Summary

Tertiary Education Strategy monitoring 2009
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Monitoring the tertiary education strategy

Tertiary education is a key strategic investment in the country’s cultural, social and economic well-being and future. Tertiary education is associated with improved economic and social outcomes. More than 630,000 New Zealanders participated in tertiary study in 2008, including industry training. The government spends over $4 billion a year on tertiary education, including research funding and financial support for students.

The 2007-12 tertiary education strategy

The Minister for Tertiary Education is required under the Education Act to issue a tertiary education strategy setting out the government’s long-term strategic direction for tertiary education, as well as its current and medium-term priorities. The Act requires the Tertiary Education Commission, the New Zealand Qualifications Authority and Career Services to have regard for the strategy in exercising their functions. In practice, the strategy sets out the framework for funding agreements with tertiary education organisations and provides a reference point for policy-making and relationships with the tertiary education sector.

The current strategy was issued in December 2006 and covers the period from 2007 to 2012. It includes the priorities for the 2008 to 2010 tertiary education organisation investment plans. It is the second strategy to be published. The first strategy took a broad and inclusive approach to cover the diversity of tertiary education. The second strategy continued that inclusive direction while sharpening the focus. The focus in the second strategy is much more explicitly on what the government expected of the tertiary education system and the priority outcomes for action.

Since the second strategy was issued, there has been a change of government. The government has announced it will issue a new tertiary education strategy by the end of 2009, which will guide the 2011-2013 funding period.

The 2007-12 strategy accompanied the progressive introduction of a new approach to planning, funding, quality assurance and monitoring in the tertiary education system. Funding of tertiary education was shifted from annual allocations based on student numbers to negotiated three-year investment plans. Quality assurance arrangements are being reviewed to create a greater focus on learner outcomes. A key focus was on developing a differentiated and complementary network of provision, with better connections with businesses, industry and communities with an interest in the outcomes of tertiary education.

The second strategy set out three areas in which the tertiary education system was expected to contribute to our society, namely:

— 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 expected contributions were underpinned by attention to ‘distinctive contributions’, which recognised the key strengths and differences among different types of tertiary education organisations.

The strategy set out four priority outcomes where it was seen that there needed to be increased effort, and in some cases investment, in order to achieve a shift in the system. The priority outcomes were:

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

Monitoring the tertiary education strategy provides information to:

— inform decisions about the priorities for future funding allocations across the tertiary education sector

— provide the tertiary education organisations with a fuller, overall picture to inform their planning for the next funding round

— provide information that will help groups such as business and industry, Māori, iwi and Pasifika communities, to enter into discussions with tertiary education organisations on their needs and priorities.

This summary report is supported by two reports which provide more detailed information. One looks at cross-system indicators, which provide enduring measures of the overall health of the tertiary education system. The other provides more detailed information on the tertiary education system in relation to the three areas of expected contribution and the priority outcomes. Full references to data sources can be found in the supporting reports.

These monitoring reports focus on the tertiary education system as the second strategy was being implemented. The reports provide trend data to 2008 and include comment on the direction taken by tertiary education organisations in their 2008 to 2010 investment plans.

This summary report starts with an overview of initial engagement with the strategy by the tertiary education sector. Political and economic changes since the strategy was issued are discussed and areas for particular attention within the terms of the current strategy are noted.

Summaries of key indicators for Māori and Pasifika are then provided. These relate to the specific needs of each group highlighted in the strategy. The report then looks at each of the three areas of expected contribution of tertiary education. A brief outline of the situation with regard to the four priority outcomes is included in the related areas of expected contribution.

Each of the sections outlined above summarises the state of the tertiary education sector at the start of the strategy. This is followed by a summary of commitments made by tertiary education organisations in their 2008 to 2010 investment plans, which gives a sense of how the tertiary education sector is engaging with the strategy.
Engaging with the strategy

Critical issues for the current strategy

The information in the monitoring reports highlights a number of critical issues for the success of the 2007-2012 tertiary education strategy.

A quarter of secondary school students leave school and do not go on to tertiary education, either at a provider or through the workplace. Māori and Pasifika young people continue to be less likely to go into tertiary education. Also students who go into certificate study below the age of 18 are unlikely to progress to a higher level. There is more that tertiary education organisations can do to work with schools to ensure more students go on to tertiary study and complete higher-level qualifications.

Developing a more skilled workforce is critical to New Zealand’s future prosperity. Raising the literacy, language and numeracy skills of the workforce is part of this. Recent evidence suggests the need for an increased emphasis on numeracy.

Improving the match between the skills and qualifications gained through tertiary education and the demand for skills and knowledge in the workplace will remain an important area. In areas such as engineering, building and some specialist health areas, there is a clear case for more graduates with advanced qualifications. In most areas, improving the relevance of the qualifications is as important as, or more important than, increasing the number of graduates. This requires tertiary education organisations to continue to develop their relationships with business and industry to address long-term skill needs.

Improving research connections with business and industry requires more than just the provision of new information and knowledge in order to increase innovation. Tertiary education organisations and businesses also need to work together to recognise and address issues around management capability, costs and improving the skills and knowledge of the workforce.

Tertiary education sector response

Analysis of the 2008 to 2010 investment plans reveals cautious engagement by tertiary education organisations with the current tertiary education strategy.

Most of the engagement is around ‘success for all New Zealanders through lifelong learning’ and focuses on improving participation and retention of students under 25, developing capacity in literacy, language and numeracy and responding to demand for trade, technical and professional education.

Universities have made significant commitments to ‘creating and applying knowledge to drive innovation’. Much of their focus is on increasing research revenue from business and industry, which is used as a reporting measure of their engagement. Polytechnics have responded to this area in terms of increasing their involvement in technology development and transfer. And wānanga are looking at their contribution to the ongoing development of mātauranga Māori.

Polytechnics have been actively working to develop a shared understanding of how to address education and training needs in their region. Industry training organisations are further developing their leadership role to meet the training needs of industry.

All sub-sectors are looking at how to increase their engagement with their communities of interest and ensure that they are better meeting their needs. However, there is a tendency to look to satisfaction surveys as a measure of progress, which could result in over-surveying if taken too far.

Economic changes

The economic situation of New Zealand has changed markedly since the strategy was released in 2006. At that time, the country had been through a period of sustained economic growth, which was starting to decrease (from 5 percent annual growth in 2003 to 3 percent in 2006). Growth in labour productivity had also decreased as more lower-skilled workers were brought into employment. Unemployment was low at 3.8 percent in December 2006. The policy focus at that time was on how to sustain further growth through investment in the skills and knowledge of the workforce.

New Zealand is now in recession due to major global economic shocks and unemployment is
rising. Most of the increase in unemployment so far has been among those with no school or tertiary qualifications. The current policy focus is on how best to manage the country through a difficult economic period, while continuing to make strategic investments for the long term.
Success through lifelong learning

From 1996 to 2006, the proportion of the Māori adult population with sufficient literacy skills to participate fully in a knowledge society increased. However, Māori were still more likely to have lower literacy or numeracy than Europeans and New Zealand-born Asians.

Gains have been made in the knowledge and use of te reo Māori, with fewer Māori having no or little knowledge of the language. However, this is only a first step to revitalising the language and ensuring its survival.

Much of the gain in participation in tertiary education has been by Māori entering study as adult students. Māori have remained underrepresented in tertiary education at degree level and above. Māori school leavers were less likely than Asians and Europeans to go on to tertiary education and much less likely to go on to degree-level studies. These patterns largely reflect their lower levels of school achievement.

Māori were about half as likely as the total population to achieve a level 4 qualification or above by the age of 25. They are only a third as likely to achieve a bachelors degree by this age.

Enrolments in te reo Māori courses peaked in 2003, with over 37,000 students enrolled. This was a result of new programmes being made available through the wānanga and extended provision in the polytechnics. Since 2006, around 17,000 students per year have enrolled in these courses. The decrease was due to slowing of initial demand, the improved labour market, changes in funding for polytechnics and restructuring within two of the wānanga.

Creating and applying knowledge to drive innovation

In the 2006 Performance-Based Research Fund evaluation, the majority of Māori researchers were assessed by the Māori Knowledge and Development, Education, and Creative and Performing Arts panels.

Fourteen percent of Māori researchers were assessed as having produced work of significant national or international standing. This compares with 32 percent of all researchers. However, a larger proportion of Māori researchers (one third) were recognised as ‘new and emerging’ compared with all researchers (one fifth).

The number of Māori students enrolling in doctorates has been steadily increasing, from 235 in 2002 to 350 in 2008. Around 30 Māori students complete their doctorate each year.

Strong connections with iwi and Māori

Most tertiary education organisations have been developing relationships with Māori and iwi over the last 5 to 10 years. These relationships range in focus from increasing Māori learner participation to developing joint projects.

Implementing the strategy …

Most tertiary education organisations have included goals to improve Māori student success in their investment plans, which reflect their areas of distinctive contribution. These include commitments to increasing the number of Māori studying and achieving at higher levels. Other than wānanga, few organisations have included goals to create and apply knowledge relevant to Māori development. Most organisations continue to recognise iwi and Māori as important communities for engagement.

Wānanga have affirmed their contribution to Māori learner success and their unique role in creating and applying knowledge that contributes to mātauranga Māori.
Informing progress for Pasifika

Increased educational success for young Pasifika people

The proportion of Pasifika students moving from school to tertiary study is much lower than that of Asian and European students. Pasifika school students were much more likely to go on to level 1 to 3 certificates than to diplomas or degrees. This largely reflects their level of school achievement.

Participation rates of 18 to 19-year-old Pasifika students in tertiary study at level 4 and above has been low. Participation rates have increased in level 4 to 7 certificates and diplomas and only increased slightly in bachelors degrees.

Pasifika 18 to 19-year-old first-year retention rates have been lower than for European and Asian students in diplomas, but similar to the overall retention rate for degrees. However, retention rates have decreased in recent years as participation has increased. At both levels, Pasifika students in this age group have been less likely to complete a qualification than students from other ethnic groups.

Pasifika were about half as likely as the total population to achieve a level 4 qualification or above by the age of 25. They are only a third as likely to achieve a bachelors degree by this age.

Increased literacy, numeracy and language levels in the workforce

In 2006, the overall literacy and numeracy of the Pasifika population was lower than that of other ethnic groups. Within the Pasifika population, those who had English as an additional language had lower literacy and numeracy in English.

Among Pasifika with English as a first language:

— those who were in employment and study in 2006 were likely to have higher levels of literacy

— those who were unemployed or not in the labour market were likely to have low levels of literacy.

However, for Pasifika with English as an additional language, there was little difference in literacy levels by labour force status.

Ensure needs and aspirations of Pasifika communities are addressed

By 2006, around a half of tertiary education organisations reported that they were developing relationships with Pasifika communities. However, most of these were focused on attracting more Pasifika students and few on understanding and addressing the needs and aspirations of the community.
Success for all New Zealanders through lifelong learning

Ensuring maximum education opportunities for all New Zealanders

More of the population hold tertiary qualifications. In 2008, 28 percent of the population aged 25 to 39 held a bachelors degree or higher. This proportion is above the OECD mean, and similar to Canada, Australia and the United Kingdom.

Highest educational qualification of the population aged 25 to 39 years


However, the distribution of qualifications remains uneven across population groups.

Overall, students from lower socio-economic backgrounds have been less likely to participate in tertiary education, particularly at bachelors level and above. Recent research indicates that students from lower socio-economic backgrounds are less likely to achieve well at school. For students who go on to tertiary study, school achievement becomes the main predictor of success, rather than family background. Family aspirations also have an influence on whether students choose to go on to bachelors-level study from school. This in turn drives motivation to achieve well at school.

Māori have had relatively low participation in level 4 qualifications and higher. Māori school leavers have been less likely than others to enter higher levels of tertiary study. Māori students have been less likely to continue in tertiary study after their first year, reducing the proportion completing qualifications.

Pasifika have had relatively low participation at level 4 and above. Pasifika students have been less likely than European and Asian students to enter higher levels of tertiary study. While Pasifika students continue in study at similar rates to others, they have been less likely to pass all of their courses and to complete a qualification.

People with disabilities have been less likely to participate in tertiary education. Those with disabilities related to hearing, learning and mental-health have been least likely to participate at bachelors level. People with disabilities who do participate in tertiary education have generally done as well as other students, particularly if they were able to access support services. Access to support services has varied across levels of study, with services being more available to students at bachelors level than students at non-degree levels.

Strong foundation skills

In 2006, just over half of the New Zealand adult population had sufficient literacy and numeracy to participate fully in a knowledge society. While this situation is similar in other developed countries, and likely to improve as a more educated generation matures, there are still significant concerns about:

— the level of skills of people in the current workforce
— the smaller proportion of the population with higher levels of numeracy and problem-solving, compared to literacy

Increasing literacy, language and numeracy levels for the workforce

In 2006, 40 percent of employed people had literacy below the level required to participate fully in a knowledge society, 46 percent had low numeracy and 64 percent had low levels of problem-solving skills.

Labourers and machine workers were most likely to have low literacy. However, the largest numbers of employees with low literacy were in service and sales jobs.

The agriculture and fisheries, manufacturing and construction, trade, and health and social services industries had higher proportions of people with low literacy working in them. The largest numbers of people with low literacy were in the trade industries and manufacturing.
— lower overall literacy and numeracy of Pasifika and Māori populations, and of young people entering the workforce

— English-based literacy skills of people for whom English is a second language.

Successful transitions from schooling: ensuring the ‘baby blip’ generation achieves its potential

During the period from around 2007 to 2011 there will be a larger number of young people aged 15 to 19. They are the so-called ‘baby blip’ generation. These young people will be a significant part of the future workforce.

National population projections

![National population projections chart]


The proportion of New Zealanders under 21 in tertiary study has been higher than the OECD average. However, New Zealand has had a higher proportion of students who leave school from age 16 onwards and do not go on to tertiary study.

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

Around 40 percent of New Zealanders achieve a level 4 or higher qualification by age 25 through provider and work-based tertiary education. While the rates of achievement have been improving, rates for Māori and Pasifika are significantly lower than for other ethnic groups. Rates are also lower for men overall.

A quarter of New Zealanders achieve a bachelors degree or higher by age 25. This rate has been stable in recent years. Attainment rates are significantly lower for Māori and Pasifika and for men.

Building relevant skills and competencies for productivity and innovation

Demand for advanced skills and knowledge has been increasing in the workplace in order to improve innovation and productivity, as a result of the greater use of technology and in response to greater demands on health and social services as the population ages. The current economic downturn will reduce short-term demand in areas such as construction and manufacturing. However, there will continue to be demand for increased skills and knowledge in the long term.

Areas where there has clearly been an unmet need for increased graduates include engineering, building and some areas of health.
Increased achievement of advanced trade, technical and professional qualifications to meet regional and national industry needs

The proportion of tertiary-qualified trades workers increased from 60 in 1991 to 70 percent in 2005. However, by 2008, the proportion had dropped back to 60 percent.

The proportion of professionals with bachelors degrees or higher has been steadily growing, as has the proportion of technicians and associate professionals.

The relative premiums paid for trades workers, technicians and associate professionals, and professionals with advanced qualifications have decreased in recent years as wages have increased for workers with lower levels of qualifications.

Other areas where there has been evidence of shortages include early childhood, secondary and Māori-medium teaching and accounting. In most areas, improving the relevance of the qualifications is as or more important than increasing the number of graduates.

Industry training has continued to provide broad based access to learning for those in employment, with around a third of completing trainees attaining national certificates within five years of starting their training.

There has been an increase in enrolments and completions at postgraduate level – mostly in postgraduate certificates and diplomas and in doctoral degrees. Retention rates have been increasing. The highest earnings premiums are paid for people with postgraduate qualifications in management and commerce, information technology and engineering.

Building skills and competencies for social and cultural development

Tertiary education also contributes to New Zealand’s social and cultural development. Around 16 percent of provider-based provision has been in the areas of creative arts, culture and languages. Three-quarters of students taking courses in these areas were enrolled in qualifications in society and culture or creative arts. People with society and culture or creative arts qualifications work across a wide range of occupations and industries.

Implementing the strategy …

The largest proportion of commitments made by tertiary education organisations in their 2008 to 2010 investment plans relates to this area of the contribution. The main focus is on increasing the participation of underrepresented groups, especially Māori learners, as well as improving retention and course completion.

Polytechnics have focused on developing capability in literacy, language and numeracy delivery, improving outcomes for Māori and Pasifika learners and increasing progression from entry-level to higher-level learning. They have also committed to increasing higher-level provision in engineering, technology, health science and advanced trades qualifications, while decreasing provision in other areas.

Universities have given priority to increasing postgraduate enrolments and degree completions, as well as continuing to focus on enrolments by under 25-year olds. A focus on Māori learner success has been included in all university plans. Universities are planning for more provision in law, medicine, teaching, architecture, engineering and other professions and less in general education and arts and humanities.

The three wānanga each have different sets of objectives in this area. Collectively, they anticipate modest improvements in participation and completion rates for students under 25 years at level 4 and above, as well as improvements for students aged 25 years and over.

The main focus of industry training organisations is on continuing to meet industry needs. They are less certain about their ability to influence student outcomes and to improve the participation of underrepresented groups, as this relies on employers’ cooperation. There is significant attention in investment plans to literacy, language and numeracy improvements.

Private training establishments and other tertiary education providers have a well-focussed set of commitments which anticipate moderate improvements in student achievement. Their focus is on increasing provision at higher levels and increasing the participation and achievement of younger learners.
Creating and applying knowledge to drive innovation

The tertiary education sector is a significant producer of research, accounting for 30 percent of total research expenditure in New Zealand. A significant contribution of the tertiary sector has been in the area of developing and applying new knowledge.

Research expenditure by type of research and sector

The greatest amount of academic research takes place in universities. Polytechnics, wānanga and private training establishments also contribute to creating and applying knowledge, particularly in the areas of applied research and knowledge transfer.

Supporting links between research, scholarship and learning

Research activity provides an important base for teaching at degree level and above. This interdependence is required by the Education Act for all degree-granting organisations.

It is difficult to construct cross-system measures of the links between research, scholarship and teaching. One measure is provided in the expected contributions report. This measure looks at the relationship between the number and quality of research staff (as measured through the Performance-Based Research Fund) and the amount of teaching carried out (as measured through equivalent full-time enrolments).

The conclusions from this measure are that within subjects and across universities:

- at bachelors level there is a consistent match of research and teaching in all subjects
- at masters and doctorate level, in nearly half of subject areas, some universities have a relatively greater concentration on teaching and supervision, while others have a relatively greater concentration on research.

Focusing resources for greatest effect

Efforts over the last few years to identify national research priorities have focused on research in:

- biological and physical sciences
- health, medicine and public health
- mathematics, information sciences, engineering and building.

In 2006, just over half of top-rated research staff in universities were working in these areas. Within these areas, there appears to have been a shift towards agricultural, medical and biomedical research and away from more pure science areas.

Health and medical research in New Zealand universities has achieved an academic impact that is above the world average.

Improving research connections and linkages

Strengthening research connections and linkages between tertiary education institutions, crown research institutes and businesses one way of making research more effective and ensuring greater use is made of new knowledge.

In their planning, most universities have a focus on collaborating on research with other universities, research institutes and business. There has been a trend towards putting a priority on universities commercialising their own research and away from the more general transfer of knowledge and technology to business and industry.
Improved research connections and linkages to create economic opportunities

The Statistics New Zealand Business Operations Survey 2007 found that around one in 10 businesses with innovation activity use universities or polytechnics as a source of innovation information. Around one in 20 have cooperative arrangements with New Zealand universities and polytechnics.

Access to information is only one issue affecting business innovation. The main factors businesses see as hampering innovation are lack of management resources, development costs and lack of appropriate personnel within their organisations.

There is a shift towards universities and polytechnics providing information for innovation to larger businesses. The majority of businesses seeking information from universities and polytechnics were in manufacturing, property and business services, retail trade and health and community services.

Rate of joint authorship across universities in published papers

![Graph showing rate of joint authorship across universities in published papers from 1981-2007.]

Source: Thomson Reuters

There is evidence of increased collaboration between universities on research projects. This is reflected in an increased rate of joint authorship of papers across universities.

Implementing the strategy …

While all sub-sectors engage in activities related to creating and applying knowledge, only a few tertiary education organisations made strong progress-oriented commitments in their 2008 to 2010 investment plans.

Universities have made a significant commitment in this area. Their commitments focus on increasing research revenue as the highest priority, followed closely by research productivity. Commitments have also been made to improve research connections and linkages, including some initiatives to enhance capability.

Polytechnics are focused on increasing their involvement in evidence-based technology development and transfer. Around half of them have made commitments in this area: and just over half have made more general commitments to improving applied research.

Wānanga have given more limited attention to this area, with the focus being primarily on their contribution to the ongoing development of mātauranga Māori.

Industry training organisations, private training establishments and other tertiary education providers were not expected to develop commitments in this area.
Strong connections between tertiary education organisations and the communities they serve

The strategy notes that building strong connections is a means of achieving improved outcomes. Strong connections require organisations and the communities they serve to have and understand a common purpose for outcomes of tertiary education, to work together responsively and flexibly and to regularly review educational and research needs.

Over the five years to 2007, there has been evidence of increased engagement of tertiary education organisations with communities of interest. This has included:

- greater cooperation among organisations
- some development of relationships with schools
- a steady focus on international connections
- increased attention to industry and business
- most organisations developing relationships with Māori and iwi
- more organisations developing relationships with Pasifika communities.

Improving the quality and relevance of education and knowledge has been a core focus for most relationships. The emphasis has varied from increasing participation through to addressing new education and knowledge needs.

Supporting economic transformation has mainly been a focus of relationships with business and industry. There is greater potential to look at the larger role of education and knowledge in leading economic development and looking at the economic outcomes sought by Māori and Pasifika communities.

Supporting social and cultural outcomes is mostly achieved through relationships with Māori and iwi, and Pasifika communities and largely through encouraging greater participation. Social and cultural outcomes for the wider community have not been a strong focus of relationships.

Implementing the strategy ...

In 2007, polytechnics were asked to work with education and training providers, industry training organisations, community organisations, Māori and iwi, Pasifika communities and wider communities to pool information and gain a shared view of tertiary education needs, priorities and gaps. The resulting reports were used to inform the development of investment plans for 2008 to 2010. Initial efforts tended to focus more on producing reports, than on taking on active leadership. There was also a tension related to protecting their own provision at the expense of creating more linkages and cooperation in the region. The process continued in 2008 with a focus on improving the information base and addressing gaps in the 2007 reports. There has been a shift in focus from reporting needs to developing shared understandings of how needs can be addressed through a network of provision.

In their 2008 to 2010 investment plans, all sub-sectors anticipate good progress in this area. An unintended consequence may be that communities become over-surveyed by tertiary education organisations over the next few years, reducing their willingness to engage constructively. The success of the regional facilitation process may be a key measure for mitigating this risk.

Polytechnics are taking an active role in their regions, as described above. They also have some well-focused and strong commitments in the area of engagement with industry.

Universities made a good start in this area, with a focus on engagement, satisfaction surveys and maintaining or increasing accreditation to meet business and industry needs.

Wānanga set out well-focused efforts to increase engagement with iwi and Māori learners.

This is the strongest area of contribution for industry training organisations, with commitments set to increase engagement with industry, as part of their leadership role. Most have included commitments to increasing the proportion of employers that participate in industry training, as well as developing industry strategies for skills development.
Private training establishments and other tertiary education providers anticipate good progress in further developing their relationships with their communities of interest, and in many cases identifying new communities that they wish to engage with.