethnic groups below degree-level. However, Māori and Pasifika students in this age group have lower completion rates at bachelors and postgraduate levels.



Five-year qualification completion rates for 18–24 year olds in formal tertiary education by qualification level and ethnic group

Note: For students starting in 2001.

We need to make a real shift in the qualifications achievement by young people in the next five years. The ‘baby blip’ currently moving through the secondary education system will mean an increase in the numbers in the core tertiary age group – those aged between 18 and 25. Using 2006 as a base, the number in this age group will be 8 percent higher by 2010 and 10 percent higher by 2013 before beginning to tail off.

New Zealand compares reasonably well with other countries on participation in and completion of tertiary education, however, we need to have a particular focus on lifting the achievement levels of New Zealanders under 25:

- our high participation in tertiary education is among older age groups – we rank fourth in the OECD on participation among those aged 30 to 39 and third for those 40 and over. Around 52 percent of all the growth in enrolments in tertiary education between 2000 and 2005 was by those aged over 40. But we rank third lowest in the OECD on the proportion of our population aged between 15 and 19 in formal education, including those in senior secondary school
- our tertiary education completion rates are not high – around 40 percent of people who start a qualification have successfully completed it five years later. While this reflects the very high proportion of students studying on a part-time basis, it means that our system is not working as well as it needs to in providing younger people with the qualifications they need to get established in careers.

13 Jamie Hyatt and Roger Smyth, (2006), *How do graduate earnings change over time?*, Ministry of Education.



Increasing educational success for young New Zealanders – more achieving qualifications at level four and above by age 25: Māori

Māori participation rates in tertiary education are higher than non-Māori, and as participation has increased there has been a corresponding increase in the completion of tertiary qualifications. There are, however, lower rates of participation for young Māori (18–25 year olds), particularly young Māori men. Māori are also much more likely to enrol in qualifications at level one to three. The increasing number of people under 25 who will identify as Māori means that ensuring equitable participation and achievement across disciplines and levels will be of particular importance.

To succeed in achieving this priority outcome, tertiary education organisations need to ensure that they have in place the necessary systems and structures to support Māori educational success. Tertiary education organisations need to do their part in ensuring that study choices are quality choices in that they support Māori to live as Māori and to actively participate as citizens of the world.

In measuring the success of this priority, we will be looking for specific evidence of increased achievement by young Māori at levels four and above.



Increasing educational success for young New Zealanders – more achieving qualifications at level four and above by age 25: Pasifika peoples

Pasifika peoples will make up an increasing proportion of New Zealanders under the age of 25. Pasifika peoples participation and retention in tertiary education has improved, and in some areas such as degree provision, the growth in participation has been faster than any other group of New Zealanders. There is a need, however, to significantly increase the success of young Pasifika peoples in the tertiary education system as currently the completion rates of Pasifika are lower than for any other group.

To succeed in achieving this priority outcome, tertiary education organisations need to ensure that they have in place the necessary systems and structures to support Pasifika peoples' educational success. Tertiary education organisations need to work with schools and Career Services to ensure that Pasifika students are supported to make informed study choices.

In measuring the success of this priority, we will be looking for specific evidence of increased achievement by young Pasifika peoples at levels four and above.

What is to be done about it

These trends imply that our system needs to improve the way it engages with younger New Zealanders – those who are starting out on their careers. This is an opportunity to ensure that a significant group of young New Zealanders can realise their potential.

Increasing the proportion of young New Zealanders achieving qualifications at level four and above before the age of 25 will require:

- an increase in tertiary education participation by 18–24 year olds
- improved retention in tertiary education through lower attrition in the first year of study
- increased progression from level one to three on to higher levels of tertiary education.

Tertiary education organisations need to ensure that they are supporting students to achieve qualifications that help meet their needs and aspirations. They need to do this through a focus on quality learning and supporting students to make appropriate education and training choices.

To achieve this, the government will continue to promote and support a broad range of education options and pathways both within tertiary education organisations and through workplace training and education. It will do this through:

- Student Achievement Component funding to support students studying at tertiary education organisations
- funding of Industry Training and Modern Apprentices to support students studying in the workplace.

The government will also continue to support and fund initiatives such as Gateway, Youth Training and Training Opportunities which support students to progress from learning at levels one to three on to higher levels of learning.

The success of this priority will depend on the Tertiary Education Commission investing in education and training that is quality and relevant as evidenced by good outcomes for students.

It is acknowledged, however, that the tertiary education system cannot achieve this priority on its own. Success will also depend on:

- supporting students to make informed decisions about education and training options. The Career Services has a critical role to play through supporting students and their families and whānau to access quality career information and guidance when making decisions about future career paths and study options
- more students achieving at school so that they are ready to achieve in tertiary education at level four and above. The government has already set out its goals for this in the Schooling Strategy.¹⁴

¹⁴ The Schooling Strategy can be found on the Ministry of Education's website www.minedu.govt.nz.

Measures of success

We will know that this priority is being achieved when the number of people achieving qualifications at level four or above by the age of 25 increases, particularly in population groups where achievement at this level has been historically low.

Progress towards this outcome will be measured by:

- increased participation by people aged under 25 in qualifications at level four and above
- improved retention and completion of students aged under 25 in qualifications at level four and above
- improved progression for students aged under 20 from school and tertiary education qualifications at levels one to three to qualifications at level four and above.

These indicators will be monitored for the population as a whole and for Māori and Pasifika.

Increasing literacy, numeracy and language levels for the workforce

Why this matters

A significant proportion of working age adults are without the literacy, numeracy and language competencies necessary for sustained employment and active participation in society. People with low literacy, numeracy and language competencies generally have fewer employment options and are less able to adapt to changes in their employment environment. Low levels of literacy and numeracy impede productivity and act as a barrier to progressing people in the workforce¹⁵ from unskilled to skilled jobs.

While an accurate measurement of literacy, numeracy and language competencies at a national level is difficult, the 1996 International Adult Literacy Survey indicated that:

- 17 percent of the workforce had document literacy¹⁶ at level one¹⁷ and a further 29 percent were at level two¹⁸ – making a total of 46 percent of the workforce where literacy could be a barrier to increasing productivity
- 64 percent of workers with level one document literacy were service and sales workers, machine and plant operators or were in unskilled occupations
- 68 percent of workers with level one document literacy were in the manufacturing, community, social and personal services and wholesale and retail trade industries.

15 'workforce' is defined as people in employment and people available for and seeking employment aged between 16 and 65.

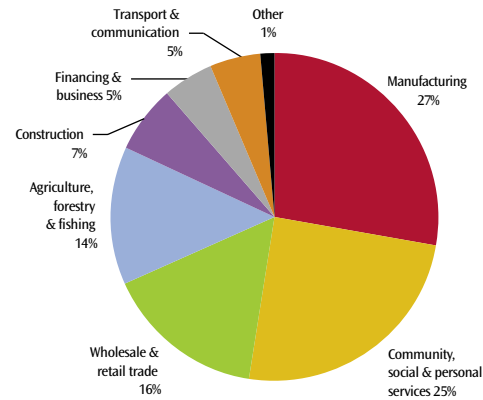
16 Document literacy was one of three measures used in the survey and refers to the ability to locate information within documents, such as schedules, charts, graphs, tables and maps. The other measures were prose literacy and quantitative literacy.

17 In general, people at level one document literacy would have difficulty choosing information from a document to fill out a simple form.

18 In general, people at level two document literacy would have difficulty drawing conclusions from information contained in a document.

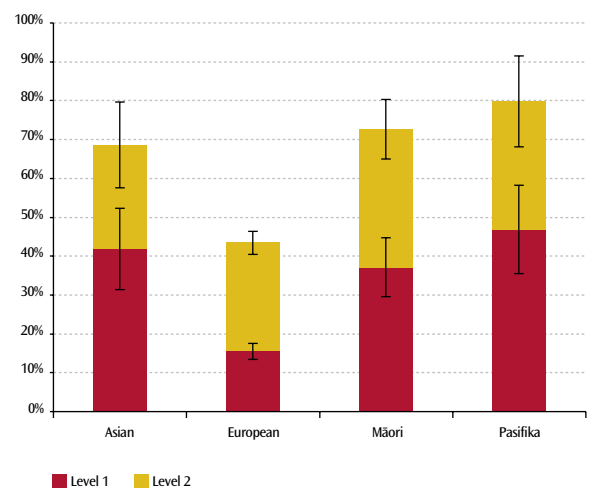
A study using a combination of IALS and census data predicted that regions such as the Far North, East Coast (of the North Island), Bay of Plenty and Taranaki, as well as urban areas such as South and West Auckland and Porirua, would have the highest concentrations of people with low literacy.¹⁹

Workers with low literacy are spread across the range of industries, with the largest number being in manufacturing, community, social and personal services and wholesale and retail trade.



Distribution of people with level one document literacy by industry

Māori, Pasifika and Asian peoples are more likely to have low literacy in English. For the Pasifika and Asian populations, this partly reflects the proportion of those with English as a second language.



Percent of population with level one or level two document literacy by ethnic group

Note: Error bars indicate margin of error at 95 percent confidence level. Source for both charts: International Adult Literacy Survey 1996.

19 Niki Culligan, Frank Sligo, Greg Arnold and Alasdair Noble, (2005), *Analysis of New Zealand Data from the International Literacy Survey – demographic predictors of low literacy proficiency*, report for the Ministry of Education.



Increasing literacy and numeracy levels for the workforce: Māori

Literacy, numeracy and language are a necessary foundation for further education and the realisation of an individual's potential. It is estimated that around 37 percent of Māori have document literacy at level one and further 36 percent at level two.²⁰ Building literacy, numeracy and language skills for Māori will enhance the development of Māori cultural and economic assets and strengthen whānau, hapū and iwi.

To succeed in achieving this priority outcome, tertiary education organisations, in particular adult literacy providers, institutes of technology, wānanga and industry training organisations, need to work with business, workplaces, individuals, iwi and communities to improve literacy, numeracy and language levels. This will be achieved through effective literacy, numeracy and language teaching in contexts that make sense to the student.

In measuring the success of this priority, we will be looking for specific evidence of increased literacy, numeracy and language for Māori.



Increasing literacy and numeracy levels for the workforce: Pasifika peoples

Literacy, numeracy and language form a necessary foundation for success. It is estimated that around 47 percent of Pasifika peoples have document literacy at level one and a further 33 percent at level two.²¹ Given that the assessment is in English, it is likely that the number of Pasifika peoples assessed as having low literacy reflects, to some extent, the number of Pasifika peoples with English as a second language.

To succeed in achieving this priority outcome, tertiary education organisations, in particular adult literacy providers, institutes of technology, wānanga and industry training organisations, need to work with business, workplaces, individuals and other stakeholders to improve literacy, numeracy and language levels. This will be achieved through effective literacy, numeracy and language teaching in contexts that make sense to the student. The high number of second language learners among Pasifika peoples means that language will need to be a particular focus for tertiary education organisations working with Pasifika peoples.

In measuring the success of this priority, we will be looking for specific evidence of increased literacy, numeracy and language for Pasifika peoples.

The prevalence of low literacy, numeracy and language in the existing workforce is one of the critical issues that needs to be addressed if New Zealand is to develop the high-performing economy we need to sustain and support our aspirations around quality of life. Improved literacy, numeracy and language provide a platform for the take up of further knowledge ideas and technology.

What is to be done about it

These figures suggest that, in addressing this priority, there should be a focus on people in low skilled occupations and industries. In particular there is a need to focus on Māori and Pasifika peoples in the workforce with low literacy, numeracy and language levels.

Addressing the literacy, numeracy and language skill level of New Zealanders requires action from schools, businesses, workplaces, and individuals as well as the tertiary education system. Tertiary education does, however, have a critical role to play in addressing this issue over the period of this Strategy.

Tertiary education organisations, in particular adult literacy providers, institutes of technology, wānanga and industry training organisations, need to work with key stakeholders, including business, unions and individuals to improve literacy, numeracy and language levels.

Evidence suggests that literacy, numeracy and language learning is most effective when it meets a student's needs and is in a context that makes sense to them (such as workplaces). The new planning, funding and monitoring system will support tertiary education organisations to build the capability needed to support effective literacy, numeracy and language learning over the long term.

In order to achieve this, the Tertiary Education Commission's investment will need to support programmes that are designed according to evidence about the most effective ways to achieve learning gains. This includes a context relevant to the learner (for example, programmes that support employment or family learning), intensity and duration of learning, meeting quality standards for the organisation and tutors. It will also require the Tertiary Education Commission to support tertiary education organisations to develop the necessary capability.

To achieve this, the Tertiary Education Commission will use its funding pools to focus in the following areas:

- support institutes of technology and polytechnics to build capability to integrate literacy, numeracy and language teaching in courses at levels one and two on the National Qualifications Framework
- integrate the teaching of literacy, numeracy and language in workplace learning, building on the pilots that have begun with industry training organisations
- better integration of literacy, numeracy and language teaching into training opportunities programmes
- continue to support specialised literacy providers to meet student needs that are not met within the integrated learning environments described above.

²⁰ International Adult Literacy Survey 1996. Note that the error on these estimates is around +/- 8 percent (at the 95 percent confidence level).

²¹ International Adult Literacy Survey 1996. Note that the error on these estimates is around +/- 12 percent (at the 95 percent confidence level).

The success of this priority cannot be achieved by the tertiary sector alone. As part of a cross-government strategy to upskill the workforce, investment is also being made to:

- strengthen links between tertiary education organisations, business, individuals and other stakeholders to better address up-skilling needs of the workforce and shift workplace practices
- increase the supply of effective and focused literacy, numeracy and language provision that meets the needs of the workplace and student
- develop the evidence base to support further increases in effective integrated literacy, numeracy and language provision.

Within this priority there also needs to be a focus on the particular needs of migrant communities. Improving the English language competency of migrants is critical to successful settlement.

In the longer term lifting the literacy, numeracy and language skills of New Zealanders is also dependent on the schooling system ensuring that all New Zealanders leave school with adequate foundation skills for lifelong learning.

Measures of success

We will know that this priority is being achieved when there is evidence of improved literacy, language and numeracy amongst those who currently have low levels of literacy, language and numeracy and are in the workforce.

Progress towards this outcome will be measured by:

- increased successful participation of people in the workforce with foundation learning needs in quality training focussed on lifting literacy, language and numeracy skills.

In support of this priority, we will also be interested in:

- increased completion of literacy, language and numeracy educator qualifications²²
- participation by tutors and providers in professional development programmes supporting effective teaching practice for lifting literacy, language and numeracy skills.

These indicators will be monitored for the population as a whole and for Māori and Pasifika. Measures of success for this priority will be progressively extended and developed as new investment arrangements for literacy, language and numeracy are put into place. Progress towards this priority will also be informed by the monitoring and evaluation of the government's strategy to upskill the workforce, which will contribute evidence of changes in workplace practices, performance and productivity influenced by improved literacy, numeracy and language. The results of the Adult Literacy and Life Skills Survey reported in 2007 will provide an updated baseline of the level of literacy and life skills in New Zealand's adult population.

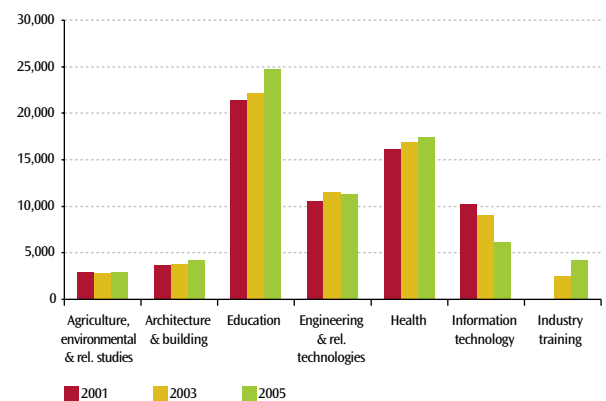
Increasing the achievement of advanced trade, technical and professional qualifications to meet regional and national industry needs

Why this matters

The economic case for skills is clear – skilled workers are better off (through better employment and earnings), their firms are better off (through being able to create better goods or services), and the country is better off (through higher economic growth). If New Zealand is to achieve economic growth that is consistently higher than our competitor nations, New Zealand's workforce must have the skills that meet today's needs and can adapt to meet future change and innovation.

The tertiary education sector in New Zealand delivers a great deal of education and training relevant to the needs of the economy. Quality tertiary education across a range of disciplines develops the broad competencies that New Zealanders need to meet today's needs and adapt to the future. Tertiary education also has a role in meeting the specific skill needs of particular industry groups. Trades, technical and professional qualifications equip New Zealanders with the specific skills and knowledge needed to enter an occupation.

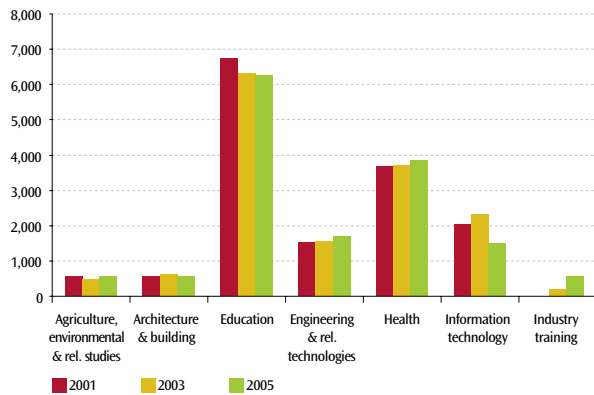
Overall enrolments in advanced-level qualifications have been increasing in some trade, technical and professional fields, such as education and health, stable in others, such as engineering and architecture and building, and declining in information technology. The expansion of industry training beyond level four has also allowed more people to study for advanced qualifications on the job.



Enrolments in level five to seven qualifications in selected trade, technical and professional fields

22 Examples include the National Certificate Adult Literacy Educator [Educator] and the National Certificate Adult Literacy Educator [Vocational Tutor].

Despite growing enrolments in education, the number of education qualifications completed at levels five to seven is decreasing. In other fields, completions follow a similar pattern to enrolments.



Qualifications completed at levels five to seven in selected trade, technical and professional fields

Business and employer groups are, however, reporting continuing skills shortages. In 2005 the Department of Labour²³ found that:

- shortages have intensified among trades workers with the proportion of trade vacancies filled declining from 51% in 2003 to 37% in 2005
- there has been a deepening of shortages among professional and technical and associate professional occupations with shortages now widespread across most sectors
- the proportion of professional vacancies filled declined from 71% in 2003 to 54% in 2005, while for technicians and associate professionals this proportion dropped from 79% in 2003 to 46% in 2005.

A Department of Labour assessment of 14 trade occupations across a range of industries,²⁴ that had some evidence of severe skill shortages, found that:

- shortages existed in each occupation, with most shortages being acute
- the shortages were assessed as being genuine skill shortages in each occupation, while two occupations were also experiencing recruitment and retention difficulties
- shortages had intensified from 2003 to 2005
- inward migration had eased shortages in the last three years.

A number of historical reasons for trade occupations being in genuine shortage in 2004 were noted including the sharp drop in the number of young people entering the trades in the 1990s, the low number of people achieving trade certificates and the impact of trades people going overseas. Increased numbers of people enrolled in qualifications related to the occupations under review is beginning to address these shortages. Enrolments in these areas have doubled between 2001 and 2005 and the number of people achieving certificates is increasing. This increasing rate of participation and achievement needs to be maintained to ensure long term sustainability of the trades.

An assessment of 10 professional occupations²⁵ confirmed shortages in 9 of the occupations in 2004, but these were less acute than in the trades. Some professions do need an increase in training levels, but there are also shortages due to recruitment and retention difficulties rather than genuine skill shortages.

These figures are indicative of today's problems and the pattern of skill shortages in the labour market will shift over the period of this Strategy. To achieve the objectives of this Strategy we need to develop a wider set of labour market information that can inform decisions about what education and training to fund in the future. To support this development the Department of Labour is developing better and more tailored labour market information.

For all areas of industry skill shortages are only part of the problem – recruitment and retention difficulties often arise from particular conditions in an industry (e.g. whether the wages and other conditions are attractive). The solution for addressing skill shortages has to be a shared one. The tertiary education sector's role is to understand the needs of employers and seek to meet these. To achieve this it will be important that labour market information is taken into account at all levels of the tertiary education sector, both regionally and nationally.

What is to be done about it

While the tertiary education system cannot solve skill shortages, it does have a critical role in working with industry to identify, plan and provide for future skill needs.

Tertiary education organisations, especially industry training organisations, institutes of technology and polytechnics, and those private training establishment with a trades and technical focus, need to increase the achievement of advanced trade and technical level qualifications that employers know and trust. Universities and other tertiary education organisations that provide professional qualifications need to work to increase achievement in qualifications linked to occupations with projected shortages (including the health, education and social services workforces).

²³ Department of Labour, (December 2005), *Skill shortages in New Zealand: Key findings from the Survey of Employers who have Recently Advertised 2005*.

²⁴ Department of Labour, (June 2006), *Skill shortages in the trades: the 2005 picture*.

²⁵ Department of Labour, (November 2005), *Overview of the findings from ten professional occupational skill shortage assessment reports*.



Increasing the achievement of advanced trade, technical and professional qualifications to meet regional and national industry needs: Māori

Overall Māori are well represented in the achievement of trades and technical qualifications. However, participation is mainly focussed in a narrow range of trades with high participation by Māori men.

To succeed in achieving this priority we need to build on this base and increase achievement across a range of qualifications to support Māori economic development. Increasingly Māori economic development will rely on leadership and management capability, which the tertiary education system can help support through both specific study options and quality learning across a range of disciplines.

In measuring the success of this priority, we will be looking for specific evidence of tertiary qualifications that meet the needs of Māori, both in regional and national industry.



Increasing the achievement of advanced trade, technical and professional qualifications to meet regional and national industry needs: Pasifika peoples

Pasifika students are well represented in trade, technical and professional qualifications. However, they are more highly concentrated in some areas, such as education, than others, such as health and engineering.

To succeed in achieving this priority we need to build off this base and increase achievement across a range of qualifications, including those accessed through Modern Apprenticeships, to support Pasifika economic development. We need to ensure that Pasifika people can choose from, and move into, a range of careers and become a vital part of the future prosperity of the country.

In measuring the success of this priority, we will be looking for specific evidence of tertiary qualifications that meet the needs of Pasifika, both in regional and national industry.

To support the achievement of this priority the government will invest in:

- tertiary education organisations through the Student Achievement Component and the Tertiary Education Organisation Component
- industry training, including funding for Modern Apprenticeships.

Through this investment the government expects that the Tertiary Education Commission will:

- achieve a shift in the education offered by institutes of technology and polytechnics, through investment to support advanced trade and technician training, through staircasing to, and expansion of those qualifications
- continue to support industry training and Modern Apprenticeships, including through an expansion of training places and staircasing of learners into advanced trades and technical qualifications
- require clear evidence of effective engagement with industry, including (where available) working with industry training organisations. This includes a preference for the use of industry training organisation qualifications over local certificates, where available.

The tertiary system (and particularly industry training organisations, institutes of technology and polytechnics, and those private training establishments with a trades and technical focus) need to respond to this priority as part of preparing a Plan.

As part of their regional facilitation role, institutes of technology and polytechnics will need to assess trades and technical qualification needs within a regional context. In trades and technical professions covered by an industry training organisation, this regional analysis will be complemented by the national analyses undertaken by the industry training organisation.

While the tertiary education sector can do a lot to plan for and respond to skill needs in the trades and technical occupations, tertiary education organisations cannot be expected to do this alone. Contributions will be needed from employer and industry groups to the planning by individual tertiary education organisations.



Labour Market information is crucial for this priority

Labour market information is required to reinforce these actions and to assist in making tertiary education investment decisions. Labour market information will ensure that investment in industry training and education is linked to workforce needs (both short-term and long-term), and the skill needs of both regional and national employers.

Agencies, such as the Department of Labour, produce information on current vacancies and occupational shortages, official statistics and other information concerning regional and sector labour markets as well as regular reports on the outlook for the labour market as a whole.

Over the life of this Strategy existing labour market information will be enhanced, and new information developed. A priority will be the provision of appropriate tailored labour market information for tertiary education decision-makers. The Tertiary Education Commission and Department of Labour will work together to achieve these improvements in the data available at the national and regional level.

Measures of success

We will know that this priority has been achieved when there is an increased supply of people with advanced level trade, technical and professional qualifications, particularly in areas of long-term skill shortage.

The progress of providers and industry training organisations towards this outcome will be measured by:

- increased participation in advanced level trade, technical and professional qualifications
- increased completion of advanced level trade, technical and professional qualifications
- increased progression of students at levels one to four to advanced level trade, technical and professional qualifications.

In support of this priority, we will also be interested in:

- increased take-up of national and industry qualifications, rather than local certificates and diplomas and evidence of greater employer engagement in qualification design.

Measurement will focus on a set of trade, technical and professional qualifications which can be monitored consistently and relate to areas of ongoing skill need within the economy.

Improving research connections and linkages to create economic opportunities

Why this matters

The New Zealand economy is currently based on commodity exports but as the economy changes we need to shift our focus from a reliance on commodities towards more high value and knowledge-based products. Capitalising on the intellectual resources of our tertiary education sector is critical. We need to get a better return on the research activities of our tertiary education organisations.

The linkages between the tertiary education sector, other research providers, and private business are especially important in a small country like New Zealand, as many firms are too small to engage in research and development themselves. The tertiary education sector can help by providing the expertise and knowledge to carry out this research, but it requires strong linkages at each stage of the transfer process to ensure that the full benefits from this research are captured. In 2004, the percentage of research contract income at universities from non-government sources was estimated at 52 percent (or \$161 million), compared with 57 percent (or \$133 million) in 2002.²⁶

The tertiary education sector is a significant producer of research in New Zealand – in 2003, 63 percent of indexed research papers had authors from the tertiary education sector.²⁷ Although the tertiary education sector is a large producer of research, the OECD in its 2005 Annual Review of New Zealand said: “A striking feature is the low rate of collaboration and ideas flowing from universities and research institutions to businesses.”²⁸ Improving the transfer of this knowledge and ensuring that it can be utilised to enhance economic opportunities is essential to promoting wealth creation in New Zealand.

It is difficult to quantify the benefits of public investment in research and development, but a recent study analysing the impact of publicly financed research and development on productivity in the agricultural sector estimated that this public investment in research and development provided a return of 17% per annum.²⁹

As well as being a significant producer of research, the tertiary education sector has a significant contribution to make in training the next generation of researchers and upskilling the future and current research workforce. By enhancing the linkages between the tertiary education sector and groups such as private businesses and other research entities, it will ensure that tertiary graduates are provided with the relevant skills that will help create an environment that allows high quality research and innovation to take place within the New Zealand economy.

²⁶ Source: Health Research Council, Royal Society of New Zealand, Marsden Fund, Annual Reports of Universities, Tertiary Education Commission and Ministry of Education.

²⁷ Ministry of Research, Science and Technology (2006), *National bibliometric report 2001–2004: international benchmarking of New Zealand research*, Wellington.

²⁸ Organisation for Economic Cooperation and Development (2005), *OECD Economic Surveys: New Zealand*, OECD, Paris.

²⁹ Hall, J and G Scobie (2006) *The role of R&D in productivity growth: The case of agriculture in New Zealand: 1927 to 2001*, Working paper 06/01, The Treasury, Wellington.



Improving research connections and linkages to create economic opportunities: Māori

Māori are managing and developing their collective assets to realise economic gain for Māori, as well as New Zealand. Tertiary research has a critical role to play in realising the full potential of these assets through the development of knowledge and technologies that will underpin Māori innovation.

New Zealand research needs to work more effectively with business and communities to find solutions and to identify commercial opportunities. Both Māori research and Māori enterprise hold the unique opportunity of differentiation in a global market. This priority is seeking to develop relationships where knowledge from 'outside' the tertiary sector shapes tertiary research as much as research assists with the realisation of economic opportunities.

What is to be done about it

Implementation of the Performance-Based Research Fund and the Centres of Research Excellence in the period of the last strategy provided a solid platform for tertiary research for us to build from. These initiatives have helped university-based research in particular, to focus on achieving excellence.

As part of the Economic Transformation Agenda the government is committed to strengthening the linkages between tertiary education institutions, Crown Research Institutes and firms. We can increase the impact of research through tertiary education institutions and Crown Research Institutes working together. Government is keen to establish a collaborative innovation system that supports the complementary roles of research organisations in realising the economic potential of New Zealand businesses and industry on a global stage.

Research and postgraduate studies are closely intertwined activities. Postgraduate study is vital preparation for many of those who will be directly engaged in realising the country's economic transformation. The completion of research-based postgraduate qualifications will continue to be of importance to the nation.

Attracting and retaining high quality researchers is an essential part of growing New Zealand's intellectual capital. New Zealand will continue to actively attract top international research students through the 'domestic status for new international PhD students initiative' (introduced in April 2005), and the New Zealand International Doctoral Research Scholarships Programme (NZIDRS). These approaches enable us to build international research partnerships and encourage skilled people to remain in New Zealand after their graduation.

Measures of success

We will know that this priority is being achieved when there is evidence of improved connections and linkages between tertiary education organisations and industry that create economic opportunities.

Progress towards this outcome will be measured by:

- increased research contract income at tertiary education providers from industry
- industry seeing tertiary education organisations as a source of advice, leading to increased cooperation³⁰
- increased placement of research students in industry and businesses.

Over the period of this Strategy the Tertiary Education Commission will work with tertiary education institutions to establish appropriate measures for determining the contribution that tertiary education institution research makes to economic growth. ■



³⁰ As previously measured in the Ministry of Research, Science and Technology Innovation Survey (2003) and now part of the Business Operations Survey.

MONITORING AND EVALUATION

The successful implementation of this Strategy relies on a good understanding of how the tertiary education system is functioning in relation to the goals and priorities. We also need to know where further adjustment may be required. Adjustment may be through changes to policies, changes in the Tertiary Education Commission's overall investment strategy and/or resetting of priorities by government.

The Ministry of Education will continue to monitor the progress of the sector towards the goals of this Strategy. This monitoring means we will know what progress is being made towards achieving the desired shifts in the system, and in what parts of the system. Monitoring will focus on outcomes where possible, as well as the size of the relevant provision and the amount to which it contributes to achieving the priorities. Monitoring will also consider the value being gained through the money invested in tertiary education.

The annual monitoring reports will include:

- commentary on the contribution of the tertiary education system to the government's goals, based on latest available data and research
- indicators of progress towards the key outcomes, concentrating on the areas of focus and the shifts required within the tertiary education system to achieve these outcomes
- measures of success relating to the four priority outcomes, as outlined in each section earlier in this document. The measures will be further developed to provide valid and useful information.

Monitoring will continue to draw on a range of existing quantitative and qualitative information collected within the tertiary education system.

In the lead up to the development of the third Tertiary Education Strategy, the Ministry will evaluate this Strategy. This evaluation will help the government and the sector get a sense of the value and effectiveness of this Strategy in promoting change and improvement in the tertiary education system and highlight areas of further development in the third Tertiary Education Strategy. ■



GLOSSARY

This glossary explains how some commonly used terms are defined in this publication.

Adult and Community Education (ACE)

A broad range of formal and informal programmes which promote and facilitate the engagement of adults in lifelong learning

Competency

Demonstrated proficiency

Distinctive contributions

The differentiated and complementary roles that each type of tertiary education organisation plays within the tertiary education system

Economic transformation

The achievement of sustained growth in the economy through the application of skills, capital and innovation

Innovation

The dynamic process of adding to economic, social or cultural development or environmental sustainability by creating and applying knowledge

Modern Apprenticeship

A work-based education initiative for young people available in 32 industries leading to a nationally recognised qualification

Network of provision

A comprehensive national system of tertiary education that is the outcome of tertiary institutions focusing on their distinctive contributions in response to the needs of employers, industry, communities and iwi

Performance

The efficiency and effectiveness with which an intended purpose is achieved

Productivity

The output of goods and services in the economy, a sector of the economy or an industry from the effective use of skill, capital and innovation

Other Tertiary Education Provider (OTEP)

A tertiary education organisation (TEO) recognised under Section 321 of the Education Act 1989. The criteria for recognition includes whether a TEO is supplying a service of national significance that cannot generally be funded through other mechanisms

Quality

The achievement of a high standard

Relevance

Fitness for purpose and in particular meeting the needs of students, employers, regional and national development

Skills

This term is used broadly to include technical skills, more abstract skills such as problem solving and communication, and foundation skills such as literacy, numeracy and language skills

Tertiary Education Institution (TEI)

An institution established under Section 162 of the Education Act 1989 (universities, polytechnics, colleges of education, specialist colleges and formally established wānanga)

Tertiary Education Organisation (TEO)

An organisation that is public, private or community-based offering tertiary education or tertiary-related services

Workforce

The workforce includes people in employment and people available for and seeking employment ■





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