



MINISTRY OF EDUCATION

Te Tāhuhu o te Mātauranga

The changing structure of the public tertiary education workforce



This report forms part of a series called Supporting the tertiary education system.

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1 KEY FINDINGS

This report describes the structure of the workforce in public tertiary education institutions over the years from 2001 to 2011.¹ The analysis allows us to see how institutional strategies have evolved in the light of changing policy over the last ten years. The analysis shows that:

- universities now employ a higher proportion of senior academic staff, in response to the greater focus on research performance
- universities have moved to more part-time teaching staff to help manage the costs of the shift to senior academic staff
- polytechnics now employ a higher proportion of principal lecturers due to the ‘drag effect’ of an ageing workforce, that is, people entering as lecturers and staying to become principal lecturers or deans/heads of school. Overall, the structure of the academic staff at polytechnics has not changed significantly
- universities also employ a higher proportion of professors due to the ‘drag effect’ of an ageing workforce, that is, people entering as lecturers and staying to become senior lecturers or professors.
- the universities and polytechnics now employ a similar proportion of part-time teaching staff
- wānanga now employ a higher proportion of full-time teaching staff
- the ratio of students to academic staff² has increased across the sector, due to:
 - changes in the enrolments pattern caused by the recent population bulge entering tertiary education
 - increased tertiary education demand as a result of the continued high unemployment rates
 - rising international enrolments
 - a shift to higher-level and longer qualifications
 - a shift towards a greater share of enrolments in more applied fields.
- as a proportion of total staff, the academic staff employed by tertiary education institutions has remained stable.

¹ The data used in this report is from the statistical collections provided to the Ministry of Education by tertiary education providers. While data quality measures were introduced in 2012, when the workforce data collection was extended to include age and ethnic group information, prior to this the data is as supplied by providers. While some providers have made changes to the categorisation of staff, and errors in data submission, these are not considered to invalidate the higher-level trends presented in this report.

² Based on equivalent full-time student units (domestic and international) and academic full-time equivalent staff (including research-only staff).

MAIN CHANGES TO THE STRUCTURE OF THE PUBLIC TERTIARY EDUCATION WORKFORCE BETWEEN 2001 AND 2011:

- Professors, the ‘other’ teaching staff and researchers³ have become larger proportions of the total academic staff at universities.
- At polytechnics, the composition of the academic staff has not changed significantly.
- At wānanga, lecturers and tutors have become larger proportions of the total academic staff.
- At universities, there is a trend towards part-time academic staff with a lower average full-time equivalent value per part-timer.
- The trend for non-academic staff, at universities and polytechnics, has been towards a higher average full-time equivalent value per part-timer.
- At universities, lecturers have become a smaller proportion of the total academic staff. In 2001, lecturers made up 56 percent of the academic staff, compared to 38 percent in 2011.
- From 2001 to 2011, the student to staff ratio⁴ fluctuated at universities, while at polytechnics the ratio increased from 15.1 to 18.5 equivalent full-time student units per full-time equivalent staff.
- At wānanga, the student to staff ratio has been considerably higher than at universities and polytechnics due to enrolments at wānanga being mainly in level 1 to 4 qualifications.

In recent years, enrolments have been more stable at wānanga and since 2007, when staff numbers and enrolments were at a low point, the student to staff ratio has become lower.

- At universities and polytechnics, the compositional changes in the workforce have led to moderate increases in the full-time equivalent support staff per full-time equivalent academic staff.

The academic staff refers to the people who teach and those who carry out research. The non-academic staff are the people who provide advice, support and management services.

³ These are also referred to as research-only staff.

⁴ Based on equivalent full-time student units (domestic and international) and academic full-time equivalent staff (including research-only staff).

2 BACKGROUND

This report describes the structure of the workforce in public tertiary education institutions by designation, gender and full-time or part-time status. The number of staff in New Zealand's eight universities, 18 polytechnics and three wānanga is analysed over the decade from 2001 to 2011.⁵ The trends in the number of staff, and their full-time equivalents, have been separately analysed for each sector. Sections 4 to 6 describe the trends in the number of staff and sections 7 and 8 cover the full-time equivalent workforce. Student to staff ratios are discussed in section 9.

The information presented here is based on the statistical collections provided to the Ministry of Education by tertiary education providers. The data is a snapshot of the staff employed by tertiary education institutions in the last week of July each year. The Ministry's annual collection is the only national data source on the size and structure of the tertiary education workforce. From 2012 onwards, the collection has also included data on staff ethnic groups and age groups. A factsheet covering the ethnic and age composition of the workforce in public tertiary education institutions will be published shortly.

Some of the trends facing the tertiary education workforce are: rising community expectations for teaching and research quality, an increasingly international education labour market, an ageing population, higher labour market participation by women, and new information and communications technologies.

In 2005, the Tertiary Education Commission undertook a strategic review of the tertiary education workforce to provide insight into some of the above issues facing the workforce. The topics covered by the review included: changing work roles and career pathways; workforce diversity; recruitment and retention; casual, part-time and contracted staff; improving workforce productivity; and improving workforce statistics.

In 2005, Universities New Zealand commissioned a report on university staff academic salaries and remuneration which compared New Zealand with Australia, England, Canada and the United States of America. This report was updated in 2008 and 2012. Also, in 2010, Universities New Zealand commissioned a report on academic workforce planning which canvassed four workforce scenarios out to 2020: business as usual, capped/managed student numbers, higher staff turnover, and higher student numbers. The main focus of the report was the recruitment requirements needed to replenish the ageing academic workforce in universities. One of the report's recommendations was to further investigate the demographics and dynamics of casual staff and staff in the 'other academic' category with a view to establishing this group's potential as a source of academic recruits. The changes in the size and structure of the 'other' teaching or combined teaching/research staff employed by universities are covered in section 5 of this report.

The current report confirms previous research findings on the composition of the academic workforce.

⁵ During the reference period the colleges of education merged with their nearby universities. Some mergers between institutes of technology and polytechnics also took place - see Appendix C for a list of dates when these mergers took place..

3 SUMMARY

Workforce trends vary between universities, polytechnics and wānanga

While the staff in universities, polytechnics and wānanga has faced some common challenges, the student enrolment trends between 2001 and 2011, and the phasing in of the Performance-Based Research Fund over the period 2004 to 2007, have affected each sector differently.

Rising enrolments by international students from 2001 to 2004 and 2008 to 2011, and the decline in these enrolments from 2005 to 2008, affected universities more than polytechnics. Wānanga were unaffected by these trends.

Polytechnics were most affected by large increases from 2001 to 2005 in the number of non-degree enrolments by domestic students and the decline in these enrolments that followed, especially over the years from 2008 to 2011.

Over the years from 2007 to 2011, the universities were most affected by the movement from school to tertiary education of a population bulge of young people. Also, the introduction of the Performance-Based Research Fund changed the universities' requirements from academic staff. The universities needed assurance that the academics they employ were likely to be successful in research and so contribute to research funding and research reputation.

At wānanga – institutions established more recently – enrolments grew rapidly from 2001 to 2004 due mainly to large-scale provision of level 1 to 4 certificates in te reo. As demand for these courses fell, and funding restrictions were introduced in 2005, these new tertiary education institutions developed a more stable enrolments pattern.

Not surprisingly then, the pattern of change in the workforce, over the years from 2001 to 2011, has differed between the universities, polytechnics and wānanga. The shifts by designation were most substantial at universities. The number of university lecturers has been decreasing, while the number of professors, associate professors, researchers and 'other' academic staff has been increasing.

In the academic workforce, there is a trend towards part-timers in universities, while in wānanga the trend is away from part-timers. In polytechnics, the full-time to part-time ratio among the academic staff decreased slightly from 2001 to 2011.

While there were more 'other' teaching and combined teaching/research staff at universities in 2011 than in 2001, 80 percent of them were part-time and the average full-time equivalent value of these staff has been decreasing. At wānanga and polytechnics the full-time equivalent value per part-time academic staff has tended to vary.

Within each tertiary education sub-sector, the workforce trends have also varied. For example, at universities, full-time employment has been decreasing, proportionately, for academic staff and increasing, proportionately, for non-academic staff. While the structural changes in the polytechnic workforce were minor, the trends between the academic and non-academic staff also diverged. The number of academic staff who worked part-time increased slightly more than the number who worked full-time, while for the non-academic staff the reverse trend applied.

Size and structure of the tertiary education workforce

In 2011, the total number of academic staff (including research-only staff) in New Zealand's public tertiary education institutions was 18,200. The total number of non-academic staff (including research support staff) was 18,400, taking the total public tertiary education workforce to 36,600.

Over the last 10 years, the number of academic staff increased more strongly than the number of full-time equivalent staff indicating a shift to a more part-time staff. For the non-academic staff the reverse trend applied.

Academic workforce (including research-only staff)

From 2001 to 2011, the number of academic staff at public tertiary education institutions increased by 3,300, while the increase in full-time equivalents was considerably smaller, at 1,850. This means that the increase in the academic headcount was driven by more part-time academic staff.

At universities, over the last 10 years, the number of academic staff who worked part-time increased by 48 percent and those who worked full-time increased by 9.5 percent.

From 2001 to 2011, the number of 'other' teaching and combined teaching/research staff at universities increased by 77 percent. The 'other' academic staff comprised 32 percent of the total teaching and research staff at universities in 2011 and 80 percent were part-time. A similar trend has taken place in Australia – the number of casual academic staff increased more substantially in recent years than the contracted teaching staff while the proportion in permanent positions has sat at around 60 percent over the last decade (Coates, H. et al, 2009).

Three other substantial compositional changes have taken place in the academic workforce at New Zealand's universities from 2001 to 2011: a one-third reduction in the number of lecturers,⁶ steady growth in the number of professors and almost a doubling in the number of research-only staff. This reflects both the 'drag' effect of an ageing workforce and a strategic decision by universities to employ academics with a greater research profile.

The composition of the academic staff at polytechnics has not changed significantly, over the last decade. There have been no substantial shifts between the headcount, full-time equivalent count and the full-time and part-time status of positions. However, a small shift from tutors to principal/senior lecturers took place between 2001 and 2011.

At wānanga, there have been considerable changes over the last decade, while these institutions developed a stable pattern of tertiary education provision. While both the number of full-time and part-time academic staff have increased since a low point in 2007, full-timers increased slightly more strongly in number than part-timers.

Non-academic workforce (including research support staff)

At public tertiary education institutions, non-academic full-time equivalents have increased more strongly than the non-academic headcount. From 2001 to 2011, the non-academic staff increased by 3,160, compared to an increase of 3,430 in full-time equivalents.

The number of non-academic staff at public tertiary education institutions who worked full-time increased more strongly than the number who worked part-time. This trend was most noticeable at universities.

⁶ Excludes senior lecturers.

At universities, over the last 10 years, there was a small proportional shift away from the executive staff and general services staff,⁷ to the advisory and research support staff. In 2011, 82 percent of the total non-academic workforce at universities was advisory and 'other' teacher support staff, 8.8 percent was general services staff, 7.1 percent was research support staff and 2.5 percent was executive staff.

At polytechnics, over the last 10 years, there was a proportional shift from the general services staff to the advisory and teaching support staff and executive staff. In 2011, both the executive staff and general services staff at polytechnics comprised 14 percent each of the total non-academic staff. The advisory and teaching support staff comprised 73 percent of the total non-academic staff in 2011.

From 2007 to 2011, there were proportional shifts at wānanga from the executive and general services staff, to the advisory and 'other' teacher support staff. In 2011, the executive staff at wānanga comprised 18 percent and the general services staff 16 percent. The advisory and teaching support staff comprised 66 percent of the total non-academic staff in 2011.

Rising expectations for teaching and research quality

Student to staff ratios

The trend in the student to staff ratios at public tertiary education institutions over 2001 to 2011 is complex.

In 2001, the number of students per academic staff member was 20 and, in 2011, the number was 20. From 2001 to 2011, the number of academic staff and students at public tertiary education institutions increased overall at a similar rate, although the pattern of change in the intervening years was different. That is, the number of students increased more strongly than the number of academic staff causing the headcounts-based ratio to rise to 24 students per staff member in 2007, before returning to 20 in 2011.

Academic full-time equivalents did not increase as strongly as the academic headcount as the trend to more part-time staff, noted in the previous section, took effect. However, the study load of students increased strongly from 2007 onwards. The consequence of these shifts was a rise in the ratio of equivalent full-time student units to full-time equivalent staff. In 2001, there were 16.0 equivalent full-time student units per academic full-time equivalent and, in 2011, the number was 17.7.

Underlying the increase in the full-time equivalent-based ratio at public tertiary education institutions were: a rising student to staff ratio at polytechnics, where the academic staff composition remained similar from 2001 to 2011, and small fluctuations in the student to staff ratio at universities, where there were structural changes in the composition of the academic workforce. At universities, there also was a shift in the disciplinary mix, with a higher proportion of equivalent full-time student units in medium- and high-cost categories, which involve a lower student to staff ratio than lower-cost categories.

At **universities**, the student to staff ratio in 2001 was 16.0 equivalent full-time student units per full-time equivalent staff. Over the next few years the ratio became higher due mainly to rising enrolments by international students. Then, from 2005 to 2008, the ratio dropped to 15.2, reflecting a decline in international enrolments. From 2008 to 2010, the ratio increased to 16.2, due to increasing domestic and international enrolments. From 2010 to 2011, the ratio declined slightly due to the recent population bulge of young people completing its move from school to

⁷ The general services staff includes trades, caretakers, cleaners, grounds staff, printing works, halls of residence staff, security, catering and food services staff and farm staff.

tertiary education. In 2011, the student to staff ratio at universities was the same as in 2001 – 16.0 equivalent full-time student units per academic full-time equivalent.

Underlying the stable student to staff ratio at universities there have been noticeable structural changes in the academic workforce. From 2001 to 2011, the increases in the number of professors (including associate professors) were substantial. The number of academic staff per professor averaged about six to one in 2001, compared to about four to one in 2011. Also, changes in the disciplinary mix among students at universities, as noted previously, have taken effect in recent years requiring a lower student to staff ratio. The distribution of government-funded⁸ equivalent full-time student units in tertiary education institutions shifted from 2005 to 2011: medium-cost categories increased from 33 percent to 37 percent and high-cost categories increased from 7.4 percent to 12 percent.

There were also substantial increases from 2001 to 2011 in the number of ‘other’ teaching and combined teaching/research staff and this suggests that senior academic staff now have fewer experienced teaching staff reporting to them. As a large majority of the ‘other’ academic staff are part-time, the full-time to part-time staff ratio of the university academic workforce has decreased from 2001 to 2011.

The report commissioned by Universities New Zealand on academic workforce planning includes a recommendation to ‘investigate the demographics and dynamics of casual and ‘academic other’ staff’ at universities as a possible source of recruits from which the ageing workforce might be replenished (BERL Economics, 2010). Carrying out this recommendation is also likely to provide useful insights into how the quality of teaching has been affected by the structural changes in the university academic workforce over the last decade.

At **polytechnics**, the student to staff ratio was 15.1 equivalent full-time student units per academic full-time equivalent in 2001. Over the next few years, the ratio increased due mainly to rising non-degree enrolments and, to a lesser extent, rising international enrolments. In recent years, the ratio has become even higher due to fewer students in short non-degree qualifications and more students in longer non-degree qualifications, as well as in bachelors and higher qualifications. In 2011, the student to staff ratio at polytechnics was 18.5 equivalent full-time student units per academic full-time equivalent.

Research-led teaching

The composition of the academic workforce at universities has changed over the last decade and the changes indicate an increase in the emphasis on research.⁹ Academics who are likely to be more experienced researchers such as professors and associate professors have increased in number. Some of these staff will have come from the existing pool of senior lecturers, reflecting both the ageing and the stability of the academic workforce with people entering as lecturers and staying to become senior lecturers or professors. The number of senior lecturers has been steadily decreasing and the rate of decrease in the number of lecturers has been stronger. In contrast, there has been a strong increase from 2001 to 2011 in the number of ‘other’ teaching or combined teaching/research staff.

⁸ This refers to student achievement component funding.

⁹ Research activity has increased in New Zealand tertiary education institutions over the last decade. In the five-year period between 1997 and 2001, 0.39 percent of world-indexed journal articles were by authors from New Zealand tertiary education institutions. This has increased to 0.46 percent in the five-year period between 2007 and 2011.

The above shifts in the academic workforce were strongest following the introduction of the Performance-Based Research fund in 2004 which aimed to increase the quality of research. As many of the staff in the 'other' teaching or combined teaching/research group are unlikely to be eligible to participate in the Performance-Based Research Fund, the shifts among the designations appear to have reduced the pool of teaching staff eligible to participate in the Performance-Based Research Fund. At universities, the ratio of lecturers to professors has reduced. In 2011, there were two lecturers for every professor, compared with four lecturers for every professor in 2001.¹⁰

Attracting younger people into the tertiary education workforce

The ageing of New Zealand's academic workforce is of even greater concern than the ageing of New Zealand's workforce as a whole. Data from the Performance-Based Research Fund and the population census shows that the academic workforce is older than the total New Zealand workforce.

In order to reduce the average age of the academic workforce it will be important to continue to attract suitable and appropriately qualified staff into the academic workforce and to retain these staff. The carrying out of the recommendation from Universities New Zealand report on workforce planning by 'investigating the demographics and dynamics of casual and 'academic other' staff' at universities as a possible source of recruits from which the ageing workforce might be replenished, represents an important first step.

Section 5 of this report shows the gender and full-time, part-time status of the 'other' teaching staff at universities. Information on the age and ethnic composition of this group will be available annually from 2012 onwards through the Ministry of Education's workforce statistics. This information will also be available for 2012 from the latest Performance-Based Research Fund staff census.

While the pool of potential recruits in the 'other' teaching and combined teaching/research staff at universities has increased (3,600 in 2011), the full-time equivalent value for these staff has been decreasing. This raises the concern that the part-time 'other' academic staff at universities may be attracted away to full-time employment elsewhere. In 2001, the average equivalent full-time value for the part-time 'other' academic staff was 0.33 and, in 2011, it was 0.27.

The increased demand for staff to replenish the ageing academic workforce may progress New Zealand to a gender-balanced academic workforce. In 2011, there were considerably more women in senior academic roles at public tertiary education institutions than in 2001.

The current report confirms previous research findings on the composition of the academic workforce and it reinforces the need to 'develop and recommend realistic and sustainable strategies for meeting future academic staff requirements' (BERL Economics, 2009).

¹⁰ In these ratios, 'lecturers' includes senior lecturers and 'professors' includes associate professors.

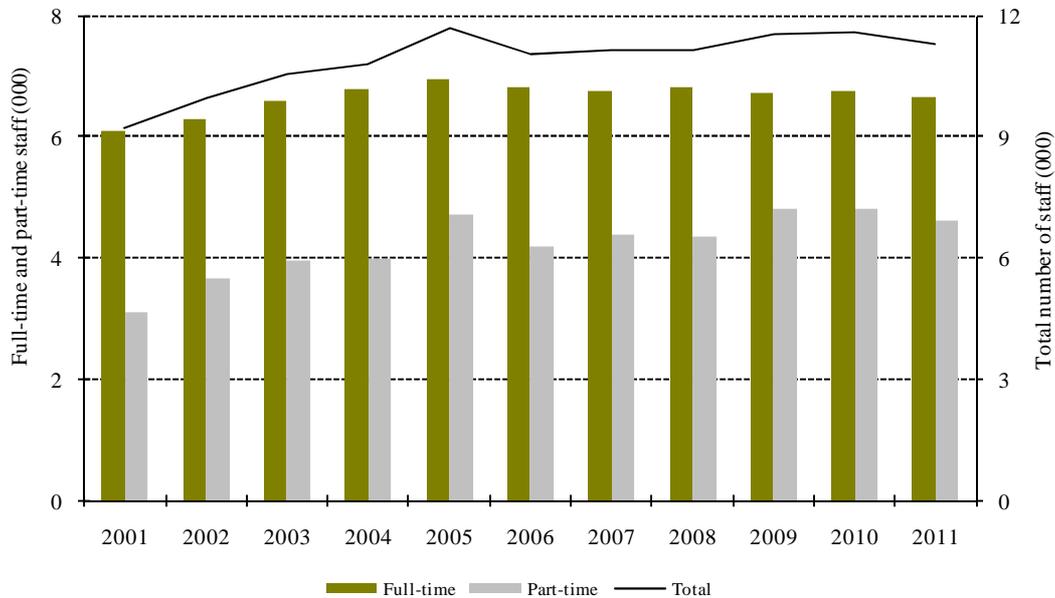
4 ACADEMIC STAFF (HEADCOUNTS)

4.1 Universities

In this report, we have defined the academic staff at universities as professors, lecturers, ‘other’ teaching or combined teaching/research staff and research-only staff.¹¹

In 2011, the academic headcount at universities was 11,300. The academic headcount has been stable overall in recent years due to decreases in the number of full-time academic staff being offset by increases in the number of part-time academic staff (Figure 1). Before this, both the full-time and part-time academic headcount increased steadily at universities from 9,210 in 2001 to 11,700 in 2005. From 2005 to 2006, both the full-time and part-time academic staff decreased and this was, in part, a reflection of a decline in enrolments by international students.¹² From this point on the academic headcount at universities has been stable.

Figure 4.1
Full-time and part-time academic staff in universities



Note: An increase in the number of academic staff occurred in 2005 at Victoria University of Wellington when the method of calculating their full-time equivalent staff was changed. The change led to a moderate increase in their full-time equivalent staff and a large increase in their academic headcount.

Substantial shifts by designation

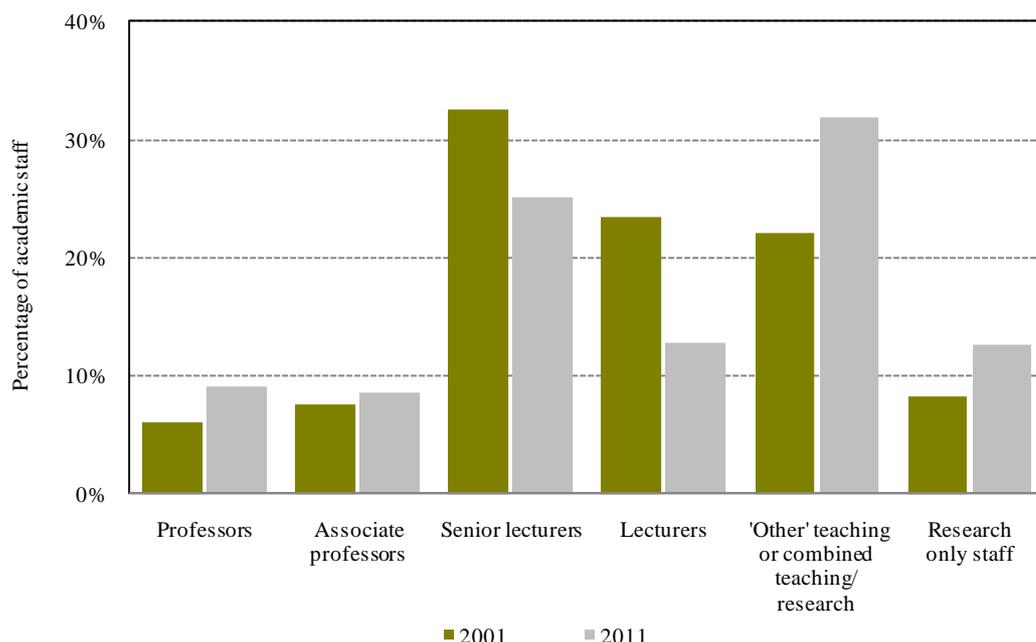
There have been substantial shifts in the structure of the academic workforce at New Zealand’s universities over the last 10 years (see Figure 4.2).

¹¹ See Appendix A for university staff numbers by designation. University data includes staff from the colleges of education for the years from 2000 to 2006.

¹² From 2005 to 2007, the number of international students declined by 8.4 percent per year (on average).

Figure 4.2

Distribution of academic staff in universities by designation



The number of professors increased by 83 percent over the last 10 years to 1,020 in 2011, while the number of associate professors increased by 38 percent to 960 in 2011. Professors and associate professors together, comprised 18 percent of the total academic staff in 2011, compared to 14 percent in 2001. This trend reflects both the ageing and the stability of the academic workforce with people entering as lecturers and staying to become senior lecturers or professors.

It is likely that a considerable number of lecturers, especially senior lecturers, have been promoted to associate professor and professor over the last 10 years. During this period, the number of teaching staff (excluding the 'other' academic staff) has decreased overall due to the number of senior lecturers and lecturers decreasing from 5,250 in 2001 to 4,290 in 2011. Consequently, the ratio of lecturers to professors fell from four to one in 2001 to two to one in 2011.¹³ At universities, there also was a shift in the disciplinary mix, with a higher proportion of equivalent full-time student units in medium- and high-cost categories, which involve a lower student to staff ratio than lower-cost categories. The distribution of government-funded equivalent full-time student units in tertiary education institutions shifted from 2005 to 2011: medium-cost categories increased from 33 percent to 37 percent and high-cost categories increased from 7.4 percent to 12 percent.

A third fewer lecturers were employed by universities in 2011 than in 2001 – 1,450 compared to 2,150. As a proportion of the total academic staff, lecturers accounted for 13 percent in 2011, compared to 23 percent in 2001. The number of senior lecturers decreased less substantially from 3,000 in 2001 to 2,840 in 2011. Senior lecturers represented 25 percent of the total academic workforce in universities in 2011, compared to 33 percent in 2001.

The staff shifts among the academic designations at universities, partly reflect the introduction of performance-based research funding. Starting in 2004, the government's research funding for tertiary education institutions was shifted to the Performance-Based Research Fund over a four-

¹³ In these ratios, 'lecturers' includes senior lecturers and 'professors' includes associate professors.

year period. From 2002 to 2003, just prior to the commencement of the performance-based funding, the academic staff likely to be eligible to participate in the fund increased by 3.7 percent.

The changes to research funding are likely to have encouraged the universities to employ those with established research track records. The number of staff such as professors and associate professors who are more likely to have research experience has increased in order to attract research funding. Research-only staff also doubled in number over the last 10 years to 1,430. In 2011, research-only staff comprised 13 percent of the total academic staff at universities, compared to 8.3 percent in 2001.

The downward trend in the number of lecturers since 2004, suggests that the number of teaching staff eligible to participate in the Performance-Based Research Fund has been decreasing since its introduction. Also, academic staff who are less likely to be eligible to participate in the fund, such as the 'other' teaching and combined teaching/research staff, have increased in number.

The 'other' academic staff comprises teaching or combined teaching/research staff and includes assistant lecturers, senior tutors, tutors, visiting academics, and teaching fellows. The 'other' academic staff is used to ensure higher-qualified academic staff can focus on higher-level duties such as research.

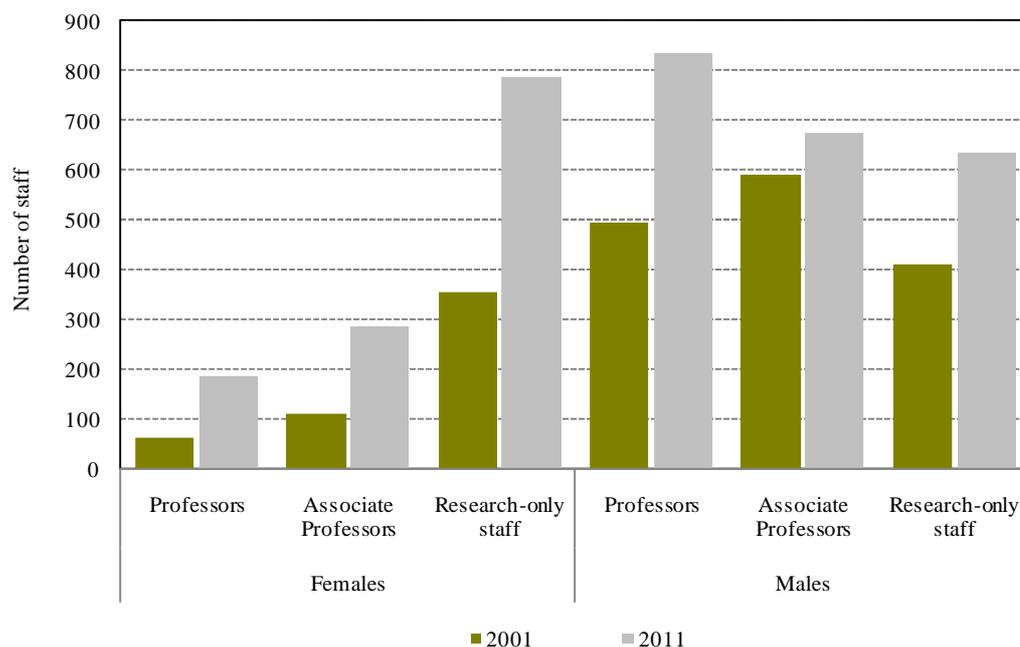
From 2001 to 2011, the number of 'other' academic staff increased by 77 percent to 3,600. The 'other' academic staff comprised 32 percent of the total academic staff in universities in 2011, compared to 22 percent in 2001.

A recent report on workforce planning (Universities New Zealand, 2010) called for further investigation of the 'other' academic staff, which includes casual staff, to assess its potential in replenishing the ageing academic workforce in universities. A separate analysis of the 'other' academic staff is included in section 5 of this report.

More women in academic roles but imbalances continue

The annual staffing returns from the universities showed that there were 37 percent more women in academic roles (including research-only staff) in 2011 than in 2001, while the comparable increase for men was 12 percent. In 2011, there were 5,920 men in teaching and research at universities and 5,380 women.

Figure 4.3
Professors and research-only staff at universities by gender



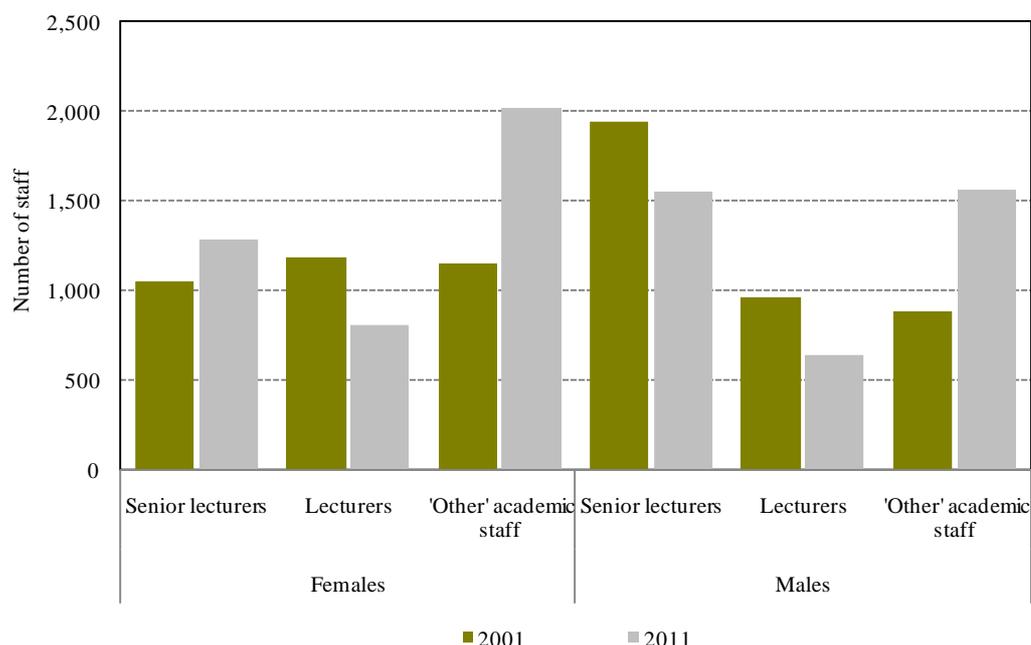
From 2001 to 2011, the number of female professors averaged an increase of 12 percent per year. The comparable figure for female associate professors was 10 percent per year. While these were the highest percentage increases in the number of female academic staff at universities, the number of female professors was still relatively small in 2011, at 473, compared to the number of male professors, at 1,510. The number of male professors averaged an increase of 5.3 percent per year from 2001 to 2011. The comparable figure for male associate professors was 1.4 percent.

Over the last 10 years, the average increase per year in the ‘other’ teaching or combined teaching/research staff was 6.4 percent for men, compared to 6.3 percent for women.

The increase in research-only staff has been twice as strong for women than for men over the period from 2001 to 2011. The number of female research-only staff increased over this period by 8.3 percent per year, on average, compared to 4.5 percent for men.

In keeping with the increasing trend for women academics, the number of female senior lecturers increased from 2001 to 2011, by 2.0 percent per year, on average, while the number of male senior lecturers decreased by 2.2 percent per year on average. Also, the annual decrease in the number of lecturers between 2001 and 2011 was slightly smaller for women, at 3.6 percent, than for men at 3.8 percent (see Figure 4.4). However, because there were more female than male lecturers this translated to a 383 decrease, from 2001 to 2011, in the number of female lecturers compared to a 320 decrease in the number of male lecturers.

Figure 4.4
Lecturers and 'other' academic staff at universities by gender



Rising trend in part-time academic work

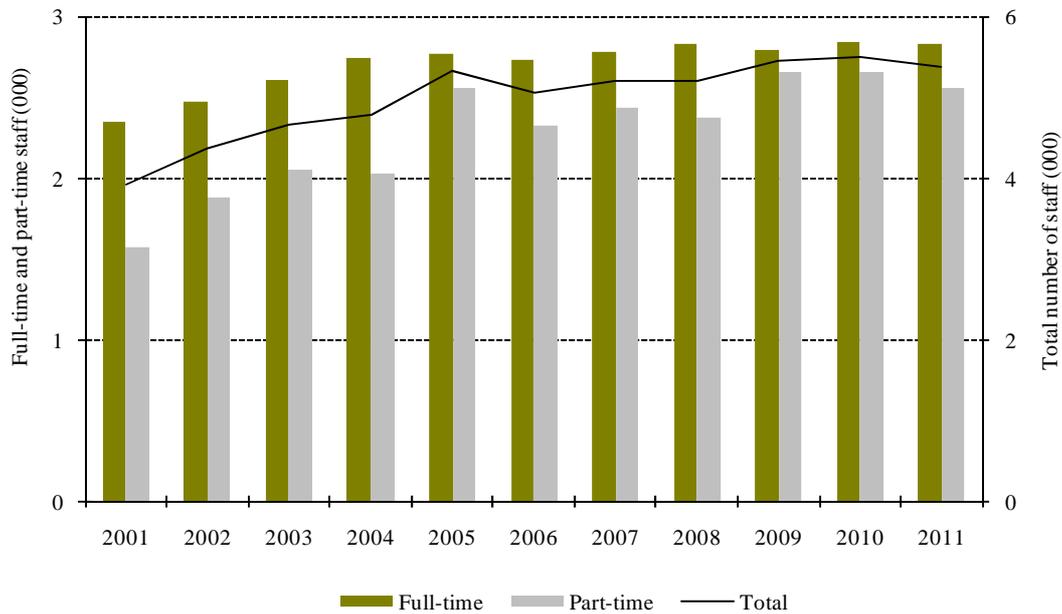
There were, proportionately, fewer academic staff members who worked full-time in 2011 than in 2001. Fifty-nine percent of the academic staff in universities worked full-time in 2011, compared to 66 percent in 2001.

The part-time academic staff increased in number by 48 percent from 2001 to 2011, compared to an increase of 9.5 percent for the full-time academic staff. While the rise in the number of women employed as part-time academics was the most pronounced from 2001 to 2011, the increase in the academic part-time staff was also substantial for men. The part-time academic staff increased by 63 percent for women from 2001 to 2011. For men the comparable increase was 34 percent.

Women in part-time teaching and research at universities comprised 48 percent of the total female academic staff in 2011 and 40 percent in 2001. Their number averaged an increase of 8.2 percent per year from 2001 to 2006. This growth continued from 2006 to 2011 at the lower rate of 1.9 percent per year on average. In 2011, there were 2,560 part-time women in teaching and research at universities.

Men in part-time teaching and research at universities comprised 35 percent of the total male academic staff in 2011 and 29 percent in 2001. From 2001 to 2006, the number of men in part-time teaching and research increased, on average, by 3.8 percent per year. From 2006 to 2011, their number averaged a smaller increase of 2.1 percent per year on average. In 2011, there were 2,070 men in part-time teaching and research at universities.

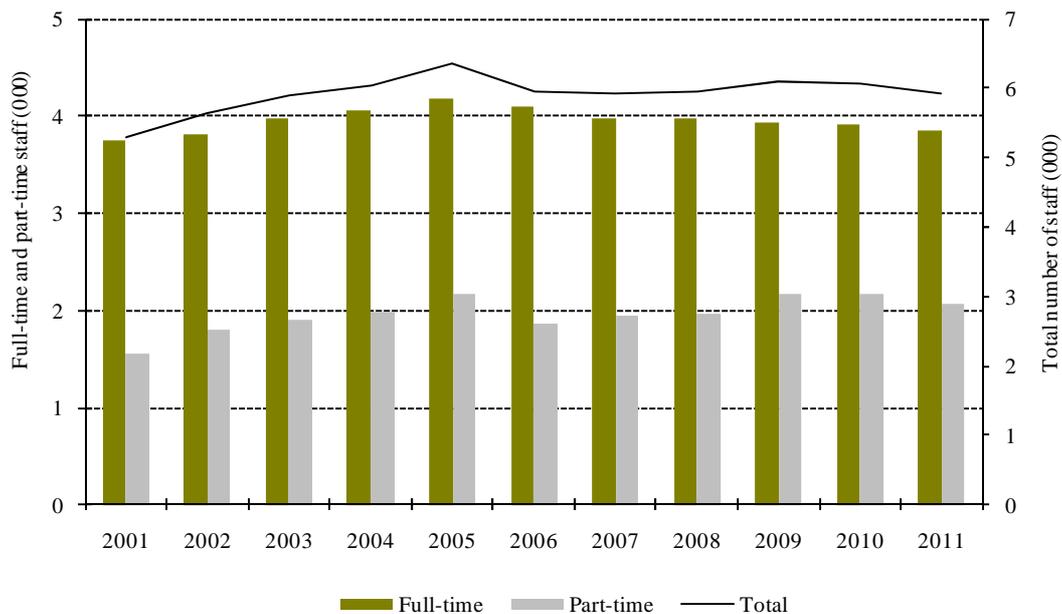
Figure 4.5
Female full-time and part-time academic staff in universities



Note: An increase in the number of academic staff occurred in 2005 at Victoria University of Wellington when the method of calculating their full-time equivalent staff was changed. The change led to a moderate increase in their full-time equivalent staff and a large increase in their academic headcount.

These trends in the part-time academic staff suggest both a casualisation of the academic workforce as well as an increase in the number of joint appointments providing staff the opportunity to job-share.

Figure 4.6
Male full-time and part-time academic staff in universities



Over the last 10 years, the number of men in full-time teaching and research at universities has remained stable at almost 4,000. Proportionally, men in full-time teaching and research have become a smaller group. In 2011, they comprised 65 percent of the total male academic staff, compared to 71 percent in 2001. A similar pattern exists for women – full-timers comprised 52 percent of the total female academic staff in 2011, while the proportion in 2001 was 60 percent. From 2001 to 2011, the number of women in full-time teaching and research increased by 20 percent to 2,820.

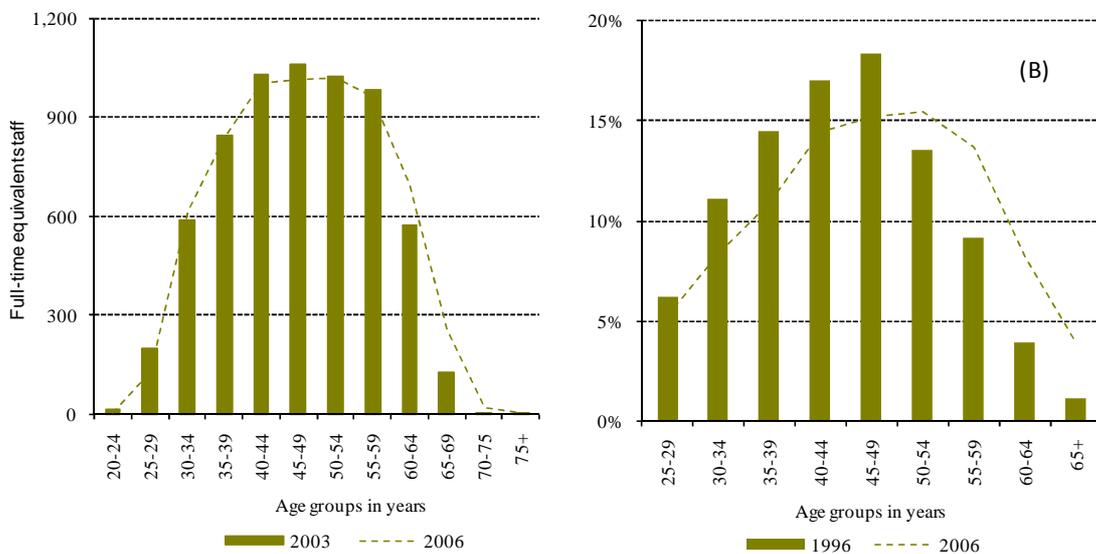
Ageing of the academic workforce

The latest available data (New Zealand Universities, 2010) indicates that the academic workforce aged 60 years and over represented 16 percent of the total academic staff in 2008. Figure 4.7 shows the pattern of ageing of the Performance-Based Research Fund-eligible staff and the academic staff in technical and higher education over different time periods.

Information collected in the population census and the census of staff for the Performance-Based Research Fund indicates that, in 2006, the academic workforce was already substantially older than the total New Zealand workforce. The population census showed that 9 percent of the total New Zealand workforce was aged 60 years and over in 2006, compared to over 12 percent of the academic staff in technical and higher education. In the case of the Performance-Based Research Fund-eligible staff, 15 percent were aged 60 years and over in 2006.

Figure 4.7

- (A) Age distribution of Performance-Based Research Fund-eligible research staff (full-time equivalents)
- (B) Age distribution of academic staff in technical and higher education



Note: Data in graph (A) is from the Tertiary Education Commission and data in graph (B) is from Statistics New Zealand, *Census of Population and Dwellings*.

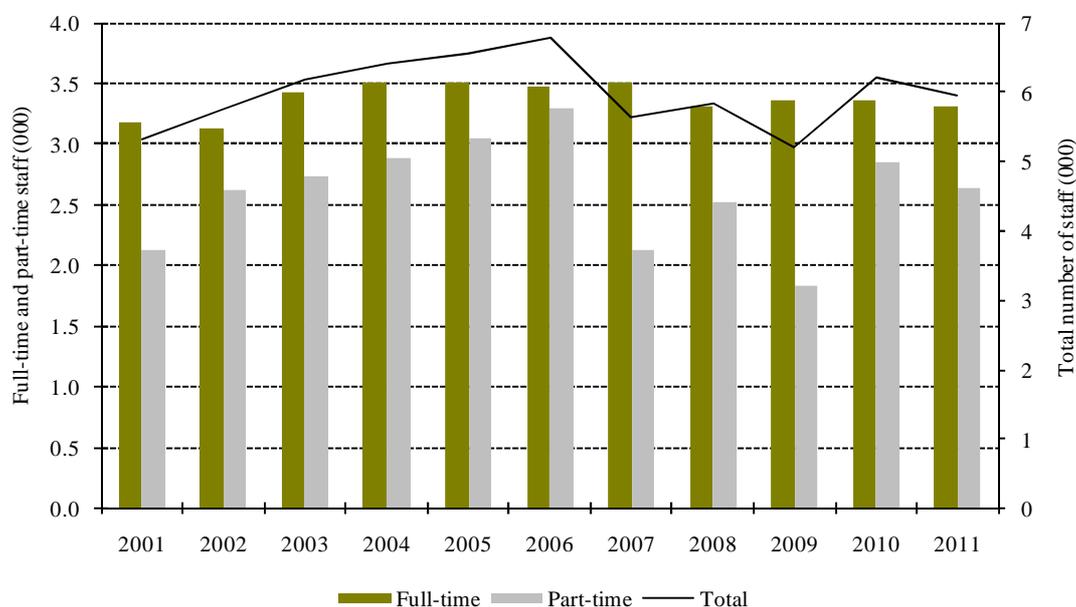
4.2 Polytechnics

In this report, we have defined the academic staff at polytechnics as deans and heads of school, department heads, lecturers, tutors, tutorial assistants and ‘other’ academic staff.¹⁴

In 2011, the academic staff at polytechnics was 5,940. In recent years, the number of academic staff at polytechnics has decreased – for part-timers from 2006 onwards and for full-timers from 2007 onwards. These decreases occurred, initially, at a time when international enrolments had begun to decrease and, from 2007 to 2010, lower-level certificate provision declined.¹⁵ Government’s reviews of non-degree provision in 2005 led to the decline in lower-level certificate enrolments and an increased focus on enrolments in qualifications at level 4 and above. Before this, the academic headcount at polytechnics increased from 2001 to 2006 by 5.0 percent per year (on average) from 5,310 to 6,780.

Figure 4.8

Full-time and part-time academic staff in polytechnics



Stable structure by designation

Over the last 10 years, there have been a number of small shifts in the structure of the academic workforce at the polytechnics (see Figure 4.9). When all lecturers and tutors are combined, this group comprised 88 percent of the total academic staff in polytechnics in 2001 and in 2011.

Principal/senior lecturers averaged an increase in number, from 2001 to 2011, of 7.9 percent per year. In 2011, there were 1,250 principal/senior lecturers and this group comprised 21 percent of the total academic workforce at polytechnics. This compared to 584 principal/senior lecturers in 2001, or 11 percent.

¹⁴ See Appendix A for staff numbers at polytechnics by designation.

¹⁵ International enrolments at polytechnics decreased from 2004 to 2005 by 13 percent and from 2005 to 2006 by 15 percent. The growth in the number of domestic enrolments slowed at polytechnics in 2006 and 2007 and from 2007 to 2008 these fell by 9.5 percent, from 2008 to 2009 by 3.7 percent, from 2009 to 2010 by 3.1 percent and from 2010 to 2011 by 17 percent. From 2007 to 2011, domestic enrolments in level 1 to 4 certificates decreased by 44 percent at polytechnics.

The number of senior tutors and tutors has decreased over the last 10 years. In 2011, there were 3,940 senior tutors and tutors. This group comprised 66 percent of the total academic staff at polytechnics in 2011, compared to 78 percent in 2001.

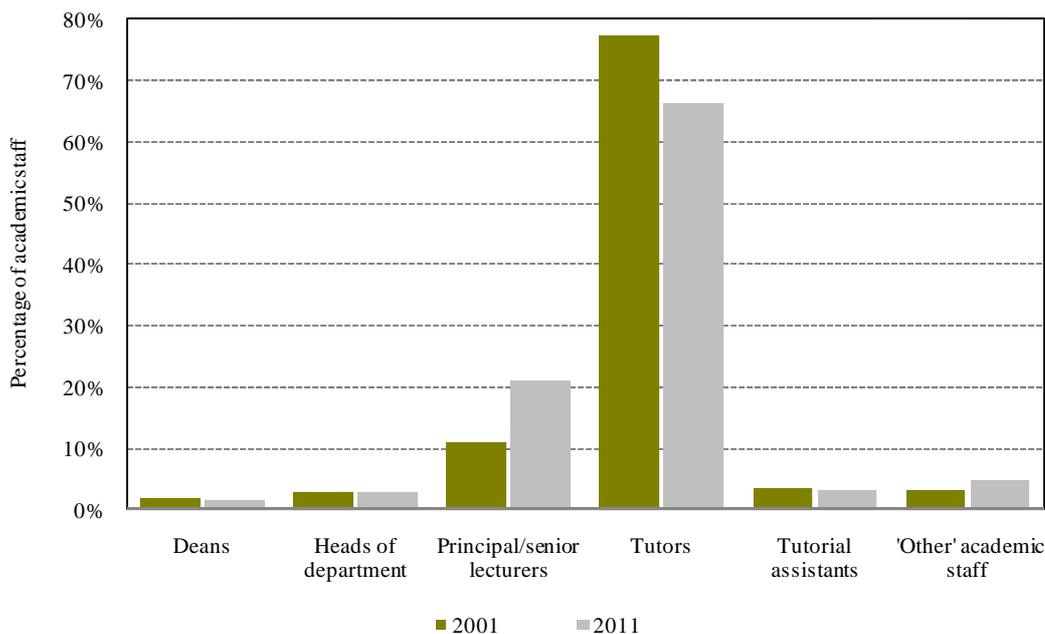
Tutorial assistants averaged an increase in number, from 2001 to 2011, of 0.9 percent per year. Tutorial assistants represented around 3 percent of the total academic staff at polytechnics in 2001 and in 2011.

The number of deans or heads of school has remained stable in number, at around 100, and as a proportion of the total academic workforce. In 2011, deans or heads of school comprised 1.6 percent of the total academic workforce at polytechnics.

Heads of department increased in number from 155 in 2001 to 231 in 2007. Since 2007 their number has declined to 166 in 2011. Heads of department represented 2.8 percent of the total academic workforce at polytechnics in 2011.

The 'other' academic group at polytechnics has fluctuated in number from 2001 to 2011. In 2011, the 'other' academic staff at polytechnics was 296. This group comprised 5.0 percent of the total academic workforce at polytechnics in 2011, compared to 3.2 percent in 2001.

Figure 4.9
Distribution of academic staff in polytechnics by designation



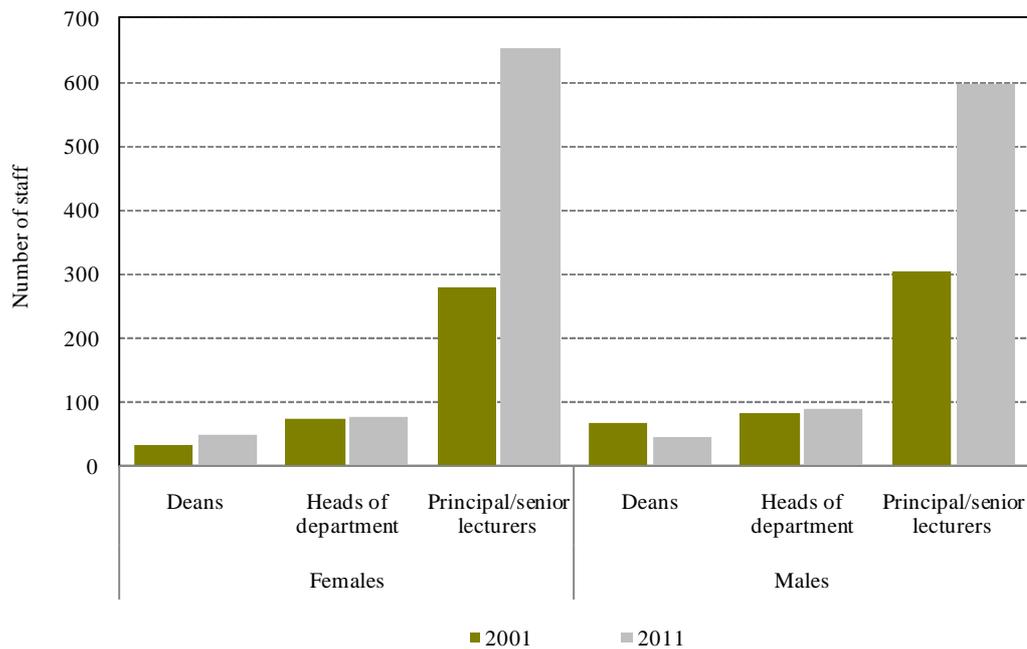
More women in senior academic positions

More women in polytechnics held the position of dean or principal lecturer in 2011 than in 2001. The gender balance in polytechnics is now 53 percent in favour of academic women, compared to 52 percent in 2001. There were 3,170 women on the academic staff at the polytechnics in 2011 and 2,780 men. From 2001 to 2011, the number of women increased by 14 percent and the number of men by 9.3 percent.

The number of women in the role of dean or head of school has been increasing over the last decade – up by 3.9 percent per year, on average – and women now represent a majority of job holders in this category. Women in the role of dean numbered 50 in 2011, compared to 34 women in 2001. The number of men in this role decreased from 2001 to 2011 by 2.9 percent per year, on average. Forty-five men were in the role of dean in 2011, down from 68 in 2001.

Men continued to exceed the number of women as heads of department in 2011 with 88 men in this role, compared to 78 women. Over the last 10 years, the number of men and women in this role has fluctuated. The number of men peaked in 2007 at 138 and the number of women peaked in 2008 at 103.

Figure 4.10
Deans, heads of department and principal/senior lecturers at polytechnics by gender



From 2001 to 2011, the number of female lecturers and tutors increased by 12 percent to 2,750 and the number of male lecturers and tutors increased by 8.7 percent to 2,440

Looking at lecturers separately, the increase in this group has been greater for women than men over the last 10 years. For women, the increase in the number of principal/senior lecturers averaged 8.9 percent per year from 280 in 2001 to 654 in 2011. For men, the comparable increase in the number of principal/senior lecturers was 7.0 percent per year on average. There were 596 male principal/senior lecturers in 2011, compared to 304 in 2001.

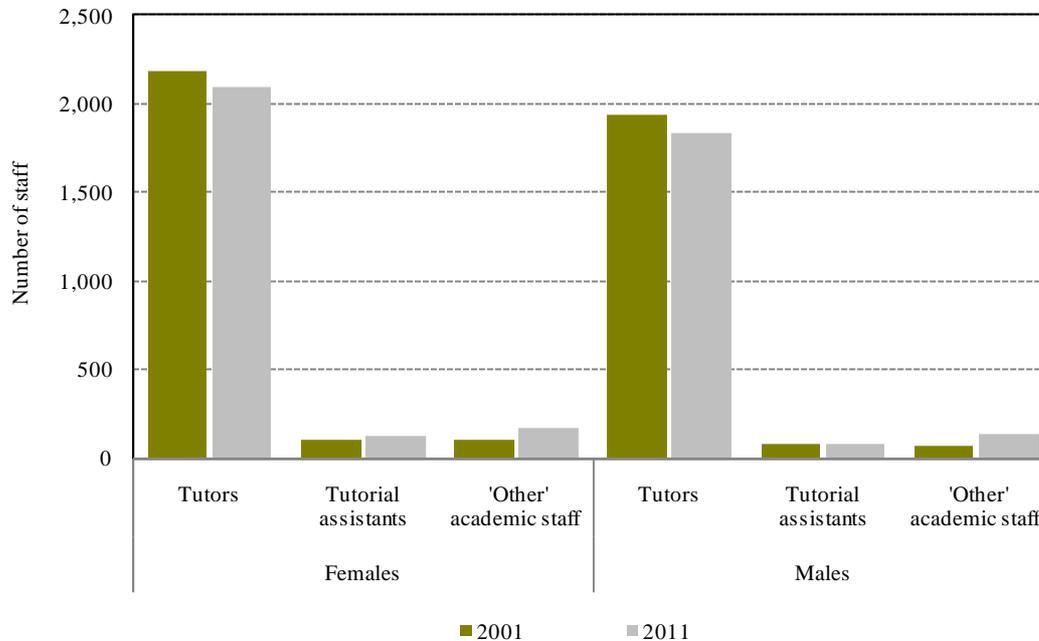
Over the years from 2001 to 2011, the number of senior tutors or tutors averaged a decrease of 0.4 percent. In 2011, there were 2,100 women in this role and 1,840 men.

The total number of tutorial assistants at polytechnics has tended to fluctuate over the last 10 years for men and women alike. In 2011, there were 120 female tutorial assistants and 77 male tutorial assistants. From 2001 to 2011, the number male tutorial assistants decreased by 0.3 percent per year, on average. The comparable figure for women was an increase of 1.6 percent per year on average.

The group called ‘other’ academic staff has also fluctuated in number over the last 10 years. The number of women in this group increased by 5.2 percent per year, on average, from 2001 to 2011, and for men the increase was 6.2 percent. In 2011, there were 164 women in this group and 132 men.

Figure 4.11

Tutors, tutorial assistants and ‘other’ academic staff in polytechnics by gender



Note: ‘Tutors’ comprises senior tutors and tutors.

Stable full-time and part-time academic workforce

The proportion of full-timers in the academic staff at polytechnics has decreased by 4 percentage points over the last decade. Fifty-six percent of the academic staff worked full-time in 2011, compared to 60 percent in 2001.

In 2011, 54 percent of women and 33 percent of men were employed in part-time academic work at the polytechnics. Ten years earlier these proportions were 50 percent and 29 percent, respectively.

Women have dominated part-time academic work in the polytechnics over the last 10 years. There were almost twice as many women employed in part-time academic work over the years from 2001 to 2011. The increase from 2001 to 2011 in the number of part-time men was 185, compared to 323 for women.

Despite more women being employed as part-time academics at polytechnics, their number has fluctuated throughout the last 10 years. From 2001 to 2006, when the provision of lower-level certificates increased strongly, the number of women in part-time academic work increased from 1,390 to 2,240. Then, from 2006 to 2011, their number decreased to 1,710 and over this time the provision of lower-level certificates decreased.¹⁶

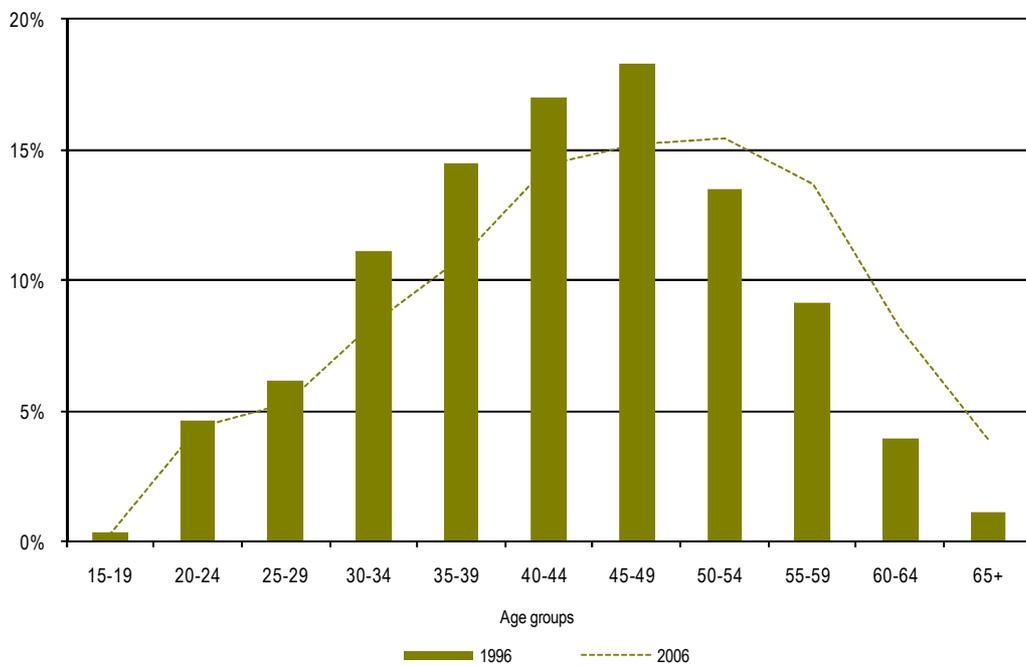
¹⁶From 2007 to 2011, level 1 to 4 certificate enrolments decreased at polytechnics by 70,800 from 163,000 to 92,600.

The number of part-time men in the academic workforce at polytechnics varied to a lesser degree over the years from 2001 to 2011. The number of part-time academic men has averaged 900 over this period.

Ageing of the academic workforce

Based on the age profile of the academic staff in polytechnics in 2012, it is estimated that about one-quarter of the polytechnic staff will be aged 60 years and over in 2016. In 2012, 46 percent of the academic staff in polytechnics was aged 30 to 49 years and 31 percent was aged 50 to 59 years. As many of these staff are likely to move into the higher age groups over years to come, the polytechnics will need to continue to develop effective recruitment policies to renew the age profile of their academic workforce.

Figure 4.12
Age distribution of academic staff in technical and higher education



Source: Statistics New Zealand, *Census of Population and Dwellings*.

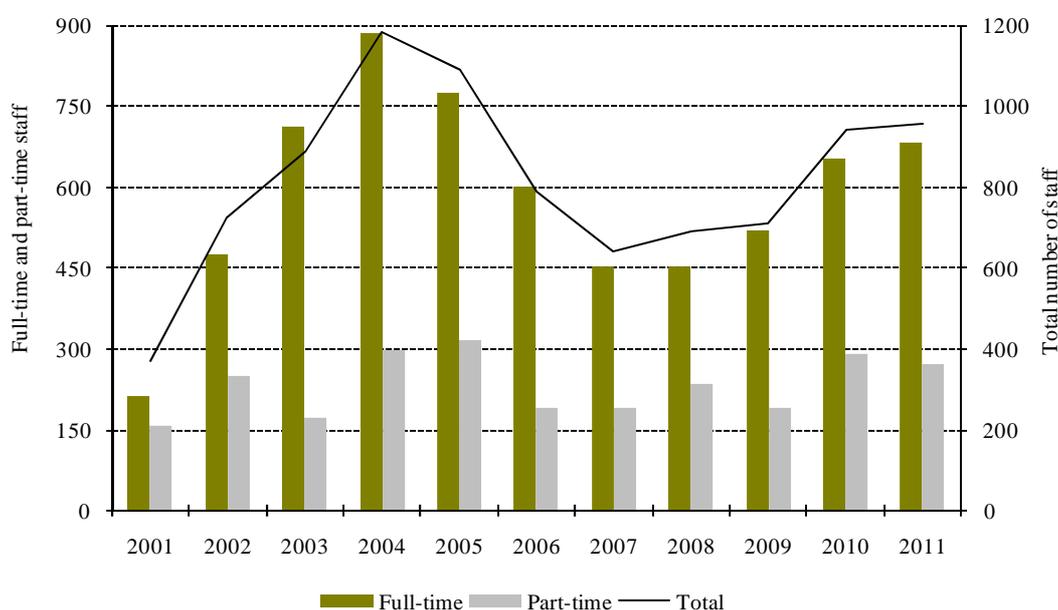
4.3 Wānanga

In this report we have defined the academic staff at wānanga as deans and heads of school, department heads, lecturers, tutors, tutorial assistants and ‘other’ academic staff.¹⁷ The wānanga staff numbers also included a small group of voluntary unpaid academic staff in the years prior to 2008.

The academic staff at wānanga numbered 955 in 2011, compared to 372 in 2001. From 2007 to 2011, these new organisations developed a more stable enrolment pattern and, since then, the size of their academic workforce increased from a low point of 643 in 2007.

Before this, Figure 4.13 shows the number of academic staff peaking in wānanga in 2004 at 1,180. From 2000 to 2004, enrolments grew rapidly at wānanga.¹⁸ Then, when large-scale decreases in the provision of level 1 to 4 certificates occurred at wānanga over the years from 2004 to 2007, the size of the academic staff at wānanga declined, especially at Te Wānanga o Aotearoa. By 2004, three-quarters of the total wānanga staff were employed by Te Wānanga o Aotearoa. A number of factors contributed to these declines in the enrolments at wānanga.¹⁹ The provision of level 4 certificate courses in te reo peaked in 2003 and enrolments in these courses decreased in subsequent years as demand for them fell. In 2004, government introduced its Managing Growth policy and this led to funding restrictions in 2005. Also in 2005, government reviews of the provision of non-degree tertiary education led to significant declines in level 1 to 3 certificate provision in the years that followed.

Figure 4.13
Full-time and part-time academic staff in wānanga



¹⁷ See Appendix A for wānanga staff numbers by designation.

¹⁸ Level 1 to 3 certificate enrolments increased from just over 3,000 in 2000 to 51,100 in 2004. Level 4 certificates followed a similar pattern, increasing from just a few hundred enrolments in 2000 to 17,100 in 2004.

¹⁹ From 2004 to 2007, level 1 to 3 certificate enrolments decreased by more 20,000 and level 4 certificate enrolments decreased by over 6,000.

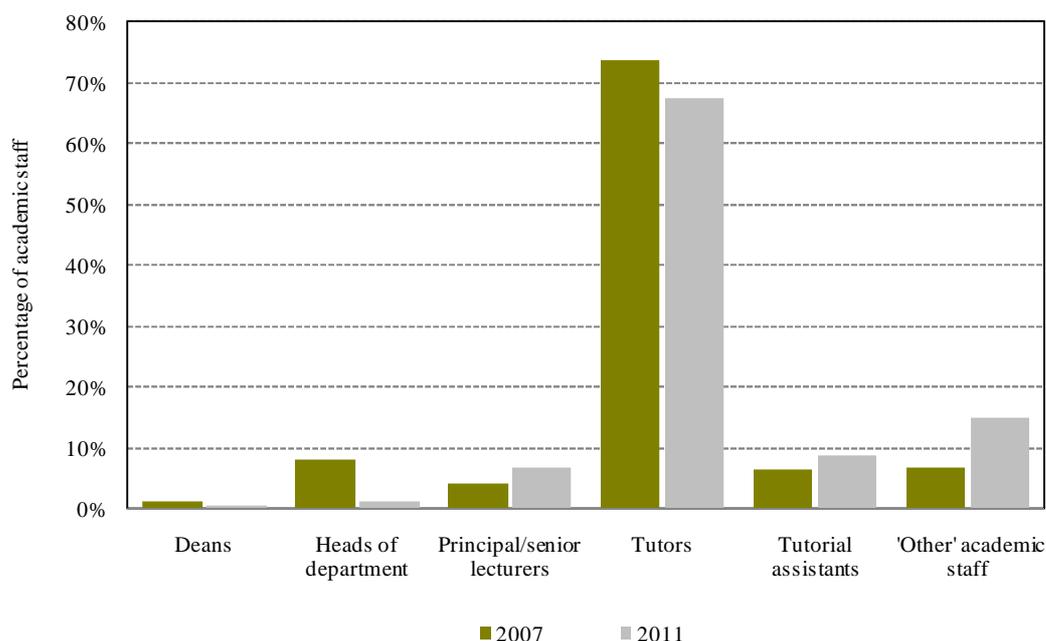
Some shifts by designation

The analysis of the academic staff by designation covers the years from 2007 to 2011 when the pattern of tertiary education provision in wānanga, and the associated staffing levels, became more stable.

There were 711 lecturers and tutors employed in wānanga in 2011, up 42 percent on the number employed in 2007 of 500. This group represented 80 percent of the total academic staff in wānanga in 2011 (excluding 'other' academic staff and the voluntary unpaid academic staff), compared to 79 percent in 2007.

Figure 4.14

Distribution of academic staff in wānanga by designation



Note: The 'other' academic staff and the voluntary academic staff in wānanga have been excluded from the calculations in Figure 14.

In 2011, there were six deans or heads of school employed by wānanga who represented 0.7 percent of the academic workforce in wānanga (excluding 'other' academic staff and the voluntary unpaid academic staff).

The number of heads of department in 2011, at 11, was substantially smaller than in 2007 when they numbered 51. This reflects the stabilisation of the enrolments pattern at Te Wānanga o Aotearoa and the recovery in financial and education performance in this wānanga from 2007 to 2010. In 2011, heads of department comprised 1.4 percent of the academic workforce in wānanga (excluding 'other' academic staff and the voluntary unpaid academic staff).

The number of tutorial assistants at wānanga has fluctuated in size in recent years. Comparing 2007 with 2011, showed that the number of tutorial assistants has doubled from 41 to 83. As a proportion of the total academic workforce in wānanga (excluding 'other' academic staff and the voluntary unpaid academic staff), this group accounted for 10 percent in 2011, compared to 6.8 percent in 2007.

There were 18 'other' academic staff in 2007 and this number had jumped to over 140 in 2010 and 2011, due to an increase in the number of employees in this group at Te Wānanga o Aotearoa.

There was no voluntary unpaid academic staff reported for wānanga in 2011. In 2007, the voluntary unpaid academic staff in wānanga was 25 and since then there have been no reports of voluntary unpaid academic staff.

Gender equality in senior positions

In 2011, men and women were equally represented in the senior academic positions at wānanga. Since 2003, the number of women in the academic workforce at wānanga has exceeded the number of men with more women than men employed as senior tutors, tutors, tutorial assistant and 'other' academic staff.

Full-time and part-time academic work

At wānanga, the number of full-time academic staff increased, from a low point in 2007 of 453, to 682 in 2011. The part-time academic staff decreased slightly from 84 in 2007 to 80 in 2011. As a proportion of the total academic staff, the number of part-timers decreased slightly from 2007 to 2011, from 30 percent to 29 percent, while the decrease in terms of academic full-time equivalents was slightly stronger (see section 7).

5 'OTHER' ACADEMIC STAFF

The longer-term trends in the number of 'other' academic staff have varied among the universities, polytechnics and wānanga. This section has been restricted to the analysis of 'other' academic staff at universities because of the small numbers in this group at polytechnics and wānanga.

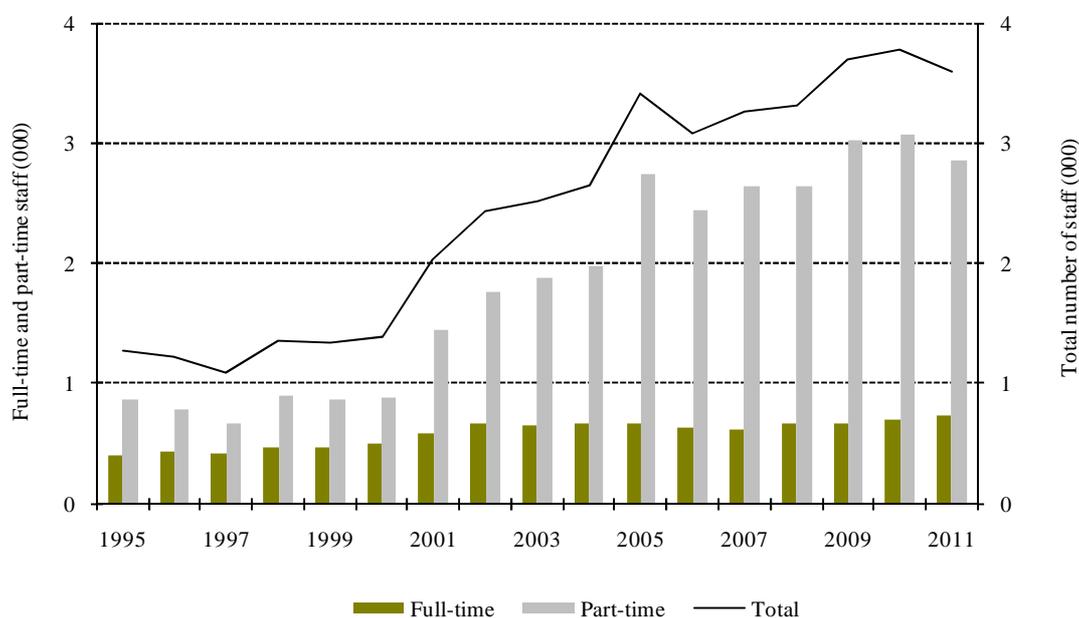
The 'other' academic staff at universities covers 'other' teaching staff or combined teaching and research staff. This group includes assistant lecturers, senior tutors, tutors, visiting academics, and teaching fellows.

The number of people in the 'other' academic staff at universities increased by 77 percent from 2001 to 2011 to 3,600 (Figure 5.1). In comparison, the number of professors, lecturers and research-only staff increased by 7.4 percent from 2001 to 2011 to 7,700.

The 'other' academic staff accounted for 32 percent of the total teaching and research-only staff at universities. The proportion comprising professors, lecturers and research-only staff was 68 percent in 2011, having decreased by 10 percentage points from 2001. A similar trend has taken place in Australia – the number of casual academic staff increased more substantially in recent years than the teaching staff on contracts. The proportion of the Australian academic staff in permanent positions has sat at around 60 percent over the last decade (Coates, H. et al, 2009).

Figure 5.1

'Other' academic staff in universities by full-time and part-time status



Note: An increase in the number of academic staff occurred in 2005 at Victoria University of Wellington when the method of calculating their full-time equivalent staff was changed. The change led to a moderate increase in their full-time equivalent staff and a large increase in their academic headcount.

Part-time employment common

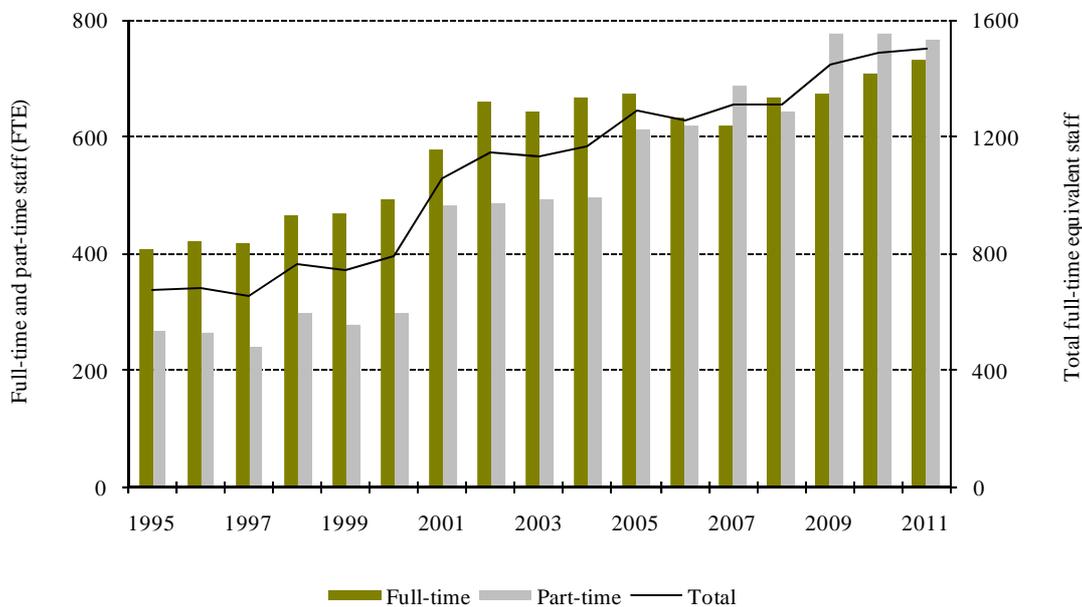
The increase in the number of 'other' teaching or combined teaching/research staff has been mainly for those in part-time employment. In 2011, there were 2,860 part-time 'other' academic staff and this number was double the number employed in 2001. However, in terms of full-time

equivalents, the ‘other’ academic staff increased by a smaller percentage from 2001 to 2011 (59 percent). This caused the average full-time equivalent value per part-timer to decrease from 0.33 in 2001 to 0.27 in 2011.

The part-time ‘other’ academic staff totalled 766 full-time equivalents in 2011, compared to 482 in 2001. Since 2007, the part-time ‘other’ academic workforce has been slightly bigger than the full-time ‘other’ academic workforce in terms of full-time equivalents (Figure 5.2). The report on academic workforce planning (Universities New Zealand, 2010) also indicates that ‘New Zealand universities are increasingly employing casual staff.’ In Australia, casual staff have increased from 13 percent of the total teaching staff in 1989 to 22 percent in 2007 (Coates, H. et al, 2009).

From 2001 to 2011, the ‘other’ academic staff who worked full-time increased by 27 percent from 577 to 734.

Figure 5.2
Full-time equivalent ‘other’ academic staff in universities



Note: FTE = full-time equivalent.

Men and women in the ‘other’ academic staff

In 2011, 80 percent of both women and men in the ‘other’ teaching or combined teaching/research staff were part-time. This compares with 71 percent in 2001. In 2011, there were 1,610 part-time women and 1,250 part-time men. In 2001, the comparable part-time numbers were 820 women and 633 men.

These trends in the part-time academic staff suggest both an increase in the number of joint appointments providing staff the opportunity to job-share, as well as, the employment of adjunct staff.

Figure 5.3
Female 'other' academic staff in universities

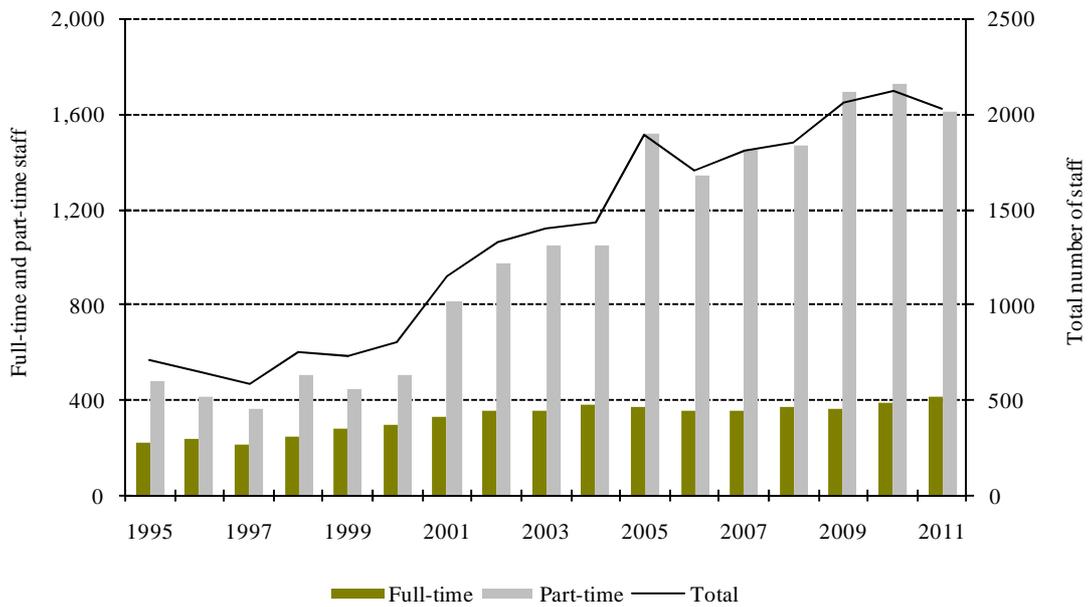
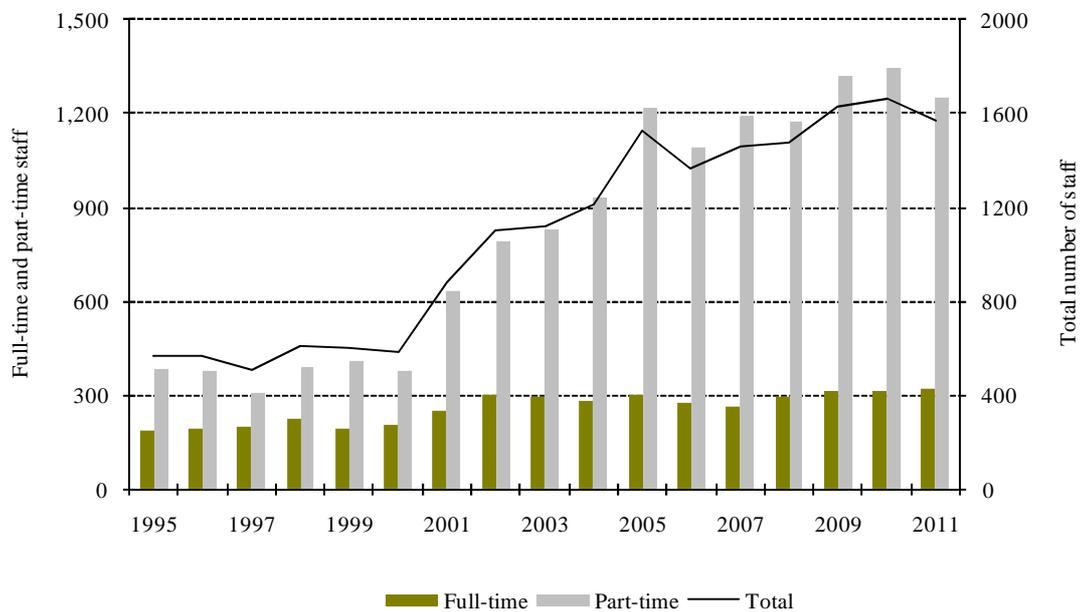


Figure 5.4
Male 'other' academic staff in universities



While the increasing trend in part-time academic employment in New Zealand has affected both women and men, the average full-time equivalent value per part-timer was higher, in 2011, for women than for men – 0.31 for women and 0.21 for men. In 2001, the average full-time equivalent value per part-timer was 0.37 for women and 0.29 for men. (Figure 5.5 and Figure 5.6 show the full-time equivalent staff for men and women who worked part-time at universities as 'other' academic staff.

Figure 5.5
Female 'other' academic full-time equivalent staff in universities

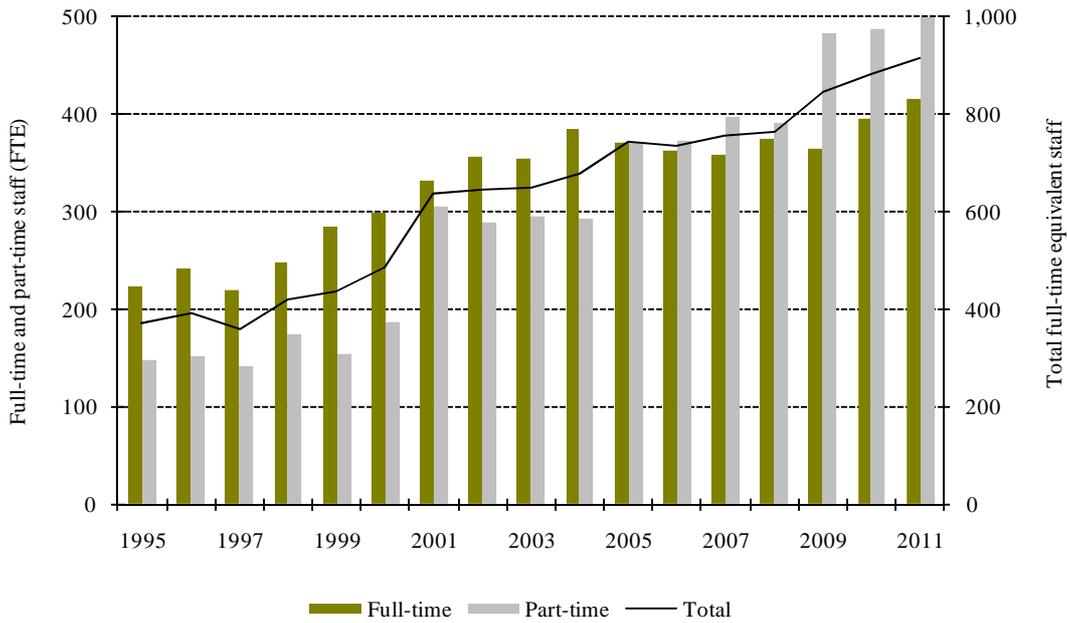
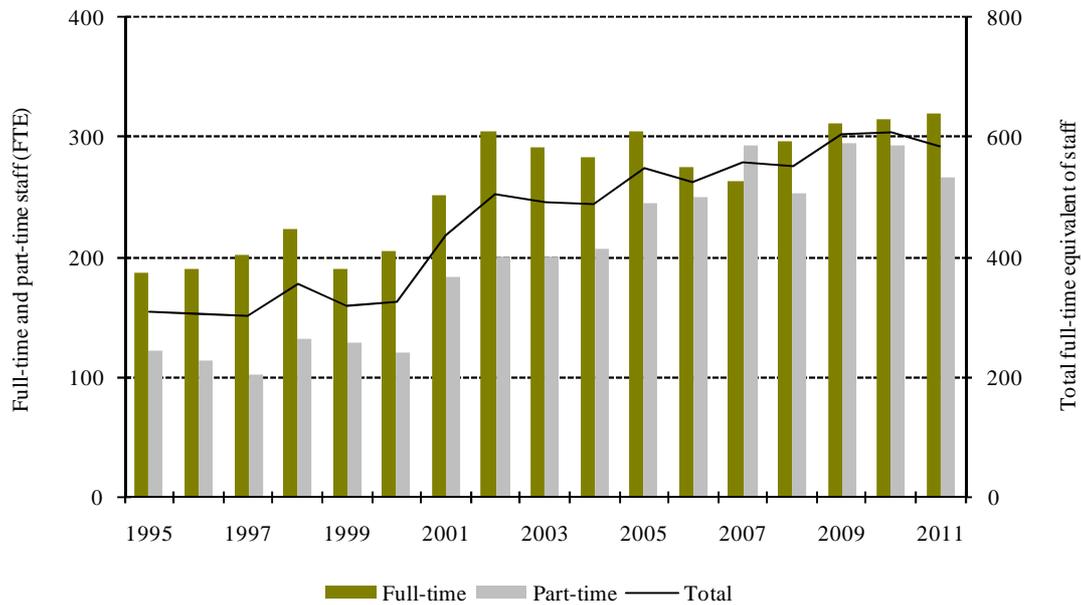


Figure 5.6
Male 'other' academic full-time equivalent staff in universities



6 NON-ACADEMIC STAFF (HEADCOUNT)

6.1 Universities

The non-academic staff at universities has been defined as executive staff; research support staff; advisory, technical and administrative support staff; and general services staff.²⁰

The advisory, technical and administrative support staff at universities includes advisors, technicians, librarians, library assistants, student/community services staff, teacher development contract facilitators/coordinators, computer staff, business/accounting/finance staff, public relations staff, information officers, and 'other' support staff.

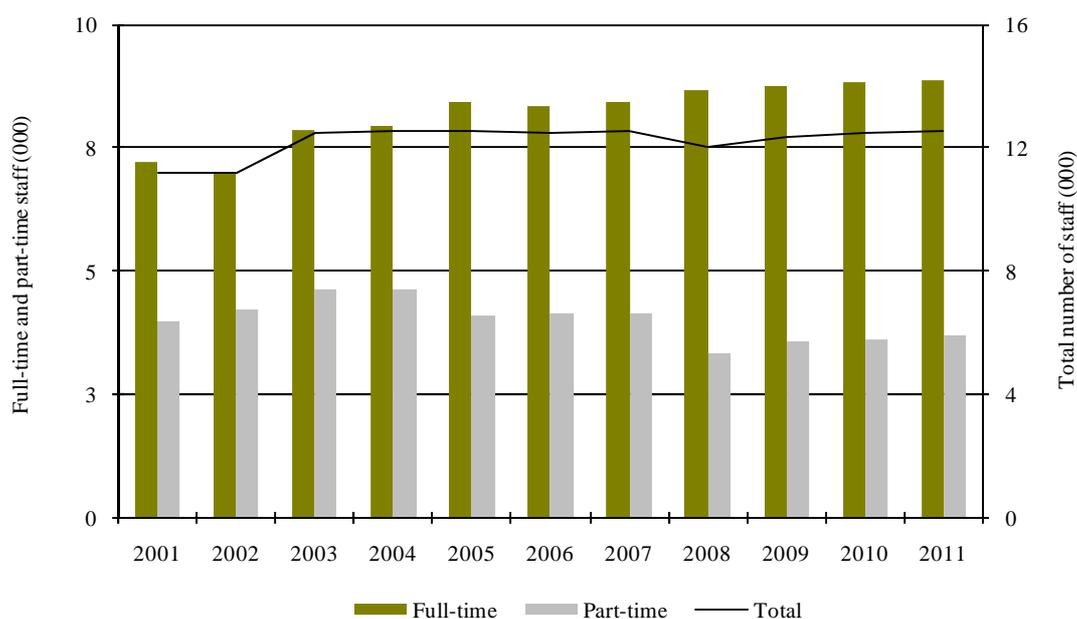
The general services staff includes trades persons and staff involved in caretaking, cleaning, catering, halls of residence and other general services such as security and grounds staff.

The executive staff covers vice-chancellors, senior managers and senior academic managers.

In 2001, there were 11,200 non-academic staff at universities. This number increased in 2007 to 12,600 and since then, the number has remained stable.

Figure 6.1

Full-time and part-time non-academic staff (including research support staff) in universities



More advisory, research and 'other' support staff

The number of advisory and teacher support staff at universities was 16 percent larger in 2011, at 10,300, than in 2001. As a proportion of the total non-academic staff the advisory and teacher support staff represented 79 percent in 2001 and 82 percent in 2011.

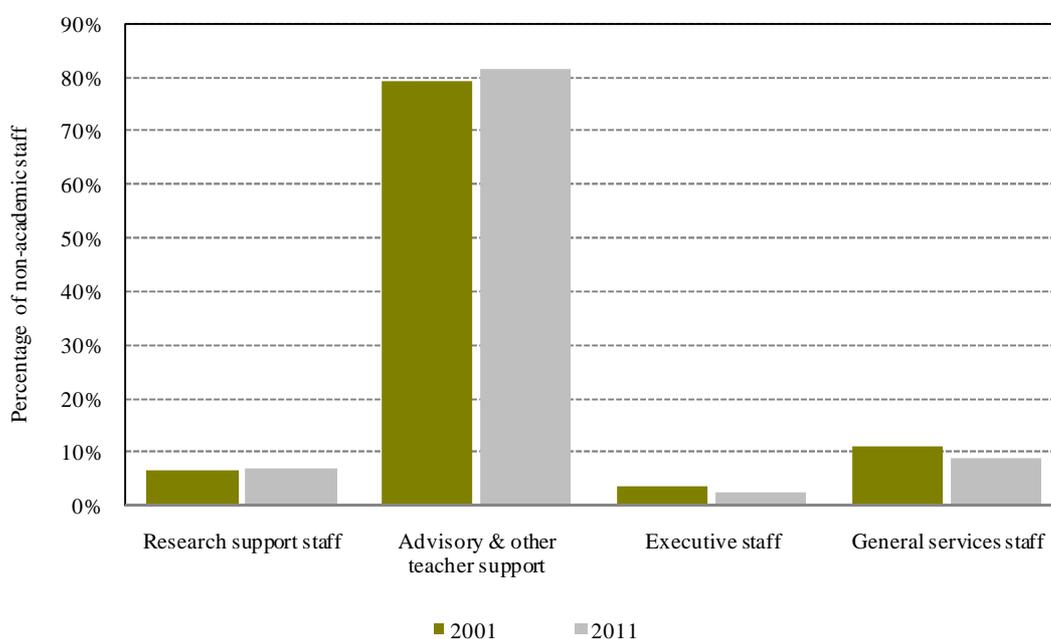
²⁰ See Appendix A for non-academic staff numbers by designation. University data for previous years includes staff from the colleges of education and other institutions that have merged into a university.

The number of research support staff was 22 percent larger in 2011, at 888, than in 2001. As a proportion of the total non-academic staff, the research support staff represented 6.5 percent in 2001 and 7.1 percent in 2011. This increase accompanied the strong growth in research-only staff which, in part, is likely to have been influenced by the introduction of performance-based research funding in 2004.

The number of executive staff declined over the decade, and as a proportion of the total non-academic staff this group decreased from 3.4 percent in 2001 to 2.5 percent in 2011. The executive staff totalled 315 in 2011.

The general services staff, which includes caretakers and tradespersons, also declined in number to 1,110 in 2011. As a proportion of the total non-academic staff this group decreased from 11 percent in 2001 to 8.8 percent in 2011.

Figure 6.2
Distribution of non-academic staff at universities by designation



Fewer women on executive staff

While the overall gender balance in the non-academic workforce continues to favour women, the proportion of women in the non-academic staff (including research support staff) at universities decreased from 66 percent in 2001 to 64 percent in 2011.

Over the decade to 2011, the gender gap in senior non-academic roles has remained similar in size. In 2001, there were 225 men on the executive staff at universities compared to 159 women. In 2011, there were 194 men on the executive staff at universities compared to 121 women. The proportional shifts in the executive staff by gender were: male executives comprised 5.9 percent of the non-academic staff in 2001 and 4.3 percent in 2011. The comparable figures for female executives were 2.2 percent in 2001 and 1.5 percent in 2011.

With the exception of the research support staff, the trends in the non-academic staff over the last 10 years have seen stronger increases (or smaller decreases) in the number of men. From 2001 to 2011, the average increase per year in the advisory, technical and administrative support

staff was 2.2 percent for men, compared to 1.1 percent for women. The comparable numbers for the general services staff were an increase of 0.4 percent per year for men and a decrease of 2.5 percent per year for women. In contrast, the research support staff averaged an increase in number of 2.3 percent per year for women and 1.3 percent per year for men.

Rising trend in full-time non-academic work

The full-time non-academic staff at universities increased in number by 23 percent from 2001 to 2011, compared to a decrease of 6.7 percent for the part-time non-academic staff. In 2011, the full-time non-academic staff numbered 8,850 and the part-time non-academic staff numbered 3,710.

From 2001 to 2005, the number of non-academic full-time staff increased steadily and since then their number has continued to increase more slowly. The number of part-timers increased until 2004 and since then their number has fluctuated and fallen. These trends have increased the proportion of the non-academic staff in universities who work full-time – 64 percent in 2001 and 70 percent in 2011.

In section 9 the ratios of support staff to academic staff are covered both in terms of the number of staff and the full-time equivalent staff.

6.2 Polytechnics

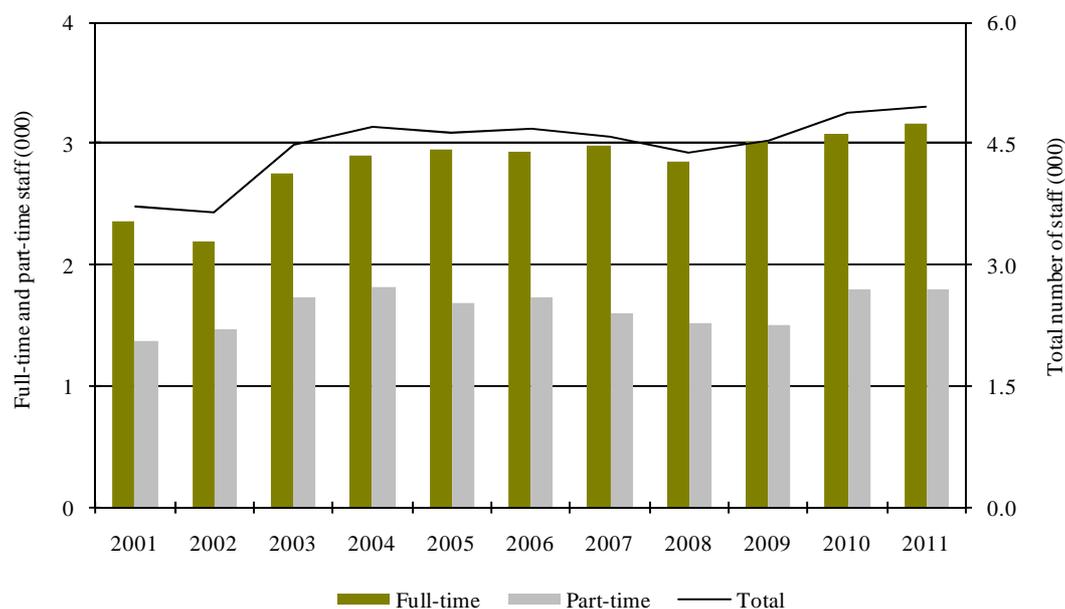
The non-academic staff at polytechnics comprises the executive staff, advisory, technical and administrative support staff, and general services staff.

The advisory, technical and administrative support staff at polytechnics includes faculty/school/division support staff; technicians; library staff; computer staff, audiovisual/information services staff; student/welfare/medical staff; registry/student administration staff; business/ accounting/finance personnel; and 'other' support staff.

The general services staff comprises trades persons, staff who work as caretakers, cleaners and caterers, maintenance staff, hall of residence staff and 'other' staff.

The executive staff covers chief executives, directors, deputy directors, associate directors, managers, administrators and directorate support staff.

Figure 6.3
Full-time and part-time non-academic staff at polytechnics



In 2001, the non-academic staff at polytechnics numbered 3,730. When enrolments in level 4 and higher qualifications increased strongly at polytechnics from 2001 to 2005, the non-academic staff also increased strongly to around 4,700. Then, when demand for tertiary education from international students decreased, and domestic non-degree enrolments began to decline, the number of non-academic staff also declined until 2008. From 2009 to 2011, when domestic and international demand for higher-level qualifications increased, the number of non-academic staff increased steadily to 4,960.

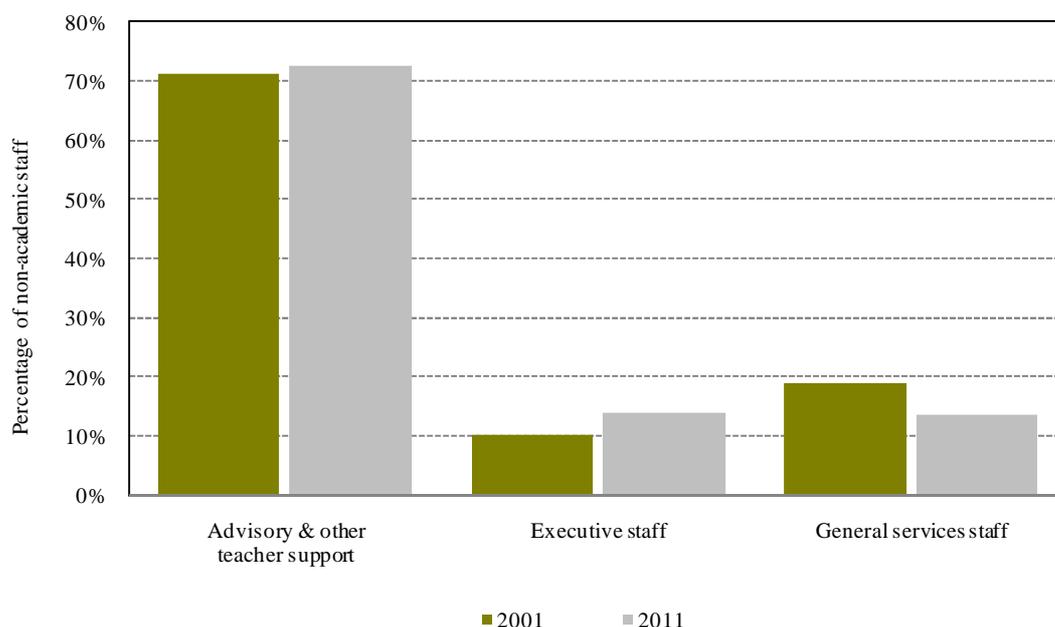
More executive staff

Over the last 10 years, there have been small shifts in the structure of the non-academic staff at polytechnics (see Figure 6.4).

The proportion of advisory and other teacher support has increased from 71 percent in 2001 to 73 percent in 2011. Similarly, the executive staff increased as a proportion of total non-academic staff from 10 percent in 2001 to 14 percent in 2011. There were 2,650 advisory staff in 2001 and 3,600 in 2011. The comparable numbers for the executive staff were 373 and 684.

The general services staff decreased as a proportion of the total non-academic staff at polytechnics from 19 percent in 2001 to 14 percent in 2011. There were 706 general services staff in 2001 and 672 in 2011.

Figure 6.4
Distribution of the non-academic staff in polytechnics by designation



More women than men in senior non-academic roles

In 2011, women out-numbered men on the executive staff at polytechnics: there were 421 women executives, compared to 263 men. In 2001, there were also more women in the role of executive although the gender gap favouring women was smaller then. The proportional shifts in the executive staff by gender were: male executives comprised 15 percent of the non-academic staff in 2001 and 16 percent in 2011. The comparable figures for female executives were 7.4 percent in 2001 and 12 percent in 2011.

However, the increasing trend in the number of advisory and teacher support staff at polytechnics was stronger for men than women. Men in this role averaged an increase in number over the last 10 years of 4.0 percent per year, while the comparable increase for women was 2.8 percent per year. In 2011, there were 2,690 women and 912 men employed as advisory and teacher support staff.

Stable full-time and part-time non-academic workforce

From 2001 to 2011, both the number of full-timers and part-timers in the non-academic staff at polytechnics increased by over 30 percent. The proportion of full-timers was 63 percent in 2001 and 64 percent in 2011.

From 2001 to 2006, the number of full-timers and part-timers in the non-academic staff increased at a similar rate. From 2006 to 2011, the number of non-academic staff who worked full-time averaged an increase of 1.5 percent per year, compared to an increase of 0.6 percent per year for non-academic staff who worked part-time.

6.3 Wānanga

The non-academic staff at wānanga comprises the executive staff, advisory, technical and administrative support staff, and general services staff.

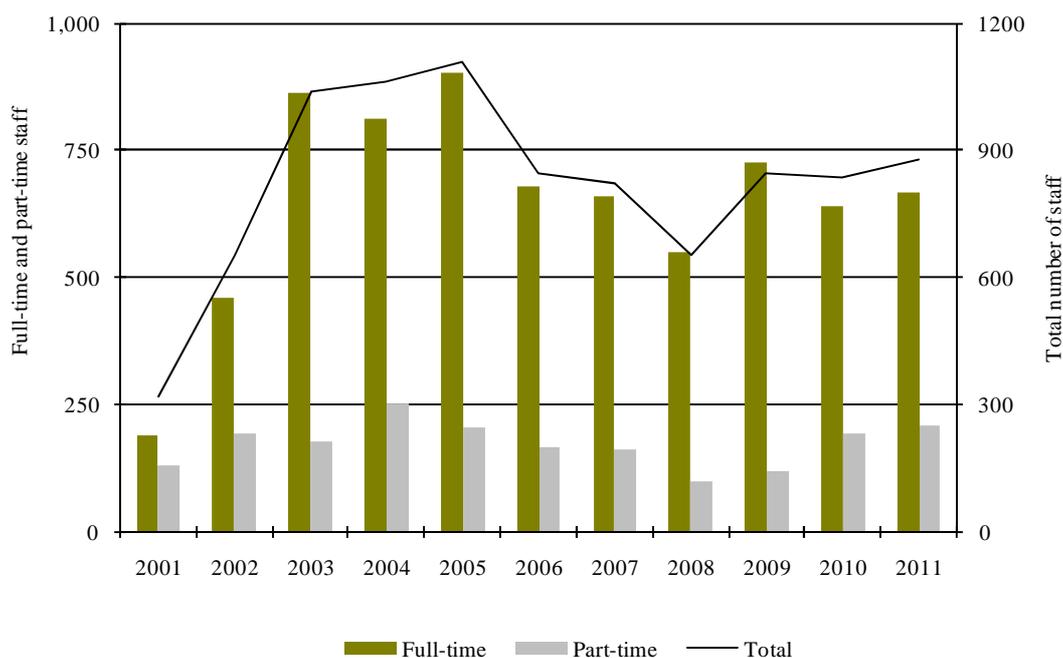
The advisory, technical and administrative support staff at wānanga includes faculty/school/division support staff, technicians, library staff, computer staff, audiovisual/information services staff, student/welfare/medical staff, registry/student administration staff, business/accounting/finance personnel and ‘other’ support staff.

The general services staff comprises trades persons, staff who work as caretakers, cleaners and caterers, maintenance staff, hall of residence staff and ‘other’ staff.

The executive staff covers chief executives, directors, deputy directors, associate directors, managers, administrators and directorate support staff.

In 2001, the non-academic staff at wānanga numbered 319. By 2011, the non-academic staff was about three times larger than 10 years earlier, at 878.

Figure 6.5
Full-time and part-time non-academic staff in wānanga



From 2001 to 2005, the size of the non-academic staff increased strongly to 1,110. This was at a time when enrolments grew rapidly at wānanga, especially at Te Wānanga o Aotearoa, which employed three-quarters of the total wānanga staff by 2004.²¹

From 2004 to 2007, there were large-scale decreases in the provision of level 1 to 4 certificates.²² During this time, the size of the non-academic staff at wānanga decreased from 1,110 staff in 2005 to 847 in 2006. Since then, it has fluctuated around this level.

²¹ Level 1 to 3 certificate enrolments increased at wānanga from just over 3,000 in 2000 to 51,300 in 2004. Level 4 certificates followed a similar pattern, increasing from just a few hundred enrolments in 2000 to 16,900 in 2004.

A number of factors contributed to the declines in the enrolments at wānanga. The provision of level 4 certificate courses in te reo peaked in 2003 and enrolments in these courses decreased in subsequent years as demand for them fell. In 2004, government introduced its Managing Growth policy and this led to funding restrictions in 2005. Also in 2005, government reviews of the provision of non-degree tertiary education led to significant declines in level 1 to 3 certificate provision in the years that followed.

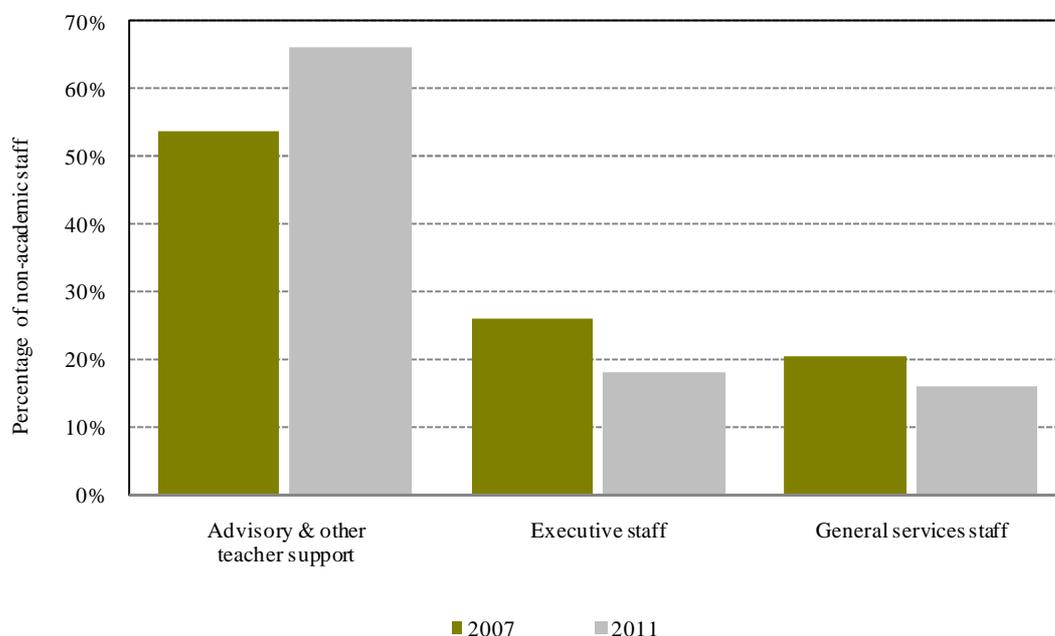
Fewer executive staff

Since 2007, when the student enrolment pattern became more stable at wānanga, the executive staff has fluctuated in number. As a proportion of the total non-academic staff, this group decreased from 26 percent in 2007 to 18 percent in 2011. There were 213 executive staff in 2007 and 158 in 2011.

The general services staff also fluctuated in number at wānanga from 2007 to 2011, totalling 140 in 2011. As a proportion of the total non-academic staff at wānanga, the general services staff comprised 20 percent in 2007, compared to 16 percent in 2011.

The number of non-academic staff employed as advisory, technical and administrative support staff at wānanga averaged an increase, from 2007 to 2011, of 7.2 percent per year. Consequently, the proportion of the total non-academic staff at wānanga represented by the advisory, technical and administrative support staff has increased from 54 percent in 2007 to 66 percent in 2011. There were 580 advisory, technical and administrative support staff at wānanga in 2011.

Figure 6.6
Distribution of non-academic staff at wānanga by designation



²² From 2004 to 2007, level 1 to 3 certificate enrolments decreased at wānanga by more than 20,000 enrolments and level 4 certificate enrolments decreased by more than 7,000 enrolments.

More women than men in senior non-academic roles

In 2011, the number of women on the executive staff at wānanga was larger than the number of men. There were 90 female executives in 2011, compared to 68 male executives. In 2007, a larger gender gap in favour of women existed.

From 2007 to 2011, the number of general services staff decreased for women while it increased for men. The number of men in this role averaged an increase of 4.0 percent per year, while the number of women averaged a decrease of 10 percent per year. In 2011, there were more men than women, 75 compared to 65.

From 2007 to 2011, the advisory, technical and administrative support staff at wānanga increased by 32 percent. The number of women in this role averaged an increase of 9.5 percent per year from 2007 to 2011, while the comparable increase for men was 0.9 percent. In 2011, there 442 women and 138 men employed as advisory, technical and administrative support staff.

More full-time non-academic staff

The proportion of the non-academic staff at wānanga who were full-time decreased from 80 percent in 2007 to 76 percent in 2011. While the number of non-academic staff who worked part-time increased more strongly from 2007 to 2011 than the number of full-time non-academic staff, 91 percent of non-academic full-time equivalents at wānanga were full-time in 2011 (see section 8).

7 ACADEMIC STAFF (FULL-TIME EQUIVALENTS)

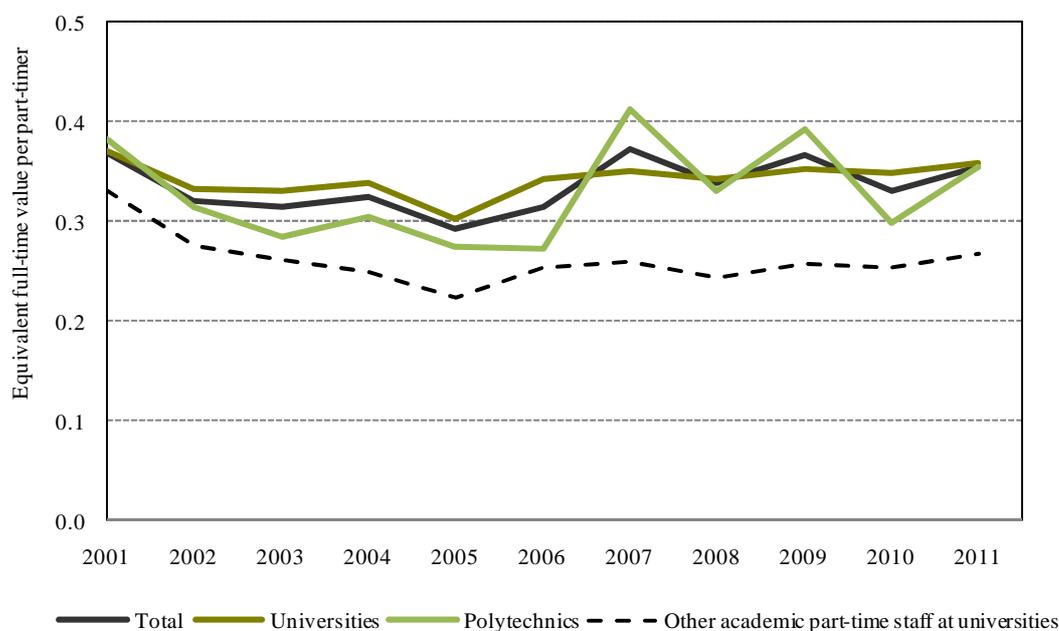
The number of academic full-time equivalents at public tertiary education institutions totalled 11,500 in 2001, and 13,300 in 2011. From 2001 to 2011, the number of academic full-time equivalents increased by 16 percent, compared to an increase of 22 percent in the academic staff headcount.

From 2001 to 2011, the academic staff who worked full-time at public tertiary education institutions increased by 12 percent, compared to an increase of 34 percent in full-time equivalents for part-time academic staff. Consequently, the average full-time equivalent value per part-timer decreased slightly from 2001 to 2011 from 0.37 in 2001 to 0.36 in 2011. In the intervening years there was some variation in the equivalent full-time value per part-timer.

From 2001 to 2005, the academic staff who worked part-time at public tertiary education institutions increased in number at twice the rate of the associated full-time equivalents. Consequently, the average full-time equivalent value per part-timer fell from 0.37 in 2001 to 0.29 in 2005. This reflected strong growth in the employment of part-time staff at public tertiary education institutions during a period of strong enrolment growth in non-degree qualification by domestic students, as well as rising international enrolments. This trend was most noticeable for the 'other' academic staff at universities (see section 5).

When the trend in non-degree qualifications began to decline from 2006 onwards, and international enrolments decreased from 2004 to 2008, the academic staff who worked part-time declined slightly in number, while the associated number of full-time equivalents continued to increase. These changes raised the average full-time equivalent value per part-timer in the academic workforce at public education institutions from 0.29 in 2005 to 0.36 in 2011.

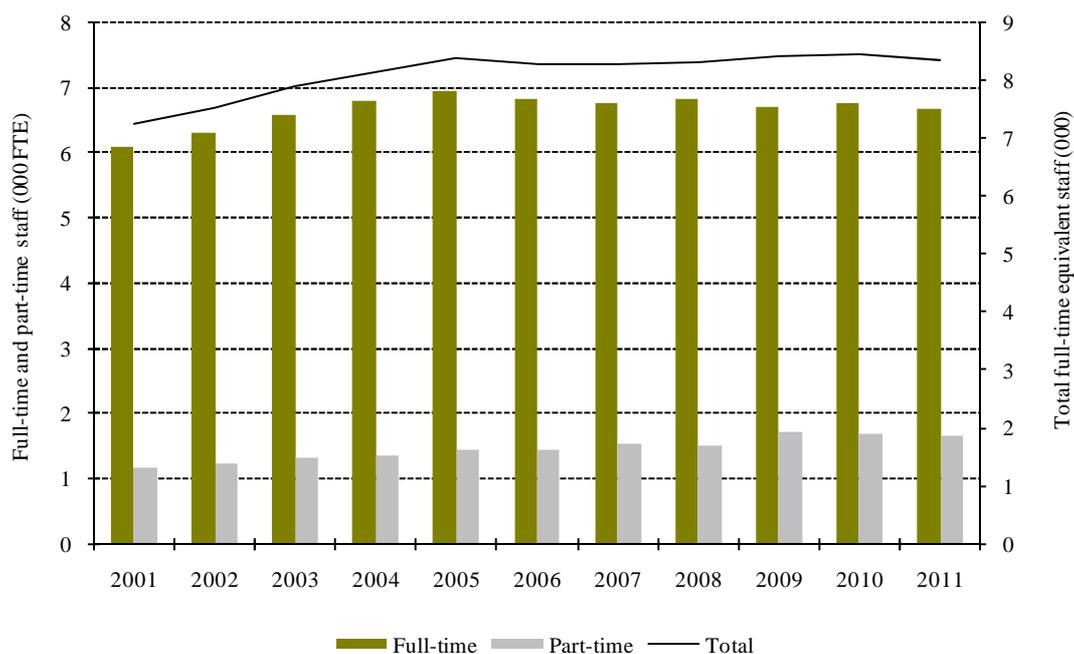
Figure 7.1
Equivalent full-time value per academic part-time staff member



7.1 Universities

At universities, the academic full-time equivalent staff was 7,250 in 2001 and 8,330 in 2011 (Figure 7.2). From 2001 to 2011, the increase in the number of academic full-time equivalents at universities was 15 percent, while the increase in the headcount was 23 percent. These changes led to a slight decrease in the full-time equivalent value per part-timer at universities from 0.37 in 2001 to 0.36 in 2011 (Figure 7.1).

Figure 7.2
Academic full-time equivalent staff at universities by full-time and part-time status



Note: FTE = full-time equivalent.

Full-time equivalent value per part-timer decreases for 'other' academic staff

The 'other' teaching or combined teaching/research staff at universities had the most diverging trends in their headcount and associated number of full-time equivalents. From 2001 to 2011, the number of full-time 'other' teaching staff increased by 26 percent, while the part-time staff doubled in number. This compared to an increase of 59 percent in the number of full-time equivalents for the 'other' teaching staff who worked part-time.

These differences led to a reduction in the average full-time equivalent value per part-timer in the 'other' teaching staff at universities from 0.33 in 2001 to 0.27 in 2011. The decrease in average full-time equivalent value per part-timer was strongest from 2001 to 2005 when it fell to 0.22, reflecting strong growth in the employment of part-time staff at universities during a period of strong enrolment growth by international students. Since 2005, the average full-time equivalent value of the 'other' teaching staff who worked part-time increased to 0.27 in 2011.

7.2 Polytechnics

At polytechnics, the academic full-time equivalent staff was 4,000 in 2001 and 4,240 in 2011 (Figure 7.3).

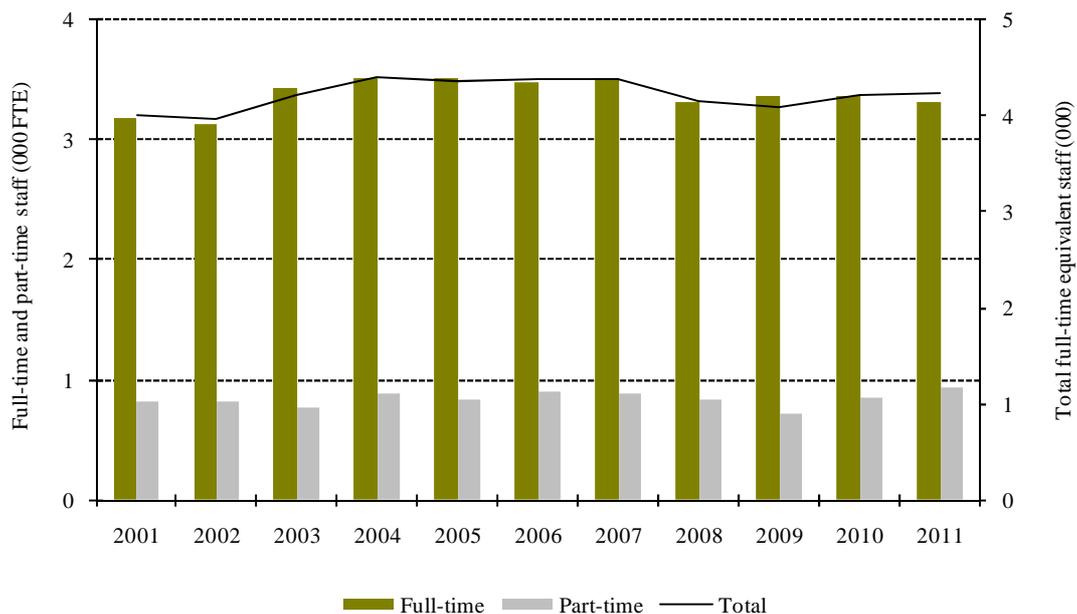
From 2001 to 2011, the increase in the number of academic full-time equivalents at polytechnics was 6.1 percent, compared to an increase of 12 percent in the headcount. Consequently, the full-time equivalent value per part-timer at polytechnics decreased from 0.38 in 2001 to 0.35 in 2011 (Figure 7.1).

From 2001 to 2011, the number of academic staff at polytechnics who worked full-time increased by 3.9 percent and the number who worked part-time increased by 24 percent. This was coupled to an increase of 15 percent in the number of full-time equivalents for the part-time academic staff.

From 2001 to 2006, the number of academic staff who worked part-time at polytechnics increased and since then the number has fluctuated. The increase from 2001 to 2006 reflected a rising trend in non-degree enrolments at polytechnics. This led to the average full-time equivalent value per part-timer decreasing to 0.27 in 2006. Since then, the value fluctuated, ranging from 0.30 to 0.41 (Figure 7.1).

Figure 7.3

Academic full-time equivalent staff at polytechnics by full-time and part-time status



Note: FTE = full-time-equivalent.

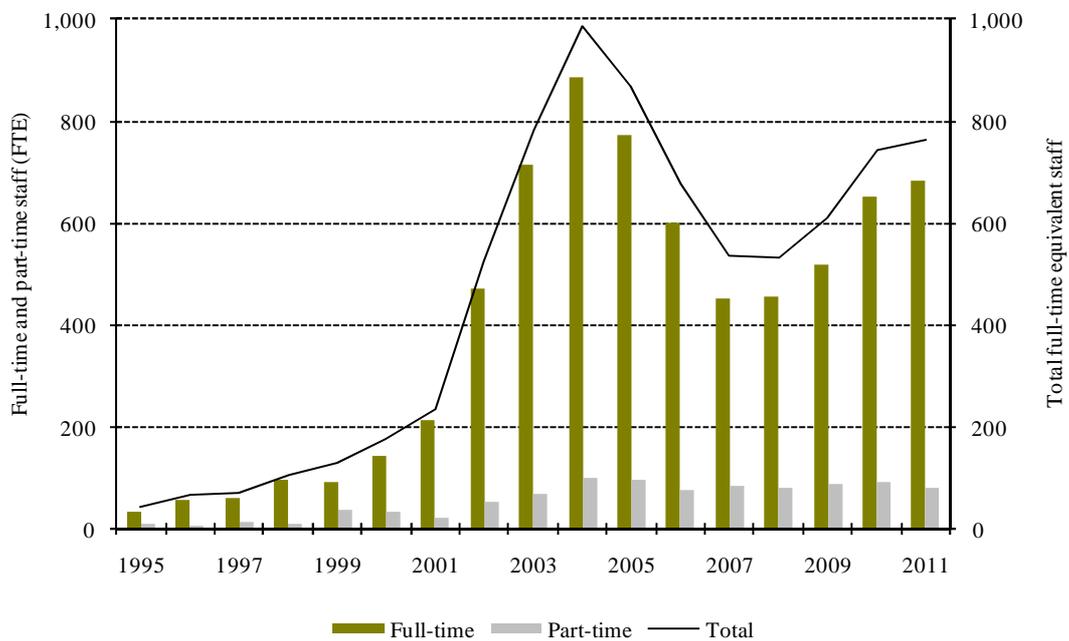
7.3 Wānanga

At wānanga, the number of academic equivalent full-time staff was 537 in 2007 and 762 in 2011 (Figure 7.4).

From 2007 to 2011, the number of academic full-time equivalents at wānanga increased by 42 percent, compared to an increase in the academic headcount of 49 percent.

The academic staff at wānanga who worked full-time increased in number from 2007 to 2011 by 51 percent and those who worked part-time increased in number by 44 percent. This was coupled to a decrease of 4.8 percent in the full-time equivalent part-time staff causing the full-time equivalent value per part-timer to decrease from 0.44 in 2007 to 0.29 in 2011 (Figure 8.1).

Figure 7.4
Academic full-time equivalent staff at wānanga by full-time and part-time status



Note: FTE = full-time-equivalent.

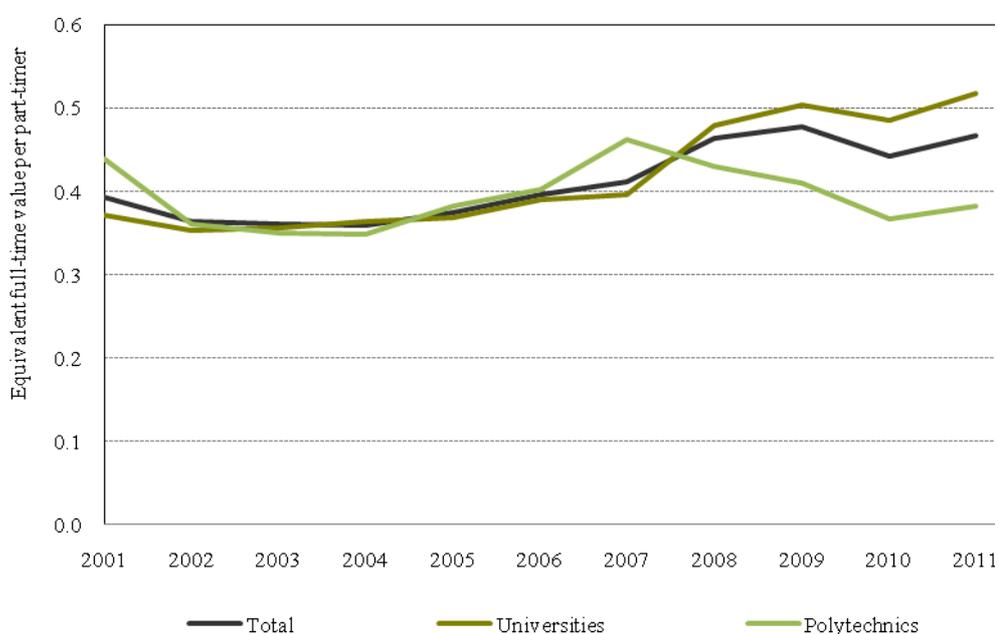
8 NON-ACADEMIC STAFF (FULL-TIME EQUIVALENTS)

Non-academic full-time equivalents at public tertiary education institutions totalled 11,900 in 2001 and 15,400 in 2011.

Non-academic full-time equivalents increased in public tertiary education institutions by 29 percent from 2001 to 2011. This compared to an increase of 21 percent in the headcount causing the full-time equivalent value per part-timer to increase on average from 0.39 in 2001 to 0.47 in 2011.

Underlying the increase in the average full-time equivalent value per part-timer in the non-academic staff were: a rising average full-time equivalent value at universities and decreasing average full-time equivalent values at polytechnics and wānanga.

Figure 8.1
Full-time equivalent value per non-academic part-time staff member

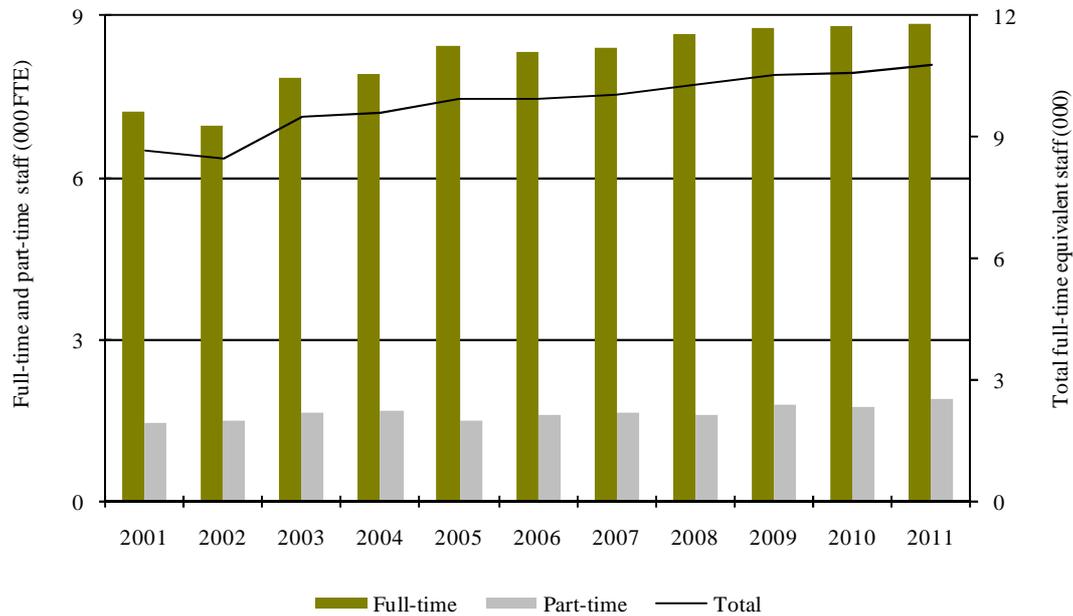


8.1 Universities

At universities, the full-time equivalent non-academic staff was 8,690 in 2001 and 10,800 in 2011 (Figure 8.2).

The increase from 2001 to 2011 in the full-time equivalent non-academic staff at universities was 24 percent, compared to an increase of 12 percent in the headcount. These changes increased the full-time equivalent value per part-timer at universities from 0.37 in 2001 to 0.52 in 2011 (Figure 8.1).

Figure 8.2
Non-academic full-time equivalent staff at universities by full-time and part-time status

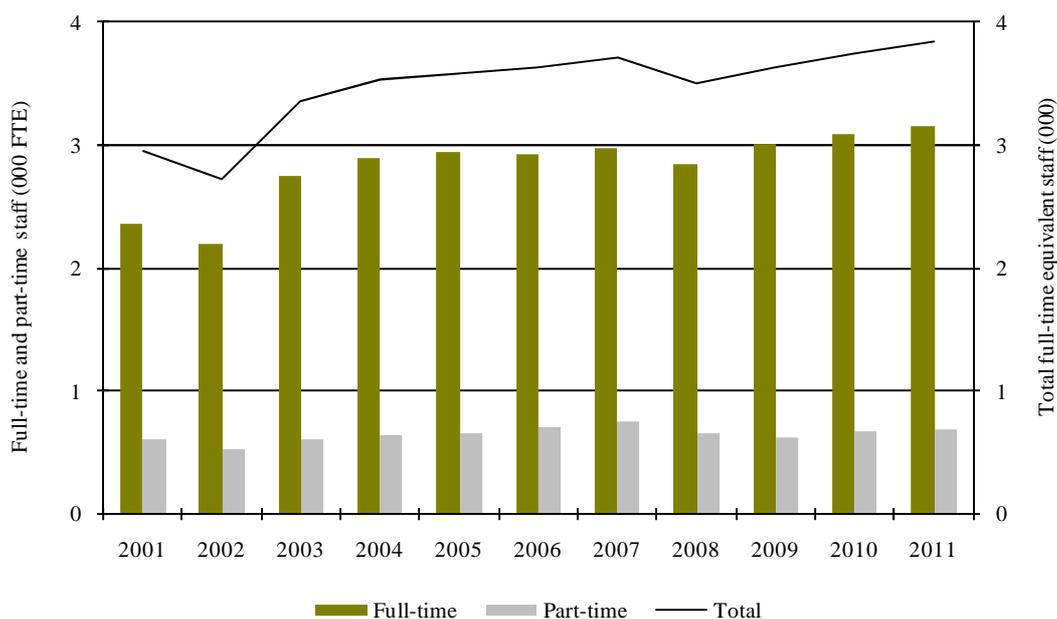


8.2 Polytechnics

The full-time equivalent non-academic staff at the polytechnics was 3,130 in 2001 and 3,840 in 2011 (Figure 8.3).

From 2001 to 2011, the equivalent full-time non-academic staff increased at polytechnics by 30 percent, compared to an increase of 33 percent in the headcount. These changes decreased the full-time equivalent value per part-timer at polytechnics from 0.44 in 2001 to 0.38 in 2011.

Figure 8.3
Non-academic full-time equivalent staff at polytechnics by full-time and part-time status

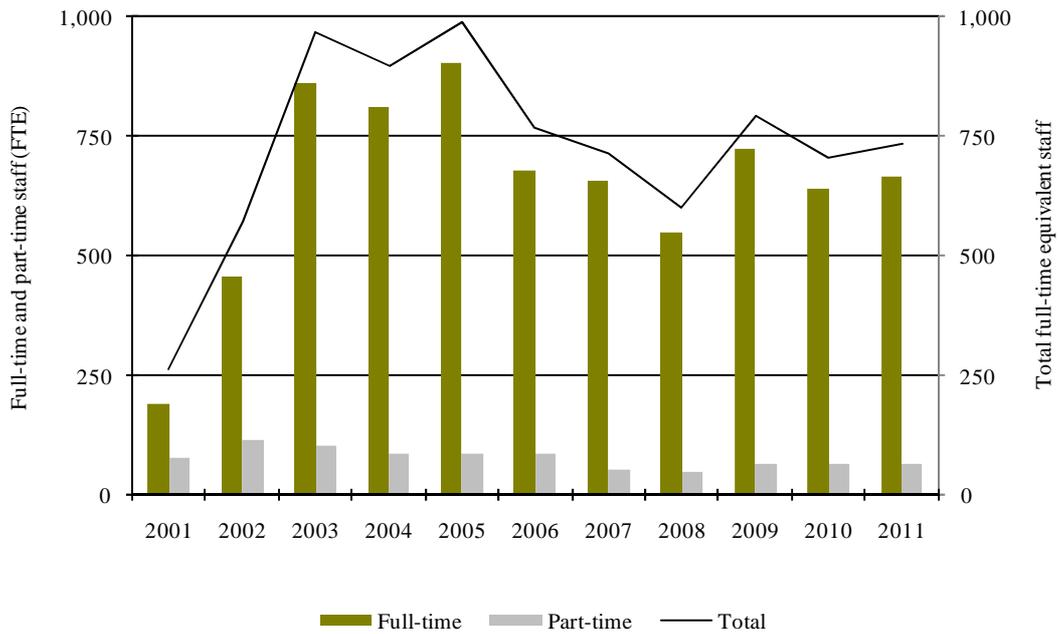


8.3 Wānanga

The equivalent full-time non-academic staff at wānanga was 713 in 2007 and 734 in 2011 (Figure 8.4).

The equivalent full-time non-academic staff was 2.9 percent larger in 2011 than in 2007. The comparable headcount increase was 7.1 percent. These changes led to the full-time equivalent value per part-timer at wānanga being similar in 2007 and 2011, at 0.32. However, in 2008 it was 0.50 and 2009 it was 0.57.

Figure 8.4
Non-academic full-time equivalent staff at wānanga by full-time and part-time status



9 STUDENT AND STAFF RATIOS

Student units and academic full-time equivalent staff

The messages from the workforce trends are mixed for the student to staff ratios at public tertiary education institutions.

Over the last 10 years, the academic workforce at public tertiary education institutions has not increased as strongly in terms of full-time equivalents as the total study load undertaken by domestic and international students.

Enrolments by international students, who tend to study full-time, increased from 2001 to 2004 and 2008 and 2011, with a decline in these enrolments from 2005 to 2008.

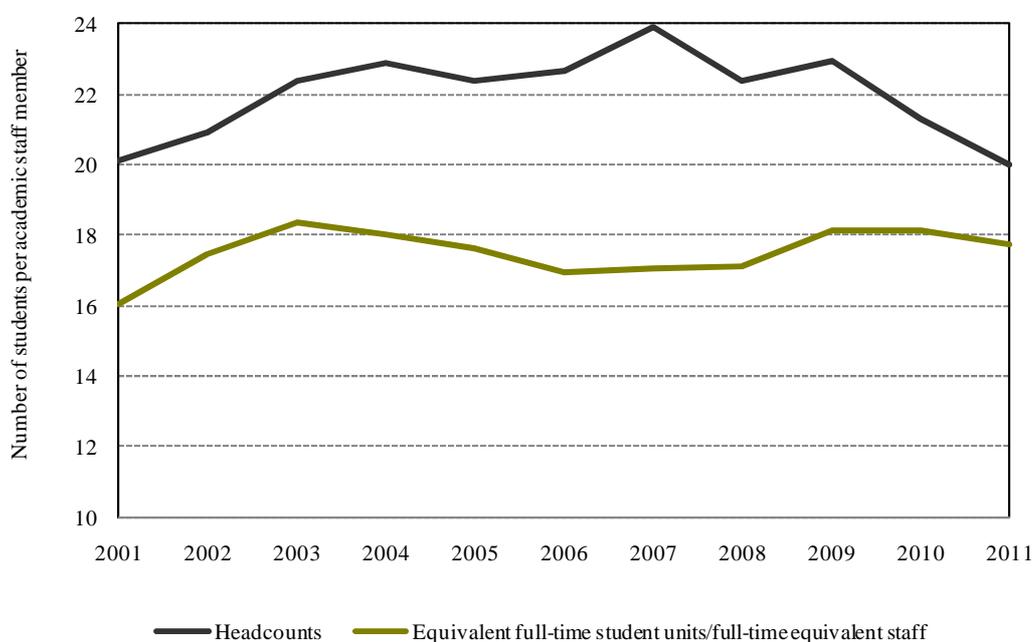
Non-degree enrolments by domestic students increased strongly from 2001 to 2005 and, especially since 2008, there has been a strong decline in these enrolments. Then, from 2007 to 2011, domestic enrolments increased for higher-level qualifications, which take longer to complete, due to a population bulge of young people moving from school to tertiary education.

Equivalent full-time student units at public tertiary education institutions increased by 28 percent from 2001 to 2011, while academic full-time equivalents increased by 16 percent.

As a result of these changes, the student to staff ratio at public tertiary education institutions increased from 2001 to 2011. The ratio was 17.7 equivalent full-time student units per academic full-time equivalent in 2011, compared to 16.0 in 2001.

Figure 9.1

Student to staff ratios at public tertiary education institutions



Leading up to 2001, the student to staff ratio was lower (closer to 15). Between 2001 and 2011, the ratio was 17 or higher for most years, although it decreased from 2006 to 2007 when both international and domestic enrolments decreased.

The higher staff to student ratio from 2001 to 2011 reflects both rising enrolments by international students and a shift by domestic students from non-degree study to higher-level qualifications which take longer to complete.

From 2001 to 2011, the total study load of students at public tertiary education institutions averaged an increase of 2.5 percent per year. In comparison, the academic full-time equivalent staff averaged an increase of 1.5 percent per year.

Student numbers and academic staff headcounts

Over the last 10 years, the student population and academic workforce at public tertiary education institutions have increased in size at a similar rate.

From 2001 to 2011, the number of academic staff increased by 22 percent and the increase in the number of students was similar. This meant that the student to staff ratio was the same in 2001 and in 2011, at 20 students per academic staff member.

Leading up to 2001, the headcount ratio was lower (closer to 19). In the intervening years, between 2001 and 2011, the ratio has been higher. In 2007, there were 24 students per academic staff member, reflecting high numbers of non-degree enrolments by domestic students. Then, the trend in non-degree enrolments decreased, lowering the ratio. From 2009, the ratio rose again due to a rising trend in international enrolments, and a population bulge of young New Zealanders which began to make its move from school to tertiary education. From 2010 to 2011, the ratio decreased to 20 students per academic staff member due to the population bulge completing its move from school to tertiary education.

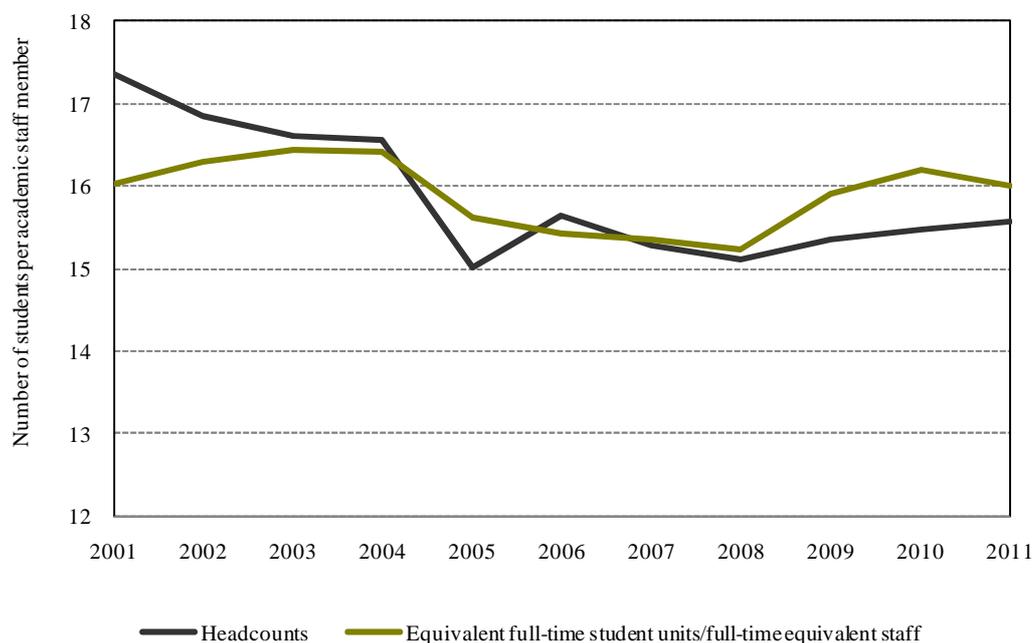
9.1 Universities

Fifty-six percent of the equivalent full-time students enrolled at public tertiary education institutions studied at a university in 2011, while 62 percent of the full-time equivalent academic staff was employed at a university. The higher proportion of academic staff reflects that most of the students enrolled at universities study longer qualifications at level 4 and higher.

Student to staff ratios

In 2001, the student to staff ratio at universities was 16.0 equivalent full-time students per full-time equivalent staff member (Figure 9.2). The ratio was also 16.0 in 2011, while in the intervening years there was some variation in the ratio.

Figure 9.2
Student to staff ratios at universities



Note: Broken axis in Figure 9.2. The decrease in the headcounts ratio from 2004 to 2005 was, in part, due to a decrease in students at colleges of education and a shift in the number of academic staff that occurred when Victoria University of Wellington changed their method of calculating their full-time equivalent staff. The change led to a moderate increase in Victoria University's full-time equivalent staff and a large increase in their academic headcount.

From 2001 to 2004, the student to staff ratio at universities increased to 16.4 equivalent full-time students, mainly as a result of rising enrolments by international students. Then, when international enrolments declined from 2005 to 2008, the ratio dropped to a low point of 15.2.

In 2009 and 2010, both domestic and international enrolments increased, pushing the ratio up to 16.2. When the recent population bulge of young New Zealanders completed its move from school to tertiary education in 2011, the ratio fell slightly to 16.0 equivalent full-time students per full-time equivalent staff.

There also was a shift in the disciplinary mix at universities, with a higher proportion of equivalent full-time student units in medium- and high-cost categories, which involve a lower student to staff ratio than lower-cost categories. The distribution of government-funded²³ equivalent full-time student units in tertiary education institutions shifted from 2005 to 2011: medium-cost categories increased from 33 percent to 37 percent and high-cost categories increased from 7.4 percent to 12 percent.

While the structural changes in the academic workforce are likely to have affected the quality of teaching, without more information about the staff involved it is not possible to determine whether the changes have enhanced the quality of teaching or created barriers to effective teaching.

²³ This refers to student achievement component funding.

As a proxy for the quality of teaching, the qualification completion rate may be used. At universities, the five-year qualification completion rates of domestic full-time students increased for bachelors degrees and all other higher-level qualifications when comparing the students who started study in 1996 with those who started study in 2005.²⁴

However, the five-year qualification completion rates of the 1996 student cohort may have been lower than those for the 2005 student cohort, due to unemployment falling in 2000 and 2001. This is likely to have attracted some students into employment, slowing down, or stopping, their qualification completion. In the opposite direction, the current slow economic conditions are likely to have had an upward effect on the qualification completion rates of the students who started study in 2005 as fewer of them would have had opportunities to enter the labour market due to higher unemployment from 2008 to 2010. Other confounding factors also exist with respect to the cohort who started study in 2005. In recent years, a portion of funding has been linked to the performance of providers and this is likely to have also contributed to the increase in the qualification completion rates of students who started study in 2005.

The shifts underlying the student to staff ratio in universities involved changes in the composition of the academic workforce at universities, changes in the pattern of enrolments and a rising average study load of students. While the impact of these shifts is not able to be determined from the workforce data collection supplied by providers to the Ministry of Education, the shifts are summarised below:

New appointments at professorial level

There have been substantial increases in the number of professors (including associate professors) from 2001 to 2011 and this has lowered the ratio of academic staff for each senior staff member. Also, it is likely that some of the increase in the 'other' academic staff category has been intended to ensure that higher-qualified academic staff can focus on higher-level duties and on their research role. In 2001, there were six academic staff for every professor and, in 2011, there were four. However, 41 percent of the academic staff in 2011 was designated 'other' teaching and combined teaching/research staff and this suggests that senior staff also have fewer experienced staff reporting to them than before.

Rising study loads

The average study load of university students increased from 2001 to 2011. In 2011, the average study load was 0.76 equivalent full-time student units, compared to 0.73 in 2001. From 2001 to 2011, the increase in the equivalent full-time student unit count at universities was matched by a similar increase in the academic full-time equivalent staff. These changes caused the ratio of equivalent full-time student units per full-time equivalent staff member to be the same in 2001 and 2011.

The headcounts-based student to staff ratio in Figure 9.2 was at its highest from 2001 to 2004 when enrolments by international students increased more strongly than the number of academic staff at universities (see Figure 9.2). When international student numbers declined from 2005 to 2008, the number of academic staff at universities also decreased and this moderated the decrease in the headcounts-based student to staff ratio. In 2009 and 2010, the increase in domestic and international enrolments was stronger than the increase in the number of academic staff causing the headcounts-based ratio to rise. From 2010 to 2011, this ratio also increased as the number of academic staff decreased more strongly than the number of students.

²⁴ Wensvoort, M. (2011) *Achievement in formal tertiary education*, Wellington: Ministry of Education.

More part-time university academic staff

The full-time to part-time academic staff ratio at universities has decreased overall from 1.9 in 2001 to 1.4 in 2011. From 2001 to 2011, the number of lecturers decreased, while the ‘other’ teaching and teaching/research staff increased. Of the increase in the number of academic staff between 2001 and 2011, 70 percent were part-time. The increase in the part-time ‘other’ teaching and combined teaching/research staff was also accompanied by a decreasing full-time equivalent count (on average) for these staff.²⁵

While there are likely to be both advantages and disadvantages in having a lower full-time to part-time staff ratio, it is not clear from these workforce trends whether the quality of teaching has improved, remained the same or deteriorated over the last 10 years.

Advisory and research support per academic staff member

The number of advisory and research support staff²⁶ at universities has been similar to the number of academic staff over the last 10 years. However, the number of full-time equivalent support staff has increased more strongly, from 2001 to 2011, than the number of full-time equivalent academic staff. This means that there are now more full-time equivalent support staff per academic staff member.

In 2001, the ratio of support staff to academic staff was just over one and by 2011 it has risen to 1.15. This higher level of support may assist senior academic staff manage the increased numbers of part-time ‘other’ academic staff.

9.2 Polytechnics

Thirty-three percent of the equivalent full-time students enrolled at public tertiary education institutions studied at a polytechnic in 2011, while 32 percent of the academic full-time equivalent staff was employed at a polytechnic. Non-degree qualifications accounted for 71 percent of the total study undertaken at polytechnics in 2011. This compared to 76 percent in 2001.

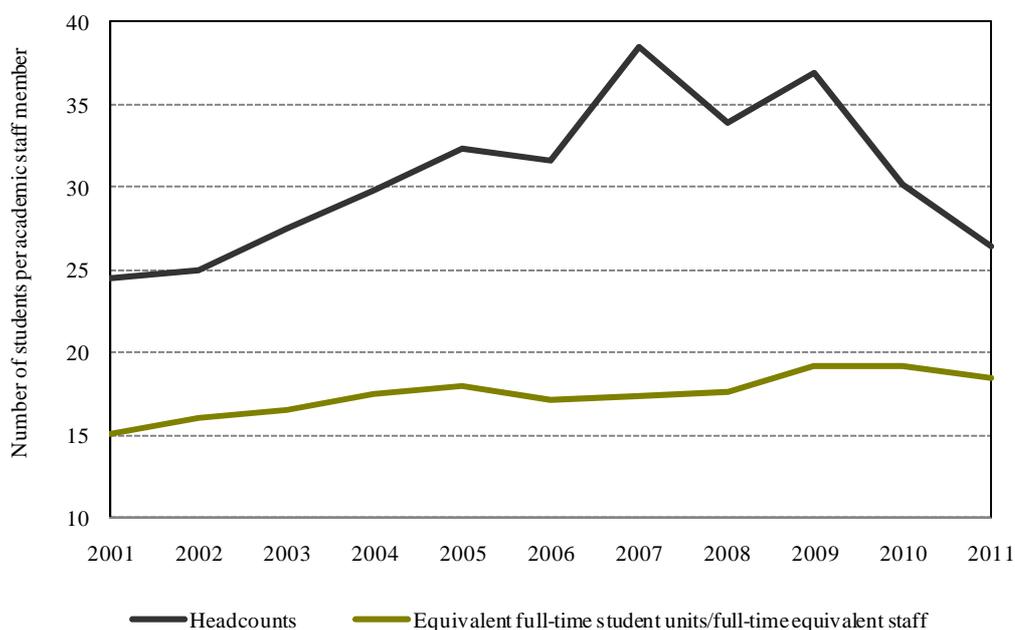
Student to staff ratios

In 2001, the student to staff ratio at polytechnics was 15.1 equivalent full-time student units per academic full-time equivalent. From 2001 onwards, the ratio increased and, in 2011, it was 18.5. Underlying this upward trend has been the substantial rise in the number of students undertaking non-degree qualifications from 2001 until 2007. Then, from 2008 to 2011, the ratio increased strongly due to fewer short non-degree enrolments, while enrolments in longer non-degree qualifications and degree and higher-level qualifications increased.

²⁵ The equivalent full-time count for these staff was 0.33, on average, in 2001 and 0.27 in 2011.

²⁶ The advisory and research support staff includes technicians, student/community services staff, computer staff, information officers, etc. It does not include tradespersons and general services staff.

Figure 9.3
Student to staff ratios at polytechnics



Note: Broken axis in Figure 9.3.

The number of students has increased more strongly at polytechnics than the number of academic staff since 2001, and the average student study load also increased. The equivalent full-time student count was 30 percent higher in 2011 than in 2001. The comparable increase in the full-time equivalent staff was 6.1 percent.

The composition of the academic staff at polytechnics has remained similar over the last 10 years. The number of academic staff has increased slowly since 2001 due to increases in the number of lecturers, tutorial assistants and ‘other’ academic staff being partially offset by decreases in the number of tutors. While the part-time academic staff has increased more strongly than the full-time academic staff since 2001, the resultant shift in the composition of the academic staff was small as a substantial part-time workforce has existed at polytechnics for many years. In 2001, 60 percent of the academic staff was full-time and, in 2011, the proportion was 56 percent.

The five-year qualification completion rates improved over this period suggesting that the quality of teaching was not adversely affected by the increase in the student to staff ratio at polytechnics. Students who started non-degree study in 1996 and had completed this before the student to staff ratio had started to become higher in 2001, had substantially lower completion rates than the students who started non-degree qualifications in 2005 and who had completed these by 2010.²⁷

However, the five-year qualification completion rates of the 1996 student cohort may have been lower than those for the 2005 student cohort, due to unemployment falling in 2000 and 2001. This is likely to have attracted some students into employment, slowing down, or stopping, their qualification completion. In the opposite direction, the current slow economic conditions are likely to have had an upward effect on the qualification completion rates of the students who started study in 2005 as fewer of them would have had opportunities to enter the labour market due to higher unemployment from 2008 to 2010. Other confounding factors also exist with

²⁷ Wensvoort, M. (2011) *Achievement in formal tertiary education*, Wellington: Ministry of Education.

respect to the cohort who started study in 2005. In recent years, a portion of funding has been linked to the performance of providers and this is likely to have also contributed to the increase in the qualification completion rates of students who started study in 2005.

Advisory and 'other' teacher support per academic staff member

From 2001 to 2011, the number of support staff at polytechnics has increased more strongly than the number of academic staff. This pattern was even stronger in terms of academic full-time equivalents.

As a proportion of the total polytechnic workforce, the academic full-time equivalent staff has decreased since 2001. The proportion was 57 percent in 2001 and 52 percent in 2011. However, the stronger growth in the advisory and 'other' teacher support means that support per academic staff has increased. In 2001, there was one support staff for every two academic staff (or 0.50 support staff per academic staff). In 2011, the ratio was higher at 0.61 support staff per academic staff member. This higher level of support is likely to assist the academic staff with the teaching of a higher number of equivalent full-time student units.

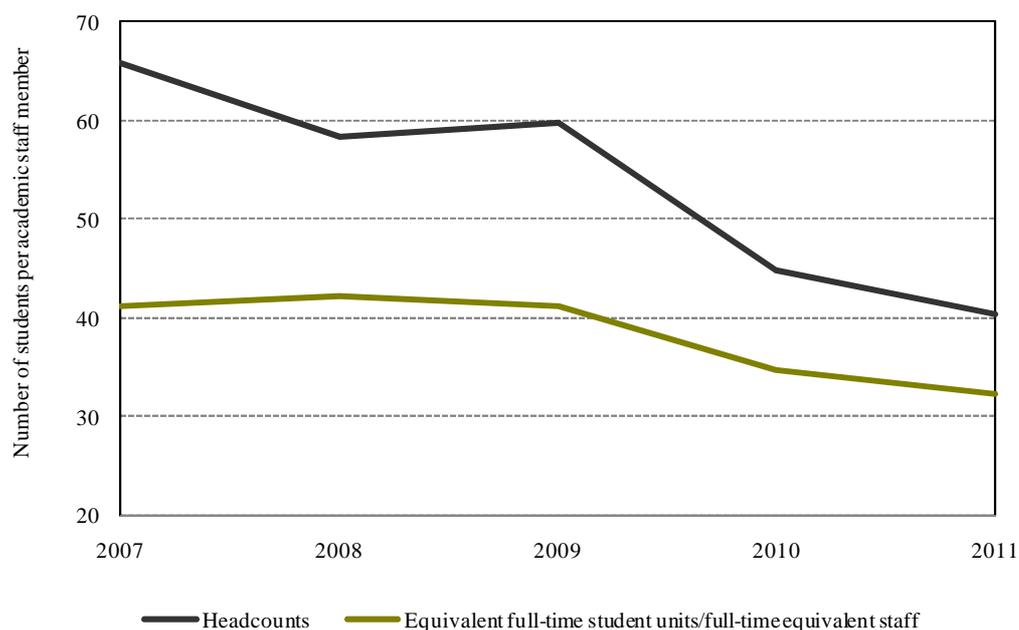
9.3 Wānanga

Ten percent of the equivalent full-time students enrolled at public tertiary education institutions studied at a wānanga in 2011, while 5.7 percent of the academic full-time equivalent staff was employed at a wānanga. The lower proportion of academics reflects that more students enrolled at wānanga study shorter qualifications such as level 1 to 3 certificates.

Student to staff ratios

In 2007, the student to staff ratio at wānanga was 41.2 equivalent full-time student units per academic full-time equivalent. This compared to 32.4 in 2011. Underlying this downward trend in the student to staff at wānanga has been a 42 percent increase in academic full-time equivalents. The increase in the number of equivalent full-time student units from 2007 to 2011 was smaller at 12 percent. However, the average student study load increased from 2007 to 2011 due to more enrolments in higher-level qualifications. Bachelors-degree study doubled in equivalent full-time students units from 2007 and 2011, while there also was a substantial increase in the study of longer level 3 qualifications from 2007 to 2011. This increase in longer and higher-level study at wānanga has coincided with a lower student to staff ratio.

Figure 9.4
Student to staff ratios at wānanga



Note: Broken axis in Figure 9.4.

Since 2007, the composition of the academic staff at wānanga has shifted more towards lecturers, tutors and tutorial assistants. The academic staff who worked full-time has increased more strongly in number than the part-time academic staff. Full-time staff comprised 84 percent of the academic full-time equivalents in 2007 and 90 percent in 2011.

The falling student to staff ratio at wānanga suggests a positive impact on the quality of teaching. The five-year qualification completion rates indicate that students who started study in 1996 and had completed this by 2001 had lower completion rates at every qualification level than the students who started a qualification in 2005 and who had completed these by 2011.²⁸

However, the five-year qualification completion rates of the 1996 student cohort may have been lower than those for the 2005 student cohort, due to unemployment falling in 2000 and 2001. This is likely to have attracted some students into employment, slowing down, or stopping, their qualification completion. In the opposite direction, the current slow economic conditions are likely to have had an upward effect on the qualification completion rates of the students who started study in 2005 as fewer of them would have had opportunities to enter the labour market due to higher unemployment from 2008 to 2010. Other confounding factors also exist with respect to the cohort who started study in 2005. In recent years, a portion of funding has been linked to the performance of providers and this is likely to have also contributed to the increase in the qualification completion rates of students who started study in 2005.

²⁸ Wensvoort, M. (2011) *Achievement in formal tertiary Education*, Wellington: Ministry of Education.

Advisory and 'other' teacher support per academic staff member

From 2007 to 2011, the number of academic staff at wānanga increased more strongly than the number of support staff. The increase was also stronger in terms of academic full-time equivalents.

As a proportion of the total wānanga workforce, the academic full-time equivalent staff has increased since 2007. The proportion was 43 percent in 2007 and 51 percent in 2011.

The slower growth in the advisory, technical and administrative support staff means that support per academic staff has decreased. In 2007, the ratio of support staff to academic staff was 0.68. In 2011, the ratio was lower at 0.61 support staff per academic staff member. In terms of full-time equivalents, the comparable ratios were 0.78 and 0.63.

APPENDIX A NUMBER OF STAFF AT TERTIARY EDUCATION INSTITUTIONS

Table 1

Number of staff employed at universities by designation

	Professors	Associate professors	Senior lecturers	Lecturers	Other academic staff*	Research-only staff	Research support staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	558	696	3,000	2,151	2,037	764	727	8,865	384	1,220	20,402
2002	606	716	3,054	2,399	2,429	768	643	8,896	342	1,310	21,165
2003	661	752	3,162	2,455	2,524	994	607	10,083	374	1,428	23,040
2004	696	766	3,198	2,347	2,649	1,142	613	10,288	393	1,269	23,361
2005	774	799	3,175	2,312	3,410	1,208	624	10,335	375	1,216	24,229
2006	803	834	2,966	2,124	3,074	1,215	584	10,308	347	1,248	23,504
2007	893	839	2,964	1,948	3,264	1,227	760	10,354	301	1,149	23,699
2008	860	884	2,942	1,827	3,317	1,332	795	9,830	323	1,087	23,197
2009	902	909	2,912	1,693	3,691	1,438	765	10,169	307	1,101	23,887
2010	953	941	2,880	1,559	3,777	1,463	803	10,222	326	1,100	24,024
2011	1,022	960	2,841	1,448	3,596	1,426	888	10,252	315	1,111	23,859

*This category covers 'other' teaching or combined teaching/research staff.

Table 2

Number of female staff employed at universities by designation

	Professors	Associate professors	Senior lecturers	Lecturers	Other academic staff*	Research-only staff	Research support staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	61	110	1,056	1,188	1,152	355	494	6,110	159	605	11,290
2002	70	128	1,110	1,355	1,330	360	433	5,758	146	708	11,398
2003	87	145	1,189	1,359	1,402	481	423	6,911	180	727	12,904
2004	88	166	1,178	1,309	1,437	596	430	7,043	194	671	13,112
2005	111	192	1,240	1,257	1,887	630	444	7,067	167	557	13,552
2006	119	209	1,234	1,156	1,707	637	411	7,028	141	540	13,182
2007	166	208	1,282	1,095	1,809	651	527	7,046	101	477	13,362
2008	126	234	1,267	1,017	1,845	720	552	6,726	112	444	13,043
2009	146	255	1,275	939	2,059	773	558	6,882	106	452	13,444
2010	161	275	1,277	850	2,118	811	575	6,823	124	456	13,470
2011	188	285	1,285	805	2,026	789	622	6,818	121	472	13,411

*This category covers 'other' teaching or combined teaching/research staff.

Table 3

Number of male staff employed at universities by designation

	Professors	Associate professors	Senior lecturers	Lecturers	Other academic staff*	Research-only staff	Research support staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	497	590	1,944	963	895	409	233	2,755	225	615	9,112
2002	538	592	1,944	1,044	1,099	408	210	3,138	196	602	9,767
2003	574	611	1,973	1,096	1,122	513	184	3,172	194	701	10,136
2004	608	604	2,020	1,038	1,212	546	183	3,245	199	598	10,249
2005	664	609	1,935	1,055	1,523	578	180	3,268	208	659	10,677
2006	685	627	1,732	968	1,367	578	173	3,280	206	708	10,322
2007	727	631	1,682	853	1,455	576	233	3,308	200	672	10,337
2008	734	650	1,675	810	1,472	612	243	3,104	211	643	10,154
2009	757	654	1,637	754	1,632	665	207	3,287	201	649	10,443
2010	792	666	1,603	709	1,659	652	228	3,399	202	644	10,554
2011	834	675	1,556	643	1,570	637	266	3,434	194	639	10,448

*This category covers 'other' teaching or combined teaching/research staff.

Table 4

Number of staff employed at polytechnics by designation

	Deans/ Heads of School	Heads of department/ faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistants	Other academic staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	102	155	584	4,120	181	171	2,649	373	706	9,041
2002	104	118	344	4,626	298	270	2,925	351	384	9,420
2003	114	143	1,290	3,990	277	357	3,070	426	998	10,665
2004	94	150	1,006	4,315	376	464	3,251	473	989	11,118
2005	117	146	786	4,444	349	712	3,528	457	647	11,186
2006	106	199	782	4,584	326	780	3,652	474	546	11,449
2007	116	231	852	4,143	207	85	3,592	494	501	10,221
2008	97	215	605	4,534	278	105	3,485	480	412	10,211
2009	99	172	961	3,656	182	135	3,513	540	473	9,731
2010	109	150	1,142	4,313	205	294	3,720	576	596	11,105
2011	95	166	1,250	3,940	197	296	3,601	684	672	10,901

Table 5

Number of female staff employed at polytechnics by designation

	Deans/ Heads of School	Heads of department / faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistants	Other academic staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	34	73	280	2,184	102	99	2,034	203	415	5,424
2002	43	55	163	2,514	174	159	2,191	209	213	5,721
2003	44	70	692	2,170	156	210	2,285	240	651	6,518
2004	38	67	531	2,292	239	289	2,394	273	646	6,769
2005	52	56	415	2,351	214	475	2,665	263	380	6,871
2006	47	83	399	2,407	196	588	2,715	296	308	7,039
2007	56	93	415	2,133	127	50	2,670	308	254	6,106
2008	44	103	297	2,380	173	53	2,595	299	212	6,156
2009	39	78	483	1,945	119	64	2,588	335	240	5,891
2010	54	65	580	2,307	116	166	2,756	339	334	6,717
2011	50	78	654	2,100	120	164	2,689	421	368	6,644

Table 6

Number of male staff employed at polytechnics by designation

	Deans/ Heads of School	Heads of departmen t/ faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistants	Other academic staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	68	82	304	1,936	79	72	615	170	291	3,617
2002	61	63	181	2,112	124	111	734	142	171	3,699
2003	70	73	598	1,820	121	147	785	186	347	4,147
2004	56	83	475	2,023	137	175	857	200	343	4,349
2005	65	90	371	2,093	135	237	863	194	267	4,315
2006	59	116	383	2,177	130	192	937	178	238	4,410
2007	60	138	437	2,010	80	35	922	186	247	4,115
2008	53	112	308	2,154	105	52	890	181	200	4,055
2009	60	94	478	1,711	63	71	925	205	233	3,840
2010	55	85	562	2,006	89	128	964	237	262	4,388
2011	45	88	596	1,840	77	132	912	263	304	4,257

Table 7

Number of staff employed at wānanga by designation

	Deans/ Heads of School	Heads of departme nt/ faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistant s	Other academic staff	Voluntary unpaid academic staff	Advisory & other teacher support staff	Executiv e staff	General services staff	Total
2001	2	16	4	219	44		87	215	26	78	691
2002	-	13	13	426	156	30	87	487	44	121	1,377
2003	8	24	13	691	151	-	-	814	126	99	1,926
2004	16	76	41	756	160	119	16	760	72	231	2,247
2005	8	111	17	725	166	54	9	816	128	167	2,201
2006	6	53	13	640	17	48	13	552	175	120	1,637
2007	8	51	27	473	41	18	25	440	213	167	1,463
2008	6	55	36	519	59	16	-	392	170	89	1,342
2009	4	22	46	579	45	16	-	462	260	122	1,556
2010	6	25	77	605	88	142	-	559	137	140	1,779
2011	6	11	66	645	83	144	-	580	158	140	1,833

Table 8

Number of female staff employed at wānanga by designation

	Deans/ Heads of School	Heads of departme nt/ faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistant s	Other academic staff	Voluntary unpaid academic staff	Advisory & other teacher support staff	Executiv e staff	General services staff	Total
2001	0	8	3	108	21		46	164	9	35	394
2002	0	4	6	210	77	20	46	341	15	60	779
2003	2	10	6	371	77	-	-	549	68	45	1,128
2004	4	39	19	432	91	66	11	564	31	164	1,421
2005	2	57	8	408	103	53	3	581	71	93	1,379
2006	1	29	4	379	10	46	5	381	114	70	1,039
2007	6	28	16	264	22	8	12	307	134	103	900
2008	4	30	15	322	38	11	-	283	101	53	857
2009	2	14	24	312	29	9	-	329	179	68	966
2010	3	13	39	333	55	99	-	430	85	70	1,127
2011	2	6	36	352	52	97	-	442	90	35	1,142

Table 9

Number of male staff employed at wānanga by designation

	Deans/ Heads of School	Heads of department / faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistant s	Other academic staff	Voluntary unpaid academic staff	Advisory & other teacher support staff	Executiv e staff	General services staff	Total
2001	2	8	1	111	23		41	51	17	43	297
2002	-	9	7	216	79	10	41	146	29	61	598
2003	6	14	7	320	74	-	-	265	58	54	798
2004	12	37	22	324	69	53	5	196	41	67	826
2005	6	54	9	317	63	1	6	235	57	74	822
2006	5	24	9	261	7	2	8	171	61	50	598
2007	2	23	11	209	19	10	13	133	79	64	563
2008	2	25	21	197	21	5	-	109	69	36	485
2009	2	8	22	267	16	7	-	133	81	54	590
2010	3	12	38	272	33	43	-	129	52	70	652
2011	4	5	30	293	31	47	-	138	68	75	691

APPENDIX B FULL-TIME EQUIVALENT STAFF AT TERTIARY EDUCATION INSTITUTIONS

Table 10

Number of full-time equivalent staff at universities by designation

	Professors	Associate professors	Senior lecturers	Lecturers	Other academic staff*	Research-only staff	Research support staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	497	642	2,489	1,883	1,072	669	431	7,056	378	827	15,943
2002	547	662	2,530	1,981	1,147	655	393	6,896	323	849	15,983
2003	591	702	2,586	2,049	1,139	833	411	7,813	356	928	17,409
2004	629	728	2,667	2,003	1,166	960	345	8,094	373	813	17,777
2005	709	752	2,645	1,970	1,289	1,018	403	8,236	368	948	18,338
2006	740	780	2,696	1,774	1,256	1,020	415	8,305	335	906	18,228
2007	796	779	2,703	1,665	1,312	1,035	449	8,418	294	898	18,350
2008	779	820	2,709	1,579	1,314	1,099	491	8,588	313	897	18,590
2009	808	834	2,651	1,475	1,451	1,197	532	8,861	297	873	18,979
2010	851	864	2,644	1,372	1,489	1,221	556	8,844	317	870	19,027
2011	898	880	2,600	1,282	1,500	1,172	582	8,971	303	918	19,107

This category covers 'other' teaching or combined teaching/research staff.

Table 11

Number of female full-time equivalent staff at universities by designation

	Professors	Associate professors	Senior lecturers	Lecturers	Other academic staff*	Research-only staff	Research support staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	57	101	891	1,014	636	304	292	4,799	164	327	8,586
2002	67	116	942	1,094	643	299	266	4,367	139	403	8,336
2003	81	137	994	1,104	647	388	274	5,287	173	392	9,476
2004	83	158	1,052	1,084	676	477	249	5,470	183	368	9,801
2005	104	179	1,046	1,034	740	504	295	5,555	164	385	10,006
2006	112	194	1,111	931	733	510	298	5,600	135	322	9,945
2007	142	193	1,148	899	756	529	325	5,660	97	324	10,074
2008	117	219	1,154	863	764	572	355	5,762	108	317	10,230
2009	133	231	1,148	800	846	619	385	5,907	103	290	10,463
2010	147	254	1,160	730	880	650	397	5,804	121	303	10,445
2011	167	265	1,162	699	914	620	416	5,883	116	335	10,578

*This category covers 'other' teaching or combined teaching/research staff.

Table 12

Number of male full-time equivalent staff at universities by designation

	Professors	Associate professors	Senior lecturers	Lecturers	Other academic staff*	Research -only staff	Research support staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	440	540	1,598	868	436	139	365	2,257	214	501	7,357
2002	481	545	1,588	888	504	126	356	2,529	184	446	7,647
2003	510	566	1,592	946	492	137	445	2,526	184	536	7,932
2004	546	570	1,615	919	490	96	482	2,623	190	445	7,976
2005	605	573	1,599	936	549	108	514	2,681	204	563	8,331
2006	629	586	1,585	843	523	117	511	2,705	200	584	8,283
2007	654	587	1,554	767	557	124	506	2,757	197	575	8,276
2008	662	601	1,555	716	550	136	528	2,826	205	580	8,360
2009	675	602	1,502	675	605	146	578	2,954	194	583	8,515
2010	703	610	1,484	642	609	159	572	3,040	196	567	8,582
2011	731	615	1,438	584	586	166	552	3,088	186	583	8,529

*This category covers 'other' teaching or combined teaching/research staff.

Table 13

Number of full-time equivalent staff at polytechnics by designation

	Deans/ Heads of School	Heads of department /faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistants	Other academic staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	102	154	554	3,071	63	54	2,174	356	429	6,959
2002	103	118	320	3,296	71	52	2,099	335	290	6,684
2003	112	141	1,110	2,718	89	41	2,443	408	514	7,577
2004	94	149	893	3,102	99	56	2,597	449	487	7,926
2005	116	145	734	3,149	82	122	2,743	430	419	7,940
2006	105	197	735	3,189	74	82	2,792	453	386	8,012
2007	115	229	786	3,114	85	55	2,840	470	411	8,106
2008	96	212	563	3,145	65	71	2,721	459	329	7,660
2009	99	170	889	2,793	54	82	2,755	514	366	7,722
2010	109	148	1,052	2,772	41	88	2,830	550	368	7,957
2011	94	162	1,138	2,687	60	101	2,791	648	405	8,085

Table 14

Number of female full-time equivalent staff at polytechnics by designation

	Deans/ Heads of School	Heads of departmen t/ faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistants	Other academic staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	34	73	259	1,515	33	22	1,665	194	234	4,028
2002	42	55	150	1,683	38	22	1,584	197	146	3,917
2003	44	69	575	1,361	52	13	1,827	226	318	4,486
2004	38	67	449	1,518	52	26	1,915	256	293	4,614
2005	52	55	380	1,521	47	57	2,063	246	235	4,656
2006	46	81	366	1,520	38	47	2,076	281	205	4,659
2007	56	91	369	1,464	53	36	2,092	288	209	4,660
2008	44	100	270	1,494	39	35	2,020	282	159	4,441
2009	39	77	441	1,382	35	39	2,023	317	179	4,532
2010	54	64	518	1,344	25	48	2,087	323	177	4,640
2011	50	76	575	1,319	37	49	2,058	398	191	4,753

Table 15

Number of male full-time equivalent staff at polytechnics by designation

	Deans/ Heads of School	Heads of departmen t/ faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistants	Other academic staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	68	81	295	1,556	30	33	509	163	195	2,930
2002	61	63	170	1,613	33	30	514	138	145	2,767
2003	69	72	535	1,357	37	28	616	182	196	3,092
2004	56	82	444	1,584	46	30	681	193	195	3,312
2005	65	90	354	1,628	35	65	680	184	184	3,283
2006	59	116	369	1,669	36	36	716	172	180	3,353
2007	59	138	417	1,650	32	19	748	181	203	3,447
2008	52	112	294	1,651	26	36	701	177	170	3,219
2009	60	93	448	1,411	19	43	732	197	187	3,190
2010	55	84	534	1,428	16	40	743	227	191	3,317
2011	45	86	563	1,368	23	52	733	250	214	3,332

Table 16

Number of full-time equivalent staff at wānanga by designation

	Deans/ Heads of School	Heads of depart- ment/ faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistants	Other academic staff	Voluntary unpaid academic staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	2	16	4	195	19		1	180	25	60	502
2002	-	13	12	392	79	30	0	438	41	94	1,100
2003	8	23	13	666	72	-	-	759	122	85	1,748
2004	16	74	40	668	65	117	7	657	70	169	1,883
2005	8	105	16	628	67	41	5	744	124	123	1,861
2006	6	47	12	552	8	40	13	505	167	96	1,445
2007	8	50	26	414	19	8	13	420	206	87	1,250
2008	6	54	35	394	30	16	-	357	166	77	1,135
2009	4	22	44	497	29	14	-	436	250	107	1,402
2010	6	25	71	492	37	114	-	469	131	107	1,452
2011	6	11	65	529	29	123	-	478	150	105	1,495

Table 17

Number of female full-time equivalent staff at wānanga by designation

	Deans/ Heads of School	Heads of depart- ment/ faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistants	Other academic staff	Voluntary unpaid academic staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	-	8	3	95	9		0	141	9	24	290
2002	-	4	6	192	38	20	0	307	13	39	619
2003	2	9	6	358	38	-	-	510	67	36	1,026
2004	4	39	19	373	35	65	5	488	31	109	1,168
2005	2	54	8	350	37	40	2	522	68	59	1,142
2006	1	26	4	321	3	38	5	344	107	51	899
2007	6	28	16	226	10	3	6	290	130	47	761
2008	4	30	15	219	18	11	-	252	99	44	690
2009	2	14	23	267	16	9	-	307	172	56	866
2010	3	13	37	266	23	79	-	348	82	51	903
2011	2	6	36	290	16	78	-	354	87	47	916

Table 18

Number of male full-time equivalent staff at wānanga by designation

	Deans/ Heads of School	Heads of depart- ment/ faculty	Principal lecturers & senior lecturers	Senior tutors & tutors	Tutorial assistants	Other academic staff	Voluntary unpaid academic staff	Advisory & other teacher support staff	Executive staff	General services staff	Total
2001	2	8	1	100	10		0	39	16	36	212
2002	-	9	6	200	41	10	0	131	28	54	481
2003	6	14	7	307	34	-	-	249	55	49	722
2004	12	36	21	295	30	52	2	169	39	60	715
2005	6	51	8	278	30	1	4	222	56	63	719
2006	5	21	8	231	5	2	8	161	60	45	546
2007	2	22	10	188	9	5	7	130	77	40	489
2008	2	25	20	175	12	5	-	105	67	34	446
2009	2	8	21	230	13	5	-	129	78	51	537
2010	3	12	34	226	14	35	-	121	49	55	549
2011	4	5	29	239	13	45	-	124	63	59	580

APPENDIX C DATA CAVEAT

During the reference period described in this report, regroupings of public tertiary education institutions have occurred (see Table 19).

To enable comparisons to be made over time, data for previous years has been added to the sub-sector that the institution has moved to.

Table 19

Mergers of public tertiary education institutions from 1991 to 2011

1991	Hamilton Teachers' Training College merged into The University of Waikato
1997	Palmerston North College of Education merged into Massey University
1999	Wellington Polytechnic merged into Massey University
2000	Auckland Institute of Technology became Auckland University of Technology
2001	Wairarapa Polytechnic merged with the Universal College of Learning
2002	Central Institute of Technology merged into Wellington Institute of Technology Wanganui Regional Community Polytechnic merged into Universal College of Learning
2005	Auckland College of Education merged into The University of Auckland Wellington College of Education merged into Victoria University of Wellington
2007	Christchurch College of Education merged into the University of Canterbury Dunedin College of Education merged into the University of Otago
2011	Eastern Institute of Technology (Tairāwhiti) became Eastern Institute of Technology Tairāwhiti Polytechnic merged into the Eastern Institute of Technology Telford Rural Polytechnic merged into Lincoln University

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