

AN OVERVIEW

The size of the workforce in public tertiary education institutions remained stable in 2005 compared to 2004.

A fall in academic staffing at universities in 2005 was offset by an increase in non-academic staff. While the number of students at universities also fell in terms of full-time equivalent students, the student per academic staff ratio increased slightly in 2005.

Wellington College of Education merged with Victoria University of Wellington causing a decrease in staffing at colleges of education, with an offsetting increase in university staffing numbers.

Staffing and student numbers fell at wānanga in 2005 with a small decrease in the student per academic staff ratio. At institutes of technology and polytechnics, staffing levels remained stable in 2005 while the student per academic staff ratio fell due to a decline in equivalent full-time students.

Staff eligible for research funding from the Performance-Based Research Fund increased from 2003 to 2006 and the average age of the eligible researchers also increased in 2006.

Total expenditure on personnel for public tertiary education institutions increased in 2005, while personnel costs declined slightly as a percentage of total expenditure.

LOOKING TO 2006

In February 2006, the Tertiary Education Commission published six scoping reports as part of the strategic review of the tertiary education workforce. The areas covered by the reports are recruitment and retention; workforce diversity; changing work roles and career pathways; casual, part-time and contracted staff; improving workforce productivity; and improving workforce statistics.

In August 2006, the government provided funding of \$26 million to help universities maintain the quality of teaching and research and ensure our universities remain internationally competitive. Leading up to this, in July 2005, the then Minister of Education (the Hon. Trevor Mallard), the New Zealand Vice-Chancellors' Committee and the combined unions met and established the Universities' Tripartite Forum to address salaries, staffing and other resourcing issues. The quality and performance of New Zealand universities was identified as being

at risk, with strong international competition for academic staff being a factor.

Tertiary educators

To meet the diversity of learner needs and motivate students to keep learning, a high-quality tertiary education workforce is required. Tertiary educators have a major impact on the sector's ability to achieve the goals of the tertiary education strategy.

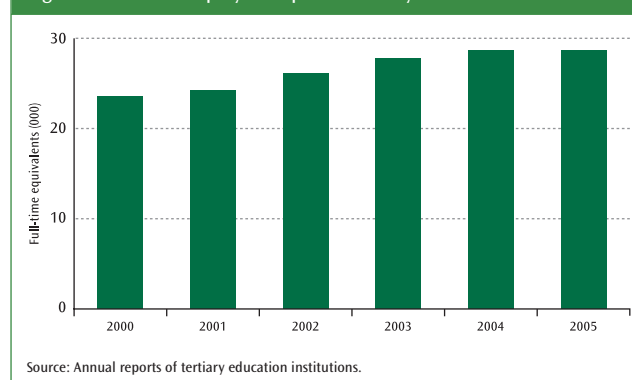
In 2005, a strategic review of the tertiary education workforce was conducted and the vital role played by the sector's workforce was noted in the report of the sector working group undertaking the review. The main points covered in the review are listed on page 208 of this report.

STAFF LEVEL REMAINED STABLE

There were 28,700 full-time equivalent staff employed in public tertiary education institutions in 2005. Compared to 2004, the staffing level remained unchanged. Five years earlier, the number employed was 23,600.

From 2000 to 2005, the tertiary education workforce increased, on average, by 4 percent per year. The number of equivalent full-time students, over the same period, increased by almost three times this rate, raising the student to academic staff ratio.

Figure 14.1: Staff employed in public tertiary education institutions



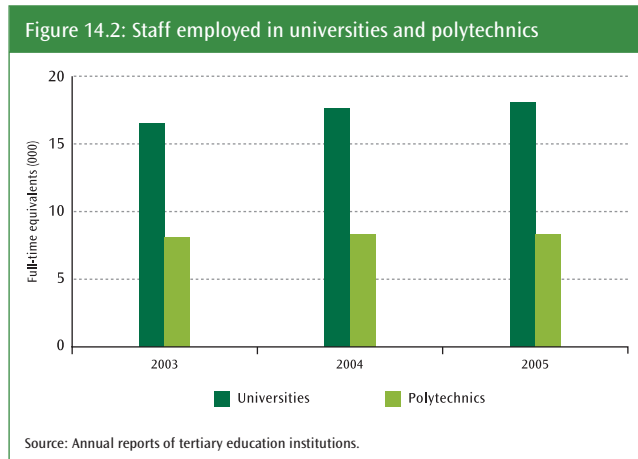
Staff employed in universities in 2005 totalled 18,100 full-time equivalents, up 2.6 percent on 2004. This rise was mainly due to the merger (in January 2005) of Wellington College of Education with Victoria University of Wellington.

ANALYTICAL TABLES: An associated set of tables on the tertiary education workforce is available on the Education Counts website, Tables HRN1-15. Detailed technical information on the data presented here can be found in chapter 17.



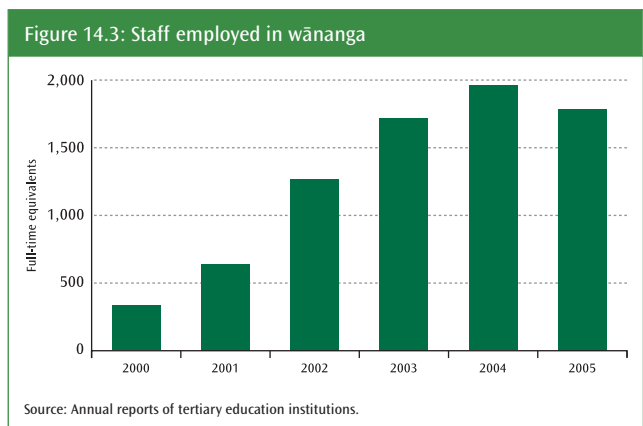
Tertiary education sector capability

Institutes of technology and polytechnics employed 8,320 full-time equivalent staff in 2005. Compared to the 2004 year, the staff level remained unchanged.



The staff level at colleges of education fell from 807 full-time equivalent staff in 2004 to 494 full-time equivalents in 2005. This decrease was mainly due to the merger of Wellington College of Education with Victoria University of Wellington. College of education staff numbers also fell significantly in 2004 when Auckland College of Education merged with the University of Auckland. The Auckland merger took place in September 2004 and, for comparison purposes, the college staff have been included with universities data for 2004.

From 2004 to 2005, employment at wānanga decreased by 9 percent to 1,780 full-time equivalent staff. This fall occurred at the same time as a tapering off in demand for courses covering employment skills, migrant settlement and adult learning skills. Before the latest fall, wānanga staff levels had been increasing rapidly (refer to Figure 14.3).

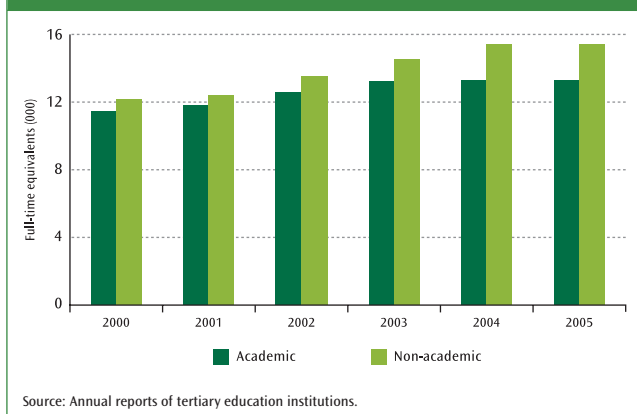


GROWTH IN NON-ACADEMIC STAFFING STABILISES

Non-academic staff in tertiary education institutions includes all staff other than those engaged in the teaching process and excludes research only staff and technicians. In 2005, non-academic staff employed in public tertiary education institutions numbered 15,400 full-time equivalents. Compared to the 2004 year, the non-academic staff level remained unchanged. However, as a proportion of total staff, employment of non-academic staff increased over the four years from 52 percent in 2000 to 54 percent in 2005. Over these years, employment of non-academic full-time equivalent staff rose by 4.8 percent, on average, per year.

Academic staff refers to those staff who are teachers engaged in delivery of education and training. Academic staff includes tutorial staff and, while it includes teachers who participate in research, it excludes people who are engaged solely as researchers or technicians.

Figure 14.4: Academic and non-academic staff employed in tertiary education institutions



The academic and tutorial staff employed in public tertiary education institutions averaged an increase from 2000 to 2005 of 3.1 percent per year. In 2005, the academic and tutorial staff level remained unchanged, compared to the previous year, at 13,300 full-time equivalents.

In universities, the non-academic staff increased in 2005 by 2.5 percent on the previous year to 10,300 full-time equivalent staff, while academic staff numbers rose by 2.9 percent to 7,780 full-time equivalents. These increases were due mainly due to the merger of Wellington College of Education with Victoria University of Wellington. In 2004 and 2003, academic staffing increased by 5.2 percent and 3.5 percent, respectively. The proportion of non-academic to academic staff in universities increased slightly in favour of non-academics over the last five years. In 2000, academics at universities comprised 44 percent of the total staff and in 2005 this was 43 percent.

The proportion of non-academic staff in institutes of technology and polytechnics has increased in recent years, while it remained unchanged from 2004 to 2005 at 53 percent. The total academic and non-academic staff level in polytechnics remained virtually unchanged from 2004 to 2005 at 4,430 and 3,890 full-time equivalents, respectively. In 2004, the total staff level in polytechnics fell (down 0.8 percent) while in 2003 it increased on the previous year by 4.6 percent.

In 2005, both the academic and non-academic staff at wānanga decreased. The academic staff fell by 5.9 percent to 844 full-time equivalents and the non-academic staff fell by 11.9 percent to 939 staff. As a proportion of total wānanga staff, academics

accounted for 47 percent in 2005. Over the years 2002 to 2004, academics accounted for 46 percent of total wānanga staff, while in 2000 the academic staff at wānanga comprised 52 percent of the total staff.

AVERAGE CLASS SIZE SMALLER IN 2005

The student to academic staff ratio in public tertiary education institutions was estimated at 19.3 students per academic in 2005, compared to 20.1 students in 2004 and 15.6 students in 2000. The slightly smaller average class size in 2005 was due to the number of academic staff remaining virtually unchanged while the equivalent full-time student count decreased by 4 percent.

These ratios have been calculated using the equivalent full-time student measure and the full-time equivalent academic staff count. In interpreting these ratios caution needs to be exercised as the staff groups may not be consistently drawn in the annual reports from year to year. For more information on these measures see the data definitions and technical notes in chapter 17.

Class size – a broad indicator

The student to academic staff ratio provides an indication of average class size. It is only a broad indicator of efficiency and does not take into account differences in learning support needs, qualifications or delivery methods. Comparisons between the ratios at individual institutions or between provider types must be made with caution. Variations will occur naturally because of the size of the institutions – enabling various economies of scale and variety in the types of programmes offered, the types of students taught, delivery methods used and the duration of the programmes offered.

The ratio does, however, provide a useful insight into the changes that have occurred over time within a provider or sector.

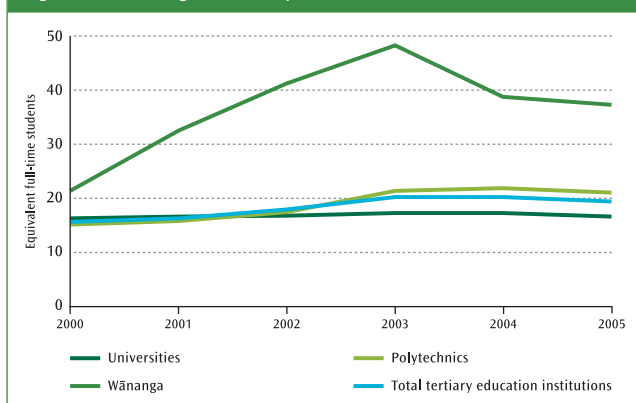
In universities, the student to academic staff ratio fell in 2005. There were an estimated 16.6 equivalent full-time students per academic staff member in 2005, down from 17.2 students per academic in 2004. From 2000 to 2004, the ratio increased from 16.2 to 17.2 students per academic staff member.



Tertiary education sector capability

The average class size in institutes of technology and polytechnics also fell in 2005. There were 21 students per academic staff member in 2005, compared to 22 students in 2004. However, before the latest fall in class size, the student to academic staff ratio had risen significantly in recent years. In 2000, there were an estimated 15 students per academic staff member in polytechnics.

Figure 14.5: Average class size per academic staff member



Class size at wānanga went down by 1.5 students per academic staff member in 2005 to 37 students. From 2000 to 2003, the average class size increased from 21 students to 48 students. The ratio at the wānanga is significantly higher than at other types of tertiary education institutions because of the delivery of distance programmes.

TERTIARY STAFF LIKELY TO BE FULL-TIME¹

Staff employed by tertiary education providers are more likely to be full-time than part-time. Sixty-three percent of staff in 2005 were full-time. Converting the head count to equivalent full-time staff showed that full-timers as a proportion of total staff increased significantly to 84 percent. This pattern of full-time, part-time was similar for all types of tertiary education staff with the exception of executive staff. The proportion of part-timers was considerably smaller for this group, with only 9 percent being part-time. This group includes the chief executive, directors, managers and administrators. Converting the executive staff head count to full-time equivalent staff further reduced the proportion of part-timers in this group to 5 percent.

A FAST-GROWING FEMALE WORKFORCE¹

The gender balance of the public tertiary education workforce favoured female staff in 2005. Fifty-eight percent of staff were female and when this was converted to full-time equivalent staff, the proportion of females reduced slightly to 56 percent of total staff.

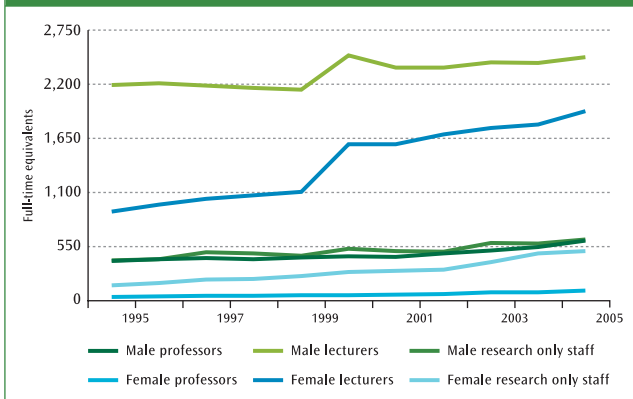
In recent years, the trend at public tertiary education institutions has been for female staff numbers to increase at a faster rate than men. From 2000 to 2005, the number of women employed at universities increased, on average, by 5.5 percent per year compared to 3.3 percent for men. Over the same period, the number of women employed at polytechnics increased by an average of 2.5 percent per year, while the number of men employed increased by 1.7 percent per year. At wānanga, the female staff increased by 47 percent per year from 2000 to 2005, and this exceeded the average increase in the number of men employed, over the same period, by 11 percent per year. These high levels of increase at wānanga are due to the fact that they were established only relatively recently and reflect the very rapid growth of enrolments in that provider type between 1999 and 2003.

Of the academic staff in public tertiary education institutions, just over half were male in 2005. Converting the head count to full-time equivalents increased the proportion of male academic staff to 55 percent of total staff. There were, however, slightly more female executive staff (52 percent) in 2005. Three out of four teacher support and advisory staff were female in 2005.

While in universities women remain under-represented in senior academic positions such as professor, associate professor and senior lecturer, the graph below shows that the number of women employed as lecturers more than doubled over the last 10 years. Lecturers and senior lecturers have been combined in Figure 14.5 and this shows that female lecturers more than doubled in number from 1995 to 2005, from 900 to 1,900 full-time equivalents.

¹ This section uses data from the statistical collections provided to the Ministry of Education by tertiary education providers that include information on staff employed. Providers are included if they receive student component funding or are registered with the New Zealand Qualifications Authority.

Figure 14.6: Selected university academic staff by gender



Note: The discontinuities in this series are caused by the formation of Auckland University of Technology in 2002, and the mergers of Auckland and Wellington colleges of education in 2004 and 2005, respectively, with Auckland University and Victoria University of Wellington.

The number of women employed by universities in the position of professor trebled over the last 10 years to just over 100 female professors in 2005. There are now four times as many female associate professors as in 1995 and three times as many senior lecturers. Female research only staff, excluding research support staff, at universities trebled from 154 full-time equivalents in 1995 to 504 full-time equivalents in 2005. In advisory and teacher support positions more female staff have been employed than males in the past and in recent years there has also been more growth in the employment of women in these positions.

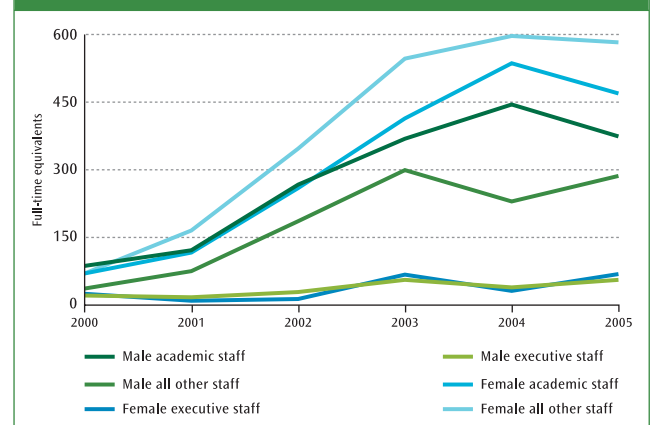
While the gender split has improved in favour of women over the last decade, a paper called *Women in the Academic Work Force* published in March 2006 in the *Canadian Academic University Teacher Review*, made the point that “the academic workforce today still remains largely dominated by men”. The paper cites the results of a 2003 survey that shows that in terms of representation, appointment status and salary level, female academics remain significantly under-represented in Canada, Australia, New Zealand and the United Kingdom.

At institutes of technology and polytechnics, the workforce gender split is more closely balanced across the designations, except for advisory and support staff, where the employment of women is strongly favoured. In 2005, there were more men in the position of dean and head of school as well as head of department, while women outnumbered men in the role of principal or senior lecturer. In 2005, the total academic staff at polytechnics comprised 2,240 males and 2,120 females.

However, from 2000 to 2005, the senior academic staff increased by 6.7 percent for women and by 5.2 percent for men. Over the five years to 2005, the female executive staff in polytechnics increased by 3.6 percent per year, on average, while the increase in employment of male executive staff was 0.9 percent per year.

In wānanga, men and women have been equally represented, in recent years, in the academic position of Head of Department. In the case of tutors, there have been more women employed than men since 2002.

Figure 14.7: Wānanga staff by gender



NATIONAL AGREEMENT

In August 2005, university staff unions and vice-chancellors made a national umbrella agreement for resolving industrial matters and working together to address funding and salary issues. Prior to reaching this agreement university unions took strike action. In September 2005, the combined university unions and the vice-chancellors met to discuss a joint paper on salaries and resourcing. In August 2006, agreements were made that led to the ratification of new employment contracts at universities that help reduce disparities between the level of remuneration of New Zealand university staff and those overseas.



Tertiary education sector capability

Strategic Review of the Tertiary Education Workforce

The trends affecting the tertiary education workforce, its key characteristics and the issues and goals facing the workforce were the main points covered in the first phase of the strategic review (completed in September 2005). Advice on how the next phase of the review might be conducted was also covered in Phase 1.

The following key environmental trends facing the workforce were identified:

- rising community expectations for teaching and research quality
- high social and economic rewards for tertiary education qualifications
- global demand for skilled staff
- skill shortages
- changing ethnic mix in New Zealand
- continued immigration to New Zealand of skilled people, balanced by skilled New Zealanders heading off-shore
- higher labour market participation by women
- an ageing population
- an increase in the core student age group of 18 to 24 years up to 2011 and a decline thereafter
- new information and communications technologies, and
- lower communication barriers.

Key requirements if the workforce is to be effective in achieving national goals, were identified as follows:

- the capability to adapt to and lead change
- the ability, through appropriate working environments and conditions, to attract and retain skilled and qualified people we need
- the capability, through effective management and policy settings, to build and make the most of people's skills and experience, and
- a diversity that reflects New Zealand society, to ensure that we make the most of the talent available.

The objectives for Phase 2 of the review are to:

- undertake a stock-take of the tertiary education workforce and current issues
- advise on major supply and demand trends of the tertiary education workforce, and
- advise on a framework for describing and understanding future workforce requirements.

For more information on the review refer to the Tertiary Education Commission website: www.tec.govt.nz/funding/et-reviews/s-reviews/workforce/workforce.htm

PROFILING UNIVERSITY RESEARCH STAFF

The following analysis covers university staff who are eligible for assessment in the quality evaluation of the Performance-Based Research Fund. Demographic and employment information on the eligible staff was collected in 2003 and 2006 during the fund's two quality evaluations conducted to date. As the 2006 evaluation is still in progress the information collected in the staffing return is provisional at this time. As research takes place predominantly in universities, the following analysis excludes polytechnics, wānanga and private training establishments.

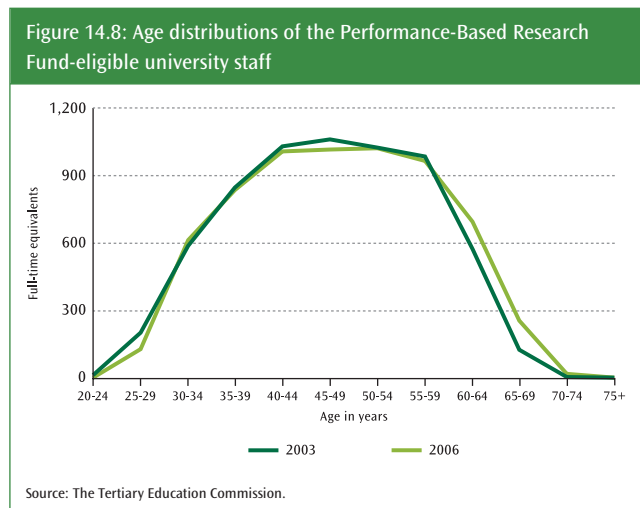
To be eligible for funding, the participating tertiary education organisation has to identify the staff members who are expected to make a significant contribution to research activity and/or degree teaching. For more information on the Performance-Based Research Fund staff eligibility criteria see www.tec.govt.nz/funding/research/pbrf/pbrf.htm

Not all university staff provided information in 2006 about their age or ethnicity. About 3 percent of staff members did not provide their age and 23 percent did not indicate their ethnic group.

Ageing research population

In 2006, 15 percent of eligible staff were aged 60 years and over while in 2003 this was 11 percent. The average age of the eligible university staff in 2006 had increased slightly to 46.7 years from 46 years in 2003. The age of staff ranged from 21 to 78 in 2006. Those aged 40 to 59 years accounted for 61 percent of the total university eligible research population. In 2003, this proportion was 64 percent. Twenty-four percent of all the researchers were

39 years or younger in 2006, compared to 25.6 percent in 2003. In Figure 14.8, the 2003 and 2006 age distributions show the ageing of the university Performance-Based Research Fund-eligible staff. The graph below also indicates that there has been a substitution of some older staff by younger staff.



Fewer female research staff

The number of female staff in universities eligible for participation in the Performance-Based Research Fund quality evaluation fell by 0.9 percent from 2003 to 2006 to 2,530 full-time equivalents. There were 4,200 eligible full-time equivalent male staff in 2006. Compared to 2003, there were 4.8 percent more male staff in 2006.

Ethnicity of research staff

The number of staff who did not state their ethnicity increased from 19 percent of the responses in 2003 to 23 percent in 2006. Over the same period, those whose ethnicity fell in the 'other' category increased from 8 percent to 9 percent of the total. The decline in the response rate makes the comparisons between 2003 and 2006 less useful. However, the 2006 data in Table 14.1 indicates that the eligible European staff remain in the majority at 76 percent of those with a declared ethnicity. In 2006, Māori accounted for 4 percent, Pasifika for 1 percent and Asian for 6 percent of total full-time equivalent staff eligible to participate in the fund's quality evaluation.

Table 14.1: Staff eligible for research funding from the Performance-Based Research Fund by ethnic group

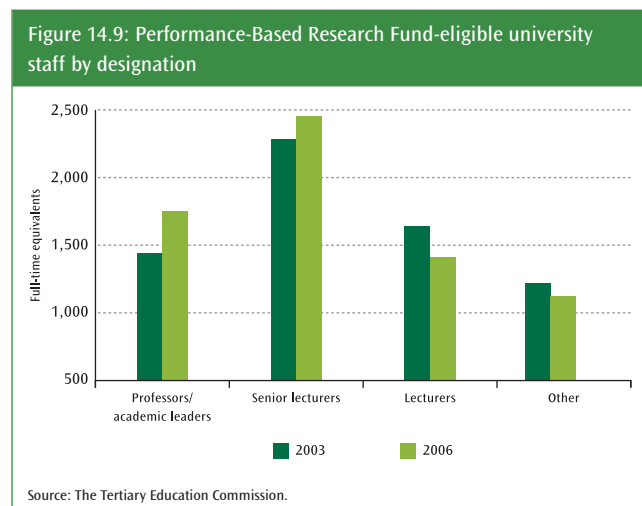
	European	Māori	Pasifika	Asian	Other	Not stated
Full-time equivalent staff						
2003	4,031	299	64	371	558	1,243
2006	3,887	244	55	418	610	1,520
Percentage of staff with known identity						
2003	75.7	5.6	1.2	7.0	10.5	
2006	74.6	4.7	1.0	8.0	11.7	

Source: The Tertiary Education Commission.

Note: Ethnic grouping is based on the single prioritised method of reporting.

More senior academic staff researchers

Of the eligible university staff, those in positions such as academic leader, professor or associate professor increased by 22 percent from 2003 to 2006. There were 1,750 of these positions in 2006 and this group is now the second largest after senior lecturers (see Figure 14.9). The number of eligible senior lecturers increased by 8 percent, over the same period, to 2,450 full-time equivalent staff. The third largest group in 2006 was that of lecturer. The number of eligible lecturers declined by 14 percent from 2003 to 2006 to 1,410 full-time equivalents. Other eligible staff such as tutors, visiting academics, research fellows and technicians also reduced in number by 8 percent from 2003 to 2006. In 2006 there were 1,120 other eligible university staff.

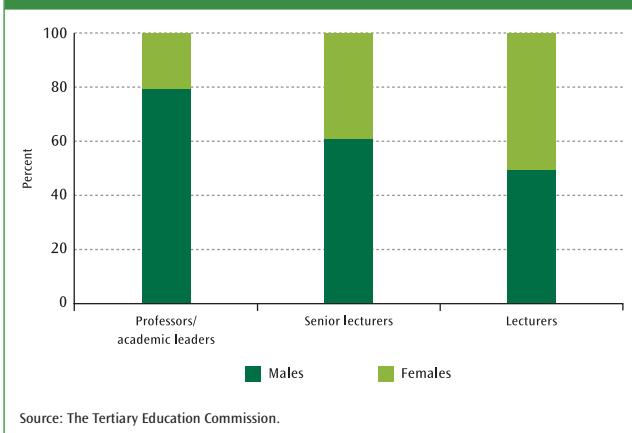




Tertiary education sector capability

Figure 14.10 shows that significantly more men in senior academic positions were identified by universities as eligible to participate in the fund's quality evaluation. In 2006, 80 percent of the eligible academic leaders, professors or associate professors were men. Of the eligible senior lecturers, 61 percent were men. Women marginally exceeded men in the position of lecturer in 2006, with women comprising 51 percent of the Performance-Based Research Fund-eligible staff at the lecturer level.

Figure 14.10: Performance-Based Research Fund-eligible university staff in 2006 by designation and gender



Note: Graph based on full-time equivalent staff.

New and emerging researchers

In 2006, the universities identified 1,300 full-time equivalent staff as new and emerging researchers. There were 4 percent more males than females in this group and the average age was 38 years. Almost two-thirds of these researchers were qualified at doctorate level and another 21 percent held a masters degree. With respect to their ethnic group, 44 percent recorded this as European, 5 percent as Māori, 1 percent as Pasifika and 8 percent as Asian. A third of the researchers did not state their ethnicity and 9 percent indicated 'other' as their ethnic group. Eighteen percent of the new or emerging researchers held a senior lecturer position, 51 percent were lecturers and 30 percent held an 'other' designation.

PERSONNEL COSTS

Personnel costs for all public tertiary education institutions amounted to \$1.89 billion in 2005. This compares to \$1.81 billion in 2004 and \$1.67 billion in 2003. There was an increase of 4.7 percent in personnel expenditure between 2004 and 2005, and an increase of 53 percent between 2000 and 2005.

Personnel costs form the largest budget item in the TEI sector. As a percentage of total costs, personnel costs in TEIs have varied from 57 percent in 2000 to 55 percent in 2005.

At the sector level, personnel costs as a proportion of total costs rose in wānanga between 2004 and 2005. In 2005, personnel costs comprised 46 percent of total costs at wānanga, compared with 41 percent in 2004. From 2004 to 2005, personnel costs at universities, polytechnics and colleges of education fell as a percentage of total costs to 56, 55 and 57 percent, respectively.

Between 2004 to 2005, personnel costs per full-time equivalent staff member increased in tertiary education institutions by 4.8 percent to \$66,000. Compared to five years earlier, the cost per full-time equivalent staff was 26 percent higher in 2005. From 2004 to 2005, personnel costs per full-time equivalent staff increased by 3.9 percent for universities, by 1.8 percent for polytechnics, and for colleges of education and wānanga by 27 and 19 percent, respectively.

The average personnel costs for tertiary education institutions for the years 2000 to 2005 are shown in the table and graph below. The expenditures have also been adjusted for inflation and these are shown in the lower part of Table 14.2. After adjusting for consumer price inflation, the average personnel expenditure in tertiary education institutions increased from 2004 to 2005, in real terms, by 1.7 percent. Over the six years ending in 2005, expenditure increased per full-time equivalent staff member, in real terms, by 11.2 percent.

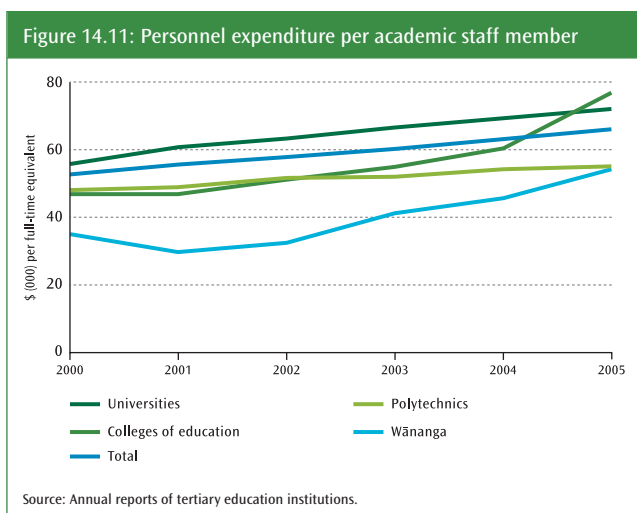
Table 14.2: Personnel expenditure in tertiary education institutions

	2000	2001	2002	2003	2004	2005
\$ per full-time equivalent						
Universities	55,600	60,612	63,288	66,529	69,234	71,900
Polytechnics	48,038	48,766	51,527	51,843	54,067	55,040
Colleges of education	46,836	46,686	51,075	54,778	60,375	76,733
Wānanga	35,007	29,551	32,409	41,098	45,516	54,182
Total	52,529	55,431	57,728	60,076	62,967	65,987
\$ (inflation-adjusted) per full-time equivalent						
Universities	55,600	59,062	60,061	62,048	63,126	63,624
Polytechnics	48,038	47,519	48,899	48,351	49,297	48,705
Colleges of education	46,836	45,491	48,470	51,089	55,049	67,901
Wānanga	35,007	28,795	30,756	38,330	41,500	47,945
Total	52,529	54,013	54,784	56,030	57,411	58,392

Source: Annual reports of tertiary education institutions.

Notes:

1. Due to different cost structures in each sub-sector, caution should be exercised in comparing provider types.
2. The deflator used is the Consumers Price Index (all groups) and the base period is the year 2000.



Note: The change in 2005 in the colleges of education figures reflect the merger of Wellington College of Education with Victoria University of Wellington. Also in 2004, Auckland College of Education merged with the University of Auckland and, for comparison purposes, the college staff have been included with the universities data for 2004.

Reference

- Canadian Association of University Teachers (2006), Women in the Academic Workforce, *Canadian Academic University Teacher Review*, Ontario, Canada.



Tertiary education sector capability