



INTRODUCTION

The Government's Pasifika Education Plan and the Tertiary Education Strategy (TES) put forward clear goals for tertiary education for Pasifika peoples. These include increased participation, retention and achievement across all levels in tertiary education, improving opportunities for adult literacy, community and vocational education over the next five years. Two years after the development of the Pasifika Education Plan, this chapter reviews the latest trends in tertiary education for Pasifika peoples.

chapter seven

PASIFIKA PEOPLES IN TERTIARY EDUCATION
EDUCATE FOR PASIFIKA PEOPLES' INCLUSION
AND DEVELOPMENT

THE PASIFIKA EDUCATION PLAN AND TERTIARY EDUCATION STRATEGY

The Pasifika Education Plan for the five years 2001 to 2006 was launched in April 2001. It set the following goals:

- increase Pasifika peoples' participation in tertiary education at all levels
- improve Pasifika peoples' achievement in tertiary education – reducing disparity with non-Pasifika peoples completely in 20 years
- improve Pasifika adults' literacy over the next five years, and
- improve Pasifika peoples' access to, and participation in, adult and community education and vocational education over the next five years.

The Plan set targets for participation of Pasifika peoples in tertiary education institutions (TEIs) at 5.3 percent of all students by 2002, 6.0 percent by 2004 and 6.6 percent by 2006.

Another goal is to increase the number of Pasifika qualification completions at diploma level and above. The targets are 5.0 percent of total completions by Pasifika students by 2002, 5.6 percent by 2004 and 6.2 percent by 2006.

The Plan also aims to increase Pasifika peoples' attainment of qualifications above level 3 on the National Qualifications Framework (NQF) so that they are achieving at the same level as non-Pasifika peoples by 2005. It also aims to maintain participation at current levels and improve reporting from providers, so that progress can be measured.

The Plan sets goals for increasing TEIs' responsiveness to Pasifika peoples by incorporating three elements:

- amendments to the charters of TEIs for the 2002 academic year, requiring increased responsiveness
- funding of grants conditional upon evidence of increased responsiveness, and
- a best-practice resource of what works for Pasifika students.

The Plan also aims to increase financial support for Pasifika peoples and establishes goals for adult literacy programmes for Pasifika peoples.

The goals and targets that are outlined in the Pasifika Education Plan are integrated with Strategy Five of the *Tertiary Education Strategy 2002/07*. This broad strategy entitled *Educate for Pacific Peoples' Development and Success* set the vision for Pasifika people by 2007.

By 2007, the goals of the Pasifika Education Plan will have been achieved, and both the participation and achievement of Pacific peoples will be significantly higher. The tertiary education system will have developed a greater sense of responsibility for understanding and meeting the needs of Pacific peoples, and will ensure that more Pacific students gain high-level generic and specialist skills, become effective participants in their communities and key contributors to both Pacific peoples' and New Zealand's social well-being and economic development.

Specifically, the Strategy includes four objectives:

Objective 25

Pacific learners are encouraged and assisted to develop skills that are important to the development of both the Pacific and New Zealand.

Objective 26

A tertiary education system that is accountable for improved Pacific learning outcomes and connected to Pacific economic aspiration.

Objective 27

Pasifika for Pasifika education services are assisted to grow their capability and enhance Pasifika peoples' learning opportunities.

Objective 28

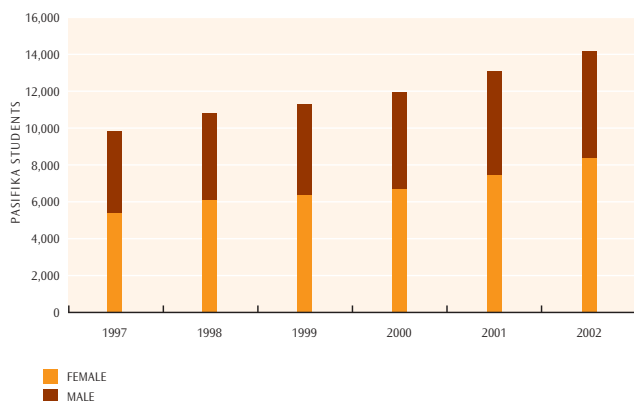
An increased proportion of Pacific staff at all levels of decision-making in the tertiary education system.

PASIFIKA PEOPLES' PARTICIPATION IN TERTIARY EDUCATION

RECENT TRENDS IN PASIFIKA PARTICIPATION

At 31 July 2002, there were 14,192 Pasifika people formally enrolled as domestic students¹. This is an increase of 1,112 or 8.5 percent over July 2001. Over the past six years, the number of domestic Pasifika students in tertiary education has increased by 44.4 percent, from 9,827 in 1997 to 14,192 in 2002.

FIGURE 7.1: FORMALLY ENROLLED PASIFIKA STUDENTS BY GENDER, JULY 1997-2002

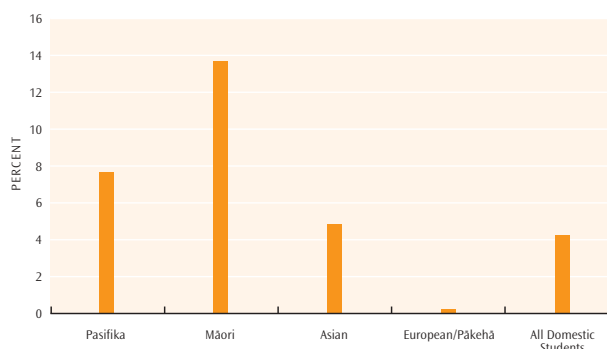


While the number of Pasifika students in tertiary education has increased significantly over the last six years, the proportion of Pasifika students in the general population has increased more slowly, from 4.2 percent in 1997 to 4.9 percent in 2002. In 2002, people of Pasifika ethnicities comprised 5.6 percent of the population aged 15 and over in New Zealand. The target for Pasifika participation in 2002 set in the Pasifika Education Plan was for Pasifika students to comprise 5.3 percent of all TEI students by 2002, rising to 6.0 percent in 2004. While the actual proportion in 2002 of 4.9 percent was lower than the target of 5.3 percent, this largely reflects the increasing share of Māori students and therefore obscures the underlying strong growth in actual enrolment numbers by Pasifika peoples. Between 1997 and 2002, the number of Māori students increased 89.5 percent, and their share increased from 14.3 percent in 1997 to 22.1 percent in 2002.

The increase of 4,365 Pasifika students (or 44.4 percent) since 1997 is half that of Māori (89.5 percent) in relative terms, and twice that of non-Pasifika students (21.9 percent).

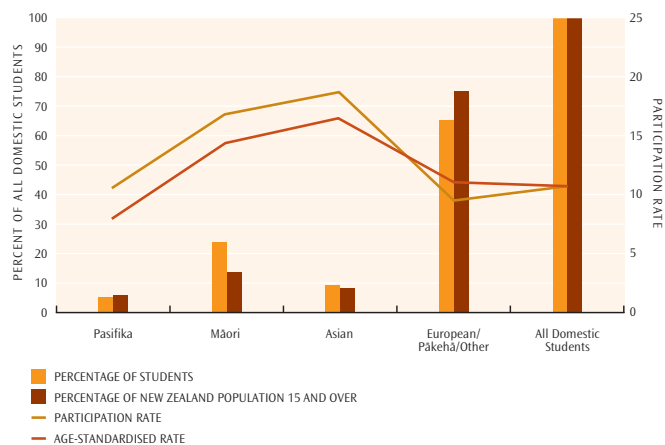
¹ This excludes 4,367 students with no reported ethnicity, and all international students.

FIGURE 7.2: AVERAGE ANNUAL GROWTH IN DOMESTIC STUDENTS, JULY 1997-2002



The rate of participation for students affiliating with Pasifika ethnicities rose in 2002 from 9.7 percent to 10.6 percent of Pasifika peoples aged 15 and over, about the same as the sector rate of 10.5 percent. Like the Māori and Asian populations, the Pasifika population is a younger population. If these rates are adjusted for this age difference, the rate of participation was 8.1 percent, less than the sector average of 10.5 percent². The difference is more marked at higher levels of study, where Pasifika students participate at 88 percent of the sector-wide degree-level rate, and just 53 percent of the sector-wide postgraduate rate. These facts are discussed further later in this chapter.

FIGURE 7.3: RATES OF PARTICIPATION BY PASIFIKA AND OTHER ETHNIC GROUPS, JULY 2002



² For more information on age-standardised participation rates see Ministry of Education, *Participation in Tertiary Education 2003*.

THE ETHNIC MAKE-UP OF PASIFIKA STUDENTS

Six ethnicities comprise over 97 percent of all domestic Pasifika students enrolled in tertiary education. Of these, most are Samoan, where there were a total of 6,338 students, or 44.7 percent of the 14,192 domestic Pasifika students enrolled on 31 July 2002.

A further 18.8 percent were Cook Island Māori, and a further 14.4 percent were Tongan. Together these three ethnicities comprised 77.9 percent of all Pasifika students in 2002. A further one in ten Pasifika students (9.5 percent or 1,345) was Fijian, and slightly fewer than a thousand (984 or 6.9 percent) were Niuean. There were 404 students of Tokelauan ethnicity, with the remaining (410 or 2.9 percent) belonging to other Pasifika ethnicities. This distribution has remained approximately the same since 1998, although the proportion of Samoans has dropped slightly.

While, overall, the number of domestic Pasifika students has grown by 31.2 percent (or 3,377 students) between July 1998 and July 2002, the pattern of growth varies across different Pasifika groups. Numerically, Samoan students represented the largest increase, accounting for 36 percent of the total growth in Pasifika students since 1998. However, in relative terms, Fijian students have increased the fastest, from 860 in July 1998 to 1,345 in July 2002, an increase of 56.4 percent. Cook Island and Tongan students are also growing at a faster rate than Samoan, Niuean and Tokelauan students.

FIGURE 7.4: DISTRIBUTION OF DOMESTIC PASIFIKA STUDENTS BY PACIFIC ETHNIC GROUP, JULY 2002

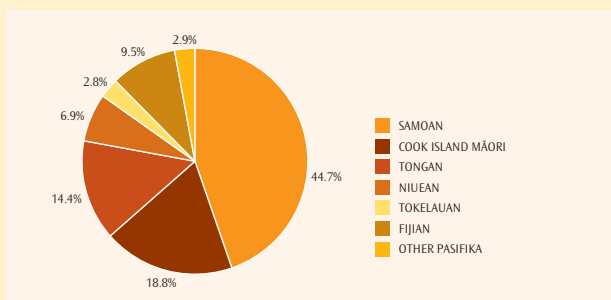
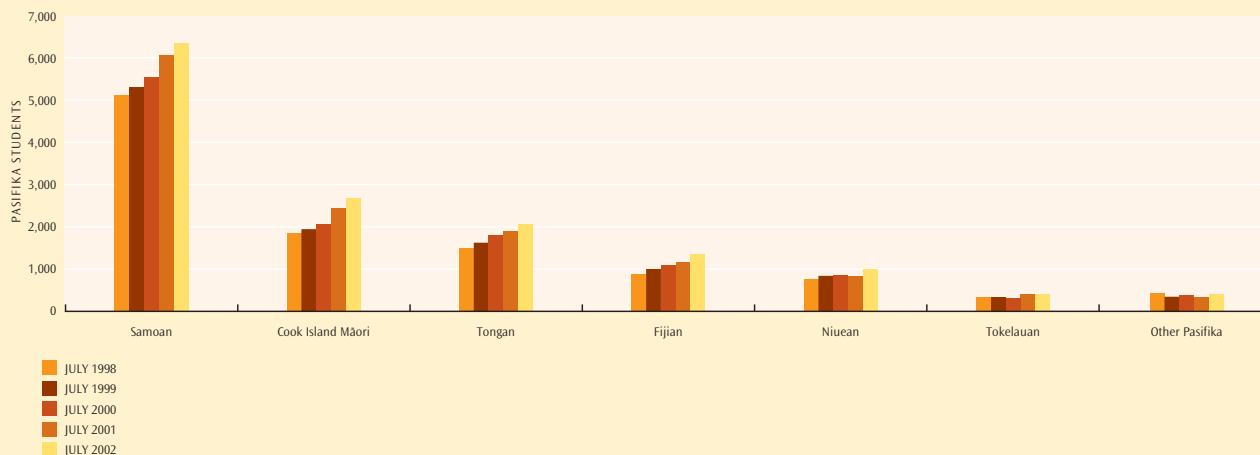


FIGURE 7.5: TRENDS IN PASIFIKA STUDENT NUMBERS, JULY 1998-2002





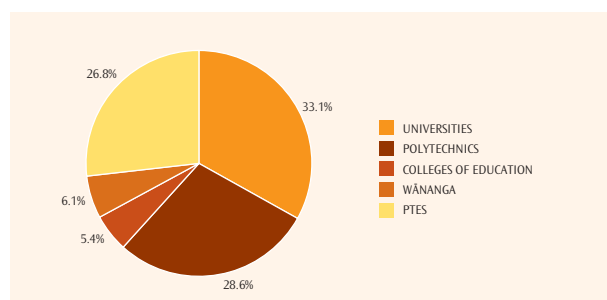
PASIFIKA PARTICIPATION BY SUB-SECTOR

Of the 14,192 domestic Pasifika students enrolled at 31 July 2002, 10,388 or 73.2 percent were at TEIs, and 3,804 (26.8 percent) were at private training establishments (PTEs). The proportion of Pasifika students studying at PTEs is the highest of all groups, and compares with 21.2 percent for Māori and 16.2 percent of all students. The 3,804 domestic Pasifika students made up 7.9 percent of the domestic student body in PTEs, whereas domestic Pasifika students made up 4.5 percent of the domestic students in TEIs.

However, from 2002 there has been a shift in growth away from PTEs to wānanga. While Pasifika students at PTEs increased annually by over 11 percent between 1997 and 2001, there was just a 1.3 percent increase in Pasifika students at PTEs between July 2001 and July 2002 as the effects of curbs on PTE growth were felt. Conversely, after little growth in Pasifika students at wānanga before 2001, Pasifika student numbers at wānanga increased by 291 percent and 160 percent in 2001 and 2002 respectively. Around 6.1 percent of Pasifika students were enrolled at a wānanga at 31 July 2002, up from 0.8 percent at July 1997. The success of Te Wānanga o Aotearoa in the last two years, as well as the moratorium on new funding for PTEs, probably accounts for this shift in study for Pasifika students.

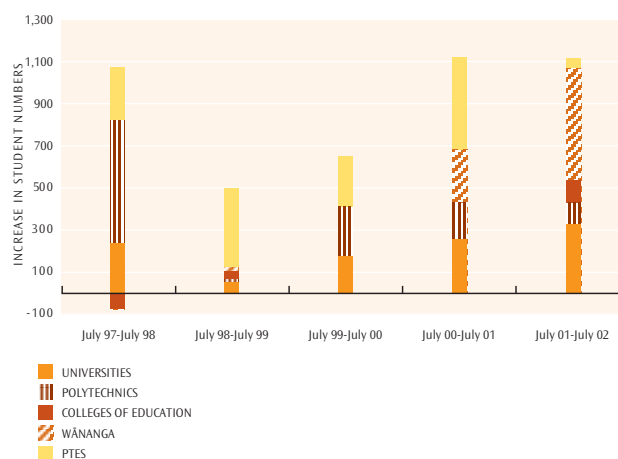
The most popular place for Pasifika peoples to study is still at university, however. At July 2002, around a third (4,701 or 33.1 percent) of domestic Pasifika students were enrolled at universities. While there were over 1,000 more Pasifika students at universities at 31 July 2002 than in July 1997, the universities' share of all Pasifika students has fallen from 37.3 percent in July 1997 to 33.1 percent in July 2002. While numerically there are more Pasifika students at university than any other sub-sector, Pasifika students are still under-represented there, when compared with the percentage of other ethnic groups attending university. Overall, 39.5 percent of all domestic students were enrolled at a university in July 2002, compared with 33.1 percent for Pasifika students.

FIGURE 7.6: DISTRIBUTION OF PASIFIKA STUDENTS BY SUB-SECTOR, JULY 2002



At 31 July 2002, there were 4,058 (28.6 percent) Pasifika students enrolled with polytechnics. Even with significant growth in wānanga and PTEs, polytechnics have maintained their share of domestic Pasifika students in recent years. The number of Pasifika students at polytechnics has increased by 1,108 since July 1997, an increase of 37.6 percent.

FIGURE 7.7: CONTRIBUTION OF EACH SUB-SECTOR TO GROWTH IN PASIFIKA STUDENT NUMBERS, JULY 1997-2002



AGE AND GENDER

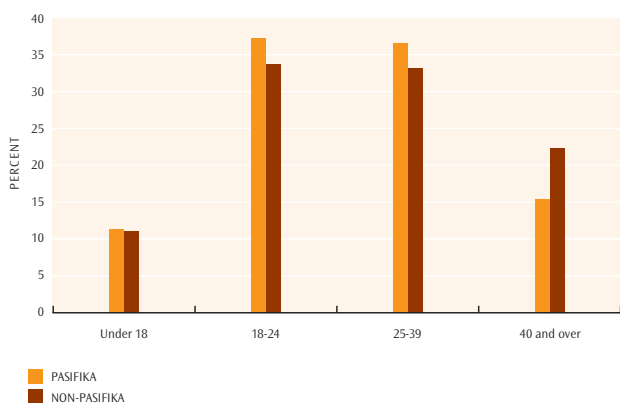
Of the 14,192 Pasifika students enrolled at 31 July 2002, 8,386 (or 59 percent) were female, the same proportion as for the sector as a whole. An estimated 12.2 percent of all Pasifika females aged 15 and over were enrolled in tertiary education on 31 July 2002, compared with 8.9 percent of Pasifika males, and 11.8 percent of all females aged 15 and over.

Participation by Pasifika women in tertiary education has grown considerably over the last few years. The number of enrolments by Pasifika women has grown by 56.3 percent since 1997, while enrolments by Pasifika men have grown by 30 percent over the same period.

In particular, wānanga have been successful in attracting female Pasifika students. Of the 862 Pasifika students at wānanga, over seven in ten (612) were female. The majority of this growth has occurred since 2001.

Pasifika students are younger than students of other ethnic groups with 48.4 percent of Pasifika students under the age of 25, compared with 44.6 percent for non-Pasifika students. This in part reflects the younger age structure of the Pasifika population in general, where 56.0 percent of the Pasifika population are under 25, compared with 36.4 percent for all New Zealanders.

FIGURE 7.8: DISTRIBUTION OF PASIFIKA AND NON-PASIFIKA STUDENTS BY AGE, JULY 2002



The younger age structure of Pasifika peoples acts to increase the overall rate of Pasifika in tertiary education. Overall, 10.6 percent of Pasifika peoples aged 15 and over were enrolled in tertiary education on 31 July 2002, compared with 10.5 percent for the population in general. However, the rate of participation for 18 to 24 year old Pasifika peoples was 24.7 percent compared with 36.4 percent for all New Zealand 18 to 24 year olds. When age differences are taken into account, their rate of participation is lower at 8.1 percent³.

However, 15.2 percent of Pasifika students are aged forty and over, compared with 22.2 percent of non-Pasifika students. Older Pasifika people were participating at a slightly higher rate at 4.3 percent, compared with 3.9 percent for all New Zealanders aged 40 and over.

Pasifika women are slightly more likely to be studying part-time than Pasifika men (36.8 percent of Pasifika women, compared with 33.5 percent of Pasifika men), and significantly less likely to be studying part-time than women overall. By comparison, 46.7 percent of all female students were studying part-time.

While Pasifika students are over-represented at certificate and diploma level, the male-female split of Pasifika students at each level broadly matches that of the sector as a whole.

HIGHEST LEVEL OF STUDY

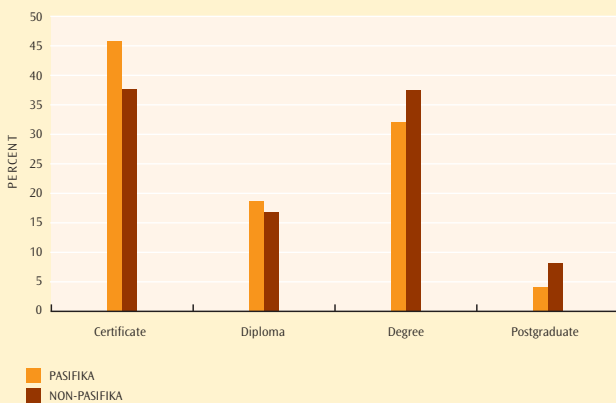
Pasifika students are more likely to be studying at certificate and diploma level than other groups (except Māori). At 31 July 2002, 64.1 percent of domestic Pasifika students were enrolled at sub-degree level (certificate and diploma), compared with 54.5 percent for non-Pasifika students, and 77.3 percent for Māori students.

Of these, a total of 5,392 Pasifika students (51.2 percent) were enrolled in sub-degree level qualifications at TEIs, and 3,711 Pasifika students (40.8 percent) were enrolled in sub-degree level qualifications at PTEs. This compares with 69.0 percent and 31.0 percent for non-Pasifika students at TEIs and PTEs respectively.

While nearly five percent of all domestic students with a reported ethnicity were Pasifika students, six percent of all students at sub-degree level were Pasifika students. The number of Pasifika students studying at this level has grown by 2,811 since July 1997, but the relative proportion studying at this level has stayed about the same (64.1 percent at July 1997, compared with 64.2 percent at July 2002).

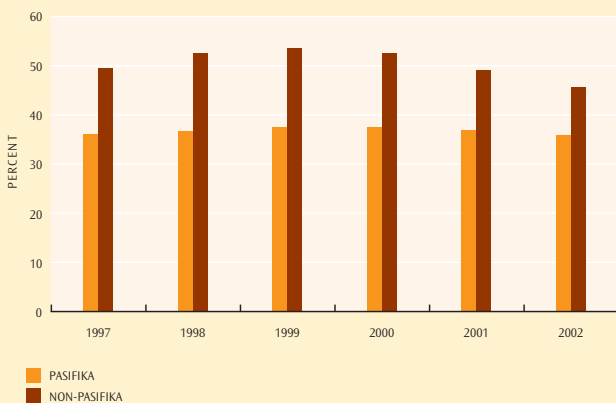
³ For more information on age-standardised participation rates see Ministry of Education, *Participation in Tertiary Education 2003*.

FIGURE 7.9: DISTRIBUTION OF PASIFIKA AND NON-PASIFIKA STUDENTS BY HIGHEST QUALIFICATION LEVEL, JULY 2002



In other groups there has been a trend towards higher-level study, except for Māori where sub-degree level students as a proportion of all Māori students has risen since 2000. Much of this growth, at least up to 2001, has been due to the success of PTEs in attracting more Pasifika peoples into tertiary study. From 2001, there has been a shift away from PTEs to wānanga, in particular Te Wānanga o Aotearoa.

FIGURE 7.10: PERCENTAGE OF PASIFIKA AND NON-PASIFIKA STUDENTS AT DEGREE LEVEL AND ABOVE, JULY 1997-2002



The proportion of domestic Pasifika students in postgraduate level study is less than half the level for non-Pasifika students (except Māori). Only 4.0 percent of all domestic Pasifika students studied at postgraduate level, compared with 8.1 percent of non-Pasifika students. Whereas numbers have risen for both groups since 1997 the gap has remained about the same.

As with all levels of study, women are more likely to be studying at postgraduate level, both for Pasifika students and non-Pasifika students. Thirty-seven percent of Pasifika women are studying at degree level or higher, compared with 45.8 percent of non-Pasifika women.

FIELD OF STUDY

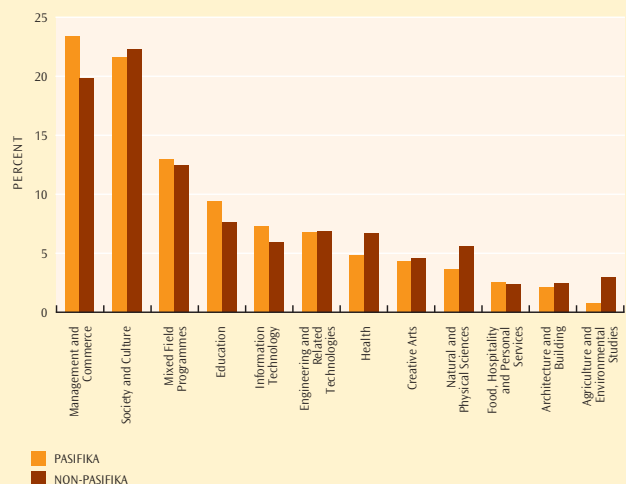
As for non-Pasifika students, management and commerce and society and culture were the most popular broad fields of study in 2002, with 45.1 percent of all Pasifika students studying in these broad fields. Study in the broad field of society and culture includes, amongst other things, law, economics, philosophy, sociology, history, language studies, human welfare support and services, and sport and recreation.

While these were the two most popular fields of study, Pasifika students were slightly more likely than non-Pasifika students to be studying management and commerce, and slightly less likely to be studying in society and culture-related fields.

There were also proportionately more Pasifika students studying education and information technology, but proportionately fewer studying health, natural and physical sciences, and agriculture and environmental studies.

While participation of Pasifika women was generally higher overall than that of Pasifika men, male participation was higher in engineering and architecture. However, female Pasifika participation was more than twice that of males in education and health.

FIGURE 7.11: DISTRIBUTION OF PASIFIKA AND NON-PASIFIKA STUDENTS BY FIELD OF STUDY, JULY 2002



Pasifika students enrolled at universities and polytechnics are more likely to participate in the fields of management and commerce, society and culture, engineering and information technology. Pasifika students enrolled at wānanga and private training establishments are more likely to participate in the fields of management and commerce, society and culture and mixed field programmes. Mixed field programmes include, for example, a number of foundation-related programmes, including literacy and numeracy, employment-related skills training, and social and life skills-related training.

NATURE OF ATTENDANCE

Pasifika students are more likely to be studying full-time than non-Pasifika students. Nearly two-thirds (64.5 percent) of domestic Pasifika students enrolled on 31 July 2002 were studying full-time, compared with 55.8 percent for the sector. However, Pasifika women are slightly more likely to be studying part-time than Pasifika men (36.8 percent of Pasifika women, compared with 33.5 percent of Pasifika men), and significantly less likely to be studying part-time than women overall. By comparison, 46.7 percent of all female students were studying part-time.

The number of female Pasifika enrolments in part-time study grew by 13 percent between July 2001 and July 2002, compared with 5.3 percent for Pasifika males and 12.3 percent for the sector as a whole. A large part of this growth was due to Te Wānanga o Aotearoa.

Pasifika students are also more likely to be enrolled intramurally. There were approximately 2,300 Pasifika students who were enrolled extramurally at 31 July 2002. This represented 16.0 percent of all Pasifika students. This proportion was less than the sector rate of 21.0 percent.

ACTIVITY PRIOR TO STUDY

Nearly two in five (38.7 percent) who specified their main activity on 1 October of the year prior to study indicated they were working. This was just slightly less than the sector proportion of 39.6 percent.

Over one in five Pasifika students (21.2 percent) were unemployed, on a benefit, or not in the labour force in 2001. This was higher than the overall sector proportion of 17.2 percent.

A further one in five Pasifika students (21.3 percent) came directly from school, about the same proportion as for the sector as a whole. 15.3 percent of Pasifika students were in tertiary study the year before, again at a similar level to the sector proportion of 14.6 percent.

STUDENTS WITH DISABILITIES

There were an estimated 686 Pasifika students with a disability enrolled at 31 July 2002. This represents a proportion of 4.1 percent of all Pasifika students, slightly less than the sector average of 4.8 percent.

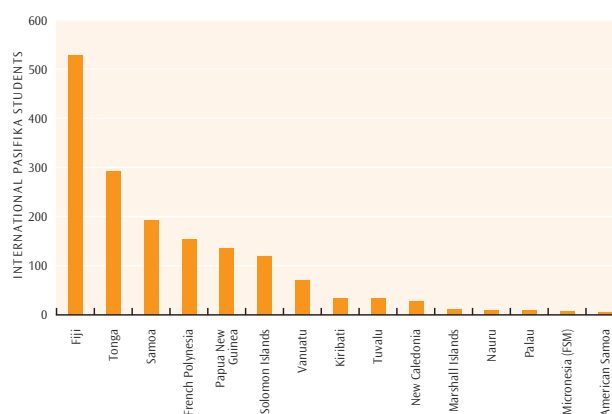
This proportion of Pasifika students with disabilities was also a little less than the Pākehā rate of 4.7 percent, and about half the rate for Māori students.

INTERNATIONAL PASIFIKA STUDENTS

There were around 1,640 international students from Pasifika nations enrolled at 31 July 2002⁴. At 6.1 percent of all international students, international Pasifika students were from the second most common region of origin after Asia.

Of these, Fiji was the most likely country of citizenship for international Pasifika students, with 529 or 35.5 percent enrolled at 31 July 2002. Next were Tonga and Samoa with 19.6 and 12.8 percent respectively. Papua New Guinea, French Polynesia and Solomon Islands provided a further 400 or 25 percent.

FIGURE 7.12: INTERNATIONAL PASIFIKA STUDENTS BY COUNTRY OF CITIZENSHIP, JULY 2002



⁴ Excludes students from Niue, Tokelau and Cook Islands, who are considered domestic students, for the purposes of qualification for tuition subsidy funding.

PASIFIKA PARTICIPATION IN WORKPLACE LEARNING AND FOUNDATION EDUCATION

TRAINING OPPORTUNITIES AND YOUTH TRAINING PROGRAMMES

Training Opportunities and Youth Training are the largest second-chance education programmes funded by the Government. The Tertiary Education Commission (TEC), through contracts with providers, manages both programmes. Six percent of providers delivering the programmes identify themselves as Pasifika providers.

During 2002, there were 315 providers offering Youth Training programmes. Ten percent of the 12,530 trainees were Pasifika students, as in 2000 and 2001. Thirty-seven percent of Pasifika trainees moved into further employment while 29 percent progressed on to further training or education outside the programme. Of the trainees that progressed on to further training, 3 percent participated in higher tertiary training and 26 percent participated in other full-time training. This compares with 71 percent of all trainees who completed the Youth Training programmes.

Pasifika learners in Training Opportunities programmes have also had a significant improvement in positive outcomes over the past 10 years (20 percent increase since 1993). In 2002, more than 2,000 of the 21,530 trainees participating in Training Opportunities programmes were Pasifika learners. Sixty-three percent of Pasifika Training Opportunities trainees achieved employment or further education and training within two months of leaving the programme in 2002. Forty-seven percent of the trainees moved into further employment while 16 percent progressed on to further training or education outside the programme. This compares with 66 percent of all trainees who completed Training Opportunities programmes.

SKILL ENHANCEMENT – TUPULAGA LE LUMANA'I

Skill Enhancement – Tupulaga Le Lumana'i provides a vocational programme for Pasifika youth aged from 16 to 21 years with low qualifications. The programme provides a bridge between school and work or further tertiary education in a wide range of skills. During 2002, 19 percent of the 1,141 trainees who participated in Skill Enhancement training were Pasifika peoples. Eighty-two percent of Pasifika students on the programme moved into further training or employment within two months of completing the programme.

INDUSTRY TRAINING

The Industry Training system review in 2001 considered the future shape, funding, focus and priorities of industry training in New Zealand. In particular it looked at how well the system was working and what changes might improve its responsiveness and effectiveness. The strategies identified in the review are now being implemented, developed and enhanced within industry training, and have been directed by the Education (Tertiary Reform) Amendment Act 2002, the Industry Training Amendment Act 2002, the Tertiary Education Strategy and the Statement of Tertiary Education Priorities (STEP).

In 2002, 4.5 percent of the labour force were Pasifika peoples and six percent were industry trainees (an increase of four percent since 1996). Over 53 percent of Pasifika trainees were in level three or higher Industry Training programmes, compared with 45 percent in 2001. However, Pasifika trainees are more likely to participate in Industry Training Organisations (ITOs), such as building services, plastics and apparel.

MODERN APPRENTICESHIPS PROGRAMME

The Modern Apprenticeships programme began in July 2001 as part of the Government's Industry Training strategy. It aims to address barriers to industry training faced by young people, as they have been under-represented in structured industry training. There were 4,344 Modern Apprentices as at 31 December 2002. Ninety-one (two percent) were Pasifika peoples (69 male and 22 female), an increase of 102.2 percent since 2001.

The significant under-representation of Pasifika peoples in Modern Apprenticeships is partly a reflection of labour market segmentation. Pasifika peoples have not been widely involved in systematic industry training until recently. Their representation among industry trainees has grown from two percent of the total in 1996 to six percent in 2002. Pasifika peoples made up 4.6 percent of the labour force as of June 2003. They are over-represented in unskilled jobs and in the service sector.

In addition, anecdotal evidence suggests that Pasifika youth do not consider apprenticeship-style training as a career path because the concept is not yet familiar to them or their families. This evidence also suggests Pasifika families may currently favour formal tertiary education for their children as a pathway into a career. ITOs and Modern Apprenticeships co-ordinators continue to promote Modern Apprenticeships among Pasifika communities.

ACHIEVEMENT OF PASIFIKA LEARNERS

At the time of going to publication formal completions data for 2002 was not available. The discussion below relates to trends up to 2001.

In 2001, 3,801 domestic Pasifika students completed qualifications at tertiary education providers. The largest share of completions occurred at private training establishments, which had 1,392 or 37 percent of all Pasifika students completing qualifications in 2001. Polytechnics made up a further 36 percent (or 1,368) of Pasifika completions, universities made up 23 percent (860 students), and colleges of education and wānanga made up the remaining four percent.

The number of Pasifika students completing qualifications at public tertiary institutions has increased by 42 percent since 1997. In 1997, 1,702 domestic Pasifika students gained a tertiary qualification from a TEI and by 2001 this had increased to 2,409 students. This increase is likely to largely reflect the growth in enrolments by Pasifika students, which grew 26 percent over this period.

The private training sector is a significant provider of training on the NQF for Pasifika learners. In 2001, PTEs awarded 59 percent of all NQF qualifications and 41 percent of NQF credits gained by Pasifika learners. Private providers have registered 32 percent of all Pasifika learners.

Pasifika students represented 3.7 percent of all students completing qualifications at TEIs in 2001, and 6.8 percent of all students completing qualifications at PTEs.

Pasifika students in 2001 comprised a greater proportion of total qualification completions compared with 1997. The proportion of Pasifika students completing awards at public tertiary institutions increased from 3.4 percent of domestic graduates in 1997 to 4.1 percent in 2001.

Following the pattern of Pasifika student enrolments, Pasifika females were more likely to gain qualifications than their male counterparts. In 2001, Pasifika females comprised 62 percent of domestic Pasifika students completing qualifications in tertiary education providers. The gender difference is most apparent in colleges of education, where 74 percent of Pasifika graduates are female.

About two in every three completions by domestic Pasifika students in 2001 (2,420 or 64 percent) were at certificate level. A further 529 (14 percent) were at diploma level, while 663 or 17 percent were at degree level, and 189 or 5 percent were at postgraduate level. This distribution largely reflects the distribution of enrolments, and is similar to the distribution for Māori students completing qualifications. At nearly 78 percent, the proportion of Pasifika students completing a qualification at below degree level (ie certificates or diplomas) is noticeably higher than for European/Pākehā (39 percent), Asian (41 percent), or other ethnic groups (45 percent).

The target set out in the Pasifika Education Plan is for Pasifika students to represent 5.0 percent of all completions at diploma level and above by 2002, rising to 5.6 percent by 2004. In 2001, 3.0 percent of all domestic students with a reported ethnicity who completed a qualification at diploma level or above were Pasifika students. As with enrolments, relative targets to some extent hide the actual growth in Pasifika students completing at higher levels, because of the larger growth at certificate level.

In 2001, just over 700 more Pasifika students completed qualifications at TEIs than in 1997. The number of domestic Pasifika students completing degree-level qualifications rose by 54 percent. Certificate qualifications increased by 48 percent. The number of postgraduate completions rose by 38 percent from 113 to 156. Over the same period, the total number of completions for all ethnic groups at TEIs rose by 17 percent, with a 17 percent increase in postgraduate qualifications.

Even though more Pasifika students are attaining qualifications, Pasifika students are more likely to complete sub-degree qualifications than their counterparts. Overall, across all tertiary education providers, 78 percent of Pasifika students completed sub-degree qualifications, compared with 59 percent of non-Pasifika students.

Domestic Pasifika students in 2001 were more likely to have completed a qualification in management and commerce (23 percent) or society and culture (20 percent). Other popular fields of study were mixed field programmes, which include programmes such as general education, employment skills, literacy, etc (14 percent) and information technology (10 percent).



The patterns of Pasifika qualification completions by field of study differ for TEIs and PTEs. In PTEs the proportion of Pasifika students completing a qualification in management and commerce, information technology, or food, hospitality and personal services is significantly larger than for TEIs (36 percent compared with 15 percent for management and commerce, 19 percent compared with 5 percent for information technology, and 8 percent compared with 4 percent for food, hospitality and personal services).

In TEIs, this proportion is significantly higher for mixed field programmes, education, and health programmes (22 percent compared with 1 percent for mixed field programmes, 10 percent compared with 3 percent for education, and 8 percent compared with less than 1 percent for health).

PASIFIKA EDUCATION INITIATIVES

There are a number of initiatives designed to lift the participation, retention and achievement of Pasifika students in tertiary education.

SPECIAL SUPPLEMENTARY GRANT FUNDING FOR INCREASED SUPPORT FOR PASIFIKA STUDENTS

A Special Supplementary Grant (SSG) to support the achievement of Pasifika students in tertiary education was continued in 2002. A total of \$4.6 million was paid to TEIs for Māori and Pasifika peoples. This grant provided additional funding to TEIs to assist them to:

- increase the retention and completion rates of Pasifika tertiary students, and
- encourage Pasifika tertiary students on to higher education and into subject areas where they are under-represented.

While use of the funding is varied, some real success is being reported by a number of institutions throughout the country who are using this funding to increase the participation of Pasifika students in non-traditional subjects and to aid retention. In 2002, TEIs implemented a wide range of initiatives to support Pasifika students, such as mentoring, careers advice, tutorials and cultural events. Many of the initiatives are implemented as long-term initiatives in order to build a base from which to improve the educational outcomes for Pasifika peoples.

An evaluation of the effectiveness of the SSG for Māori and Pasifika students has been completed in August 2003. Some of the key findings of the evaluation report include:

- SSG funding has had a positive impact in raising the profile of the needs of Pasifika students. The impact is often disproportionate to the amount of money.
- The development of SSG-funded initiatives needs to take into account that the needs of Pasifika peoples within TEIs are distinct and not the same as for Māori.
- There is a range of institution-wide support for initiatives for Pasifika learners.

INTEGRATED TEAM MODEL FOR OPTIMISING STUDENT SUCCESS (ITMOSS) – AUCKLAND UNIVERSITY OF TECHNOLOGY

In 2002, Auckland University of Technology used their Special Supplementary Grant to fund a single academic support initiative that caters for both Pasifika and Māori students. This initiative is an academic tracking system that looks at student success from two directions:

- 1 What is the student doing that might undermine his or her potential for success? (as illustrated in Project 1)
- 2 What is the TEI doing that might undermine their capacity to be effective for a student's potential for success (as illustrated in Project 2).

Project 1

The initiative enables staff to identify Pasifika students who do not attend class on a sufficiently regular basis. Once a need for intervention has been identified, a team of staff with direct involvement in a student's education will:

- consult on his or her academic support needs – where this has been identified as necessary
- agree on an integrated intervention plan
- ensure that the plan is implemented in a co-ordinated way and that the student's progress is monitored, and the plan is reviewed as necessary.

Project 2

Staff involved with this initiative undertake a module-based analysis to determine the pass rates of students. If particular modules have repeatedly high failure rates, this information will be brought to the attention of senior academic staff within the Faculty concerned and necessary action taken.

SCHOLARSHIPS

The Government also aims to encourage more Pasifika peoples to undertake teacher training to address shortages in early childhood education (ECE). In 2002, 115 TeachNZ scholarships were offered to Pasifika students enrolling in teacher training in 2003, and because of the low take-up rates there was an over-allocation in scholarships. Sixty-one scholarships were allocated for Pasifika peoples enrolling in the Diploma of Teaching (ECE) or Bachelor of Education (Teaching ECE). Fifty-seven scholarships were offered to Pasifika graduate students to undertake primary or secondary training while there were 48 scholarships for non-graduates to study primary or secondary training.

The scholarships are worth \$10,000 each and paid in three instalments: on confirmation of enrolment; on successful completion of the second year of the qualification; and when full registration is gained (after two years of teaching).

PASIFIKA POSTGRADUATE EDUCATION STUDY AWARD

The Ministry of Education aims to support the development of Pasifika education researchers. There are limited numbers of Pasifika researchers in the field of education.

Each year the Ministry of Education offers one Pasifika Postgraduate Education Study Award to a student who is about to commence, or is nearing completion of, research-based postgraduate study in education or a related field, and who has a strong interest in working in educational research. Other factors taken into consideration include: relevance of proposed course of study to educational research and policy development; academic achievement; work experience; strength of culture and community involvement; and previous research experience. The award is granted for full-time postgraduate study towards a postgraduate diploma, a masters degree or doctorate. The scholarship is worth \$5,000.

SPECIALIST EDUCATION INITIATIVES

The Ministry of Education also manages a number of scholarship and study award programmes designed to improve the capability and capacity of the sector to provide specialist education services. These include:

- scholarships to support training as a speech language therapist (eight of the 11 new scholarships provided each year are set aside for Māori)
- scholarships to support the training of sign language interpreters who are fluent in te reo.

Study awards are provided to support teachers to train as teachers of the deaf, Resource Teachers Vision, Resource Teachers Learning and Behaviour, teachers working with children and young people with high and very high learning needs, and early intervention teachers. In addition to providing these awards, the Ministry has supported the providers of these associated training programmes to deliver their programmes by distance, thereby ensuring that they are reasonably accessible throughout the country.

Study awards are also provided to support the training of educational psychologists and to Ministry of Education staff to access training relevant to their employment as an advisor on deaf children.

While these programmes have not been designed specifically for Pasifika peoples, prospective Pasifika students have been encouraged to apply for the scholarships, for example, in response to identified areas of need (eg speech language therapists). A review has been commissioned of the education and training of specialist teachers which includes a consideration of effective learning support for Pasifika students. The results of this review may well lead to the development and implementation of a scholarship programme, which aims to increase the numbers and capability of Pasifika specialist teachers.

INFORMATION ON TERTIARY EDUCATION FOR PASIFIKA PEOPLES

The Ministry of Education's Pasifika Education Team is co-ordinating and developing a tertiary information package for Pasifika peoples, called *Pasifika Journeys in Education – A Tertiary Student Resource*, that will be distributed in 2003. This resource will provide information on the different tertiary options for study: providers, entry requirements, cost of studying, teaching as a career and how best to help a family member who is studying.

ADULT LITERACY

Improving literacy levels among Pasifika learners and developing adult literacy provision by Pasifika peoples was another area of priority for 2002.

Fifty-three percent of learners in programmes run by Workbase, the National Centre for Literacy and Learning, are Pasifika workplace literacy learners. Workbase has established a new fund to target Pasifika learners as a priority. In 2002, 88 percent of the learners in the Workbase Basic Skills Development Fund (WBSDF) were Pasifika learners. In addition, a specific WBSDF Pasifika funding pool was established which provided four programmes. Ninety-seven percent of learners on these programmes were Pasifika peoples. Workbase offers provider capability-building to Pasifika and other providers who wish to apply for and deliver programmes through this fund. Workbase is piloting workplace literacy programmes in areas and industries with high Pasifika populations, such as Auckland, Kawerau and Petone.

A Workbase report in December 2002, *Sector Opportunities and Pasifika Peoples Adult Literacy*, recommended the need to build sector capability amongst Pasifika communities and providers in adult literacy provision. Planning to meet these recommendations is underway for 2003.

Funding for one family literacy project was used by Literacy Aotearoa in partnership with the Auckland-based Tongan Community Project, to provide a series of initiatives for 128 learners in a range of different learning contexts. Adult literacy tutor training was provided to two Pasifika adults to enable them to qualify as tutors. Over nine percent of Literacy Aotearoa's Community Adult Literacy learners are Pasifika learners.

The Adult Literacy Innovation pool was established in 2002 to support provision of literacy education in adult literacy providers including tertiary education institutions, private training establishments and communities working in partnership with adult literacy providers. In particular, new opportunities were created for family literacy projects, for Māori and Pasifika peoples and refugee communities. These new projects are documented in *More Than Words: Adult Literacy Innovations 2002*, available from the Ministry of Education.

There was an expectation that each initiative would target Māori and Pasifika learners. This emphasis was largely achieved for the 2002 programmes. The proportions of total learner population compare favourably with the proportions of each target ethnicity in the population.

The following two graphs show how this pool has targeted Pasifika learners.

FIGURE 7.13: DISTRIBUTION OF PASIFIKA LEARNERS IN ADULT LITERACY INNOVATION POOL PROGRAMMES BY ETHNIC GROUP, 2002

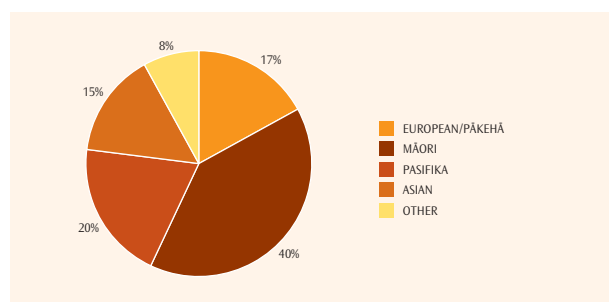
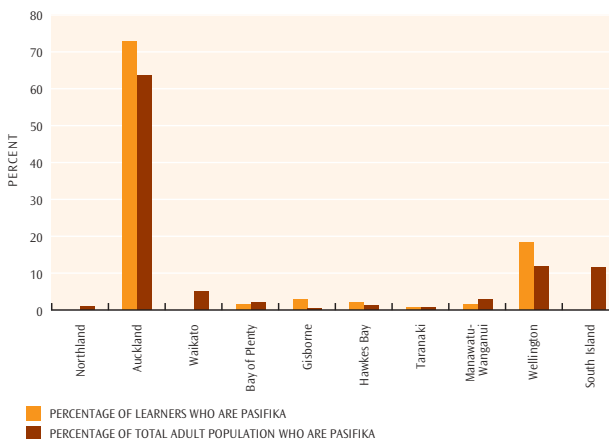


FIGURE 7.14: DISTRIBUTION OF PASIFIKA LEARNERS IN ADULT LITERACY INNOVATION POOL PROGRAMMES BY REGION, 2002



PASIFIKA ADULT LITERACY PILOT PROJECT

The last half of 2002 has seen the Ministry of Education and TEC working collaboratively in putting together a Pasifika adult literacy pilot project. This project will help increase an understanding of the potential of Pasifika community-based organisations to offer adult literacy learning opportunities to Pasifika communities.

These pilots will be run in Auckland, Rotorua, Wellington and Christchurch, each focusing on a particular Pasifika group and working with a different community-based model. These pilots will commence work in 2003.

ADULT AND COMMUNITY EDUCATION

Adult and Community Education (ACE) offers a range of educational activities and opportunities within the community and supports individuals and groups. It not only provides an important pathway into tertiary education for people with few or no school-level qualifications, but it also promotes lifelong learning within the community. It is particularly useful in areas such as adult literacy, parenting, computer skills, training volunteers, and learner and restricted drivers' licences. Taking learning to the learner is a key component of adult and community education, so that learning is accessible for those groups who might otherwise miss out on lifelong learning opportunities.

The Adult Education and Community Learning Working Party reported their recommendations for a new policy and funding framework for ACE in mid-2001. It included proposals for increasing the participation of Pasifika peoples in ACE and increasing Pasifika peoples' control over their own learning.

In 2002, there were 7,072 Pasifika students who participated in ACE learning funded through student component tuition subsidies. At 2.6 percent of all student component funded ACE students, Pasifika were under-represented. There were 3,745 Pasifika enrolments in school-based adult and community education. This represented 2.1 percent of all school-based ACE enrolments.

FINANCIAL SUPPORT FOR PASIFIKA STUDENTS

There is a range of financial assistance measures available for tertiary students. This includes:

- Targeted support through student allowances is available for full-time students from low-income families. In 2002, 9,843⁵ Pasifika students received an allowance, compared with 8,623 in 2001 and 6,938 in 2000.
- Student loans assist tertiary students to meet tuition fees, course-related costs and living costs. In 2002, 6.5 percent of all borrowers with a declared ethnicity were Pasifika students, compared with 5.8 percent in 2001 and 5.4 percent in 2000. This represents an increase of 2,905 (41.8 percent) in Pasifika borrowers over the period 2000 to 2002.
- In 2002, Pasifika students borrowed \$51.5 million under the Student Loan Scheme, compared with \$55.6 million in 2001 and \$46.6 million in 2000. The average amount borrowed by Pasifika students was \$6,260 in 2002, compared with \$6,143 in 2001, an increase of 1.9 percent.
- In 2002, 5,700 Pasifika females and 4,143 Pasifika males have borrowed, compared with 5,057 Pasifika females and 3,566 Pasifika males in 2001.
- In 2001, 5.3 percent of those receiving a Training Incentive Allowance were Pasifika students.

In addition, some financial assistance is available specifically for Pasifika students. In 2002/03 this included:

- Māori and Polynesian Scholarships administered by the Māori Education Trust
- TeachNZ Scholarships of \$10,000 for training Māori and Pasifika early childhood and primary school teachers (discussed earlier in this chapter)
- Pacific Postgraduate Study Awards, and
- Pacific Island Polynesian Education Fund.

⁵ The methodology used to record ethnicity has changed since the last annual report, which used prioritised ethnicity reporting. The figures quoted in this section use the total response method of reporting ethnicity. In this method, the number recorded for each ethnicity includes those who cited that ethnicity as part of a multiple ethnic group response, as well as those who chose that ethnicity as a sole response.



INTRODUCTION

The country's innovation system is a complex network of research organisations, educational institutions, industry associations, financial institutions and communities. That system relies on the constant supply of knowledge, skilled workers and financing to support the growth of new ideas, products, processes and organisations to create economic, social and environmental benefits.

In 2001, New Zealand ranked 11th out of 20 countries in research productivity per head of population, with a productivity rate similar to those of Australia, Canada and the United States¹.

The tertiary education system plays a key role in furthering research and innovation in New Zealand. The advancement of knowledge through education and research is a core function of the tertiary education sector. In addition to creating new knowledge, the tertiary education sector also undertakes significant research focused on adapting, transferring and exploiting domestic and international knowledge and technology. It does this alongside, and sometimes in partnership with, other research organisations, industry and business, community organisations, and government.

The prerequisite for a healthy and dynamic innovation system is a highly educated workforce. In particular, there is a need for the tertiary education sector to produce graduates who can contribute to the innovation system.

This chapter focuses on the contribution of the tertiary education sector – in particular, the universities, which are the most significant producers of research in the sector² – to the innovation system and its role in knowledge creation and innovation.

chapter eight

RESEARCH IN TERTIARY EDUCATION
RESEARCH, KNOWLEDGE CREATION AND UPTAKE
FOR OUR KNOWLEDGE SOCIETY

FOSTERING RESEARCH IN TERTIARY EDUCATION IN NEW ZEALAND

The New Zealand Government, like other governments, has recognised the crucial role played by the innovation system in the creation of a knowledge-based society and economy and hence in economic and social development. It has also recognised the critical part played by the tertiary education sector in the innovation system. The sector is a significant producer of research and hence of new knowledge – producing more than 60 percent of the nation's research outputs³. It also has the responsibility for the key task of training researchers for the innovation system.

The primary roles of tertiary education research activities are to:

- support degree-level teaching and ensure that degree graduates are of high quality and informed by up-to-date scholarship and developments in the knowledge base
- train New Zealand's future knowledge-creators and innovators
- contribute to improving the knowledge base through high-quality research that generates new knowledge, and
- disseminate knowledge through technology transfer.

One traditionally important contribution of the universities to the national research effort is in the area of *pure basic research*, which involves exploring and expanding the frontiers of knowledge. Whereas the Crown Research Institutes (CRIs) and many other research providers are more likely to focus on *applied* or *strategic* research, the traditional role of the universities in postgraduate training and the nature of the funding for research in the universities, mean that university-based researchers have greater opportunity to work in basic research. The Ministry of Research, Science and Technology (MoRST) and Statistics New Zealand (SNZ) estimate that one-third of all research conducted in the tertiary education sector is basic research. The MoRST/SNZ survey reports that just over a half (51 percent) of the basic research in New Zealand was conducted in the universities⁴.

¹ Ministry of Research, Science and Technology (MoRST), Foundation for Research, Science and Technology (FRST), Health Research Council (HRC) and Royal Society of New Zealand (RSNZ) *National Bibliometric Report, 1997 to 2001: International Benchmarking of New Zealand Research*, 2003.

² Section 162 of the Education Act 1989 characterises universities as institutions whose '... research and teaching are closely interdependent and most of their teaching is done by people who are active in advancing knowledge [and meeting] ... international standards of research and teaching ...'. The Act also states that universities are '... characterised by a wide variety of teaching and research ...'.

Like governments in other countries, the New Zealand Government has sought ways to enhance the excellence and relevance of the research produced by the sector and to increase the quantity of the high-quality research it produces. As part of its tertiary education reforms, therefore, the government has developed new means of promoting and funding research in the sector. The two most important are Centres of Research Excellence (CoREs) and the Performance-Based Research Fund (PBRF).

CENTRES OF RESEARCH EXCELLENCE

The government has funded the establishment of seven Centres of Research Excellence (CoREs). The CoREs have been established to support world-class research that will contribute to New Zealand's development as a knowledge society. CoREs will encourage a concentration of intellectual and financial research resources in the tertiary sector and encourage greater networking. The CoREs are inter-institutional research networks with researchers working together on a commonly agreed research plan. The first centres were selected in March 2002.

Each centre is hosted by a tertiary education institution and has demonstrated excellence in research collaboration with other stakeholders. The initial allocation was worth \$40.6 million over four years with a \$20 million capital contingency fund available to purchase strategic research assets. A further \$27 million over three years, plus an additional \$40 million in capital expenditure, was committed in Budget 2002 to provide for the creation of additional CoREs.

The following CoREs have been established:

- **The Allan Wilson Centre for Molecular Ecology and Evolution** – Host Institution: Massey University. Partners: University of Canterbury, University of Auckland, University of Otago, and Victoria University of Wellington
- **The Centre for Molecular Biodiscovery** – Host Institution: University of Auckland
- **New Zealand Institute of Mathematics and its Applications** – Host Institution: University of Auckland. Partner: New Zealand Mathematics Research Institute

³ This figure is derived from the two most recent national bibliometric reports.

⁴ MoRST and SNZ *Research and Development in New Zealand 2002*. See pages 4 and 39. The report estimates that about 20 percent of all New Zealand research is pure basic research. It makes these estimates by calculating the expenditure on research activities by research type, as reported in the response to its survey.

- **Nga Pae o te Maramatanga (Horizons of Insight)** – The National Institute of Research Excellence for Māori Development and Advancement – Host Institution: University of Auckland. Partners: Te Whare Wānanga o Awanuiarangi, Te Wānanga o Aotearoa, Victoria University of Wellington, University of Otago, University of Waikato, and Landcare Research
- **The MacDiarmid Institute for Advanced Materials and Nanotechnology** – Host Institution: Victoria University of Wellington. Partners: University of Canterbury, Industrial Research Limited and Institute of Geological and Nuclear Sciences
- **The National Centre for Advanced Bio-Protection Technologies** – Host Institution: Lincoln University. Partners: Massey University, New Zealand Crop and Food Research Ltd and AgResearch Ltd, and
- **The National Centre for Growth and Development** – Host Institution: University of Auckland. Partners: Massey University, University of Otago, with contributions from AgResearch Ltd.

THE PERFORMANCE-BASED RESEARCH FUND

In the past, the government's core funding for the research conducted in the tertiary education sector has been delivered through the tuition subsidy system, with the funding for all domestic degree- and postgraduate-level enrolments supplemented by a research 'top-up'. In developing the new integrated funding framework, the government has moved to reorganise research funding so as to separate funding for research from funding for tuition and to align research funding with the research performance of providers.

The new Performance-Based Research Fund (PBRF), which is being phased in over 2003 to 2007, has been developed following proposals made by the Tertiary Education Advisory Commission (TEAC) in 2001. TEAC's proposals led to the formation of a sector expert working group that met through 2002 and whose report created much of the basis for the policy detail. The working group, chaired by Professor Marston Conder of the University of Auckland, made its recommendations following a substantial consultation process.

⁵ The information in this section summarises detailed information on the operation of the PBRF which may be found on the website of TEC, www.tec.govt.nz.

⁶ Not all academic staff are required to submit evidence portfolios. A description of the criteria for eligibility can be found on the TEC website.

The purpose of the change is to encourage TEIs to improve research performance at all levels in the system. By aligning the allocation of the funding for research with research performance, the PBRF aims to:

- increase the average quality of the research conducted in the sector
- ensure that research continues to inform and shape the teaching and learning of degree and postgraduate students
- ensure funding is provided to support postgraduate research students and new researchers in the sector, and
- underpin the existing strengths in tertiary education research.

The PBRF⁵ will create a pool of funding to be allocated to providers on the basis of their performance in:

- the quality of the research outputs produced
- the number of research degree completions, and
- the amount of external research income they can generate.

The research quality assessment contributes 60 percent of the weighting, while research degree completions represent 25 percent and external research earnings, 15 percent.

The PBRF depends primarily on an *assessment of the quality of the research* produced by the academic staff working in the sector. As a first step in this research quality assessment, each eligible⁶ staff member is required to assemble an *evidence portfolio* that describes the researcher's performance against three parameters:

- *research outputs* published in the last six years
- indicators of '*peer-esteem*⁷, or their standing in the community of researchers in the field, and
- *contribution to the research environment*⁸.

⁷ Examples of peer esteem indicators are participation on editorial boards and holding research fellowships and awards.

⁸ Contribution to the research environment includes participation in activities such as research collaborations, generating external research income and researcher development.

⁹ The 12 panels cover: biological sciences; business and economics; creative and performing arts; education; engineering, technology and architecture; health; humanities and law; Māori knowledge and development; mathematical and information sciences and technology; medicine and public health; physical sciences; social sciences and other cultural/social studies.

These portfolios are then assessed against a set of criteria, initially by experts within the provider itself and subsequently by an independent expert evaluation panel. Twelve evaluation panels are being convened, one covering each broad discipline area⁹. The panels include overseas members who are able to view the work of New Zealand's tertiary education researchers in an international context. Over the expert reference panels, and moderating their work, there is a moderation panel that also includes members from overseas.

The evidence portfolios are assessed holistically, following the assignment of initial, indicative scores. The three parameters are weighted at 70 percent, 15 percent and 15 percent respectively, to help differentiate portfolios.

Following the review of all of the portfolios of all of the staff in each broad area, the work of each staff member is assessed as being within one of four research quality categories:

- Category A, which means that the researcher is conducting highly original or innovative research recognised as being of world class
- Category B, which characterises a researcher whose work is original or innovative, recognised in New Zealand or elsewhere, esteemed by the academic community beyond the researcher's own institution
- Category C, meaning the researcher applies existing methodologies, acknowledged by peers as having a sound research base, or
- Category R, which means that the person is a developing researcher or else is considered 'research inactive'.

The evidence portfolio assessment approach is intended to provide a fair sense of each staff member's standing in research. The method avoids a simple quantitative assessment of research output (and the consequent conceptual and implementation difficulties that characterise such systems) by taking a holistic view of research quality and focusing on a qualitative, expert-led assessment of each researcher's 'best' outputs.

The research quality assessments of the individual staff evidence portfolios are then aggregated to provide an assessment of each participating *provider's* research quality. The research quality factor is assigned a weighting of 60 percent in the PBRF funding formula. The funding formula uses a loading to take account of the costs of research in each broad area. It also takes account of the mix of A, B, C and R categories on the provider's staff.

A further 25 percent of each provider's PBRF funding allocation score depends on the number of *research degree completions* in the most recent year. Including research degree completions recognises the core role of the sector in training people in research skills. It also acknowledges the contribution of postgraduate research students to the research effort of the provider.

The remaining 15 percent of the funding allocation comes from performance of the provider in generating *external research earnings*. The use of this component is intended to recognise that the ability to generate research contract income is a proxy measure of research quality. In addition, this component recognises the fact that some of the research effort of the sector is devoted to applied research.

The government expects that, in aligning research funding to research performance and in separating it from tuition funding, it will be creating a climate that rewards innovation and excellence in research and hence it will foster and enhance the sector's research capability and, consequently, its performance.

In making this reform, the government has committed some new funding to the PBRF. However, most of the funding for the PBRF will come from the progressive transfer to the fund of the research component of the tuition subsidy. In 2004, 10 percent of all research top-up funding will be transferred to the PBRF, to be allocated to providers on the basis of their research performance. In 2005, a further 10 percent of the research top-up funding transfers to the PBRF, meaning that 20 percent of the top-up funding will be distributed through the PBRF in that year. In 2006, half of the research top-up funding will be transferred, with the remaining 50 percent transferring in 2007. By 2007, the value of funds available for distribution through the PBRF will be in excess of \$150 million, of which \$31 million will be new funding, with the remaining money having been transferred from the research top-up component of the tuition subsidy.

The first reports of the evaluation panels are expected to be published early in 2004, with the consolidated ratings, and hence the initial performance-based funding allocations soon thereafter.

One positive benefit of the PBRF is that it will lead to greater standardisation of the classification of research outputs and hence more robust information on research. In addition, the emphasis in the PBRF evaluation panel reports on the quality of research outputs will reduce the distortions that currently exist in quantitative reporting on research output¹⁰.

THE RESEARCH OUTPUT OF THE NEW ZEALAND TERTIARY EDUCATION SECTOR

The annual reports of tertiary education institutions provide information on the research activities undertaken and the research outputs produced in 2002. This information is complemented by independent studies of research output, and in particular, bibliometric studies¹¹.

The principal measure of research output is the number of research publications produced. Research publications include articles in peer-reviewed journals, books, chapters, commissioned reports and periodicals. Other research outputs include theses, conference presentations and creative work.

There are no universally accepted standard definitions of research output in the tertiary education system¹². In particular, which publications are counted as *research* outputs is not uniform in the universities. As a result, comparisons between the outputs of different providers cannot be made in a precise way. In addition, there are differences in publishing conventions and practices between disciplines. The information in this report needs to be understood in that context¹³.

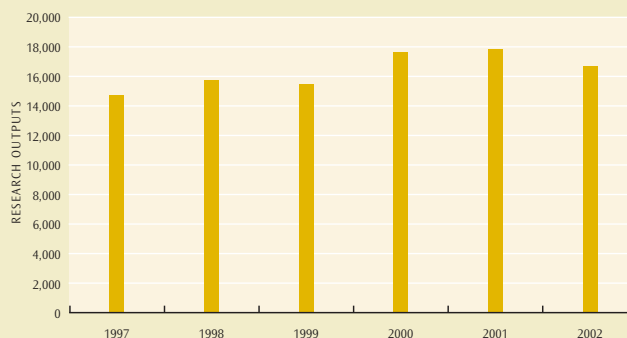
¹⁰ Among the distortions that exist under raw quantitative assessments of research performance are that there are differences between disciplines in publishing conventions so that, in some fields, one publication may carry the weight of several in another field. In addition, simple counts of numbers of publications carry no sense of the *worth* of the output.

¹¹ Bibliometrics is the term given to the quantitative study of research output. Refer to the *National Bibliometric Report, 1997 to 2001: International Benchmarking of New Zealand Research*, 2003, for a detailed account of bibliometrics, the methods used in bibliometrics and the limitations of bibliometric data.

¹² The progressive introduction between 2003 and 2007 of the PBRF has required the creation of an explicit, consistent definition of research that is now widely accepted in the tertiary education sector. This definition differs, however, from that used by the OECD.

Information from the annual reports of the universities indicates a significant increase in research output over the last six years, but with output having levelled off in the last three years¹⁴. A total of 16,686 university publications and other research outputs was reported for 2002, compared with 17,933 in 2001 and 14,747 in 1997¹⁵. The number of research outputs reported by the universities has increased by 13 percent over the six years 1997 to 2002.

FIGURE 8.1: UNIVERSITY RESEARCH OUTPUTS, 1997-2002



Clinical medicine is the largest single category for tertiary education sector research publications¹⁶, representing 22 percent of all tertiary education sector publications in 1996 and 2001. Out of the 24 subject categories, the top five in terms of output are: clinical medicine; plant and animal science; chemistry; social sciences; and biology and biochemistry.

¹³ It should, however, be noted that the reports from which this section has been compiled have been subject to external audit. While there are variations *between* providers in the definitions of research outputs, each provider's definitions are reasonably consistent from year to year. Therefore, trend data set out in this section is meaningful and reliable.

¹⁴ Caution needs to be exercised in attributing an output to a particular year. In many cases the work needed to create that output took place over several years. There are also often significant delays in the appearance of completed publications.

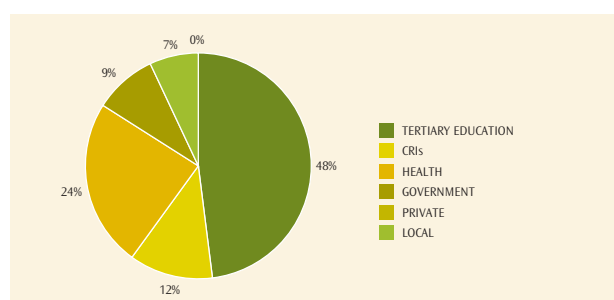
¹⁵ The numbers for the years 1997 to 2001 quoted in this paragraph differ from those published in the 2001 edition of this report. The reason is that incorrect and inconsistent definitions were used in the counting of outputs that understated the numbers by between 400 and 900 per year.

¹⁶ In this analysis, research papers are categorised according to Thomson-ISI subject fields.

The *National Bibliometric Report, 1997 to 2001: International Benchmarking of New Zealand Research*¹⁷, notes that the tertiary education sector is responsible for the largest share of the total research output of the country. The report states that, in 2001, nearly half (47 percent) of indexed scientific papers produced in New Zealand were produced by university researchers. This is consistent with the figure for 1997. Including all research outputs, not just scientific papers, this brings the universities' proportion to over 60 percent.

Figure 8.2 below shows the proportion of publications by research sector in 2000.

FIGURE 8.2: NEW ZEALAND'S INDEXED SCIENTIFIC RESEARCH PUBLICATION OUTPUT DISTRIBUTION BY RESEARCH SECTOR, 2000

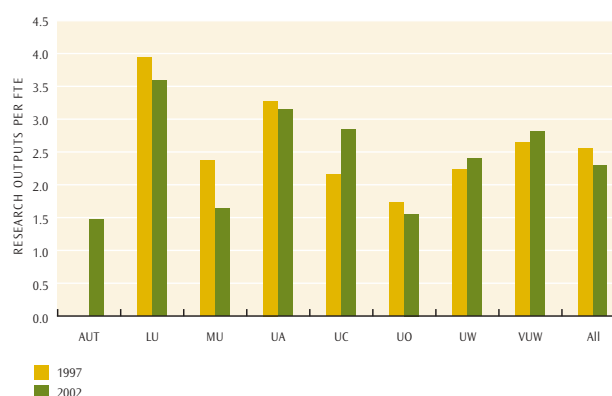


While the information above is primarily concerned with research conducted by the universities, other tertiary education institutions were also active in research, albeit on a smaller scale. For instance, Unitec Institute of Technology reported 202 international research publications in 2002 (compared with 173 in 2001) and 173 international presentations or exhibitions (compared with 143 in 2001), while the annual report for 2002 of the Wellington College of Education lists 31 research publications and presentations.

RESEARCH PRODUCTIVITY

One measure of research productivity is the number of research outputs for each academic staff member. In 2002, there were 2.3 publications per full-time equivalent (FTE) academic staff member in New Zealand universities. This compares with 2.5 in 2001 and in 1997. Figure 8.3 below shows the number of publications per FTE in each of the universities in 1997 and 2002.

FIGURE 8.3: PUBLICATIONS PER FULL-TIME EQUIVALENT ACADEMIC STAFF MEMBER PRODUCED IN NEW ZEALAND UNIVERSITIES, 1997 AND 2002



Note: The Auckland University of Technology (AUT) was granted university status in 2000. No count is included of publications of its predecessor institution, Auckland Institute of Technology. It needs also to be recognised that there are differences of definition of research output between providers. Further, there may be substantial lags between research activity and the resulting research output. In interpreting the data above, the reader should take account of these facts.

Based on responses to their 2002 survey, MoRST and SNZ estimate that the universities' research effort represented 2,516 FTE researchers¹⁸ plus 1,110 FTE technical and other staff in the academic year 2002. In addition, the survey reports 6,139 full-time equivalent postgraduate students working in the sector during 2002. Ignoring the postgraduate students, the tertiary education sector's researchers constitute 36 percent of the total research and development staff equivalents in New Zealand, compared with an OECD average of around 40 percent¹⁹.

¹⁷ MoRST, FRST, HRC, RSNZ (2003) *National Bibliometric Report, 1997 to 2001: International Benchmarking of New Zealand Research*.

¹⁸ Note that this figure was derived by estimates of the percentage of staff time devoted to research. That estimation is, therefore, not precisely comparable across the universities. This figure is not that used in the calculation of publications per FTE staff member.

¹⁹ This figure is cited in the MoRST and SNZ report *Research and Development in New Zealand 2002*.

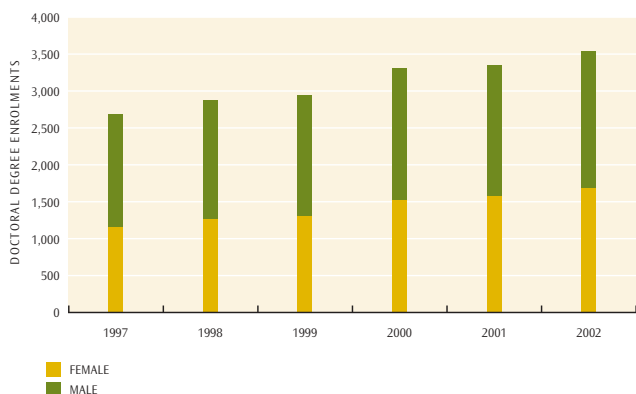


TRAINING OF RESEARCHERS

Formal training in research is mainly carried out through postgraduate research degrees. Between 1997 and 2002, postgraduate enrolments at New Zealand tertiary education institutions grew by 17 percent, from 21,715 to 25,415. Some postgraduate qualifications do not have an explicit focus on research training. Therefore, the remaining information in the following paragraphs relates to studies for doctoral degrees.

Between 1997 and 2002, enrolments in doctoral studies at tertiary education providers increased by 31 percent, from 2,687 to 3,532²⁰. Growth between 2001 and 2002 was five percent.

FIGURE 8.4: DOCTORAL DEGREE ENROLMENTS BY GENDER, 1997-2002



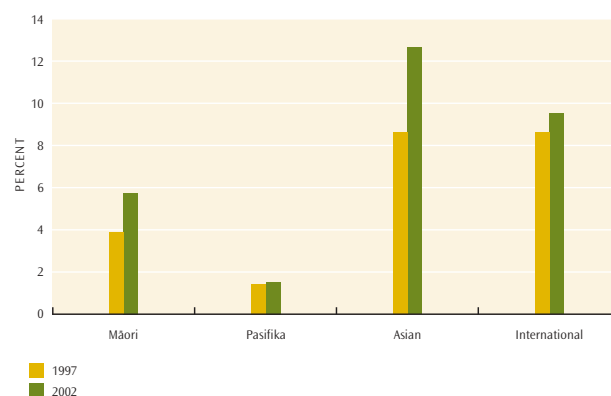
Women and Māori remain under-represented in enrolments in research degrees, but the trends are positive. In 2002, while women represented 57 percent of all formal enrolments in tertiary education and 58 percent of all postgraduate enrolments, they constituted only 48 percent of doctoral enrolments. The corresponding figure for 1997 was 43 percent. Enrolments by women in doctoral degrees have grown by more than 48 percent over the last six years while doctoral enrolments as a whole grew by 31 percent.

In 2002, Māori made up six percent of doctoral enrolments, whereas Māori constituted 20 percent of all enrolments in tertiary education and eight percent of all postgraduate enrolments. The rate of participation of Māori in postgraduate study in 2002 was a little more than half the rate of non-Māori – 0.5 percent of the population over the age of 15, compared with 0.9 percent for non-Māori. While these statistics show that Māori are still not engaging in postgraduate study to the same extent as the whole population, Māori enrolments in postgraduate qualifications have grown faster than for the whole population. Māori doctoral enrolments have grown by 96 percent over the last six years, from 103 to 201. This is around three times the rate of growth in doctoral enrolments as a whole.

The trend is more mixed for Pasifika peoples. Pasifika students constitute only 1 percent of doctoral enrolments but 5.5 percent of all tertiary enrolments. At the doctoral level, Pasifika enrolments rose by 37 percent (from 38 to 52) over the period 1997 to 2002, while for the whole population doctoral enrolments grew by 31 percent. The rate of participation by Pasifika peoples in postgraduate study was low; only 0.4 percent of the Pasifika population aged 15 or over was enrolled in postgraduate study on 31 July 2002. The rate for the population as a whole was twice that – 0.8 percent.

Enrolments in doctoral programmes by international students grew by 13 percent in 2002 and by 45 percent over the six years from 1997 to 2002, a rate higher than the population as a whole. International doctoral students make a particular contribution to the research culture in the institutions in which they work.

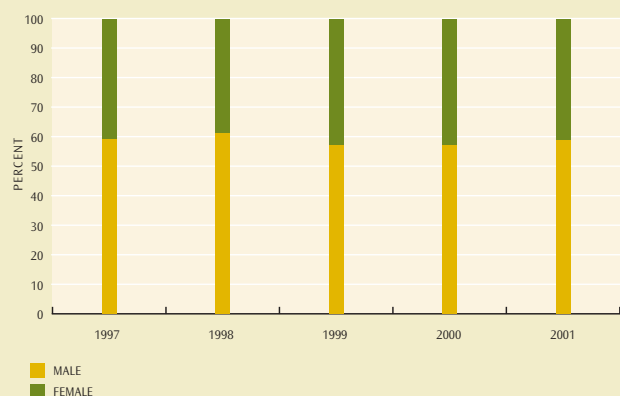
FIGURE 8.5: PERCENTAGE OF DOCTORAL DEGREE ENROLMENTS BY SELECTED GROUPS, 1997 AND 2002



²⁰ The figures quoted in this section are drawn from enrolments as at 31 July 2002.

The number of doctor of philosophy degrees awarded by New Zealand tertiary education institutions rose by 3 percent in 2001. The number of awards has risen by 32 percent since 1997.

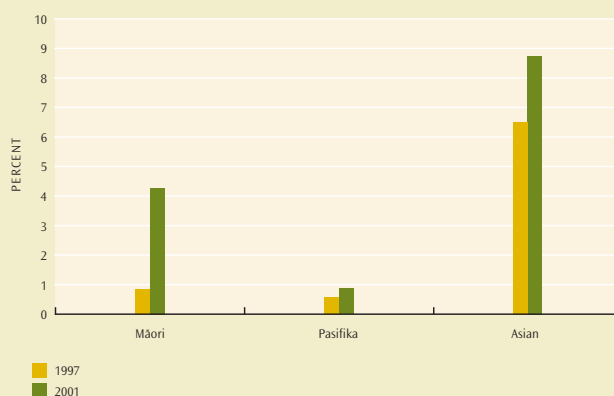
FIGURE 8.6: DOCTOR OF PHILOSOPHY DEGREE COMPLETIONS BY GENDER, 1997-2001



The number of women awarded doctor of philosophy degrees in 2001 as a proportion of all those earning doctoral qualifications was 41.2 percent, compared with 42.7 percent in 2000 and 40.7 percent in 1997. The representation of women among those awarded doctoral qualifications reflects the enrolment trends. It is not out of line with other countries. OECD data²¹ shows that the proportion of women among advanced research degree graduates in 2001 in New Zealand is the same as in Australia (41 percent), more than the United Kingdom (40 percent) but less than the United States (45 percent). The mean for all OECD countries was 38 percent.

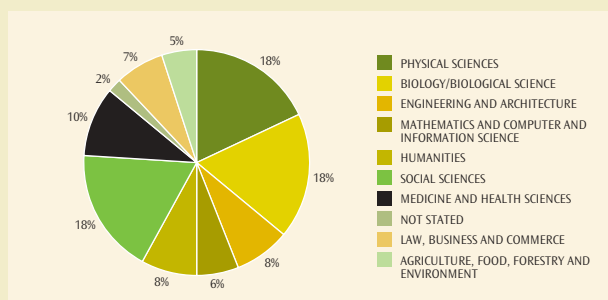
The number of Māori awarded doctor of philosophy degrees is very low in relation to the number of Māori completing all qualifications, but has risen sharply since 1997. In 2001, there were 20 doctor of philosophy degrees awarded to Māori, up from 17 in 2000 and from only three in 1997. The share of those earning doctoral qualifications who were Māori was 4.3 percent in 2001, compared with less than 1 percent in 1997. The number of Pasifika students awarded doctor of philosophy degrees remains very low – four in 2001, two in 2000 and two in 1997.

FIGURE 8.7: PERCENTAGE OF DOCTOR OF PHILOSOPHY DEGREE COMPLETIONS BY SELECTED ETHNIC GROUPS, 1997 AND 2001



The most common broad areas of study for doctoral degrees completed over the period 1997 to 2001 were the physical sciences, the biological sciences and the social sciences. These three areas each represented 18 percent of all doctoral completions from New Zealand tertiary education institutions over those five years. Medicine and health-related sciences constituted 10 percent of the doctoral completions, while humanities and engineering/architecture each represented 8 percent of the total. Other fields with significant shares of the total were agriculture, horticulture, forestry and environment (5 percent), mathematics and information/computer science (6 percent) and law, business and commerce (7 percent).

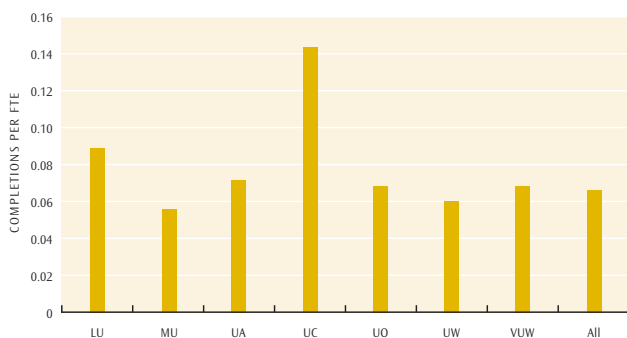
FIGURE 8.8: DISTRIBUTION OF DOCTORAL DEGREE COMPLETIONS BY FIELD OF STUDY, 2001



The following figure gives an idea of the work of the universities in producing PhD graduates by comparing the number of doctoral graduates with the number of academic staff in each university.

²¹ OECD, *Education at a Glance, 2003*.

FIGURE 8.9: DOCTORAL DEGREE COMPLETIONS PER FULL-TIME EQUIVALENT ACADEMIC STAFF MEMBER BY UNIVERSITY, 2001



In 2001, New Zealand ranked 14th out of 27 OECD countries for the graduation rates of advanced research programmes. The OECD reports that, in New Zealand, the proportion of the population at the expected age of graduation that holds advanced research degrees is 0.9 percent in New Zealand, compared with 1.3 percent in Australia and the United States, 1.6 percent in the United Kingdom and 2.7 percent in Sweden. The mean of OECD countries on this indicator was 1.1 percent. The corresponding ranking in 1999 was 14th out of 23 countries.

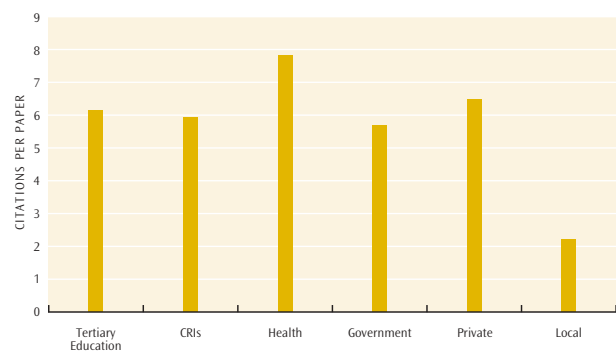
THE IMPACT OF TERTIARY SECTOR RESEARCH

The most common means of analysing the impact of research is through measuring citation rates – that is, the number of times a research paper has been cited or referred to in subsequent research publications. The *National Bibliometric Report, 1997 to 2001: International Benchmarking of New Zealand Research* reports on citation rates for recent New Zealand research publications, updating earlier studies of citation rates for 1986 and 1996²². The calculation of citation rates is never absolutely precise. Further, the number of citations is, at best, only a proxy measure for the impact of research. Trends in citation rates, however, are a well-accepted indicator of the extent to which a research community is building its research impact and, thus, its research quality.

The probability of a paper being cited is dependent on a number of factors – and, in particular, on the journal or other publication in which the paper appears and on the field of research. The *National Bibliometric Report* notes that tertiary education sector research publications that appeared in 1997 were cited during the period 1997 to 2001 on average 6.1 times. This is roughly the number of citations expected, given the fields of research concerned and the journals used²³.

The citation rate for tertiary sector publications of 6.1 citations per paper in 2001 compares with 5.8 in 1996 and 4.2 in 1986. The 2001 citation rate for the Crown Research Institutes was 5.9 citations per paper, while there were 7.8 citations per paper produced by the health sector in 2001. The corresponding rates for the government and private research sectors were 5.7 and 6.4 respectively.

FIGURE 8.10: CITATIONS PER PAPER BY RESEARCH SECTOR, 2001



MoRST data shows that the amount of patenting by New Zealand universities is increasing, although their share of domestic patenting has been stable since 1992 at around two to three percent per annum. Between 1993 and 1997, Auckland Uniservices Ltd (a subsidiary of the University of Auckland that manages the university's research contracts) ranked second in the list of New Zealand's top patenting organisations. Most university patents are in biotechnology and scientific instruments²⁴.

²² Refer also to MoRST, *A Bibliometric Profile of the New Zealand Science System, 2001*, which contains data on the 1996 bibliometric analysis.

²³ The ratio of actual citations to expected citations for university publications in this study was 1.03. This means that the number of citations made of New Zealand tertiary education sector research publications was 1.03 times the number of citations made of other publications in the same journals. The corresponding ratios for other research sub-sectors were: CRIs, 1.13; health sector, 1.12; government, 1.08; private, 1.06.

²⁴ Source: MoRST, *Options for Funding Tertiary Research*, June 2000, page 11.

RESEARCH FUNDING

Tertiary education providers in New Zealand fund their research activities from a variety of sources. At present, part of the government's tuition subsidy is called a research top-up and recognises the statutory responsibility of institutions that teach at degree-level to be active in research. The distribution of the research top-up funding among providers is determined by the number of enrolments at degree-level.

The value of the research top-ups in 2002 was \$115.3 million, compared with \$114.3 million in 2001 and \$113.8 million in 2000. In addition, there is a subsidy for foreign, wholly research student enrolments intended to reflect the benefits to New Zealand that the research in these programmes can create. In 2002, this funding represented \$1.5 million (\$1.4 million in 2001). Of the 2002 research top-up funding, 93.3 percent was allocated to the universities, 4.7 percent to the polytechnics, 1.1 percent to colleges of education, 0.4 percent to wānanga and 0.5 percent to PTEs. The university and polytechnic shares in 2001 were 94 percent and five percent respectively.

Around a third of research top-up funding is earned by enrolments in the natural sciences, while about a fifth derives from arts, humanities and social sciences, and about a tenth from each of health sciences; engineering, technology and architecture; and business²⁵.

Providers also use student fees and other revenue to fund the costs of research. In addition, researchers in tertiary education providers bid for research contract funding from research funds and from private sponsors of research.

²⁵ Note that, while the funding is allocated according to enrolments in different fields of study, providers are not constrained to spend the funding according to those fields.

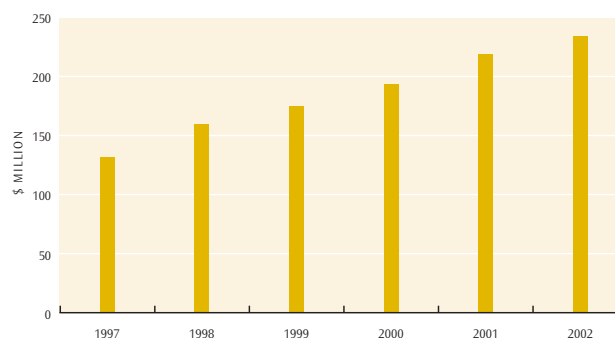
²⁶ In this context, it needs to be noted that some research funding is commissioned by industry or by public sector agencies and hence is not won in competitive tender. The capacity of providers to maintain income from these sources over time depends on their reputation for delivery of research of high quality. It also needs to be noted that the main public research funds are oriented towards certain types of disciplines or outcomes. This limits the extent to which external research earnings can be used as a measure of research quality.

²⁷ The term 'research contract income' is subject to the same imprecision as other definitions in tertiary education research. It should be noted, in interpreting this graph and the preceding one, that AUT was not established as a university until 2000. Its performance in this analysis reflects this fact. It should also be noted that there are large research funds (such as those managed by the Health Research Council) devoted to health research, a field of research dominated in New Zealand by the two universities with medical schools – Otago and Auckland.

Research contract funding is a good proxy measure of research quality as it is usually won through competitive bidding and is often subjected to rigorous peer review²⁶. Research contract income has grown substantially in the last five years, both in absolute terms and as a proportion of institutional income. In 2002, research contracts in universities constituted \$235 million, compared with \$218 million in 2001 and \$193 million in 2000. This constituted a one year rise of 7.6 percent. The figure for 1997 was \$131 million, meaning that, over the last six years, research contract income has grown by 78.5 percent. Research contract income accounted for 13.1 percent of all university revenue in 2002, compared with 12.9 percent in 2001, 12.8 percent in 2000 and 11.1 percent in 1997.

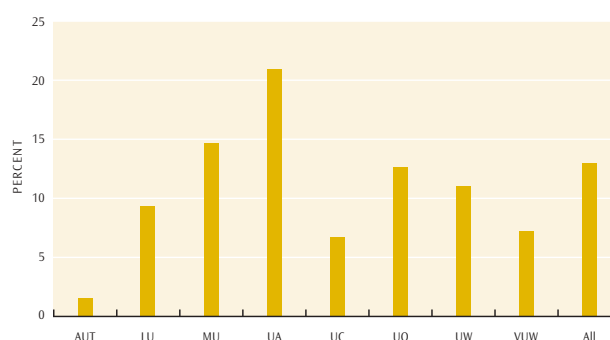
The following graph shows the growth in total research contract income in the universities from 1997 to 2002.

FIGURE 8.11: RESEARCH CONTRACT INCOME IN UNIVERSITIES, 1997-2002



The figure below shows the research contract income as a percentage of all income at each of the eight universities in 2002²⁷.

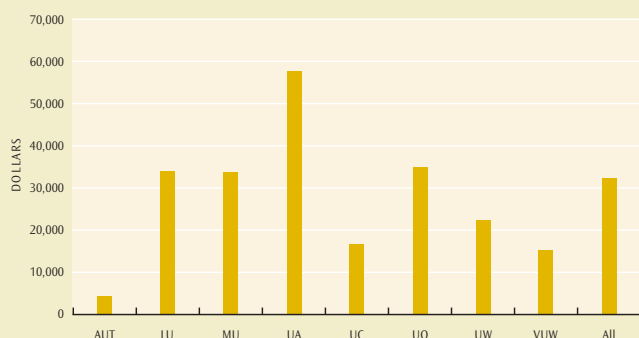
FIGURE 8.12: RESEARCH CONTRACT INCOME AS A PERCENTAGE OF ALL UNIVERSITY INCOME, 2002



While the information above relates to universities, some other TEIs reported research contract earnings in 2002. The Wellington College of Education reported external research contract income of \$2.9 million, Waikato Institute of Technology \$187,000 and Unitec Institute of Technology \$147,000.

A measure of the research productivity of academic staff in the universities is the research contract income for each academic staff member. In 2002, the average research contract earnings per FTE academic staff member in the universities was \$32,130, compared with \$30,905 in 2001 and \$29,597 in 2000. The figure which follows shows the research income per FTE in each of the eight universities in 2002.

FIGURE 8.13: RESEARCH CONTRACT INCOME PER FULL-TIME EQUIVALENT ACADEMIC STAFF MEMBER IN NEW ZEALAND UNIVERSITIES, 2002



In addition to funding university research through the research top-ups, the government supplies much of the funding for contestable research funds. The principal Crown funding for research is allocated on behalf of the Ministry of Research, Science and Technology by research purchase agents – the Royal Society of New Zealand, the Health Research Council and the Foundation for Research, Science and Technology. Thus, a substantial proportion of university research contract income comes from these contestable Crown research funds.

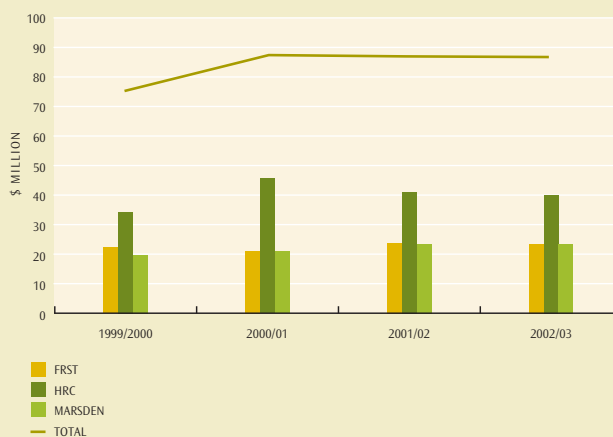
In the 2002/03 fiscal year, TEIs received:

- \$23.3 million direct research contract funding from the Foundation for Research, Science and Technology (FRST)
- \$23.25 million from the Marsden Fund, and
- \$40.1 million from the Health Research Council (HRC).

These amounts represent an increase between 1999/2000 and 2002/03 of 14.2 percent.

The amounts exclude funding earned through subcontracts in FRST contracts. Subcontracts are valued at about a further \$6 million per annum.

FIGURE 8.14: UNIVERSITY RESEARCH FUNDING FROM VOTE RESEARCH, SCIENCE AND TECHNOLOGY, 1999/2000-2002/03



The universities won 81 percent of available HRC funding, 5 percent of FRST funding and 71 percent of Marsden funding in 2003/04.

Research students in universities received scholarships through FRST worth \$14 million in 2002/03.

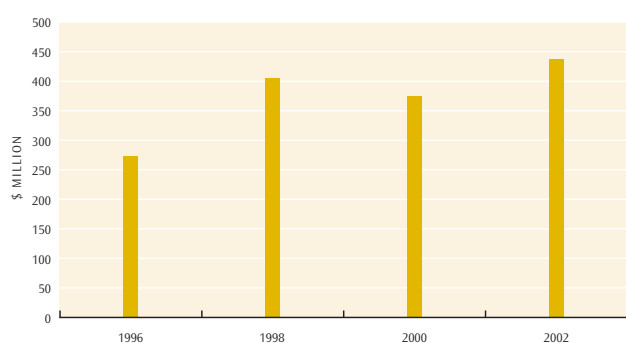
Funding for the CoREs in the 2003/04 financial year is \$22 million.

Much of the remaining research contract income was won from private sector funders, charities and research commissioned by public sector agencies.

RESEARCH EXPENDITURE

In its 2002 biennial survey of research in New Zealand, the Ministry of Research, Science and Technology (MoRST) and Statistics New Zealand (SNZ) report that universities estimated²⁸ they spent \$435.8 million on research in 2002. This represents an increase of 16.5 percent on 2000 and 59.4 percent on 1996.

FIGURE 8.15: ESTIMATED EXPENDITURE ON RESEARCH BY UNIVERSITIES, 1996-2002



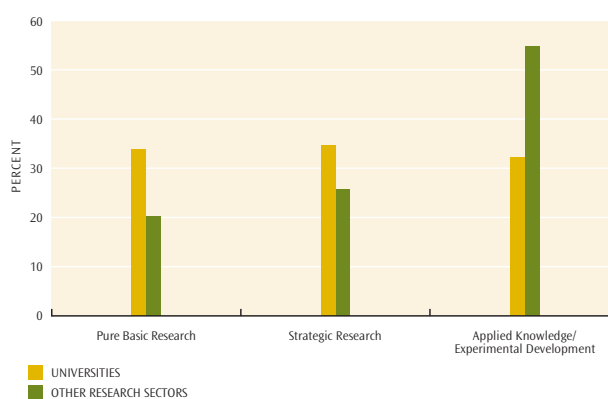
The 2002 research expenditure in the universities represented 0.35 percent of gross domestic product, compared with 0.33 percent in 2000. The average for all OECD countries in 2001 was 0.40 percent²⁹. MoRST and SNZ report that universities accounted for 33 percent of all New Zealand research and development expenditure in 2002, compared with 34 percent in 2000.

Higher education research expenditure is divided roughly equally between pure basic research, strategic research and applied knowledge/experimental development. Compared with other research sectors, research in higher education is heavily weighted towards basic and strategic research.

²⁸ The figures in this section are based on expenditure reported by the universities in response to the MoRST/SNZ biennial surveys of university research expenditure. Because the survey required an estimate of the proportion of each staff member's time devoted to research, the figures cannot be regarded as precise. In addition, there has been a change in the methodology in 2002, meaning that caution needs to be exercised in comparing the 2002 result with the data for previous years.

²⁹ This figure is cited in the MoRST/SNZ biennial report *Research and Development in New Zealand 2002*.

FIGURE 8.16: COMPARISON OF RESEARCH EXPENDITURE BETWEEN UNIVERSITIES AND OTHER RESEARCH SECTORS BY RESEARCH TYPE, 2002



The *National Bibliometric Report, 1997 to 2001: International Benchmarking of New Zealand Research* notes the cost-effectiveness of the New Zealand research sector. New Zealand ranked first of the 20 countries assessed in terms of the number of papers for every million dollars of research investment (normalised for variations in purchasing power).

COLLABORATION AND INTERACTION WITHIN THE INNOVATION SYSTEM

One of the key themes underpinning the *Tertiary Education Strategy 2002/07* is the importance of enhancing collaboration both within the tertiary education sector and between the sector and other groups. The 'change' messages that describe the government's expectations for the sector include 'greater collaboration ... within the sector' and 'stronger linkages with business and other external stakeholders'. Objective 3 of the strategy calls for 'greater collaboration with the research sector ...' while objective 32 calls for 'a more focused tertiary research investment through world-class clusters and networks of specialisation'.

Collaboration is of particular importance in research. The *National Bibliometric Report, 1997 to 2001: International Benchmarking of New Zealand Research* notes that research papers that result from collaboration between authors receive significantly more citations on average than those with a single author. Co-authored papers produced by New Zealand researchers in 1997 received 6.7 citations on average over the period 1997 to 2001, compared with 2.2 for sole-authored publications.

The *National Bibliometric Report, 1997 to 2001: International Benchmarking of New Zealand Research* shows that papers produced in the tertiary education sector were more likely to have involved collaboration than those produced in other parts of the national research system. The report states that, in 2001, 52 percent of university publications were the result of collaborations, compared with the 59 percent reported for publications in 1996 and 32 percent in 1986. More than 70 percent of these collaborations were with overseas bodies (against 67 percent in 1996³⁰). International collaborations in papers produced by universities were more likely than in papers produced in other parts of the research system. For instance, around 60 percent of CRI papers that involved collaboration and about 50 percent of collaboratively produced health research papers involved collaboration overseas. Nearly 10 percent of collaborations on university papers were with Crown Research Institutes. Only 5 percent were with other domestic universities, compared with 8 percent in 1996. Thus, while there is extensive collaboration between researchers in New Zealand universities and their colleagues overseas, there is relatively low propensity to collaborate between the New Zealand universities in research.

While the level of collaboration between universities in New Zealand in research has not been high, the Centres of Research Excellence will encourage a high level of domestic collaboration, both between the universities and between the universities and CRIs. All of the CoREs are hosted by universities; five out of the seven CoREs involve formal partner institutions, including universities and research organisations, while one other involves a cluster of multidisciplinary research teams across one institution. For instance, Nga Pae o te Maramatanga – The National Institute of Research Excellence for Māori Development and Advancement is hosted by the University of Auckland. This CoRE involves the participation of two wānanga (Te Whare Wānanga o Awanuiarangi and Te Wānanga o Aotearoa), four universities (Victoria University of Wellington, University of Otago and University of Waikato, in addition to the University of Auckland) and one CRI (Landcare Research).

A Statistics New Zealand survey of business practices in 2001 found that 25 percent of New Zealand businesses that were classified as innovators found tertiary institutions an important or very important source of information for innovation. This compared with 85 percent who found business competitors a source of innovation information, 80 percent for books, journals, conferences and shows, 49 percent for research institutes, associations and consultants, 21 percent for government departments and 16 percent for Technology New Zealand³¹. MoRST cites an Infometrics survey of 31 top exporting firms that found enterprises actively developing closer relations with tertiary institutions to ensure they had good access to graduates³².

³⁰ This means that around 35 percent of all university papers in 2000 involved international collaborations, compared with 40 percent in 1996.

³¹ Statistics New Zealand, *Innovation in New Zealand*, 2001, pages 23 and 40.

³² MoRST, *Options for Funding Tertiary Research*, June 2000, page 11, citing Infometrics Ltd, *Firm Level Export Study: Trends and Issues – A Report for the Treasury*, July 1999.





INTRODUCTION

Diversity of tertiary education provision is an essential part of attracting and retaining a broad spectrum of learners and developing a culture of lifelong learning. The challenge for the tertiary education sector is to meet the needs of learners of all ages, ethnicities, abilities and educational backgrounds and be able to operate effectively and use resources efficiently.

This chapter outlines the scale and variety of tertiary education providers in this country and summarises their governance, financial and human resource capabilities. While the emphasis is mainly on public institutions, information is also included on private providers and industry training organisations. This chapter also looks at the significant contributions made by national agencies in supporting the quality of tertiary education and training in New Zealand, including the work of quality assurance agencies and government agencies.

chapter nine

SYSTEM CAPABILITY AND QUALITY

TERTIARY EDUCATION PROVIDERS

The diversity of the tertiary sector is evident in the mix of providers that make it up: public tertiary education institutions, private training establishments and other providers. In addition, employers provide industry-related training and training in the workplace.

There are four kinds of public tertiary education institutions – universities, polytechnics, colleges of education and wānanga. Another 16 tertiary education providers, known as ‘other tertiary education providers’ (OTEPs), also deliver programmes of national significance and receive government funding.

There are also around 890 registered private training establishments (PTEs) which cater for a range of learners. Registered PTEs must meet financial, educational and management quality requirements set by the New Zealand Qualifications Authority (NZQA) to provide some consumer safeguards for learners. They must also meet the financial and management quality requirements set by the Tertiary Education Commission and the Ministry of Education. Some PTEs are funded by the government for the delivery of foundation-type programmes and some receive industry training funding, while others receive tuition subsidies through the student component of the integrated funding framework, and some receive no Crown funding at all. Roughly 500 PTEs offer formal qualifications validated by NZQA. In all, nearly 250 PTEs received government funding in 2002 through student component funding, while about 300 received funding through Youth Training and Training Opportunities. The remainder receive no funding. Many of those are English Language Schools that cater to full-fee-paying international students. Others offer training for specific employers on a full cost recovery basis.

There is also considerable formalised training activity in the workplace. Some of this is funded as part of the government’s Industry Training Strategy, while the rest is supported by business. Many medium-sized and large firms and organisations carry out corporate training within New Zealand.

Thus, there is a diverse range of avenues open to learners to enhance their skills and build on their qualifications throughout their working lives.

THE SCALE OF THE TERTIARY EDUCATION SECTOR

The eight universities enrol about 41.4 percent of all formally enrolled students. Most universities are large institutions. Massey University had 33,002 students enrolled at 31 July 2002 or 21,538 equivalent full-time students (EFTS) for the year. The University of Auckland’s roll was 27,429 students on 31 July or 25,979 EFTS. The smallest of the universities, Lincoln University, had 3,066 students enrolled at 31 July 2002 or 3,061 EFTS for the year.

Institutes of technology or polytechnics are the second largest group within the tertiary education sector, accounting for 30 percent of all enrolled students. Polytechnics also vary greatly in size and in their focus. The Open Polytechnic of New Zealand catered for 25,891 students (6,458 EFTS), while the smallest polytechnic, Telford Rural Polytechnic, had only 341 students (316 EFTS) enrolled at 31 July 2002.

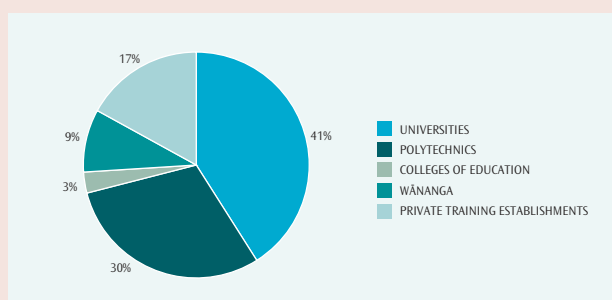
Private training establishments are now the third largest provider group in the tertiary education sector. They provide learning for around 16.7 percent of enrolled tertiary education students. Private providers tend to be relatively small institutions.

Enrolments at the three public wānanga grew by 144 percent between 2001 and 2002. Since 1994, the wānanga enrolments have grown by 9,769.2 percent. Their share of all formal enrolments has also grown – from 3.9 percent in 2001 to 8.6 percent of the students in 2002. They play a significant role in Māori tertiary education by offering learning in a way that specifically caters for the educational and cultural needs of Māori.

The four colleges of education enrol 3.4 percent of students in the sector. They are more uniform in size, ranging from 4,529 formally enrolled students at Christchurch College of Education (3,108 EFTS) to 1,217 students (1,090 EFTS) at Wellington College of Education.

Some tertiary education providers operate from several sites, which means that the number of providers is less than the number of locations at which students may attend courses.

FIGURE 9.1: DISTRIBUTION OF STUDENTS IN FORMAL TERTIARY EDUCATION BY SUB-SECTOR, JULY 2002



PUBLIC PROVIDERS – TERTIARY EDUCATION INSTITUTIONS

The majority of formal enrolments in tertiary education are at public tertiary education institutions – universities, polytechnics, colleges of education and wānanga.

UNIVERSITIES

Universities offer students the highest level of academic endeavour and the opportunity to pursue individual disciplines from undergraduate level to advanced postgraduate study and research. Universities are characterised by a wide diversity of learning and research opportunities intended to foster the ability of learners to think critically and independently.

As specified in the Education Act 1989, universities:

- are primarily concerned with advanced learning and the development of intellectual independence
- research and teach in a way that is closely interdependent and meets international standards
- are a repository of knowledge and expertise, and
- accept a role as critic and conscience of society.

The full list of universities in 2002 was as follows:

- Auckland University of Technology
- Lincoln University
- Massey University
- The University of Auckland
- The University of Waikato
- University of Canterbury
- University of Otago
- Victoria University of Wellington.

INSTITUTES OF TECHNOLOGY AND POLYTECHNICS

Institutes of technology or polytechnics have traditionally specialised in vocational training. That role has expanded over the last decade to meet the increasingly diverse needs of learners and the economy. Many polytechnics and institutes of technology now offer degrees and are involved in research activities, particularly in applied and technological areas. In March 2002, Wanganui Regional Community Polytechnic was disestablished and incorporated into the Universal College of Learning (UCOL).

In 2002 the 20 polytechnics in New Zealand were:

- Aoraki Polytechnic
- Bay of Plenty Polytechnic
- Christchurch Polytechnic Institute of Technology
- Eastern Institute of Technology
- Manukau Institute of Technology
- Nelson Marlborough Institute of Technology
- Northland Polytechnic
- Otago Polytechnic
- Southern Institute of Technology
- Tai Poutini Polytechnic
- Tairāwhiti Polytechnic
- Telford Rural Polytechnic
- The Open Polytechnic of New Zealand
- UNITEC Institute of Technology
- Universal College of Learning
- Waiariki Institute of Technology
- Waikato Institute of Technology
- Wellington Institute of Technology
- Western Institute of Technology in Taranaki
- Whireia Community Polytechnic.

COLLEGES OF EDUCATION

Colleges of education provide training and research mostly related to early childhood, compulsory and post-compulsory education. Increasingly, these colleges also offer other programmes in addition to teacher education, for instance business and social work programmes.

The four colleges of education were:

- Auckland College of Education
- Christchurch College of Education
- Dunedin College of Education
- Wellington College of Education.

WĀNANGA

Wānanga – Māori centres of tertiary learning – were formally recognised as tertiary education institutions in the last decade. They offer study at all levels from foundation education to postgraduate study and research where ahuatanga Māori (Māori tradition) and tikanga Māori (Māori custom) are an integral part of the programme. A substantial proportion of the growth in wānanga enrolments since 2000 has been due to the expansion of the Mahi Ora and Te Ara Reo programmes offered by Te Wānanga o Aotearoa. Wānanga have made a substantial contribution to the advancement of Mātauranga Māori.

There were three wānanga in the public sector:

- Te Wānanga o Aotearoa
- Te Wānanga o Raukawa
- Te Whare Wānanga o Awanuiarangi.

GOVERNMENT TRAINING ESTABLISHMENTS

Tertiary training for government employees is also available through government training establishments. Government training establishments must be registered and accredited by NZQA in a similar fashion to private training establishments.

There were nine government training establishments in 2002 (for some of these training is only a minor part of their role eg the first two):

- Career Services – Rapuara
- Department of Child, Youth and Family Services
- Early Childhood Development
- Naval Training – HMNZS *Tamaki*
- New Zealand Army Government Training Establishment
- New Zealand Fire Service National Service Centre Training Support
- New Zealand Police Training Services
- Public prisons
- RNZAF Directorate of Education and Training.

OTHER TERTIARY EDUCATION PROVIDERS

There are a number of ‘other tertiary education providers’ (OTEPs) that receive funding from the Tertiary Education Commission. These providers offer a service of national significance, which cannot be funded solely through the tertiary funding system.

OTEPs range in size from Literacy Aotearoa and the National Association of ESOL (English for Speakers of Other Languages) Home Tutor Schemes, which teach thousands of learners each year, to other providers that provide only a hundred places, while yet others exist to support learning. OTEPs also include the Workbase Education Trust, which works with employers to raise literacy levels in the workplace, and the National Resource Centre, which provides secretarial and administrative support for Community Learning Aotearoa New Zealand (CLANZ).

In 2002 there were 16 ‘other tertiary education providers’ which together received grants of approximately \$21.1 million. They were:

- Institute of Professional Legal Studies
- Literacy Aotearoa Inc
- Multicultural Centre for Learning and Support Services (MCLaSS)
- National Association of ESOL Home Tutor Schemes
- National Resource Centre
- Nelson School of Music
- New Zealand Childcare Association
- Toi Whakaari: New Zealand Drama School
- WEA Workers Educational Associations
- New Zealand Playcentre Federation
- New Zealand School of Dance
- PIERC Education (Pacific Island Education Resource Centre)
- Taratahi Agricultural Training Centre
- Te Kohanga Reo National Trust Board
- Raising Horizons Trust
- Workbase Education Trust.

Ten of these providers are also registered as private training establishments with appropriate approval and accreditation for their qualifications. OTEPs must meet similar quality assurance criteria to private providers in order to qualify for government assistance.

PRIVATE TRAINING ESTABLISHMENTS (PTEs)

A major shift over the last 10 years has been the rapid development of the private tertiary education sector, which emerged originally in response to specific community and industry needs, and now offers students nationally recognised courses and qualifications. In 2002, there were nearly 900 private providers registered with NZQA.

The private education sector is very diverse and provides innovative, targeted programmes in specialised niche areas not always covered by larger public institutions, catering for many different groups and in many different locations. Private providers offer work-related programmes and foundation-type learning and employment-related courses in areas such as hospitality, tourism, agriculture, electrotechnology and computing. The private sector also provides most of the targeted training programmes, as well as theology-related studies, with Bible colleges being a part of the private tertiary education sector. Programmes in the private sector range from Training Opportunities Programmes/Youth Training courses through to certificate and diploma courses to bachelors degree and masters courses. Four private providers offered postgraduate teaching in 2002, while there were 17 providers where the highest level of teaching was bachelors degrees.

The sector is constantly evolving in response to demand. In 2002, 84 new private providers were registered for the first time. During 2002, 234 existing providers were also recognised for government funding in the form of tuition subsidies and access to student loans and allowances. A moratorium on new PTEs obtaining access to tuition subsidy funding imposed from 24 July 2001 was lifted in January 2003, but replaced by a cap on the number of places that could be funded. At the same time, the rate of subsidy paid to PTEs was reduced by 9.5 percent, deducting a capital component from student component funding.

A number of private training establishments cater specifically for Māori or Pasifika peoples. Among registered private providers in 2002, 172 identified themselves to NZQA as Māori providers and 36 identified as having an explicit Pasifika focus. Identification as a Māori or Pasifika provider means that a PTE adopts a specific focus in its organisation and/or in the education it delivers to Māori or Pasifika students.

PTEs have been credited with a substantial share of the recent major increase in tertiary education participation rates. This rise has been achieved by bringing into tertiary education many in the community who have desired an alternative to the typical TEI structure. At 31 July 2002 there were 53,385 students enrolled in PTEs, which represented 16.7 percent of all tertiary sector enrolments.

MANAGEMENT ISSUES FOR PRIVATE TRAINING ESTABLISHMENTS

In July 2001, the Government placed a moratorium on the growth of private providers. In effect no new private training establishments, new qualifications or significant alterations of existing qualifications offered by existing private providers, or new sites or providers starting distance delivery of qualifications were recognised for EFTS-based tuition subsidy funding, or for access to the student allowances and loan schemes. Growth within the sector continued during this period even with the moratorium in effect.

In 2002, the Government introduced a cap of \$146 million per year on tuition subsidies for enrolments at PTEs. Under the cap, PTE enrolments were limited to the number of EFTS the provider had in 2001. In addition, the government created a contestable strategic priorities fund (SPF) of \$17 million. The SPF was designed to focus any new enrolment growth in the PTE sector on areas closely aligned with the Tertiary Education Strategy and the Statement of Tertiary Education Priorities. At the same time, the government also reduced the funding rate for PTEs by 9.5 percent to reflect the fact that there is a notional capital component in EFTS-based government funding for tertiary education. The owners of PTEs are expected to provide the capital funding for their organisations and have ownership of the assets if it ceases trading and is wound up. Thus, the government considers it is not appropriate for the Crown to contribute to the formation of capital in PTEs.

During 2002, Government imposed additional Student Fee Protection requirements. These requirements strengthened the obligation of PTEs to manage student fee income in such a way as to ensure that students' fees are protected in the event that a provider ceases to offer a qualification or ceases trading.

INDUSTRY TRAINING ORGANISATIONS

Industry Training Organisations (ITOs) develop and maintain unit standards and national qualifications for different industries or industry sectors. ITOs also moderate assessment of training within their industry against national standards and facilitate on-job training as well as contracting training providers to offer complementary off-job training and courses leading to recognised qualifications.

At the end of 2002, there were 46 ITOs covering most industry areas, including manufacturing, trade training, service sectors and emerging industries.

Industry Training Organisations implement the government's Industry Training Strategy. Industry training is jointly funded by the government through the Industry Training Fund, and by industry, through financial and in-kind contributions. In 2002, industry contributed approximately \$38.2 million in cash to industry training, representing 29.7 percent of the total cost.

STRATEGIC DEVELOPMENTS IN THE TERTIARY EDUCATION SECTOR

The diversity of education provision in the tertiary education sector has increased in recent years, as more providers have created partnerships and alliances for the benefit of their students and the institutions concerned. Providers are also exploring more varied approaches to learning. This section looks at these important strategic developments in the tertiary education sector.

PARTNERSHIPS AND COLLABORATION

One important feature of the sector in 2002 was the continued development of stronger links between tertiary providers, as well as between the tertiary sector and industry. As a result, there is increasing opportunity for the transfer of credit and qualifications between tertiary providers and for interactions between providers and industry. An increased level of co-operation and partnership is becoming evident in the sector, and the variety of initiatives underway should see this trend continue into the future.

A number of tertiary education institutions have forged closer relationships with businesses, industry and iwi Māori and Māori community organisations, here and abroad. These strategic alliances take a number of forms, such as providers combining to offer joint qualifications, partnerships with iwi, partnerships with enterprises, joint research ventures, partnerships with charitable trusts and co-operative alliances with community organisations, industry and other education providers.

The potential benefits of such partnerships include the following:

- the offering of a wider range of subjects for students, and pathways to more advanced forms of learning
- opportunities for students to gain workplace experience, and for employees to gain further qualifications while continuing in employment
- less duplication in qualifications and courses
- allowing small specialist courses to be offered to a wider range of students
- enhanced joint research activities
- development of institutional strength and networking between institutions
- increased professional development opportunities for students and staff
- financial benefits and improved efficiencies through shared services, for instance, shared computer systems, and
- relevance and connections to wider Māori development.

Some examples of partnerships and collaboration are set out below:

- The Tertiary Accord of New Zealand (TANZ) is a consortium of five polytechnics that collaborate on many activities including programme development. One of the most successful has been the joint development of a 'computing for free' course, offered by the TANZ partners.
- A Memorandum of Understanding between the University of Waikato and Lake Taupo Development Company will lead to exploration of the opportunities to offer university degrees in Taupo.
- The University of Auckland, Massey University, the University of Waikato and Auckland University of Technology have collaborated to introduce a website entitled Jobs4graduates.net.nz
- In the last year Wellington College of Education has entered a strategic partnership with Victoria University of Wellington. This partnership is designed to: increase the range of courses and services available to students, provide teachers with access to specialist areas of knowledge within the university, spread overhead costs and improve asset utilisation across both organisations.
- As part of replacing their library systems the University of Otago, Victoria University of Wellington, the University of Waikato and Auckland University of Technology have collaborated to share the purchase of software.
- Auckland University of Technology has formed a community partnership with 22 decile 1-4 schools with high Māori and Pasifika student bodies to assist Māori and Pasifika students make the transition to tertiary education.
- The members of the Canterbury Tertiary Alliance (Lincoln University, University of Canterbury, Christchurch College of Education and Christchurch Polytechnic Institute of Technology) have formed working groups to collaborate in service development. Examples include joint purchasing, credit transfer to establish clear pathways from one qualification to another, with credit transfer and recognition at the appropriate level, and joint marketing, to promote Christchurch as a destination to the student market.
- A group of Invercargill businesses formed the Southland Joint Funders Committee to help Southern Institute of Technology (SIT) establish its zero fees programme. The provision of zero fees for programmes has encouraged non-traditional users of tertiary education to participate. The benefits from this initiative include increasing the percentage of students from lower socio-economic backgrounds. There has also been an increase in the number of female and Māori students. In addition, the business community experienced growth in business turnover as well as an increase in the city's GDP. The zero fees programme not only encouraged the Southland population to attend SIT but was also instrumental in encouraging others from outside Southland to come into the region.

INTERNATIONAL LINKS

Many New Zealand tertiary education providers have links with overseas institutions. Some providers have formal arrangements with international counterparts to offer study programmes for their students. Others operate staff and student exchanges, international consultancies and benchmarking schemes. Some of the international developments that took place in 2002 are outlined in this section:

- Lincoln University has links with the Agricultural University of Vienna, ENSAT Toulouse, Colorado State University and the Royal Agricultural and Veterinary University, Copenhagen. The University hosts students from these institutes and also collaborates in research. It operates formal student exchanges with Oregon State University, California State University, the University of California, the University of Guelph and a number of other institutions.
- UNITEC Institute of Technology has collaborated with the Royal Melbourne Institute of Technology in a partnership that focuses on electrotechnology. There are plans to offer a Bachelor of Applied Technology on both sides of the Tasman.
- Te Tauihu o Nga Wānanga, the National Association of Wānanga, has developed international links with various indigenous peoples and related national organisations worldwide. This is expected to lead to a world indigenous peoples' conference in Aotearoa.

INSTITUTION SPECIFIC INITIATIVES

Wellington College of Education

In a move designed to merge the entrepreneurial flair of a highly successful export business with its own educational reputation and qualifications, Wellington College of Education has collaborated with a publisher, Wendy Pye Ltd, to create a package of courses and services for enhancing the teaching of literacy both nationally and internationally.

Southern Institute of Technology

Southern Institute of Technology (SIT) sound engineering students now have access to some of the best audio engineering equipment in the world following the opening of the School of Audio Engineering's (SAE) new campus in Byron Bay, Australia. Under a partnership agreement signed in 1999, SIT students in the third year of their Bachelor of Sound Engineering can now travel to Australia for up to a month to use the same state of the art equipment. It also gives them a taste of the research environment they would have access to if they moved to a masters degree at SAE upon completion of their degree. Other major partners with the SAE include: Southern Cross University, Lismore, Australia; Middlesex University, London, England; and Columba College, Chicago, USA.

Nelson Marlborough Institute of Technology

The Nelson Marlborough Seafood Industry Cluster aims to enhance the region's global position in deep sea fishing and aquaculture through research and education. In addition to the major seafood companies operating out of Nelson, the cluster involves the Cawthron Institute, the Universities of Otago and Canterbury, Nelson Marlborough Institute of Technology and Marlborough aquaculture companies. Industry clusters are intended to enable groups of businesses and educational/ research institutions to co-ordinate their strengths and use their combined size to generate increased sales as well as taking advantage of economies of scale. The Nelson Marlborough Seafood Industry Cluster also intends to establish a Seafood Centre of Excellence and relevant new fisheries programmes. Another outcome of this project, an assessment of industry training needs, is intended to be part-funded in 2003 by the Polytechnic Regional Development Fund.

Tai Poutini Polytechnic

Tai Poutini Polytechnic has entered partnerships with a number of firms. Among them are:

- Solid Energy – a training relationship with this energy company that employs more than 400 staff
- GRD Macraes – an agreement to create a community education facility to foster community and post-school education on the West Coast
- Fulton Hogan – Fulton Hogan is a large New Zealand company with over 2,700 staff in New Zealand and Australia. Tai Poutini entered an agreement with the company to facilitate training for its staff by providing educational expertise and accredited qualifications for participants.
- Buller Community Development Company – an agreement was signed with BCDC to develop training in the Westport/ Buller region with results expected to follow in 2003.

Eastern Institute of Technology

In July 2002, Government announced the approval of a major regional initiative involving the establishment of a food and wine centre of innovation for Hawke's Bay. This project, based on partnership involving local government, industry, iwi, the Eastern Institute of Technology and the economic development agency, will foster the region's strategic strengths in food and wine and will be based around infrastructure on the EIT campus. Significant progress has already been made with the project that has attracted a \$2.0 million grant from Industry New Zealand and a further \$300,000 grant from the Polytechnic Regional Development Fund.

FLEXIBLE AND ONLINE LEARNING

e-Learning (electronic learning) is the delivery of teaching over the internet using web-based services to deliver learning opportunities to learners/students. It can incorporate local, regional, national and international learning styles and experiences, and can be tailored to suit diverse learner groups. It can be used as a method of distance learning where learners/students and teachers are separated by time and/or location, but is also increasingly used to complement traditional face-to-face learning. e-Learning requires administrative and strategic support in order to ensure high-quality teaching and education in an internet environment.

E-LEARNING'S ROLE IN TERTIARY EDUCATION IN NEW ZEALAND

e-Learning is playing an ever-increasing role in expanding the learning opportunities available to learners both in New Zealand and worldwide. It allows tertiary education organisations to reach a larger and more diverse group of students.

As the world becomes increasingly accustomed to working through electronic and web-based techniques, e-learning enables people to capitalise on the advantages offered by an alternative learning style which is not bound by time and space. It allows access to worldwide learners, educators, opportunities and knowledge.

THE E-LEARNING ADVISORY GROUP

The e-Learning Advisory Group was established by the government in July 2001 to provide advice to the Ministry of Education on an innovative, strategic direction for e-learning in tertiary education in New Zealand. The group comprised 10 sector representatives with a wide range of skills and experience in developing e-learning.

In March 2002, the e-Learning Advisory Group published the results of its work in *Highways and Pathways: Exploring New Zealand's e-Learning Opportunities*. The advisory group recommended that New Zealand continue its tradition of

creating flexible and adaptable learning opportunities that are tailored to individual learner needs. To achieve this in e-learning, the advisory group recommended the phased introduction of the following initiatives:

- A tertiary e-learning consortium comprising institutions with expertise in e-learning. This consortium would be publicly funded to co-ordinate the development of e-learning within the tertiary sector.
- A 'single electronic point of entry', or portal, through which people could gain access to a wide range of information, services and resources offered by New Zealand's tertiary education sector. Over time, it is envisaged that students would be able to enrol, learn, be assessed and transfer credit between education organisations and programmes using this portal.
- An e-Learning Collaborative Development Fund (eCDF) delivering funding that would help New Zealand's tertiary education organisations develop their e-learning capability.

Currently there are a number of challenges for tertiary education organisations in realising the potential of this new learning medium. Collaborative development of New Zealand's e-learning capability will help us stay at the forefront of international developments, and ensure we make the most of our resources and avoid duplication of effort. The e-Learning Advisory Group found New Zealand has a strong base to build on, with a great many institutions already involved with e-learning in some way.

A number of institutions are developing strategies for online learning, mixed media and a wide range of other e-learning programmes. In some cases, online learning programmes are already being used to supplement a traditional campus-based approach.

The government announced funding of \$9.8 million over four years, in Budget 2002, to build capability and create a tertiary e-learning portal.

In 2002, the Ministry of Education worked to set the tertiary e-learning strategy in motion by beginning work on a portfolio of projects. The Ministry is working on these projects in collaboration with tertiary education organisations, government agencies, industry and community groups.

In 2002, the work programme included the following project streams:

- development of a tertiary education portal
- development of a tertiary e-learning portal, and
- development of draft criteria for the set up and administration of the eCDF, which is now administered by the Tertiary Education Commission.

TERTIARY E-LEARNING PORTAL AND TERTIARY EDUCATION PORTAL

The tertiary e-learning portal and the tertiary education portal will facilitate information sharing related to tertiary e-learning and tertiary education. These portals will act as 'doorways' to a pool of information related to tertiary e-learning and education, which can be found on the internet. The portals will match a person or user-community's needs to available offerings.

It will be a one-stop shop for access to information, services, news and contacts related to the tertiary education sector.

It will facilitate the sharing of information about e-learning and e-learning organisations. It will help people to access information about tertiary education providers and the e-learning courses that they offer, various tertiary education-related services and digital learning objects.

The first phase of the portal developments went live in 2003 with ongoing development over the next three years.

THE CAPABILITY OF TERTIARY EDUCATION INSTITUTIONS

New Zealand's tertiary education institutions (TEIs) are major organisations. Universities deal with annual income ranging from \$62.7 million to \$460.5 million. The average income for polytechnics is around \$34.8 million. Public providers are also significant employers; those located in provincial centres may be one of the largest employers in their region. Collectively, the public providers have income totalling over \$2.744 billion and combined assets worth over \$4.8 billion.

As Crown entities listed in the fourth schedule of the Public Finance Act 1989, tertiary education institutions are required to follow standard public sector financial accountability processes and are required to report under Part V of that Act.

The public, and students in particular, expect that institutions will not only deliver excellent education outcomes, but that they will be properly organised to make the best use of public resources. Responsible use of public resources is a statutory requirement for tertiary education institutions. Public providers also need to be able to react quickly to changes in their communities and to the educational demands of students and potential students. This requires a balance of input from those who understand educational outcomes and can deliver those outcomes, and those who are able to structure and manage an organisation to give security to educational providers by ensuring ongoing viability.

GOVERNANCE AND MANAGEMENT IN TEIs THE ROLES AND FUNCTIONS OF COUNCILS

The governing body of a tertiary education institution is its council, which carries responsibility for ensuring the effective management of the institution and for planning its future development. It has ultimate responsibility for all the affairs of the institution. While a council determines the overall strategic direction of an institution, the chief executive is responsible for the executive management of the institution and its day-to-day direction. The chief executive is the only employee of the council, and must implement the council's decisions, as well as being answerable to the council for his or her performance.

Councils are entrusted with public funds and therefore have a particular duty to fulfil the highest standards of governance at all times. Councils are key to the governance of public providers. Some of the functions of a council under section 180 of the Education Act 1989 are as follows:

- to appoint a chief executive and monitor and evaluate his or her performance
- to prepare, negotiate and adopt a charter for the institution
- to adopt a profile for the institution
- to ensure that the institution is managed in accordance with its charter and profile, and
- to determine the policies of the institution in relation to the implementation of its charter, the carrying out of its profile, and, subject to the State Sector Act 1988, the management of its affairs.

The *duties* of the TEI Council, as specified in the legislation, provide that each TEI Council, in the performance of its functions and the exercise of its powers, undertakes the following:

- to strive to ensure that the institution attains the highest standards of excellence in education, training and research
- to acknowledge the principles of the Treaty of Waitangi
- to encourage the greatest possible participation by the communities served by the institution so as to maximise the educational potential of all members of those communities with particular emphasis on those groups in those communities that are under-represented among the students of the institution
- to ensure that the institution does not discriminate unfairly against any person
- to ensure that the institution operates in a financially responsible manner that ensures the efficient use of resources and maintains the institution's long-term viability, and
- to ensure that a proper standard of integrity, conduct and concern for the public and the well-being of students attending the institution are maintained.

Further duties are implicit in other sections of the Education Act 1989.

One of the aims of the Education Standards Act 2001 was to allow the Crown to take positive and supportive action at an earlier stage in the case of serious governance failure of a public tertiary institution. The Act has extended the functions and duties of tertiary education institution councils to make explicit the requirement to ensure that their tertiary education institutions operate in a financially responsible manner, using resources efficiently to maintain long-term viability. The Act also provides a monitoring and intervention regime based on assessment of the level of risk to the operation and long-term viability of an institution. The regime includes, as a first step, more frequent and in-depth reporting. This may be followed by appointment of a Crown Observer to a council. The Act also grants the Minister the power to dissolve a council and appoint a commissioner should an institution's viability be seriously threatened.

In 2002, the Associate Minister of Education (Tertiary Education) asked Professor Meredith Edwards from the University of Canberra to undertake a review of the governance of tertiary education institutions in the public sector of New Zealand. Professor Edwards' report recommended a new framework to achieve good governance practice. Professor Edwards maintained the governance practice of tertiary education institutions in New Zealand is not seriously flawed, but that there is room for improvement. This is particularly so in clarifying the roles and responsibilities of councils and their members, improving the balance between councils, chief executives and academic boards, sharing of good governance practice across the sector and optimising the role of stakeholders in tertiary governance.

The report recommends a package of measures to enhance governance performance across the tertiary education system and to position individual institutions to deal more effectively with the increasingly complex educational, technological and commercial challenges of the 21st century. Its findings have been informed by wide-ranging discussions with stakeholders, meetings with a reference group and analysis of good governance practices elsewhere in the world.

A further recommendation in the report is that TEI councils instigate specific measures to ensure that they meet their obligations to Māori. Initially, however, councils need to gain the confidence of Māori through having Māori more fully involved in council business so that the council is cognisant of the cultural perspectives and skills of Māori when responding to the government's strategy for Māori development and aspirations. Her report continues that councils should work with local and regional Māori communities in order to improve their accountability to them and ensure that their organisations contribute to regional and local Māori, whānau, hapū and iwi development.

COUNCIL MEMBERSHIP

The Education Act 1989 requires that a council must consist of between 12 and 20 members and must include the chief executive of the institution, staff and student representatives, and representatives from both employers' and workers' organisations, as well as four ministerial appointees.

The other members could include representatives of local iwi, representatives of particular regions, members of professional or farming groups, or local authority representatives. Some councils provide for a certain number of council members to be co-opted if required. Other councils, particularly universities, have a court of convocation process by which some council members are elected, generally by graduates of the institution.

The functions and duties of councils were amended in 2002. As part of the revisions, for example, the need to assess the performance of the chief executive was made more explicit.

Councils are essentially representative in nature. The representative model alone does not necessarily provide the balance of skills that may be required for good governance, nor does it ensure that a council reflects the ethnic and socio-economic diversity of the community. Ministerial appointments, therefore, play an important role in ensuring that a council has a sufficient number of members with the range of expertise required under the Education Act 1989 to protect the government's interest. They also ensure that a council reflects its wider community.

Councils should not duplicate the role of management, but it is vital that those serving on councils understand the tasks and pressures of the management role, and know the right questions to ask. Councils should collectively have experience of these fields in order to be able to set the strategic direction and performance targets for the institution effectively and to monitor performance against these targets.

The process for making ministerial appointments has been changed substantially from that of the past. Nominees are interviewed to ascertain their knowledge of the tertiary sector and to identify any previous governance experience. All ministerial appointments are now considered by the Cabinet Appointments and Honours Committee, and a more rigorous consultation process enables further consultation with other members of Cabinet and key stakeholder groups.

The Government has also sought to make clearer the specific expectations that it holds of both institutions and members of their governing bodies. The Associate Minister of Education (Tertiary Education) issued a statement of expectations of tertiary institution council members in 2001.

This statement makes clear the specific expectations the Minister holds of tertiary institution council members. These expectations include ensuring that the institution undertakes sound strategic and business planning in accordance with its charter and that the council appropriately directs the chief executive and holds him or her accountable for performance. Council members are also expected to ensure that the institution adopts sound organisational and financial management practices to safeguard and enhance the country's investment in the institution. Councils are expected to ensure that the institution adopts a sound risk management strategy for all facets of its activities.

Council members should also encourage the institution to explore ways in which greater co-operation and collaboration with other tertiary institutions can be achieved to the benefit of all institutions involved. Consistent with the government's strategic priorities, institutions should also be working towards raising the educational achievement of disadvantaged groups in society. Finally, council members are expected to declare any potential conflicts of interest and participate in annual performance appraisals of council members.

GOVERNANCE TRAINING

The government recognises the public interest in the ongoing viability of public tertiary education institutions. To assist institutions to develop good governance practices, the Ministry of Education's Tertiary Advisory Monitoring Unit (TAMU) has continued to develop and deliver seminars for council members in conjunction with the Association of Polytechnics of New Zealand.

FINANCIAL MANAGEMENT OF TEIs¹

OPERATING SURPLUSES

The operating surplus of an institution² provides it with the opportunity to invest or reinvest funds in further teaching, research and student learning and to provide something of a safety margin against budget variations and other untoward events. It is helpful to express the operating surplus (or deficit) as a percentage of income, to give the return on income or operating margin.

¹ The website of the Ministry of Education's Tertiary Advisory Monitoring Unit (TAMU) contains a large amount of detailed information on the financial performance and financial position of TEIs. www.minedu.govt.nz/goto/TAMU.

² The amount remaining when total operating expenditure is subtracted from total income.



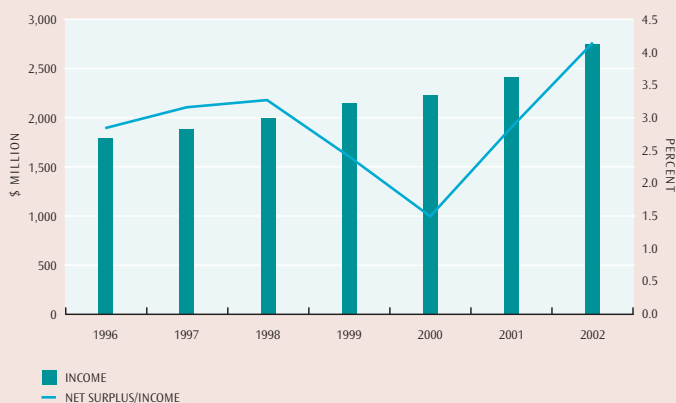
The public tertiary education sector typically produces a relatively low return on income. The level of return varies according to many institutional circumstances, including capitalisation levels, depreciation levels, the extent of plant or equipment leasing, development strategies and overall efficiency of operation. Generally, however, an operating surplus of 3 percent or more is regarded by the Ministry of Education as an indicator of adequate financial health.

The total income of TEIs was \$2.74 billion in 2002 while expenditure was \$2.6 billion. The public tertiary sector's operating surplus was \$125.7 million before abnormal items³. The net operating surplus⁴ for the total sector was \$114 million (4.2 percent of income), compared with the result of 2.9 percent obtained in 2001. The corresponding figure for 2000 was 1.4 percent.

Six of the 36 institutions recorded a net operating deficit⁵ in 2002, compared with 10 TEIs in 2001 and 13 in 2000.

As the following graph illustrates, income in the sector has increased by 53 percent over the last seven years.

FIGURE 9.2: TEI INCOME AND NET SURPLUS AS A PERCENTAGE OF REVENUE, 1996-2002



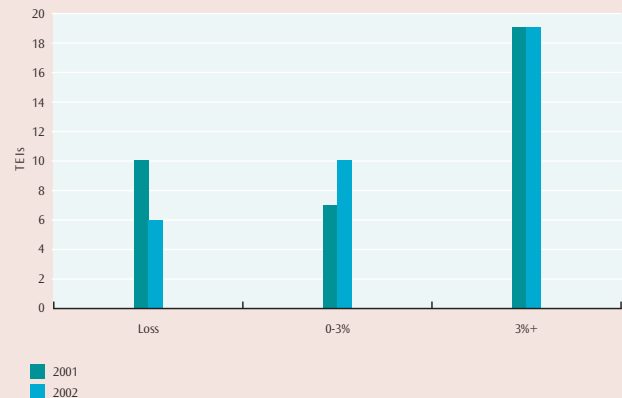
³ The annual reports do not disclose abnormal items as the accounting standards have removed this term. For analysis purposes, and especially looking at trends over time, it was useful to identify one-off items that would materially impact on trends analysis. Such items included legal claim payouts, redundancies and large gains or losses on asset sales or revaluations.

⁴ Net of abnormal items.

⁵ Net of abnormal items.

This reflects the ongoing improvement of performance across the sector, with 19 of the 36 public institutions again achieving the recommended threshold for surplus as a percentage of income of 3 percent. This was the same number as in 2001 and compares with 11 institutions in 2000. Te Wānanga o Aotearoa achieved the highest return on income in 2002 with 27 percent.

FIGURE 9.3: SUMMARY OF OPERATING INCOME OF ALL TEIs, 2001-2002



The Figure above indicates an overall movement towards the Ministry of Education's threshold across the board. There were also excellent results from institutes such as Aoraki Polytechnic, Nelson Marlborough Institute of Technology and Tairāwhiti Polytechnic, all of which recovered from losses experienced in 2001.

TABLE 9.1: TEIs' NET RETURN ON INCOME, 1996 AND 2000-2002

Sub-sector type	1996	2000	2001	2002
Universities	3.0%	2.4%	3.4%	3.1%
Polytechnics	2.7%	-1.7%	0.9%	3.3%
Colleges of Education	0.0%	5.8%	3.6%	2.9%
Wānanga	4.0%	4.0%	8.2%	22.6%
All TEIs	2.8%	1.5%	2.9%	4.2%

The largest component of the revenue of TEIs in 2002 was provided by the Crown through tuition subsidies. Tuition subsidies amounted to \$1.226 billion (excluding GST), up by 10.3 percent on 2001. Other government revenue contributed \$77 million. The corresponding figures for 2001 were \$1.112 billion in tuition subsidies and \$63 million in other government revenue. In all, government grants represented 49 percent of total TEI revenue, compared with 48.7 percent in 2001 and 49.5 percent in 2000. Fees paid by domestic students at TEIs in 2002 amounted to \$529 million, roughly the same as

for 2001. This compares with \$538 million in 2000. Thus, in 2002, domestic fees represented 19 percent of the total revenue earned by TEIs. Domestic student fees represented 29.5 percent of the revenue earned from the enrolment of New Zealand students⁶. The corresponding figures for 2001 were 22 percent and 32 percent respectively. In 2000, however, fees represented 33.7 percent of revenue earned from the enrolment of domestic students. This recent downward trend is also reflected in the average fee per domestic EFTS. The average fee in TEIs fell between 2000 and 2001 by 14 percent from \$3,546 to \$3,053, reflecting the continuation of the Government's fee stabilisation policy, the increase in tuition subsidies, and also the fact that a number of providers offered programmes with zero fees in 2002.

FIGURE 9.4: TOTAL TEI SECTOR SOURCES OF INCOME, 2002

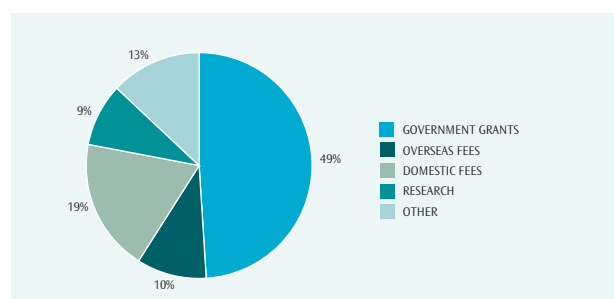
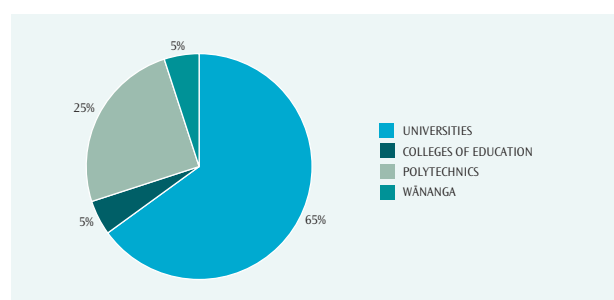


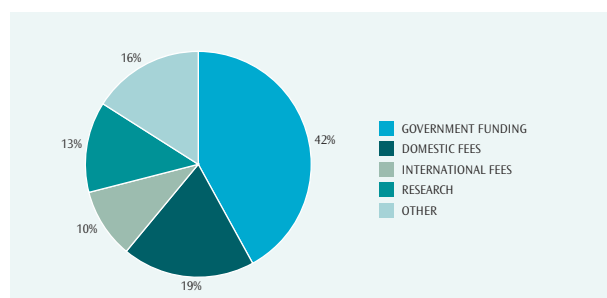
FIGURE 9.5: TOTAL INCOME BY SUB-SECTOR, 2002



There is a continuing trend in TEIs of being less reliant on income from government grants and fees from domestic students. Over the seven-year period from 1996 to 2002, total fee income from international students increased more than 638 percent and research contract income nearly doubled. The proportion of total income from research and other sources has increased from 12 percent of total income in 1996 to 21 percent in 2002.

Consistent with previous years, the university sector reported the highest proportion of income from sources other than government grants and fees (29 percent). The universities secured nearly all the research contract income gained by the TEIs. The following graph depicts the university sub-sector income by source:

FIGURE 9.6: UNIVERSITY SUB-SECTOR INCOME BY SOURCE, 2002



Wānanga⁷ and colleges of education are most reliant on government grant income. The reliance of the wānanga sector on government income has been increased as a result of Te Wānanga o Aotearoa's (TWOA) move to offer qualifications with zero fees. Thus the percentage of TWOA's income derived from the government increased from 64.3 percent in 2000 to 94.4 percent in 2002 as the zero fees programme is phased in. Polytechnics have the highest proportion of their income being generated by total student fees (34.6 percent). The sector has experienced an increasing proportion of student fee income, mainly as a result of increasing international student enrolments.

Approximately two-thirds of the total sector income is in the universities. The most significant increase in the TEI sector has, however, been in the wānanga sector's income which in 2002 more than doubled its 2001 income, while the other provider groups' income has grown in line with the income growth in the sector as a whole.

⁶ This figure is calculated by dividing domestic fee revenue by the sum of domestic fee revenue and government grants.

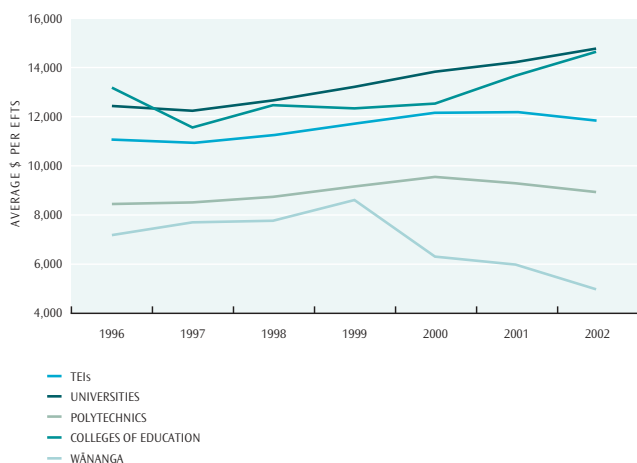
⁷ It should be noted that a number of providers now offer enrolment to domestic students with zero fees. Thus, the proportion of wānanga income from tuition subsidies has increased.

COST OF SERVICES

The total cost of providing tertiary education at public tertiary institutions grew by 120.1 percent from \$1.19 billion in 1996 to \$2.619 billion in 2002. The main factors contributing to cost increases are servicing increased student numbers and the development of new courses and qualifications. Cost increases can also be attributed to inflation, wage growth and the greater use of technology.

The average total expenditure per equivalent full-time student (EFTS) for the sector in 1996 and 2002 is illustrated in the following graph. Costs per EFTS have generally increased across the sector as a whole, but decreased on average between 2001 and 2002. Costs per EFTS decreased once again in both polytechnics and wānanga between 2001 and 2002, reflecting a similar trend in the previous year. This may reflect an ability to achieve larger class sizes, partially attributable to these provider groups offering more short course, zero fee options and more distance learning.

FIGURE 9.7: AVERAGE TOTAL EXPENDITURE PER EFTS IN TEIs AND BY SUB-SECTOR, 1996-2002



LONGER-TERM FINANCIAL TRENDS BY SUB-SECTOR

The following sections explore the key financial trends over the past few years for each of the four sub-sectors within the public TEI sector⁸.

⁸ TAMU uses year-end data supplied by TEIs to measure FTE staffing ratios. This differs from other parts of this report where July figures are used.

UNIVERSITY SECTOR TRENDS

- The number of EFTS places in universities in 2002 rose by six percent or approximately 6,500, compared with an increase of four percent or approximately 4,100 in 2001.
- Over the period 1996 to 2002, there was growth of 22 percent in the number of EFTS places.
- There has been an increase of 64 percent (from 2001) in the number of international students, while domestic numbers have risen by two percent.
- Victoria University of Wellington, Massey University, the University of Otago and the University of Auckland reported operating surpluses of three percent or more.
- Lincoln University was the only university to record an operating deficit in 2002.
- University income in 2002 increased by 9.9 percent following an eight percent rise in income in 2001. A major contributing element was a \$78.7 million increase in international student fees, following a \$63 million increase in 2001. Research income increased by 7.8 percent across the sector. These results suggest a continuing trend of increased income diversification.
- Personnel costs increased by 11.2 percent from the year 2001 to 2002, compared with a rise of 10 percent in the year from 2000 to 2001. Those costs as a percentage of total costs remained at 58 percent, compared with 56 percent in 2000. The number of full-time equivalent staff over this period was seven percent up on 2001, an increase of five percent from 2000.
- The student to academic staff ratio in 2000 was 16.2:1; in 2001 it was 15.5:1 and in 2002 it was 15.8:1.
- The holding of liquid assets experienced a turnaround, returning to the 13 percent of operating cash-flow reported in 2000, a recovery of 10 percent from 2001. In part this reflected internal financing of capital works from cash flow. In terms of cash-flow cover, six of the eight universities were at, or above, the Ministry of Education's guideline of one month's cover.
- Six universities had negative working capital, compared with five in 2001. Three out of eight had a quick ratio (current assets to current liabilities) of one or less, where the Ministry of Education's benchmark is 1.
- There is evidence of an increasing reliance on international students as a source of income and as a factor influencing the build-up of cash reserves at year-end.

INSTITUTE OF TECHNOLOGY AND POLYTECHNIC SECTOR TRENDS

- The number of EFTS places in the polytechnics rose by 13.5 percent in 2002, following a rise of nine percent in 2001 and after two years of relative stability.
- The operating surplus after abnormal items was 3.3 percent of income for the sector, up from 0.9 percent in 2001 and from a deficit of 1.7 percent in 2000.
- Eleven polytechnics had surpluses of five percent of revenue or more. This compares with six polytechnics in 2001 and three in 2000. Aoraki Polytechnic had a surplus of 14.5 percent.
- Five of the 20 polytechnics recorded operating deficits, compared with eight in 2001 and nine in 2000. Subsequent to the merger with Wanganui Regional Community Polytechnic, UCOL continues to report a loss, so too does WelTec, now in its second year of operation following its absorption of Central Institute of Technology.
- Income per EFTS continued to decrease by two percent.
- Polytechnic income from ITOs increased 24.3 percent in 2001 and a further 11.9 percent in 2002. The total ITO income for the polytechnic sector represents 3.8 percent of total government income in polytechnics.
- Operating costs per EFTS in the polytechnics reduced by four percent in 2002.
- The student to academic staff ratio in 1996 was 13.7:1, in 2000 it was 15.2:1 and in 2001 it was 15.5:1, while in 2002 it was 17.2:1.
- Cash cover or the primary reserve – cash on hand as a percentage of operational outgoings – was 18 percent which is two months' cover. This is up from 12 percent which is six weeks' cover, exceeding the recommended Ministry of Education's minimum of one month's cover.
- Overall, equity in the polytechnic sector rose by 26.3 percent over the 1996 to 2002 period, up from 19 percent in 2001.
- Fixed assets per EFTS decreased by 3.2 percent over the 1996 to 2002 period. Expenditure on fixed assets in 2002 was 1.6 times depreciation.
- Asset productivity (income from fixed assets) increased to 88 percent in 2002 up from 81 percent in 2001 and 79 percent in 1996.

COLLEGE OF EDUCATION SECTOR TRENDS

- There was an increase in the number of EFTS places in the colleges in 2002 of 0.6 percent that occurred between 2001 and 2002, compared with the reduction of three percent that occurred between 2000 and 2001. Overall, however, there was growth of 27.2 percent from 1996 to 2002.
- The colleges recorded a net operating surplus of three percent in 2002, down from four percent in 2001 and a further decrease from six percent in 2000.
- There was a 44 percent increase in income over the period 1996-2002, translating into a 13.6 percent increase in total income per EFTS.
- Cash cover was 25 percent in 2002, which was the same for 2001. This is three times the recommended Ministry of Education threshold.
- There was strong cash-flow from operations – 112 percent in/out for 2002, up from 111 percent cash in/out in 2001.
- Capital expenditure was \$1,034 per EFTS, compared with \$1,182 in 2001. On a per-EFTS basis this was a 15.7 percent reduction on 2001 following an earlier 38 percent reduction on 2000. This is still, however, on par with the level of depreciation.
- Asset productivity (Operating Revenue/Fixed Assets) was 79 percent, compared with 75 percent in 2001.

WĀNANGA SECTOR TRENDS

- The number of EFTS places in wānanga more than doubled in both 2001 and 2002 (126 and 164.5 percent growth respectively). The number of EFTS in wānanga has increased by more than 2,095 percent since 1996. Much of the growth is notably in lower-level entry programmes. A flow-on or staircasing of students into other higher-level programmes will be a focus of wānanga over future years.
- There was a 17 percent reduction in costs per EFTS in 2002, compared with a five percent reduction in 2001. Revenue per EFTS reduced by two percent in 2002 and by one percent in 2001.
- Fixed assets in wānanga grew by 107 percent in 2002 after a 115 percent increase in 2001.
- There was high asset productivity (Operating Revenue/Fixed Assets) of 248 percent in 2002 following on from a high 198 percent in 2001.

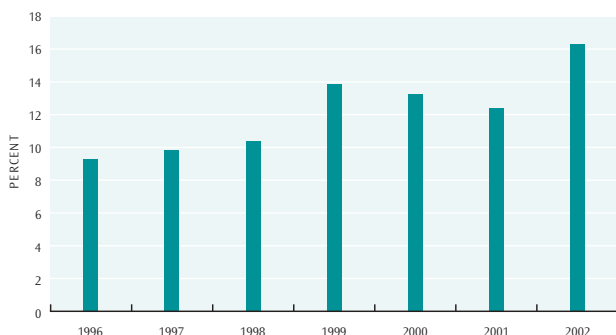
- Wānanga recorded strong operating cash-flows – 144 percent cash in/out in 2002, compared with 113 percent in 2001. Liquidity was also high – 44 percent (over six months' operating cash out) in 2002, which was down slightly from 2001 (56 percent).
- The strong cash position was partly attributable to recent capital injections resulting from the Treaty settlements.
- There was an average student to academic staff ratio of 42.4:1. This largely reflected an increase in the number of EFTS taught as part of distance or mixed mode delivery forms. Thus, there was a reduction of the student to academic staff ratio from 32.4:1 in 2001.

SECTOR LIQUIDITY AND ASSETS

The level of cash, bank deposits and readily liquifiable assets held by institutions is an important indicator of financial health and viability, which provides a buffer against variability in performance.

Total cash⁹, measured as a percentage of total cash outflows from operations is 12 percent on average (or six weeks' cash-holdings), a reasonable capacity throughout the sector to cope with unexpected increases in expenditure or reductions in income, but insufficient to cope with significant strategic repositioning.

FIGURE 9.8: CASH COVER AS A PROPORTION OF ANNUAL OPERATING CASH OUT, IN TEIs, 1996-2002



⁹ Includes cash, short-term cash investments and long-term investments easily converted to cash (eg, Government bonds and marketable shares), less overdrafts.

The range of performance is summarised below:

TABLE 9.2: CASH COVER BY SUB-SECTOR, 2001-2002

Public TEI Sector	2001 Ratio	2002 Ratio
Total Sector	12%	16%
Universities	10%	13%
Polytechnics	12%	18%
Colleges of Education	25%	25%
Wānanga*	56%	44%

* Note: Reflects capital injection.

Another measure of liquidity is the working capital ratio (defined as current assets divided by current liabilities) of an institution. This provides a snapshot of an institution's assets maturing within one year against its obligations maturing within one year. A ratio of less than 100 percent means an institution has fewer current assets than current liabilities, and would normally mean it is relying on cash-flow from operations and external sources to settle its short-term debts.

Over the last decade, the sector's working capital has declined from 136 percent in 1992 to 98 percent in 2002. This result, however, needs to be compared with the 88 percent achieved in 2001. The working capital levels are, however, highly variable between the sub-sector groups and across institutions. Part of the reason for lower levels of working capital compared with 1992 is a decline in financial performance, but for many if not most TEIs the result reflects the funding of capital expenditure from cash reserves.

TABLE 9.3: WORKING CAPITAL RATIO BY SUB-SECTOR, 2001-2002

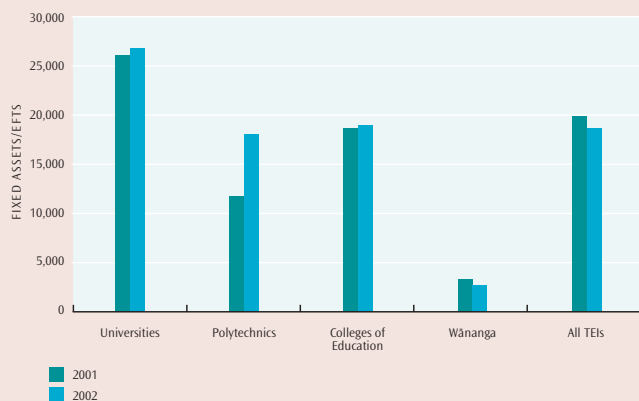
Public TEI Sector	2001 Ratio	2002 Ratio
Total Sector	88%	98%
Universities	74%	84%
Polytechnics	95%	101%
Colleges of Education	159%	156%
Wānanga*	459%	287%

* Note: Reflects capital injection.

CAPITAL EXPENDITURE

Total capital expenditure across the sector was \$354 million in 2002, slightly more than the capital expenditure in 2001 and 2000 (\$334 and \$341 million respectively). The highest level of capital expenditure per EFTS was \$3,681 by the University of Auckland and the lowest \$313 by Aoraki Polytechnic. Total capital expenditure in the sector has ranged between 1.5 and 2.0 times depreciation since 1996. The expansion of EFTS has been one of the main drivers of capital expenditure along with the need to modernise plant. Learning delivery modes that require less capital investment, such as e-learning, correspondence courses and marae-based learning are expected to play a larger part in the sector. These trends may have a significant impact on the sector's future capital requirements. Total fixed assets per EFTS were \$18,668 in 2002, a decrease of 6.2 percent from 2001 (\$19,902 at the 2001 year-end).

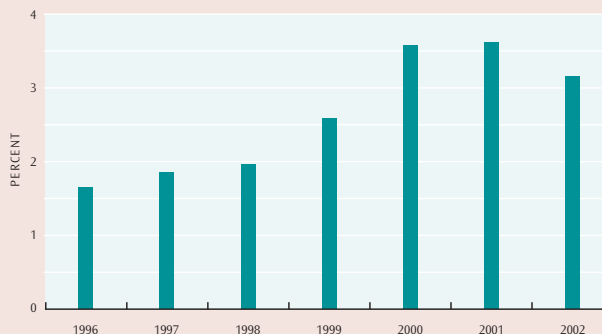
FIGURE 9.9: FIXED ASSETS PER EFTS BY SUB-SECTOR, 2001-2002



Wānanga have the lowest fixed assets per EFTS of \$2,565 (\$3,281 in 2001). This ratio has reduced by 22 percent since 2000 as the number of EFTS in this sector has outgrown the pace of fixed asset expenditure. This partly reflects the fact that wānanga are in a 'catchup' phase regarding capital works. It also reflects the increasing use of low capital intensive learning delivery modes (eg marae-based studies) which also contribute to this result. Recent and future Treaty settlement funding should lead to an increase in wānanga sector fixed asset levels in future years.

Although debt ratios in TEIs have doubled over the 1996 to 2002 period, the overall debt ratio remains consistently low, reflecting that institutions are tending to fund capital expenditure from operating revenue. The highest debt ratio in the sector is 25 percent, down from 31 percent last year with only three of the 36 institutions with a debt ratio higher than 20 percent.

FIGURE 9.10: DEBT/EQUITY¹⁰ RATIO IN TEIs, 1996-2002



¹⁰ Debt Ratio = Borrowings/Total Assets.

OVERALL SECTOR STRATEGIC SITUATION

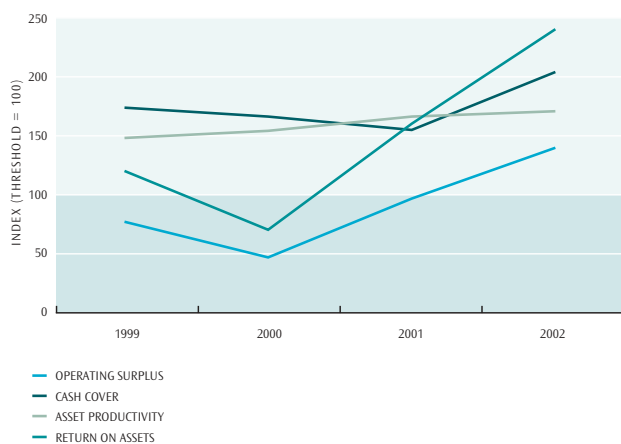
The position of the sector can be summarised by comparing actual results against minimum thresholds covering the following key areas.

TABLE 9.4: FINANCIAL PERFORMANCE OF TEIs – KEY INDICATORS, 1999-2002

Item	Meaning	Threshold	1999 Performance	2000 Performance	2001 Performance	2002 Performance
Operating surplus	Operating surplus after abnormals as a percentage of revenue	3%	2.3 %	1.4 %	2.9 %	4.2%
Cash cover	Liquid funds as a percentage of annual cash operating outgoings	8%	13.9 %	13.3 %	12.4 %	16.3%
Asset productivity	Income over net assets	40%	59.3 %	61.6 %	66.5 %	68.3%
Return on assets	Operating surplus as a percentage of assets	1%	1.2 %	0.7 %	1.6 %	2.4%

Unless there is a convincing strategy to the contrary, the threshold is seen as the minimum required for prudent operation. The sector averages are above the threshold in all four key measures. The following graph converts the four thresholds to a base of 100 and compares the actual against that base.

FIGURE 9.11: KEY FINANCIAL PERFORMANCE INDICATORS FOR TEIs, 1999-2002



THE TERTIARY EDUCATION WORKFORCE 1997-2002

Tertiary education providers are critically dependent on the teaching and research capability of their staff. More than 60 percent of the expenditure of tertiary education institutions (TEIs) is devoted to personnel costs. The calibre of staff obviously has a major bearing on the learning experiences of students and their motivation to keep learning. It is vital for New Zealand's emerging knowledge society that it can call on highly qualified tertiary educators who are able to impart knowledge in a high-quality fashion. The market for high-quality researchers is becoming increasingly globalised, and New Zealand must be able to remain internationally competitive and attract talented academic staff.

These sections provide an overview of the composition of the tertiary workforce by examining:

- trends in full-time equivalent (FTE) academic and non-academic staff numbers in TEIs, and student to staff ratios by using full year cumulative data over the period from 1997 to 2002¹¹, and
- a survey of the tenure, gender and job positions of the staff in 2002 by using 31 July snapshot data for both TEIs and private training establishments (PTEs)¹².

This analysis is limited in its range as existing data collected on tertiary education workforce is narrow in scope and type. The aggregated data does not provide an insight into institutional variations that reflect a number of variables including overall size, geographic location and other issues such as governance and management of those institutions.

¹¹ The Ministry of Education collects data on FTE academic and non-academic staff numbers in TEIs.

¹² The Ministry of Education collects snapshot data at 31 July of each year on staff employed in the tertiary sector. These data include public tertiary education institutions (polytechnics, universities, colleges of education and wananga). They also include other tertiary education providers in receipt of a Ministry of Education Grant, PTEs receiving funding through tuition subsidies and/or with courses approved for student loans and allowances, and other PTEs registered with the New Zealand Qualifications Authority.

The government has agreed to establish a strategic review and plan for the tertiary education workforce in 2003/04. This review is proposed to ensure that the workforce meets the future needs of the reformed tertiary education system and will contribute to ensuring that New Zealand's tertiary education system meets the requirements of New Zealand's knowledge society.

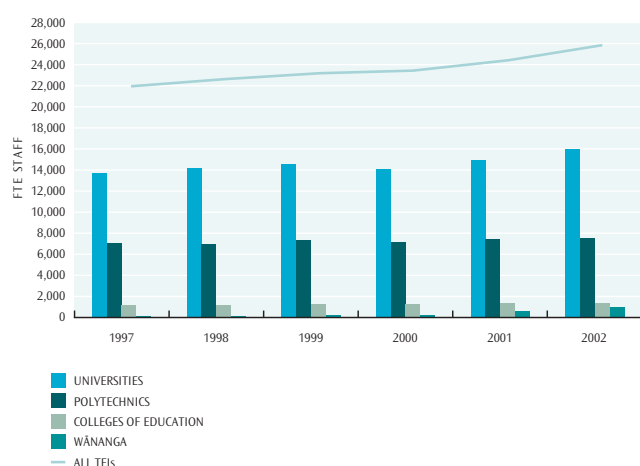
FULL-TIME EQUIVALENT STAFFING 1997-2002

At the end of December 2002, TEIs reported that they employed 25,786 FTE staff, up from 24,265 in December 2001 and 22,056 in 1997. This represents an increase of 16.9 percent between 1997 and 2002.

Wānanga had a significant increase in the number of FTE staff employed from 103 to 995 (an increase of 866 percent) between 1997 and 2002. This was due to Te Wānanga o Aotearoa's fourfold increase in student numbers between 2000 and 2002.

FTE levels have been steadily increasing in both universities and colleges of education as rolls have grown. The rise in colleges of education and universities between 1997 and 2002 was approximately 16 percent while polytechnic FTE levels have increased by 6.6 percent over the same period.

FIGURE 9.12: FTE STAFF EMPLOYED IN TEIS BY SUB-SECTOR, 1997-2002



ACADEMIC/TUTORIAL STAFF

Academic/tutorial staffing levels have remained fairly constant across the public tertiary sector (although not necessarily at individual institutions), except for the wānanga, since 1997.

Wānanga had a substantial increase in the number of FTE academic staff from 98 to 515 (a 426 percent increase). This increase is attributed to unprecedented growth in enrolments that has occurred in the wānanga sub-sector in the past three years.

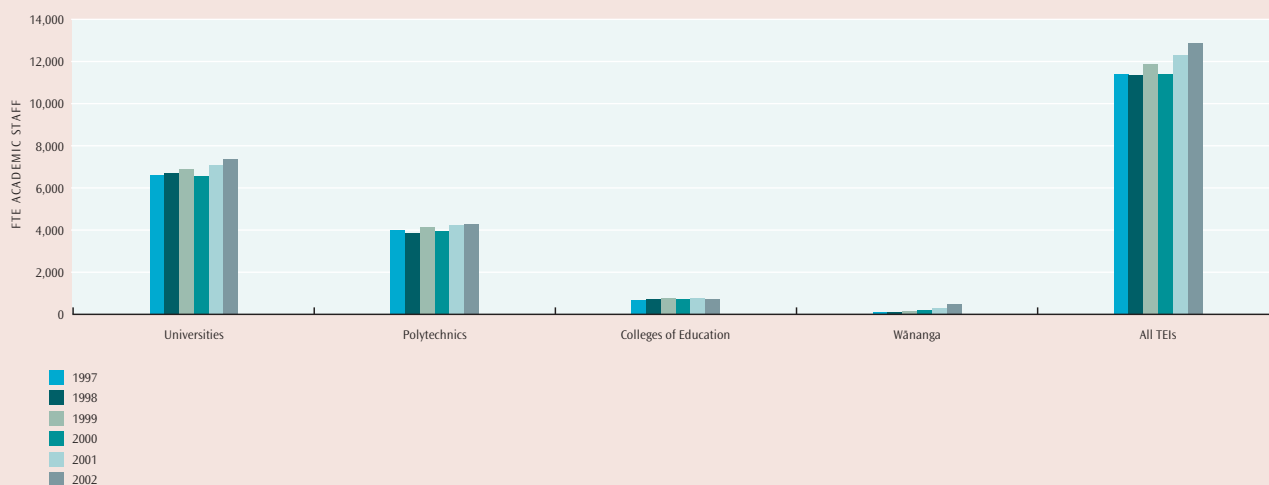
The number of FTE academic staff in universities increased by 11.6 percent between 1997 and 2002 while FTE academic staff at polytechnics grew by 7.5 percent and at colleges of education by 5.4 percent over the same period. All three sub-sectors experienced drops in the number of FTE academic staff in 2000.

In 2002, academic staff made up 51.8 percent of all staff at wānanga, 56.9 percent at polytechnics, 46.5 percent at universities, and 54.3 percent at colleges of education.

The higher ratio of teaching to non-teaching staff at polytechnics, colleges of education and wānanga is due in part to the modes of delivery used in different sub-sectors, and also to the extent to which providers concentrate on teaching alone (universities hire more research and advisory staff than do other tertiary education providers).

The following graph shows the changes from 1997 to 2002 for FTE academic staff employed in TEIs.

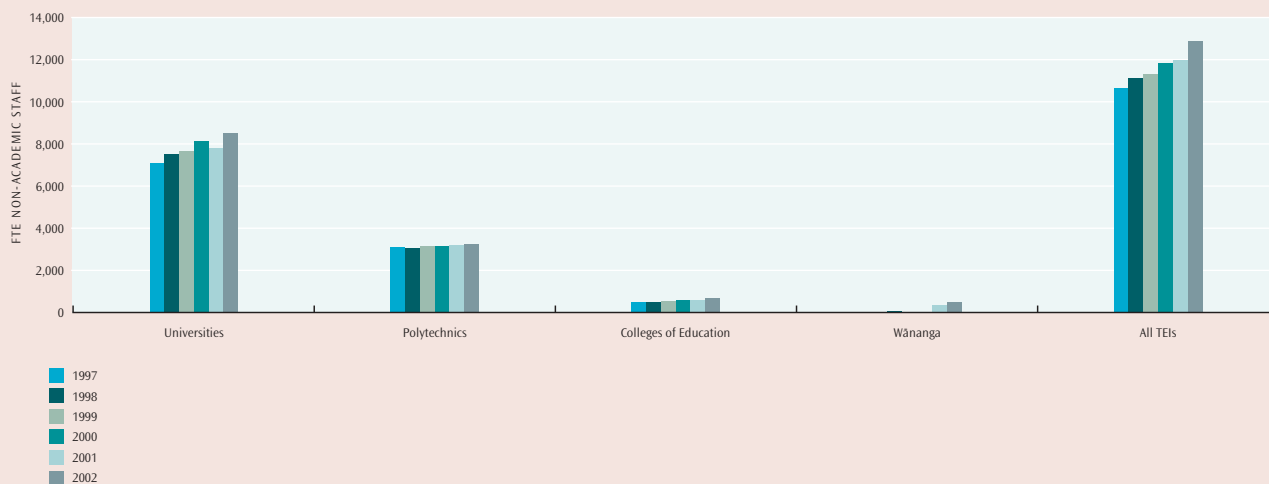
FIGURE 9.13: FTE ACADEMIC STAFF EMPLOYED IN TEIs BY SUB-SECTOR, 1997-2002



NON-ACADEMIC STAFF

The number of executive and support staff in the public tertiary education sector totalled 12,857 FTEs in 2002. This included 3,253 at polytechnics, 622 at colleges of education, 480 at wānanga, and 8,502 at universities (excluding research and research support staff and advisory and other teacher support staff employed by schools of education). The number of non-academic staff in wānanga grew from five in 1997 to 480 in 2002.

FIGURE 9.14: FTE NON-ACADEMIC STAFF EMPLOYED IN TEIs BY SUB-SECTOR, 1997-2002



EFTS/FTE RATIOS

The student to staff ratio is only a broad indicator of efficiency and must be taken in a larger context, so direct comparisons between individual institutions must be made with caution. Variations in ratios will occur naturally because of the size of institutions, mergers, types of programmes offered, and duration of programmes offered, ie full-year versus short courses as well as internal versus external enrolments.

This ratio is calculated by dividing the number of EFTS by the number of FTE academic staff.

From 1997 to 2002, EFTS to FTE ratios at public tertiary education institutions increased for all sub-sectors. In 2001 and 2002,

PERSONNEL COSTS

Staffing costs in public TEIs form the largest budget item. In TEIs on average, over 60 percent of expenditure is devoted to personnel costs. In some TEIs personnel costs reach up to 70 percent of all expenditure. Personnel costs as a percentage of total costs have declined for both universities and polytechnics. The 2001 and 2002 data show similar situations for universities, polytechnics and colleges of education.

The following graph shows trend information for the period 1997 to 2002 for each sub-sector and TEIs as a whole.

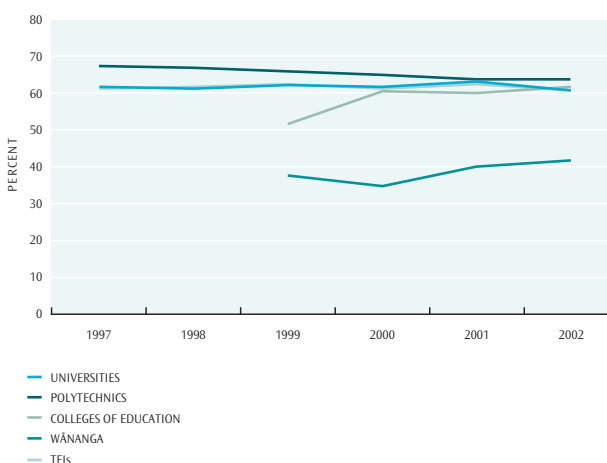
FIGURE 9.15: EFTS TO FTE RATIOS IN TEIs BY SUB-SECTOR, 1997-2002



wānanga had a large increase in the student to staff ratio. The EFTS to FTE ratio at wānanga has fluctuated as this sub-sector has grown – from 11.9:1 in 1997, 18.1:1 in 1998, 13.3:1 in 1999 and 17.4:1 in 2000 to 32.4:1 in 2001 and 46.6:1 in 2002. Te Wānanga o Aotearoa's large increase in student numbers in 2001 has had an impact on the student to staff ratio. This provider has large numbers of distance learning students.

The EFTS to FTE ratio has remained fairly constant in universities. The increase in EFTS to FTE ratios at the polytechnics over the 1997 to 2001 period reflects both increases in the number of students and significant loss of staff positions between 1998 and 2000. The EFTS to FTE ratios in colleges of education are lower than other sub-sectors.

FIGURE 9.16: PERSONNEL COSTS AS A PERCENTAGE OF TOTAL COSTS (LESS DEPRECIATION) IN TEIs, 1997-2002

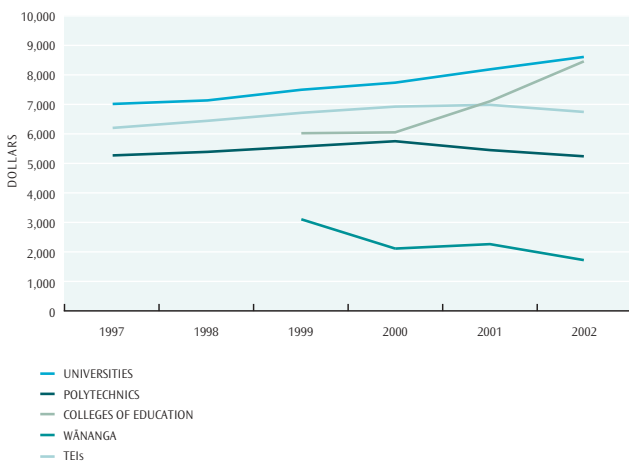


Note: Colleges of Education and wānanga data are not available for 1997 and 1998.

PERSONNEL COSTS TO EFTS RATIOS

The data suggests that the polytechnic sector has been most effective in keeping the personnel costs to EFTS ratio low. Total personnel costs applied to each EFTS is highest for universities and reflects their spending on research and postgraduate students. The personnel costs to EFTS ratio for colleges has increased significantly since 2000, while total personnel costs at wānanga have increased from \$4.2 million to \$29.6 million (605 percent) between 1999 and 2002. The data at wānanga demonstrates significantly lower personnel costs per student as a result of higher EFTS to FTE ratios.

FIGURE 9.17: PERSONNEL COSTS TO EFTS RATIOS IN TEIS, 1997-2002



GENDER, POSITIONS, FULL-TIME/PART-TIME

The following sections provide an analysis of the tenure, gender, status, ethnicity, age and salaries of tertiary education staff¹³.

TENURE

Most tertiary academic staff (60 percent) were employed full-time at public tertiary education institutions. There is a trend to more part-time academic staff, however, with the part-time percentages having risen from 36 percent in 1997 to 40 percent in 2002. The pattern differs across sectors. There is a higher proportion of full-time employees in wānanga (74 percent) and colleges of education (71 percent) than in universities (62 percent) and polytechnics (56 percent). Female academic staff were more likely to be working part-time than men (47 percent, compared with 33 percent) in public tertiary institutions, especially in polytechnics, where just over half

(53 percent) of the female staff were in part-time positions, compared with 34 percent of their male colleagues.

With private education providers that were in receipt of EFTS-based tuition subsidies, 62 percent of teaching staff were full-time (half of them male and half female). In other private education providers, 75 percent of teaching staff were full-time.

A larger percentage of female academic/teaching staff work part-time than males, as shown in the following graphs. This applies also to executive and support staff.

FIGURE 9.18: MALE ACADEMIC STAFF BY SECTOR AND TENURE FOR ONE WEEK, 2002

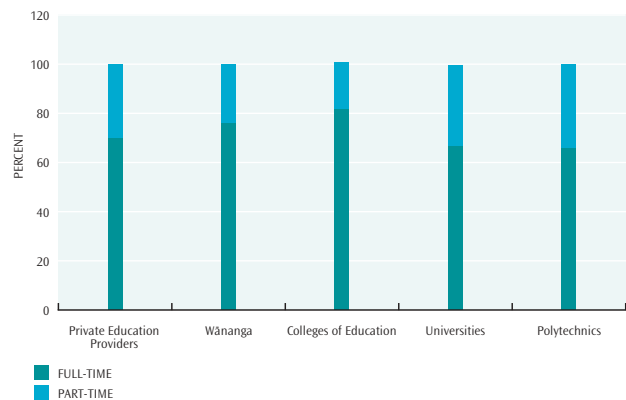
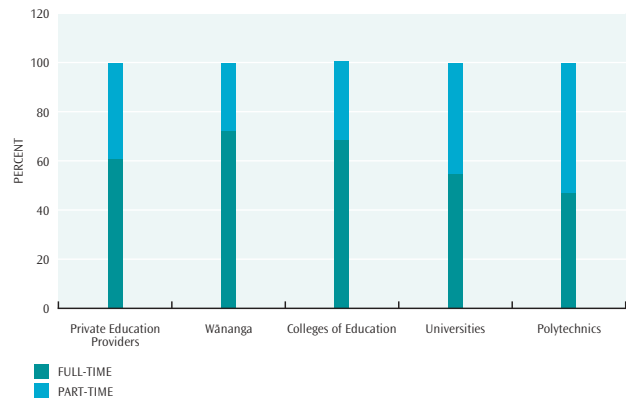


FIGURE 9.19: FEMALE ACADEMIC STAFF BY SECTOR AND TENURE FOR ONE WEEK, 2002



Note: The one week referred to is as follows:

- wānanga, colleges of education, universities and polytechnics – 30 July-5 August 2002
- non-Ministry-funded private education providers – 30 July-5 August 2002
- Ministry-funded private education providers – 27 August-2 September 2002

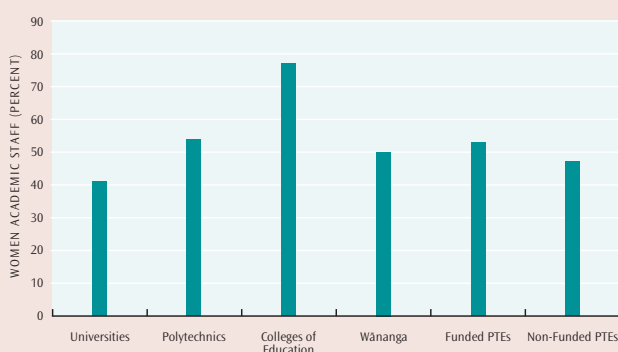
¹³ This analysis is based on the 30 July-5 August 2002 headcount snapshot data.

GENDER

In polytechnics, women made up 54 percent of academic and 71 percent of executive and support staff. However, women in universities comprised only 41 percent of academic staff, compared with 56 percent of research staff, 25 percent of executive staff and 80 percent of advisory and other teacher support staff. In colleges of education, women made up 77 percent of academic, 78 percent of executive and support staff and 79 percent of advisory and other teacher support staff. At wānanga, women represented 50 percent of paid academic staff, 53 percent of voluntary staff, and 64 percent of executive and support staff.

With funded private education providers there were 47 percent male teaching staff compared to 53 percent female (in 2000 it was equally divided between men and women). With other private education providers, slightly more teaching staff were males at 53 percent.

FIGURE 9.20: PERCENTAGE OF WOMEN AMONG ACADEMIC STAFF, SEPTEMBER 2002



Between 1997 and 2002, no Chief Executive Officer positions at universities or colleges of education have been held by a woman, despite increasing female representation on the teaching staff over this period. In 2002, Massey University appointed the first woman to head a university in New Zealand when the university named Professor Judith Kinnear as its new Vice-Chancellor. In 2002, around 30 percent of the chief executives at polytechnics were women.

SENIOR ACADEMIC AND EXECUTIVE POSITIONS

Except for colleges of education, women are under-represented in senior academic positions (deans/heads of school, heads of dept/faculty, principal lecturers/senior lecturers) in the TEI sector.

In *polytechnics* the percentage of women holding director, deputy director or associate director positions in 2002 was 36. At polytechnics, women accounted for 47 percent of senior academic staff in 2002.

Universities had the biggest gender gap in the TEI sector, although it appears this gap is slowly narrowing. In 1997, women accounted for 20 percent of senior executive staff (senior academic managers and senior managers), but this had increased to 26 percent by 2002. Universities also had the biggest gender gap among senior academic staff in the TEI sector although it appears this gap is also slowly narrowing. In 1997, women represented 17 percent of senior academic staff (professors, readers/associate professors, and senior lecturers), but this had increased to 27 percent by 2001.

At *colleges of education* women made up 67 percent of senior executive staff in 2002 (directors/vice-principals/deans) compared with half in 2000 and 45 percent in 1997. At colleges of education women made up just over half (53 percent) of all senior academic staff in 1997 (principal lecturers/senior lecturers). However, by 2002 this was up to 74 percent, and reflected a gradual increase from 1997.

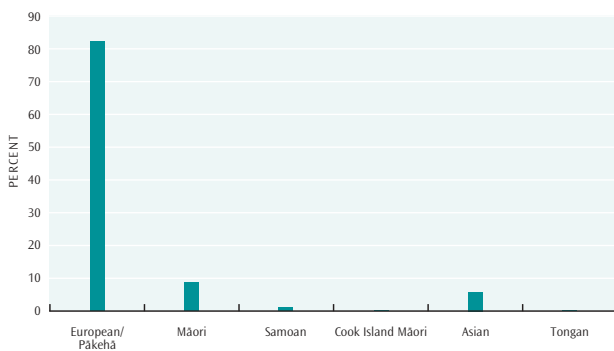
At *wānanga* around half of the senior executive staff were women (directors/deputies/associates). At wānanga women are under-represented in senior academic staff but, as with universities, the gap is narrowing. In 1997, there were no women senior academic staff employed by wānanga. In 1998, however, there were four female senior academic staff at wānanga, increasing to 10 in 2002.

2001 POPULATION CENSUS

Additional information on tertiary teaching staff can be drawn from the 2001 Population Census, in which 13,941 individuals identified themselves as a tertiary teaching professional. Census data shows that the gender balance is more even among younger tertiary teaching professionals, which may indicate a cohort effect, with large groups of younger women now moving through the teaching profession.

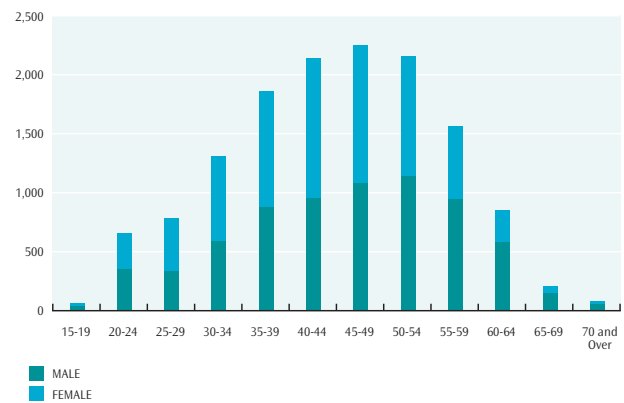
According to the 2001 Population Census, the majority of teaching staff (82 percent) were of European/Pākehā origin, compared with 84 percent in the 1996 Census. In 2001, Māori, Pasifika and Asian people represented 8.6 percent, 1.5 percent and 5.7 percent respectively of tertiary teaching professionals. In each case, the proportion is significantly lower than the corresponding proportion in the student population.

FIGURE 9.21: TERTIARY TEACHING PROFESSIONALS BY ETHNIC GROUP, 2001 POPULATION CENSUS



At the time of the 2001 Census, tertiary teaching professionals were most commonly between 40 and 49 years of age (31.4 percent). 26.7 percent were aged 50 to 59, 22.7 percent were aged 30 to 39 and 10.8 percent were aged 25 to 29.

FIGURE 9.22: TERTIARY TEACHING PROFESSIONALS BY AGE AND GENDER, 2001 POPULATION CENSUS



ACADEMIC SALARIES

An Association of Commonwealth Universities (ACU) survey¹⁴ of academic staff salaries and benefits in seven Commonwealth countries in 2001 and 2002 provides comparative data on average pay rates at universities in these countries, adjusting them for purchasing power. Those countries are Australia, Canada, Malaysia, South Africa and the United Kingdom, the exception being Singapore. The results show that the purchasing power of academic salaries in New Zealand is behind Australia and Singapore but ahead of Canada, the United Kingdom, South Africa and Malaysia.

¹⁴ The survey was published in February 2003 and was revised in August 2003. The revised survey data is quoted in this Publication. It should be noted that the purchasing power parity methodology used by the ACU is not accepted as valid by some stakeholders. The results of this survey should, therefore, be treated as indicative.

CAPABILITY AND CAPACITY IN THE PTE SECTOR

Private providers have developed to meet diverse educational needs. There is a significant emphasis on Māori and Pasifika peoples. PTEs give learners an alternative to traditional educational institutions, and many offer specialised work-related programmes. The private tertiary education sector is constantly evolving in response to local demand. It is noted that 172 registered private providers in 2002 identified as Māori.

The PTE sector has now become established with a complementary role to that of TEIs. PTEs have been key contributors to the substantial increase in student participation rate increases in recent years. By 2001, Māori enrolment numbers in PTEs were similar to those of polytechnics. The enrolments of Pasifika peoples in PTEs were approximately 90 percent of those in polytechnics. The following are regarded as strengths of the PTE sector:

- the ability to cater for niche areas in education provision
- providing an alternative to mainstream options, and
- having the ability to provide education in locations where TEIs are not operating and where it may not be financially viable for them to do so.

FINANCIAL VIABILITY

In a recent Ministry of Education study, financial information was collected from all PTEs which received student component funding through EFTS-based tuition subsidies. Accounts were received from 229 individual PTEs for the year to 31 December 2002. The analysis shown in the following table sets out the average key financial indicators for PTEs and compares these with the TEIs.

TABLE 9.5: COMPARISONS OF PTE FINANCIAL PERFORMANCE WITH THAT OF TEIs, 2002

Key Performance Indicators	PTE Average 2002	TEI Average 2002
Pre-tax surplus as a percentage of total revenue	7%	4%
Personnel cost to total revenue before depreciation	44%	60%
Operating cash in/Operating cash out	114%	117%
Current ratio	1.9:1	1.0:1
Quick ratio	3.9:1	1.59:1
Shareholder commitment to total assets	43%	Does not apply to TEIs

The average performance of PTEs on those indicators is reasonable in comparison with TEIs and reflects logical and obvious differences in financial and asset structures.

There is, however, greater variance in key performance indicators in PTEs than is the case with TEIs.

TABLE 9.6: EFFECT OF SIZE OF PTE ON ITS FINANCIAL PERFORMANCE, 2002

Key Performance Indicators for all PTEs	Total Revenue Less than \$1 Million	Total Revenue More than \$1 Million
Number of providers	126	103
Pre-tax surplus as a percentage of total revenue	3%	10%
Personnel cost as a percentage of total revenue before depreciation	46%	42%
Operating cash in/operating cash out	112%	116%
Current ratio	2.3:1	1.5:1
Quick ratio	4.6:1	3.0:1
Shareholder commitment/Total assets	48%	37%
Equity as a percentage of total assets	31%	36%
Term liabilities to fixed assets	23%	23%
Capital expenditure to depreciation	192%	190%

Note: This table classifies PTEs according to whether their total revenue is less than or greater than \$1 million.

The following points emerge from the results of PTEs shown above and from other analyses of PTE financial performance:

- There appear to be some economies of scale for PTEs. Those with more than \$1 million in total annual revenue performed better than those with less than \$1 million in total annual revenue. For those with total revenue above \$1 million, the surplus to revenue ratio is 10 percent. However, where revenue is less than \$1 million the equivalent value is 3 percent. It is noted that total shareholder funds as a percentage of total assets invested in the business are around 48 percent for PTEs with revenue of less than \$1 million while the equivalent value is approximately around 37 percent in PTEs where revenue exceeds \$1 million. In this way risk is balanced through changes in funds committed by the shareholders.
- Personnel costs are approximately 10 percent higher in relation to revenue in the small PTE group.
- Shareholder loans to the business are significant for providers in the group of small providers but very small in the group of large providers on average.

- As EFTS growth from 2001 has consolidated, financial viability has improved in cases where education and business processes have been improved.
- A number of PTEs are a part of a larger group of companies or trusts and are very strong financially when the finances of the whole group are taken into account. In the current year, there is evidence of business refinancing to strengthen financial viability.

GOVERNANCE AND MANAGEMENT ISSUES FOR INDUSTRY TRAINING ORGANISATIONS

In 2002, Skill New Zealand¹⁵, in partnership with ITOs, continued to provide a performance measurement system designed to provide the information required to monitor the outcomes of industry training and allow the government to track progress over time.

The review of the Government's Industry Training Strategy, *Moving Forward*, confirmed the direction of the strategy and the role of ITOs. ITOs were given additional responsibilities to plan for industry's future skill needs, and provision was made for voluntary industry training levies. *Moving Forward* also lifted the cap on training above level 4 of the National Qualifications Framework, recognising that the level 4 cap restricted the ability of ITOs to meet the needs of industry and employees within industry now and in the future.

Decisions arising from the review of industry training will help ITOs to be more responsive in the delivery of training in the future. The decisions included:

- assisting ITOs to extend their coverage where a training culture does not currently exist
- ensuring ITOs take a more strategic approach to identifying and meeting future industry skills needs
- ensuring ITOs continue to deliver good service and quality training in their industry and that the Tertiary Education Commission assists, where necessary, with ITO performance, and
- strengthening partnership arrangements between ITOs.

QUALITY ASSURANCE IN TERTIARY EDUCATION IN NEW ZEALAND

High-quality qualifications and study programmes are a key requirement for students in the tertiary education sector. This section looks at the central role of national quality assurance agencies in tertiary education.

KEY COMPONENTS OF THE CURRENT SYSTEM

Quality assurance of tertiary education in New Zealand is intended to provide a minimum standard for the quality of the learning outcomes for students by focusing on the systems and processes that support delivery by tertiary education providers.

Only those tertiary education qualifications and providers that have been quality assured by a quality approval body are able to access government financial assistance including student component funding, industry training funding, Training Opportunities, Youth Training and Skill Enhancement funding.

One of the mechanisms for managing quality is the New Zealand Register of Quality Assured Qualifications. The register was developed by NZQA in association with the tertiary education quality assurance bodies and after considerable consultation with the sector. The register imposes certain common standards on qualification development and nomenclature. Each qualification has an assigned level (1 to 10); an outcome statement for the whole qualification and each of its components; a credit value (120 credits is equivalent to one year of full-time study); and a title consistent with other qualifications on the register. The public face of the register is the KiwiQuals website. The site www.kiwiquals.govt.nz will enable users to search and compare all quality assured qualifications in New Zealand.

Quality approval agencies decide whether tertiary providers and qualification developers meet appropriate quality standards. There are currently four quality approval agencies:

- the New Zealand Qualifications Authority (NZQA)
- the Committee on University Academic Programmes (CUAP), a standing committee of the New Zealand Vice-Chancellors' Committee (NZVCC)
- the New Zealand Polytechnic Programmes Committee (NZPPC), and
- the Colleges of Education Accreditation Committee (CEAC).

¹⁵ Since 1 January 2003 the functions of Skill New Zealand have been assumed by the Tertiary Education Commission (TEC).

NZPPC and CEAC operate under delegation from NZQA while the NZVCC has statutory powers of qualification approval. In addition, the New Zealand Teachers Council is responsible for the further approval of programmes involving teaching qualifications.

NEW ZEALAND QUALIFICATIONS AUTHORITY (NZQA)

NZQA derives its authority from the Education Act 1989. It is a Crown agency that reports directly to the Minister of Education. Its functions are to:

- provide an overarching quality assurance role for the tertiary sector
- develop and quality assure national qualifications that are of strategic importance to the economic and social development of New Zealand and that are not the responsibility of Industry Training Organisations
- administer the National Qualifications Framework (NOF)
- register private training establishments and conduct quality assurance of qualifications offered by private providers and wānanga
- provide dedicated support to wānanga and Māori private training establishments
- establish the New Zealand Register of Quality Assured Qualifications
- administer the National Certificate of Educational Achievement (NCEA) and other school, trade and vocational assessment
- evaluate overseas qualifications for immigration and employment purposes, and
- provide information and support to countries wishing to establish or review qualifications frameworks or education-related quality assurance systems.

NZQA has delegated responsibility for some aspects of approval and accreditation of polytechnic courses to the Association of Polytechnics in New Zealand (APNZ) and to the Association of Colleges of Education in New Zealand (ACENZ). These associations have created quality assurance bodies to give effect to that delegation and to manage the processes. APNZ approvals are exercised by the New Zealand Polytechnic Programmes Committee (NZPPC), while ACENZ has established the Colleges of Education Accreditation Committee (CEAC). As the delegating authority, NZQA has responsibility to audit NZPPC's and CEAC's quality assurance systems.

NZQA retains responsibility for course approval and accreditation for all degree qualifications offered by providers other than universities and polytechnics.

All registered providers and approved courses and qualifications outside the universities are listed on the Authority's website.

NZQA has a quality audit requirement in place aimed at improving the quality of providers and courses. While those audited to date have found the process challenging, they generally recognise that it has the potential to lift quality standards and identify problems more quickly. A number of potential academic and financial risks have been identified. As a result, NZQA and the Tertiary Education Commission carried out monitoring and auditing of academic quality, student registry operations and financial viability.

THE NEW ZEALAND POLYTECHNIC PROGRAMMES COMMITTEE (NZPPC)

The New Zealand Polytechnic Programmes Committee (NZPPC) is a committee of the Association of Polytechnics in New Zealand (APNZ). The Committee operates as a quality assurance body under the authority delegated to the Association by NZQA under section 260 of the Education Act 1989. The Committee was established in 1991 and has been operating the delegation independently of APNZ since January 1993.

The Committee is responsible for approving polytechnic programmes at below degree-level and for accreditation of polytechnics to deliver approved programmes, including programmes based on unit standards registered on the National Qualifications Framework. The Committee has also been granted the authority from NZQA to audit polytechnics and is currently auditing all of the polytechnics for compliance and effectiveness against 12 academic standards. A polytechnic that successfully meets the standards may be awarded 'quality assured' status for a period of four years.

In November 2002, NZQA extended the delegation to enable NZPPC to approve and accredit undergraduate degree programmes in the polytechnic sector to be operational from 1 July 2003.



COLLEGES OF EDUCATION ACCREDITATION COMMITTEE (CEAC)

The Association of Colleges of Education in New Zealand (ACENZ) holds delegated authority from NZQA for the approval and accreditation of non-degree programmes offered by the colleges of education.

The Colleges of Education Accreditation Committee (CEAC) carries out this function for the Association and the Association seeks to ensure the quality of programmes offered by the colleges and to promote exemplary academic quality assurance through the operation of the Committee.

Colleges are required to have in place a quality management system which documents the policies, procedures and review mechanisms for the ongoing oversight, maintenance, development and delivery of their academic work.

The Committee's approval and accreditation processes are based on the quality management systems of the colleges and their capacity to deliver their programmes and qualifications. Some of these will be based on unit standards from the National Qualifications Framework.

The Committee's own systems for its operation as a delegated authority are audited by NZQA.

THE NEW ZEALAND UNIVERSITIES ACADEMIC AUDIT UNIT (NZUAAU)

The New Zealand Universities Academic Audit Unit (NZUAAU) was established by the New Zealand Vice-Chancellors' Committee to carry out academic quality audits of all the universities. The unit also identifies and disseminates information on good practice in developing and maintaining quality in higher education and publishes reports and monographs.

During 2002, the unit negotiated a timetable with the universities for Cycle 3 audits – with a focus on teaching quality, programme delivery and the achievement of learning outcomes – to be undertaken from 2003 to 2006. Audit processes were reviewed to ensure the unit will produce enhanced audit reports that will add value to universities' own quality improvement processes in support of the enhancement of their core activities and learning environments.

NEW ZEALAND VICE-CHANCELLORS' COMMITTEE (NZVCC)

The New Zealand Vice-Chancellors' Committee (NZVCC) derives its authority from the Education Act 1989. The NZVCC provides quality assurance for university qualifications through its Committee on University Academic Programmes (CUAP). NZVCC also has standing committees on copyright, university libraries, graduate employment, information technology, international policy, research, scholarships, and staff relations. A sub-committee of CUAP deals with university entrance matters. University quality systems are independently audited through the NZUAAU.

THE COMMITTEE ON UNIVERSITY ACADEMIC PROGRAMMES (CUAP)

The Committee on University Academic Programmes (CUAP) is a standing committee of the NZVCC that considers academic matters across the university system. These include: inter-university course approval and moderation procedures; advice and comment on academic developments; the encouragement of the coherent and balanced development of curricula; and the facilitation of credit transfer between qualifications.

The Committee exercises the statutory responsibilities of NZQA, within policy determined by the Authority, to establish criteria for validating and monitoring university qualifications. It approves new qualifications in the university system. It also nominates university representatives to panels convened by the Authority and has responsibility for oversight of inter-university subject conferences. Its membership includes representation of other tertiary education interests and the student body.

The CUAP's sub-committee on university entrance co-ordinates advice on the common standard of entrance to universities. The sub-committee also regulates provisional entrance and co-ordinates the evaluation of overseas qualifications presented for the purposes of admission to university.

INTER-INSTITUTIONAL QUALITY ASSURANCE BODIES CONSULTATIVE GROUP

The Inter-Institutional Quality Assurance Bodies Consultative Group has been established by NZQA as a forum for quality assurance bodies. This group brings together all the quality assurance oversight bodies of NZVCC, APNZ, ACENZ and NZQA. The aim is to provide a system-wide focus on the quality of tertiary education provision and qualifications.

GOVERNMENT AGENCIES SUPPORTING TERTIARY EDUCATION

A number of government agencies provide policy development, funding, support, administration and advice to assist the tertiary education sector. This section looks at the government agencies involved in such support for the tertiary education sector.

SKILL NEW ZEALAND

Until the enactment of the Education Act 2003, Skill New Zealand was a Crown agency operating at the interface of education and the labour market. Skill New Zealand has now been absorbed into the Tertiary Education Commission.

With approximately 200 staff, Skill New Zealand had a national office in Wellington and a network of 11 regional offices and three satellite offices around the country.

Skill New Zealand contracted a wide range of education and training providers to deliver learning under a number of training programmes. The agency purchased industry training through ITOs. It also oversaw a range of complementary initiatives at enterprise level aimed at identifying skill needs and improving productivity. Skill New Zealand also managed the Modern Apprenticeships programme.

Skill New Zealand also played a prominent role in transition education for students, through its funding of the Gateway, Youth Training, Training Opportunities, Skill Enhancement, and English for Migrants programmes. All of these functions have since been incorporated into the role of the Tertiary Education Commission.

MINISTRY OF EDUCATION

The Ministry of Education provides policy advice to the government on all aspects of education from early childhood and compulsory education to post-compulsory education and training. The main units of the Ministry supporting the tertiary education sector are:

- Data Management and Analysis Division
- Māori Tertiary Education
- Tertiary Advisory Monitoring Unit
- Tertiary Education Learning Outcomes Policy
- Tertiary Education Regulatory and Resourcing Policy
- Tertiary Information Systems and Sector Liaison, and
- Tertiary Sector Performance Analysis and Reporting.

The Data Management and Analysis Division (DMA) is part of the Ministry of Education's Strategic Information and Resourcing Group. It is responsible for the collection and processing of data from tertiary education providers, enrolment projections and financial forecasting.

The Māori Tertiary Education unit (MTE) advises the government on matters in tertiary education as they relate to Māori learners and their communities. The unit has specific policy responsibilities regarding Mātauranga Māori kaupapa Māori tertiary provision as well as supporting the Crown and iwi Māori relationships. The unit also maintains a strong link between the Ministry's Group Māori and other tertiary education teams.

The Tertiary Advisory Monitoring Unit (TAMU) is responsible for managing the government's interest in the 36 public tertiary education institutions designated as Crown entities. The unit has responsibility for the ownership monitoring of four Crown education agencies (the New Zealand Qualifications Authority, the Tertiary Education Commission, the Teachers Council, and Career Services *rapuara*).

Tertiary Education Learning Outcomes Policy (TELOP) undertakes policy work across the tertiary sector, focused on building improvements in the education delivered by the sector. Its focus covers skill development, quality in tertiary education, adult and community education and the interface between tertiary education and schools and industry.

Tertiary Education Regulatory and Resourcing Policy (TERRP) advises government on the policies related to the resourcing of tertiary education. It also deals with student support.

New information requirements for the tertiary sector include electronic methods of collecting student-based data and a national register of quality assured providers, qualifications and courses. The role of Tertiary Information Systems and Sector Liaison (TISSL) is to ensure that these requirements are met within specified timeframes and with minimal cost to providers. This unit is also responsible for managing the liaison between tertiary providers and the government agencies that work in tertiary education and for ensuring that the tertiary education information systems of these agencies are co-ordinated.

The Tertiary Sector Performance Analysis and Reporting team (TSPAR) was established to conduct analysis of trends in tertiary education with a view to providing the evidence base for shaping policy in tertiary education and in order to provide the government, the sector and the public with in-depth analysis of the performance of the tertiary education sector.

THE TEACHERS COUNCIL

The Teachers Council is a Crown entity established under the Education Standards Act 2001 with responsibility for:

- providing professional leadership in teaching
- promoting best practice and professional development
- maintaining a register of teachers and determining policies under which teachers are registered and maintain registration
- approving registrations and issuing practising certificates and limited authorities to teach
- establishing policy for removal from the register, deciding whether a teacher's name should be removed from the register, and informing school boards of trustees of the names of teachers with cancelled registrations or limited authorities to teach
- ensuring that teachers are satisfactorily trained through the approval of teacher education providers and programmes
- exercising disciplinary functions relating to teacher misconduct and incompetence, and
- promoting and sponsoring research.

CAREER SERVICES

Career Services *rapuara* was established in 1990 to provide information, advice and guidance services that are designed to help people make informed career choices.

Effective career information, advice and guidance provide a link between education, the labour market and the skills, interests and abilities of New Zealanders. Career Services' work includes:

- developing and providing career information
- providing individuals with advice on how to best use career information
- providing career guidance services (free of charge to target client groups), and
- developing and enhancing the skills of individuals and organisations that facilitate career information, advice and guidance for others.

Career Services also provides services specifically targeted to Māori and Pasifika.

To enhance access to career information, advice and guidance, Career Services has developed three arms of delivery – via the internet, telephone and face-to-face. This allows individuals to access Career Services in a manner that best matches their needs.

Through KiwiCareers, an internet-based career information system, Career Services:

- encourages industry, employment and educational organisations to provide relevant career-related information via the internet
- provides a portal system to internet-based career information produced by other organisations
- produces information on trends within the labour market and education sector, and
- promotes the use of the KiwiCareers internet site by career information providers and seekers.

The website *Take-off to Tertiary* complements KiwiCareers by providing advice to those considering entering tertiary education.

CareerPoint, a freephone career information and advice service, provides:

- a free career information and advice service which can be accessed by telephone, email or fax both during and after normal business hours, and
- career advice by CareerPoint's trained career information specialists.

Career Services has a network of 16 CareerCentres located throughout the country. These centres provide a range of services, including individually tailored assistance with planning careers, and training influences within schools and the community on career-related matters.

MINISTRY OF SOCIAL DEVELOPMENT

The Ministry of Social Development is responsible for providing leadership in social policy and the delivery of social services. Services are provided to students through StudyLink, a separately branded service line of the Ministry. StudyLink is responsible for the administration and delivery of student loans, student allowances and other income support to students while they are studying, and income support for students unable to find employment during vacation breaks. This includes assessing entitlements, making payments, and the maintenance of partnerships with key stakeholders, including other government agencies, tertiary providers and student groups.

StudyLink operates a call centre, a centralised processing centre and six outreach sites in the main centres of New Zealand. Campus-based services are co-ordinated and delivered by the outreach sites.

INLAND REVENUE TE TARI TAAKE

Inland Revenue is responsible for the assessment and collection of student loan repayments once loans have been transferred for collection. Inland Revenue also determines entitlement to interest write-offs for full-time, full-year students and low-income students as well as a base interest write-off or reduction for other eligible borrowers.

In addition, Inland Revenue is responsible for the Student Loan Scheme Act 1992 and the annual regulations made under that Act which set the interest rates, the full interest write-off threshold for low-income students and the repayment threshold.