



CHAPTER FIVE

AN OVERVIEW OF LEARNERS IN TERTIARY EDUCATION // 51-66

Overview and the 2007 year // 52

Highlights // 53

Participation in tertiary education and its outcomes:
an international comparison // 58

Passing courses // 64

AN OVERVIEW

In 2006, over 700,000 people were engaged in some form of formally recognised learning either at a tertiary education provider or in the workplace, or both. Twenty percent more New Zealanders participated in formal tertiary education in 2006 than was the case five years earlier. Nearly one in five New Zealanders aged 15 years and over were involved in some form of formal tertiary education. Fourteen percent of the population were enrolled at a tertiary education provider and over 5 percent were undertaking formal learning in the workplace.

After rising rapidly for many years, the number of formal students enrolled at tertiary education providers fell in 2006. In contrast, workplace-based learning grew strongly – the number of industry trainees increased by 8.1 percent in 2006 to 176,000. When converting the number of people studying to equivalent full-time students, both domestic and international provider-based enrolments fell in 2006. International enrolments fell more strongly than domestic enrolments. This was the second consecutive decline in international enrolments, after strong growth between 2000 and 2003, and reduced growth in 2004. In terms of equivalent full-time students, 12 percent of formal provider-based students were international in 2006.

Study at certificate levels by domestic students fell in 2006, in terms of both student numbers and equivalent full-time students, following reviews of the relevance and quality of some qualifications. Compared with a year earlier, the number of domestic students enrolled at diploma levels 5 to 7 remained virtually unchanged although in terms of equivalent full-time students these enrolments fell. Bachelors-level study remained virtually unchanged from 2005 to 2006 for domestic students while enrolments at this level by international students fell. The number of people undertaking doctoral study continued to rise in 2006. Doctoral study by international students is now funded on the same basis as domestic students and the number of international doctoral enrolments rose strongly in 2006.

Non-formal learning in New Zealand continued to decline in 2006, reflecting the government's more targeted approach to the funding of this type of education.

The latest information from the Organisation for Economic Co-operation and Development showed that New Zealand had high participation rates in tertiary education because of higher enrolments by students at older ages. One of New Zealand's education priorities for 2008 to 2010 is to increase educational success for young New Zealanders – more achieving

qualifications at level 4 and above by age 25 years. A short study of international comparisons is provided later on in this chapter.

Another recent study on how many students pass their courses showed that many students pass all of their courses without necessarily gaining a qualification. The study suggests that a number of people undertake tertiary study with course-related rather than qualification-related goals. Later in this chapter there is a summary of this study which includes updated information on how many students passed courses in tertiary education for the period 2002 to 2006.

THE 2007 YEAR

Greater predictability in the patterns of participation in tertiary education is likely as a result of recent funding changes and as multi-year funding plans to steer the tertiary education system commence in 2008.

Reviews of the relevance and quality of provision were carried out in 2005 and 2006. These reviews resulted in some qualifications being modified while some others were phased out. It is expected that student numbers in A1 and J1 qualifications will continue to fall over the next two years. The continued strength of the labour market may also reduce numbers in certificate-level study. However, as the government's reforms take effect there will be an increase in provision in areas of higher relevance and with better labour market outcomes.

The introduction of funding for doctoral study by international students on the same basis as domestic students is likely to further increase these enrolments.

The continuation of the 'baby blip' generation moving from school into tertiary education will also exert an upward movement on enrolments and led to an increase in degree-level enrolments in universities in 2007. A further 129,000 will be turning 18 or 19 years of age in 2007.

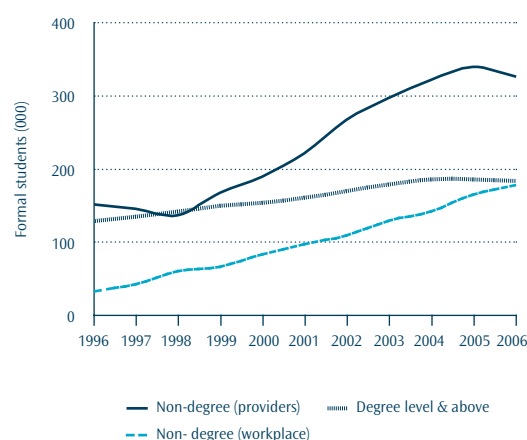
TRENDS IN FORMAL EDUCATION

After rising rapidly for many years, the number of formally enrolled students fell in 2006. The number of people studying in non-degree-level courses fell significantly in 2006, while the number studying at degree level and above flattened off. In contrast, the upward trend in workplace-based enrolments continued to increase in 2006.

- Notes:**
 1. See Table 5.1 for more information on the size of the tertiary education sector.
 2. Data before 1999 excludes students in private providers.

Source: Ministry of Education and Tertiary Education Commission.

Figure 5.1//Trend in formal students by level of study and setting^{1,2}



STUDENT ENROLMENTS IN 2006

The number of students in formal tertiary study in 2006:¹

Total formal students²	703,000	
Provider-based		
Total students not included elsewhere	491,000	(down 2.5% on 2005)
Training Opportunities	17,000	(up 3.2% on 2005)
Youth Training	11,000	(down 0.9% on 2005)
Skill Enhancement	558	(down 26% on 2005)
Secondary-Tertiary Alignment Resource	17,200	(up 1.7% on 2005)
Workplace-based		
Total industry training	176,000	(up 8.1% on 2005)
Industry training ³	167,000	(up 7.8% on 2005)
Modern Apprenticeships	9,470	(up 13% on 2005)
Gateway	6,680	(up 19% on 2005)

In 2006, there were also 65,800 formal students in short courses and 15,000 students in non-government-funded providers.

NON-FORMAL STUDENTS

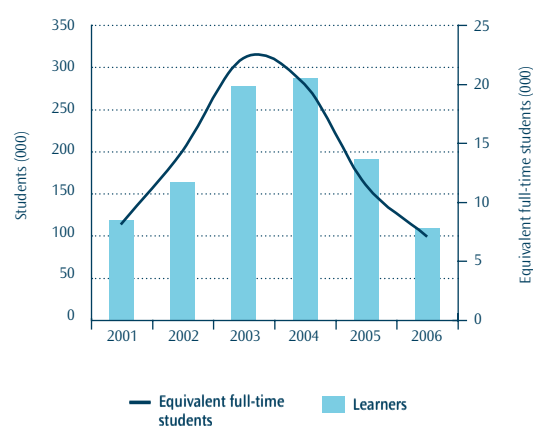
The declines in recent years in adult and community education reflect a more targeted approach to the funding of this type of education.

The estimated number of students in non-formal tertiary study in 2006:

Adult and community education:		
Tertiary education institutions	95,700	(down 47% from 2005)
Schools	149,000	(down from 164,000 in 2005)
Community organisations		Unknown
Adult literacy and English for Speakers of Other Languages:		
Estimated funded learners	12,000	

Note: Students are counted in each course they enrol in.

Figure 5.2// Non-formal students in tertiary education institutions



1. Students are counted in each type of programme they enrol in, so the sum of components will not add to totals.
2. Students enrolled at any time during the year with a tertiary education provider in formal qualifications of more than one week's duration.
3. Excluding Modern Apprenticeships. The Modern Apprenticeship numbers used here are as at 31 December.

PROVIDER-BASED ENROLMENTS BY LEVEL OF STUDY

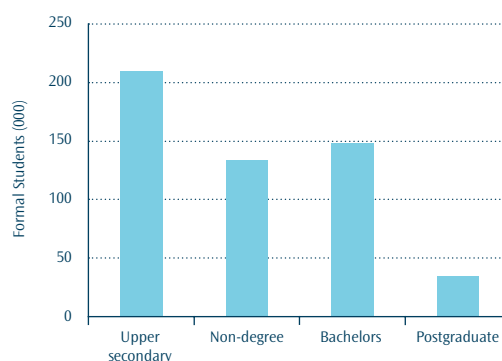
Provider-based enrolments at level 1 to 3 declined in 2006 for the first time in many years. Reviews of the relevance and quality of some qualifications led to this decrease. There were also smaller declines in provider-based enrolments at study levels 5 to 7 due, in part, to a decrease in international enrolments while domestic enrolments remained stable. Study at postgraduate level increased in 2006.

The number of provider-based formal students in 2006:²

	Domestic		International	
	2006	% change from 2005	2006	% change from 2005
All study levels	448,000	-1.7	42,700	-10.0
Certificates 1-3	204,000	-5.9	5,470	-13.9
Certificates 4	61,500	-3.0	2,720	-3.8
Diplomas 5-7	61,900	0.0	10,700	-21.7
Bachelors	127,000	-0.4	22,100	-9.1
Postgraduate	30,500	+1.9	4,320	+5.5

Note: Provider-based students studying certificates 1-3 are included in the upper secondary category.

Figure 5.3// Provider-based formal students by level of study²



WORKPLACE-BASED ENROLMENTS BY LEVEL OF STUDY

Workplace-based study increased at all qualification levels in 2006.

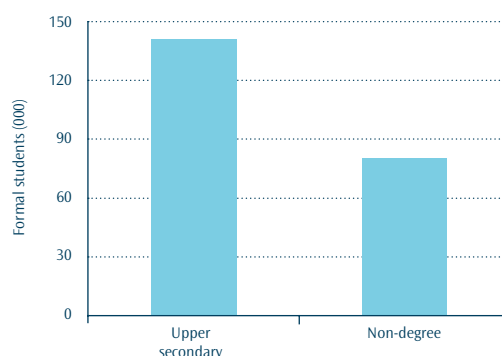
The number of industry trainees in 2006:

All study levels	176,000	(up 8.1% on 2005)
Levels 1-3	141,000	(up 15% on 2005)
Level 4	74,800	(up 2.7% on 2005)
Levels 5-6	5,670	(up 30% on 2005)

The proportion of Gateway students going on to further study or employment in 2006:

Education	64%	(69% in 2002)
Employment	32%	(29% in 2002)

Figure 5.4// Industry trainees by level of study²



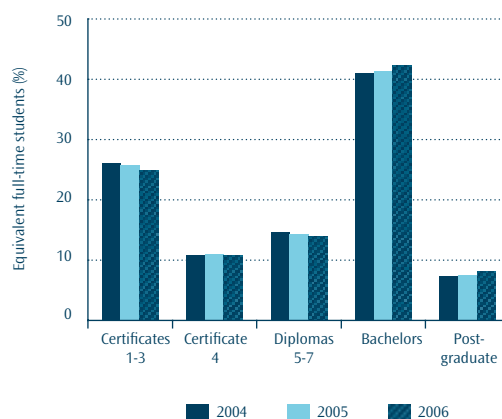
EQUIVALENT FULL-TIME STUDENTS

Converting the provider-based enrolments to equivalent full-time students showed that the proportions of people studying certificates at levels 1 to 3 and diplomas fell in 2006. The proportion of full-time equivalents studying a certificate at level 4 has remained the same over the last three years, while those at bachelors and postgraduate levels increased over this time.

The number of students in formal tertiary education in 2006 by study level (expressed in equivalent full-time student units):²

	Domestic		International		
	2006	% change from 2005	2006	% change from 2005	% of 2006 enrolments
All study levels	238,000	-3.1	32,500	-14.9	12.0
Certificates 1-3	64,600	-8	2,530	-18.7	0.9
Certificates 4	28,100	-5.7	1,390	-1.9	0.5
Diplomas 5-7	30,400	-2.2	7,090	-26.9	2.6
Bachelors	96,300	-0.2	18,300	-12.5	6.8
Level 8 ⁴	8,370	4.7	1,010	1	0.4
Masters	6,040	-5.4	1,170	-15.4	0.4
Doctorates	4,350	8.8	1,020	55.5	0.4

Figure 5.5// Distribution of equivalent full-time students by level of study²



4. This category covers bachelors degrees with honours, postgraduate certificates and postgraduate diplomas.

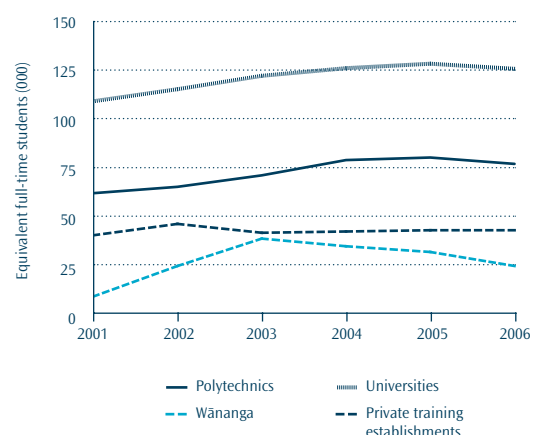
FORMAL STUDENTS BY PROVIDER TYPE

The latest fall in the number of formal students in provider-based tertiary education was spread across all provider types. In private training establishments falling international enrolments were offset by a domestic increase. At universities, international enrolments were lower and at polytechnics both domestic and international enrolments fell. The biggest decline in 2006 occurred in wānanga due to lower domestic enrolments. However, before these falls student numbers in the wānanga had been increasing rapidly.

Students by selected provider type in 2006 (expressed in equivalent full-time student units):²

All formal enrolments	270,000	(down 4.7% on 2005)
Tertiary education institutions	228,000	(down 5.5% on 2005)
Private training establishments	42,000	(no change on 2005)
Universities	125,000	(down 2.1% on 2005)
Polytechnics	76,000	(down 4.1% on 2005)
Wānanga	23,700	(down 23% on 2005)

Figure 5.6// Equivalent full-time students by selected provider type²



PARTICIPATION RATES BY ETHNIC GROUP

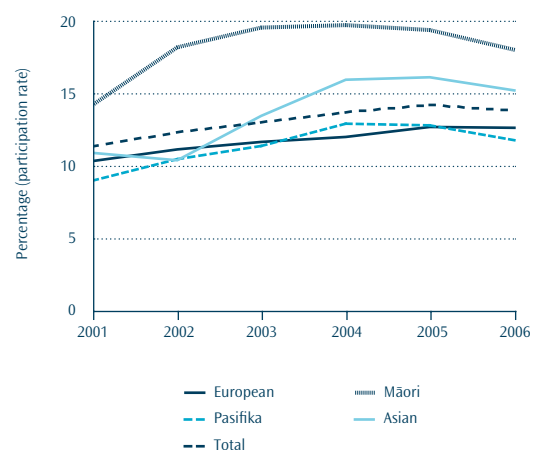
Figure 5.7// Age-standardised participation rates in provider-based tertiary education by ethnic group²

The participation by Māori and Pasifika peoples in formal tertiary education declined significantly in 2006. The participation by the Asian ethnic group also fell in 2006 while for Europeans the participation rate remained static. The decreases in certificate-level courses and a relatively low unemployment rate were contributing factors to this lower level of participation.

The percentage of New Zealanders aged 15 years and over in formal tertiary study by ethnic group in 2006:²

Ethnic group	Industry training	Non-degree	Provider-based	All levels
	%		%	
European	4.4	7.3	4.3	11.6
Māori	7.5	16.3	4.0	20.3
Pasifika	5.9	10.3	4.2	14.6
Asian	na	9.5	8.0	17.6
Total	5.4	9.0	4.8	13.7

Note: In the provider-based rates, students are counted in each ethnic group they affiliated with, while in the workplace-based rates a learner is allocated only one ethnicity based on the 'prioritised' method.



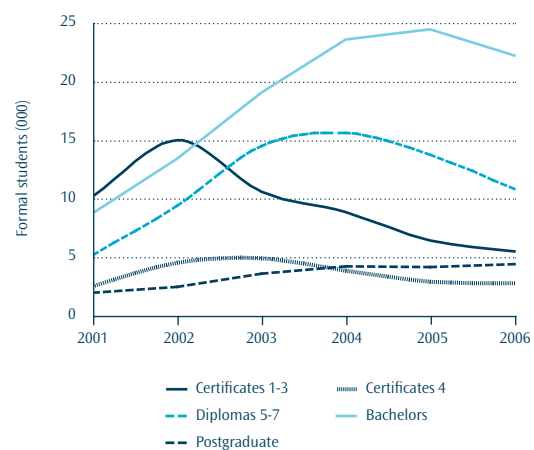
INTERNATIONAL STUDENTS

From a peak of 50,500 enrolments in 2004, the number of international students has declined over the last two years to 42,700 enrolments in 2006.

- 8.7% of tertiary education students were from overseas.
- 70% of the international students were from Asia.
- 90% of the latest fall was due to fewer Asian enrolments.
- 56% more international students enrolled in doctoral studies.

Doctoral study by international students is now funded on the same basis as domestic doctoral studies, meaning that there was a substantial reduction in fees for international students taking doctoral degrees.

Figure 5.8// International students by level of study²



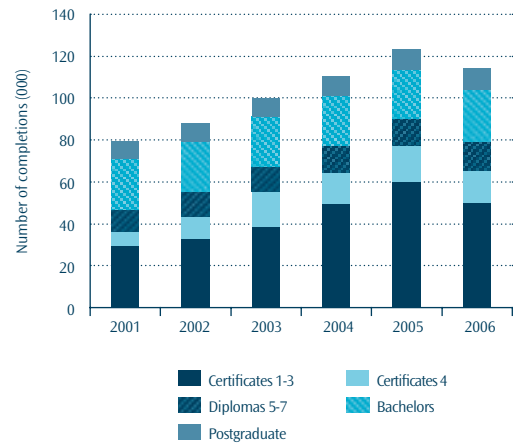
COMPLETING A QUALIFICATION

Figure 5.9// Qualification completions by provider-based formal domestic students²

Qualifications completed by provider-based domestic formal students fell overall in 2006. This downward movement resulted from falls in the completions of non-degree certificates. Completions of diplomas, bachelors degrees and postgraduate qualifications all rose. The level of qualifications completed by international students remained flat in 2006.

Qualification completions by formal students in 2006:

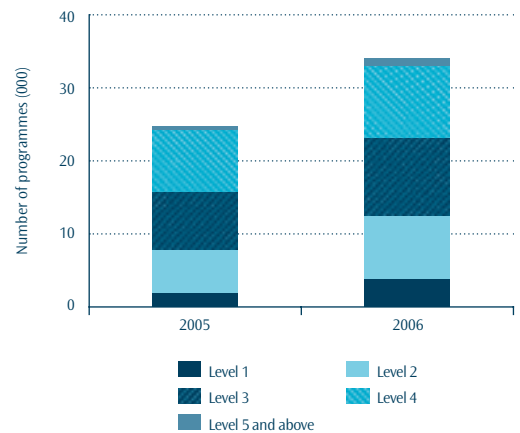
	Domestic			International		
	2005	2006	% change	2005	2006	% change
Total completions	120,000	110,000	-7.6	13,400	13,600	+1.0
Certificates 1-3	60,400	50,100	-17.1	2,200	2,240	+1.8
Certificates 4	17,000	15,400	-9.7	1,140	965	-15.6
Diplomas 5-7	12,800	13,800	+7.9	3,840	3,560	-7.2
Bachelors	23,400	24,600	+5.0	4,630	5,320	+15.0
Honours/postgraduate	6,160	6,580	+6.9	798	748	-6.3
Masters	3,230	3,240	+0.3	960	869	-9.5
Doctorates	578	570	-1.4	71	71	0.0



INCREASED WORKPLACE-BASED ACHIEVEMENT

Figure 5.10// Completed industry training programmes by level of study

In 2006, over a third more industry training programmes were completed compared with the previous year. Thirty-five thousand trainees completed a programme in 2006 and in 2005.



MORE STUDENTS RETAINED IN STUDY

Figure 5.11// First-year and five-year retention rates for domestic formal students²

The proportion of domestic students who started study in 2002 and who had completed their qualification or who were still studying in 2006 increased, compared with students who started study five years earlier. This was the case at all qualification levels except for bachelors, masters and doctorate students, whose five-year retention rates have remained virtually unchanged over the last five years.

The five-year retention rates for domestic formal students:

	1997	2002
All levels of study	49%	54%
Certificates 1-3	34%	41%
Certificates 4	23%	44%
Diplomas 5-7	30%	39%
Bachelors	59%	59%
Level 8 ⁴	60%	65%
Masters	60%	61%
Doctorates	70%	71%

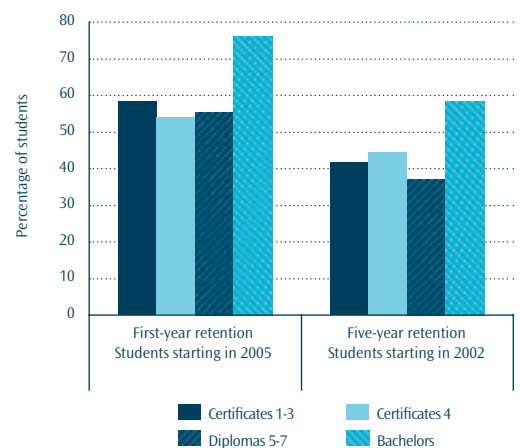


Table 5.1 below summarises the main types of programmes available in New Zealand’s tertiary education system in 2006. More information on each of the programmes is provided in the highlights in chapters 6 to 10.

Table 5.1 // Size of the tertiary education sector by level of study

Estimated number of students/learners	Upper secondary	Post-secondary non-degree	Bachelors	Postgraduate	Total
Formal students¹					
Provider-based					
Domestic students in government-funded providers	204,000	121,000	127,000	30,500	448,000
International students in government-funded providers	5,470	13,200	22,100	4,320	42,700
Students in non-government-funded providers (estimate)	10,000	5,000			
Secondary-Tertiary Alignment Resource	16,600	667			17,200
Targeted training programmes	17,000				17,000
– Training Opportunities					
– Youth Training	11,000				11,000
– Skill Enhancement		558			558
Students in qualifications of more than 1 week’s duration	264,000	140,000	149,000	34,800	520,000
Students in qualifications of less than 1 week’s duration	60,200	6,240			65,800
Total provider-based students	331,000	146,000	149,000	34,800	574,000
Workplace-based					
– Learners in industry training (excluding Modern Apprenticeships)	129,000	37,600			167,000
– Learners in Modern Apprenticeships	936	8,530			9,470
– Gateway	6,680				6,680
Total workplace-based learners	137,000	46,100	0	0	183,000
Non-formal students					
ACE* through tertiary education institutions					103,000
International students in non-formal qualifications					6,580
Adult literacy and English as a second or other language (estimated funded learners)					12,000
ACE funded through schools					149,000
ACE through community organisations					Unknown

*Adult, community and other education not elsewhere classified.

Student component-funded learners	179,000	110,000	127,000	30,800	416,000
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Notes:

1. Provider-based students are counted in each type of programme they enrol in, so the sum of components will not add to totals.
2. Provider-based students enrolled at any time during the year with a tertiary education provider in formal qualification of less than one week’s duration.
3. Training Opportunities, Youth Training, Secondary-Tertiary Alignment Resource, Gateway, and ACE programmes are included in chapters 7 and 10.
4. Industry training, including Modern Apprenticeships, is included in chapter 6.
5. Skill Enhancement programmes are included in chapter 8.

PARTICIPATION IN TERTIARY EDUCATION AND ITS OUTCOMES: AN INTERNATIONAL COMPARISON

The Organisation for Economic Co-operation and Development (OECD) publishes a growing range of indicators that allows international comparisons to be made of tertiary education systems. New Zealand's tertiary education system differs, however, from those in the OECD member countries. Our sector is more diverse and has more open access than the systems in some countries. These differences require care to be exercised in interpreting these comparisons.

One important difference to recognise is that New Zealand defines all post-secondary education as tertiary while the OECD distinguishes between tertiary education and post-secondary education that is at lower levels. New Zealand does, of course, report its data to the OECD based on the OECD definition of tertiary education as detailed in the box on the right.

The following snapshot gives an overview of the latest performance of New Zealand's tertiary education system compared with other OECD countries. In 2005, New Zealand had:

- one of the highest rates of part-time study
- the widest age distribution in degree-level study
- a high enrolment rate for students aged 30 years and over
- a relatively low enrolment rate for 15 to 19 year-olds
- one of the highest net entry rates to tertiary education
- a low first-qualification survival rate
- a high graduation rate relative to the population
- an average proportion of the adult population with tertiary qualifications, and
- a high proportion of science-related graduates in the population.

Who participates in education?

The OECD indicator has three measures for participation in education – the enrolment rate, the net entry rate and the expected years in tertiary education. The enrolment rate takes enrolments as a percentage of the population for four age groups. The net entry rate

The OECD categories of post-secondary education are based on the International Standard Classification of Education (ISCED-97): www.oecd.org/dataoecd/36/7/35325710.pdf

Post-secondary non-tertiary level of education (ISCED 4): Programmes that serve to broaden the knowledge of participants who have already gained an upper secondary qualification. Their content may not be significantly more advanced than upper secondary programmes. Also included are apprenticeships designed for holders of an upper secondary qualification.

Certificates at level 4 on the New Zealand Register of Quality Assured Qualifications would be covered here.

Tertiary-type B education (ISCED 5B): Programmes that are typically shorter than those of tertiary-type A and focus on practical, technical or occupational skills for direct entry into the labour market. They may include some theoretical foundations and are of a minimum duration of two years' full-time study.

In New Zealand most diplomas are covered here.

Tertiary-type A education (ISCED 5A): Programmes that are largely theory based and provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, such as medicine. They have a minimum duration of three years' full-time study.

In New Zealand this covers all bachelors and masters degrees and all postgraduate certificates and diplomas.

Advanced Research Qualifications (ISCED 6): Programmes that lead directly to the award of an advanced research qualification, for example, a doctorate. They have a minimum duration of three years' full-time study. The programmes are devoted to advanced study and original research.

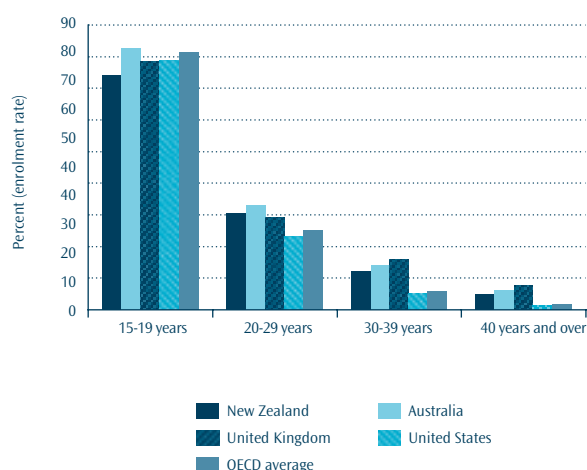
This covers all doctorates in New Zealand.

is estimated by adding together the number of first-time participating students as a proportion of the population for every age in an effort to get an idea of what proportion of people eventually will enrol in tertiary education. The expected years of education measure estimates the number of years that a 17 year-old will be in tertiary education. It combines study duration with the net entry rate.

New Zealand's wide age distribution in degree-level study gives it a high participation rate at older ages. In 2005, New Zealand's enrolment rate for students aged 25 to 29 years was 30 percent, well above the OECD average of 25 percent. The only countries with a higher participation rate for this age group were Finland, Denmark, Sweden, Iceland, Poland and Australia. For ages 30 to 39 years, New Zealand's participation stood out at 12 percent, double the OECD average. Only four member countries had higher participation rates for this age group – the United Kingdom, Australia, Switzerland and Finland. For ages 40 years and over, New Zealand had the third highest participation rate in the OECD at 5.1 percent – Australia was ranked second with 6.2 percent and the United Kingdom had the highest rate at 7.8 percent. The OECD average for this age group was 1.6 percent in 2005.

However, for students in the 15 to 19 years age group New Zealand had a relatively low participation rate in education in 2005. At 74 percent, New Zealand's participation for this age group was well below the OECD average of 82 percent. This lower retention of younger people at school coincided with a strong New Zealand labour market. Also, the participation rate does not include workplace learning and this has been a fast-growing area of tertiary education in New Zealand for some years. Nevertheless, one of New Zealand's priority outcomes for the years 2008 to 2010 is increasing education success for young New Zealanders – more achieving qualifications at level 4 (tertiary-type B) and above by age 25 years.

Figure 5.12 // OECD education enrolment rate in 2005 by age group



Source: OECD (2007), *Education at a glance: OECD indicators 2007*, Table C2.1, p. 291.

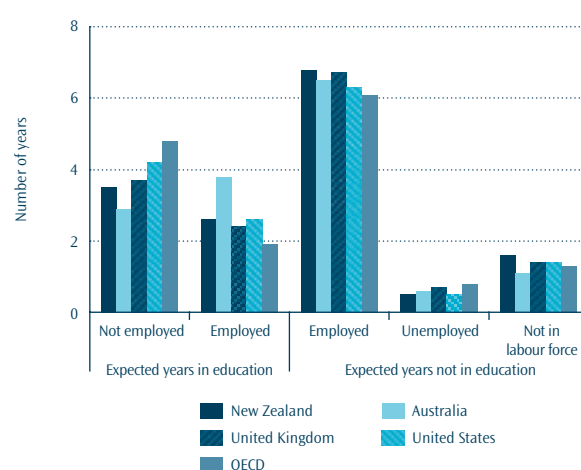
Note: The OECD enrolment rate does not distinguish between participation at secondary schools and tertiary education institutions.

In 2005, New Zealand's net entry rate for tertiary-type A programmes ranked second in the OECD behind Australia. The New Zealand equivalent of tertiary-type A programmes are bachelors or higher qualifications, excluding advanced research qualifications. In 2005, New Zealand's net entry rate for this level of study was 79 percent, compared to the OECD average of 54 percent. Australia's net entry rate was 82 percent. Other countries with a high net entry rate for tertiary-type A programmes were Norway, Poland, Sweden and Finland. New Zealand's rate was increased by its high number of international students and also its current high first-time participation rate at older ages.

For tertiary-type B programmes, the net entry rate of 48 percent for New Zealand and Korea was ranked first equal in the OECD in 2005. This finding is indicative of a high level of participation in vocationally focused tertiary education. Tertiary-type B programmes are equivalent to New Zealand's non-degree level 5 to 7 provider-based qualifications.

The third measure of participation – educational expectancy – showed that New Zealand was only just above average for upper secondary-level study in 2005. However, at all post-secondary levels New Zealand had a high expectancy in tertiary education. New Zealand's rate was increased by its high proportion of part-time, part-year students at older ages. Figure 5.13 depicts a relatively high educational expectancy for New Zealanders aged 15 to 29 years.

Figure 5.13 // OECD education expectancy in 2005 for 15 to 29 year-olds



Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table C4.1a, p. 335.

How many students finish tertiary education?

The OECD also looks at the rate at which students graduate following tertiary education and the survival rate of new entrants. The first measure of system success is the graduation rate – the number of new graduates as a proportion of the population who are at the typical age of graduation. The second measure of system success – the survival rate – calculates the proportion of new entrants who successfully complete a first qualification, within the typical completion time, at their entry level of tertiary education.

In 2005, New Zealand had the third highest graduation rate for tertiary-type A qualifications in the OECD at 51 percent. The OECD average was 36 percent in 2005. Australia, at 59 percent, had the highest rate followed by Iceland at 56 percent. New Zealand's rate was increased by the high percentage of overseas students. New Zealand's rate was also increased by its high proportion of older aged students completing qualifications.

Tertiary-type B programmes are a sizeable feature of the tertiary education system in only a small number of OECD countries. In 2005, New Zealand's graduation rate for tertiary-type B qualifications was the third highest in the OECD at 21 percent, compared to the average of 8.9 percent. Japan had the highest graduation rate in the OECD at 27 percent, followed by Ireland at 24 percent.

In the case of post-secondary non-tertiary graduation rates, New Zealand has the third highest rate (18 percent) in the OECD, after the Czech Republic (26 percent) and Hungary (20 percent). Other countries with relatively high graduation rates at this level were Germany, Switzerland, Ireland and Poland.

At 1.1 percent, the graduation rate in 2005 for New Zealand's advanced research programmes was slightly lower than the OECD average of 1.3 percent.

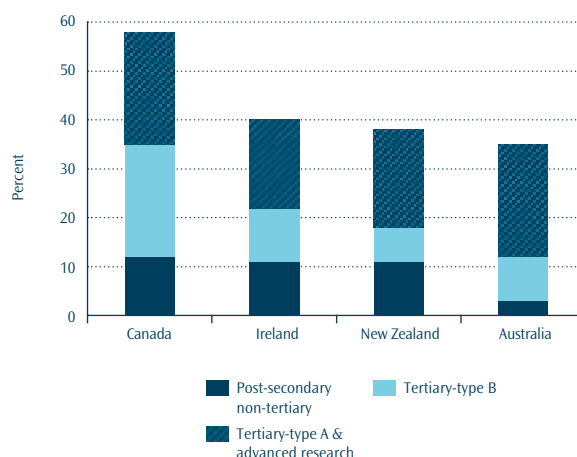
The OECD's survival rate indicator measures the proportion of people who complete qualifications in the typical completion times. New Zealand's survival rates in tertiary education reflect a high incidence of part-time study. In 2004, New Zealand had the lowest survival rates, at 54 percent, for tertiary-type A programmes. The OECD average was 71 percent. A similar situation exists for tertiary-type B programmes – again, the high proportion of part-time students lowers New Zealand's qualification completion rate and lowers its survival rate as calculated by the OECD. In 2004, New Zealand's survival rate for tertiary-type B programmes was 42 percent, among the lowest rates in the OECD. The average for all member countries was 67 percent.

To what level have adults studied?

The OECD profiles the educational attainment of the adult population. It attempts to capture the adult population's knowledge and skill level using formal educational qualifications as a proxy. This indicator also considers the distribution of the population by field of study and the movement of people in and out of the labour market with particular skills. Another measure considers whether people who are overqualified 'crowd out' the lesser qualified.

In 2005, the proportion of the New Zealand population aged 25 to 64 years with a tertiary-type B or higher qualification was 27 percent. The OECD average for this measure was 26 percent. In 2005, there were 11 OECD countries where 30 percent of the population or more held a tertiary-type B or higher qualification, including Australia and Canada.

Figure 5.14 // Distribution of the 24 to 64 year-old population by highest qualification

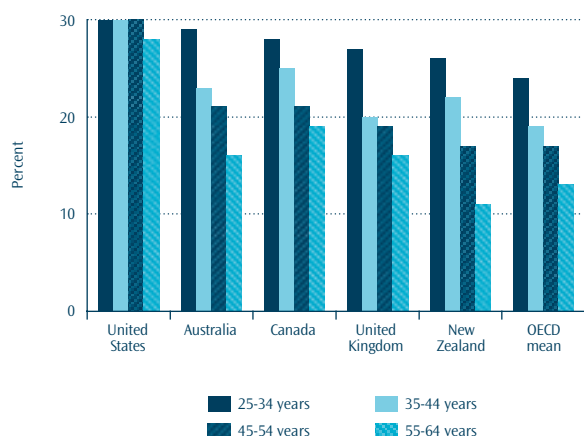


Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table A1.1a, p.36.

Consideration of the tertiary educational attainment of the population by age group in 2005 shows that while the percentages of the New Zealand population with tertiary-type A or higher qualifications were above the OECD average, they were lower than for countries such as Australia, Canada, the United States and the United Kingdom (Figure 5.15). Looking at the figures by age group shows a steady improvement of New Zealand's position over time. For those aged 24 to 34 years and 35 to 44 years, the percentage of the New Zealand population with

this type of qualification was 26 percent and 22 percent, respectively, while the OECD averages were 24 and 19 percent. The percentage of New Zealanders aged 45 to 54 years with tertiary-type A or higher qualifications equalled the OECD average of 17 percent. Of those aged 55 to 65 years, 11 percent held a tertiary-type A qualification, compared to an OECD average of 13 percent.

Figure 5.15 // Percentage of the population in 2005 with a tertiary-type A or higher qualification by age group



Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table A1.3a, p.38.

In the case of tertiary-type B qualifications, sharper contrasts at the various age levels existed between the OECD average and the New Zealand population. The percentage of New Zealanders, aged 24 to 34 years, with tertiary-type B qualifications was 5 percent in 2005, compared to the OECD average of 10 percent. A similar finding applied to those aged 35 to 44 years, while the reverse applied to the older age groups. Ten percent of New Zealanders aged 45 to 64 years held a tertiary-type B qualification, compared to OECD averages of 8 percent for those aged 45 to 54 years and 6 percent for those aged 55 to 65 years. This finding indicates that there has been a shift in the educational qualifications in New Zealand between generations. Among younger age groups more people have degree-level qualifications and fewer have vocational diplomas, compared with older age groups.

It is interesting to note that the OECD data shows that the increasing levels of tertiary education in member countries have not had a

negative effect on employment – the overqualified have not crowded out the lesser qualified. The growth in tertiary attainment in the OECD countries has not led to a slump in graduate pay. In other words, although the supply of degree graduates has increased, the demand for their skills has expanded.

How does participation in education affect participation in the labour market?

This OECD indicator looks at the labour force status of individuals and how this links to their study and qualification levels. The OECD employment rates are slightly higher than the rates from New Zealand's *Household Labour Force Survey* because the OECD calculation uses the population aged 25 to 64 years instead of those aged 15 to 64 years.

The employment rate for the New Zealand population with a tertiary-type B or higher qualification equalled the OECD average in 2005 at 84 percent. Australia's employment rate was also 84 percent, while one-third of OECD countries had employment rates of more than 84 percent or higher for individuals with a tertiary-type B or higher qualification in 2005.

The employment rates for New Zealand males with upper secondary or higher education was very similar at the various qualification levels. In 2005, these rates varied from 89 to 92 percent while for males with only lower secondary education this was 78 percent. These rates were above the OECD averages for males of 82 to 89 percent and 73 percent for males with only lower secondary education.

For New Zealand females with upper secondary or higher education in 2005, the employment rate was lower than for males at each level of qualification, the employment rate for men being 12 to 17 percentage points higher in 2005. The rates for females varied from 72 to 80 percent in 2005, and for females with only lower secondary education it dropped to 57 percent. These rates were above the OECD averages for females of 64 to 79 percent and 49 percent for females with only lower secondary education.

The above findings show that the employment rate for those with higher-level education was markedly higher than for those with lower-level education. Also, significant differences existed in the employment rates between men and women, while this narrowed for those with higher levels of education.

Another OECD finding was that those with lower levels of education are less likely to be in the labour force and they are more likely to

be unemployed. New Zealand's unemployment rate for those with tertiary-type B and higher qualifications was half that of those who had only studied at the lower secondary level. At 1.9 percent, New Zealand's unemployment rate for those with tertiary-type B and higher qualifications was also less than half the OECD average of 4 percent in 2005. The unemployment rate for New Zealanders with only lower-level secondary education was 3.8 percent in 2005, while the OECD average was 11 percent. A stronger New Zealand economy has led to lower rates of unemployment in recent years.

What are the economic benefits of education?

Three measures of the economic benefits of education are examined by the OECD: the relative earnings of the population with different qualification levels, the distribution of pre-tax earnings and the financial return on the investment in education. The comparisons made here cover the relative earnings and the financial return on the investment in education of the countries that New Zealand is commonly compared with.

The relative earnings of the population with income from employment were calculated for four levels of education compared with earnings of those with upper and post-secondary non-tertiary education – the New Zealand equivalent of certificate levels 1 to 3.

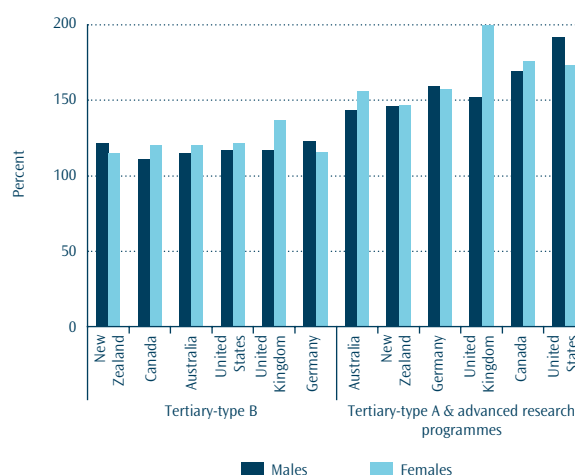
The findings showed that the relative earnings in 2005 of New Zealanders with post-secondary non-tertiary education were 7 percent higher than the base earnings for males and 5 percent higher than the base earnings for females. The margins in Australia, Germany, Canada and the United States ranged from 3 to 13 percent. The range of relative earnings for females with post-secondary non-tertiary education was wider than that for males. The rates for females in these countries varied from 4 percent lower than the base earnings to 16 percent higher.

The relative earnings of males with tertiary-type B education in New Zealand were 22 percent higher than the base earnings in 2005, while for females the margin was 15 percent. In Australia, Germany, Canada, the United States and the United Kingdom those with these qualifications earned from 11 to 23 percent above the base earnings (Figure 15.5). The relative earnings of females in these countries with tertiary-type B education were 15 to 37 percent higher. German males and British females with this level of education had the highest relative earnings of the countries listed above.

At the higher qualification levels, the range of relative earnings doubled across the countries under consideration here. The relative

earnings of males with tertiary-type A and advanced research qualifications in New Zealand were 43 percent higher than the base earnings for males, while females earned 56 percent more. In the other countries in the comparison, males earned between 43 and 92 percent above the base earnings, while females' earnings were between 47 and 100 percent more than the base. American males and British females with this level of education had the highest relative earnings of the countries listed above.

Figure 5.16 // Relative earnings in 2005 of the population by qualification level and gender



Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table A9.1a, p.156.

Note: Upper and post-secondary non-tertiary education = 100. The population used here refers to those aged 25 to 64 years. The data for Canada refers to 2004.

The impact on earnings of investing in tertiary education was measured by calculating the internal rate of return on the investment. The internal rate of return takes account of both the costs of getting a qualification, in terms of fees and study costs, and also income foregone and gained. In 2006, the OECD published the 2003 internal rates of return for individuals (the private rate of return) and the return for governments (the public rate of return). The rates were calculated for 11 OECD countries based on the following two scenarios:

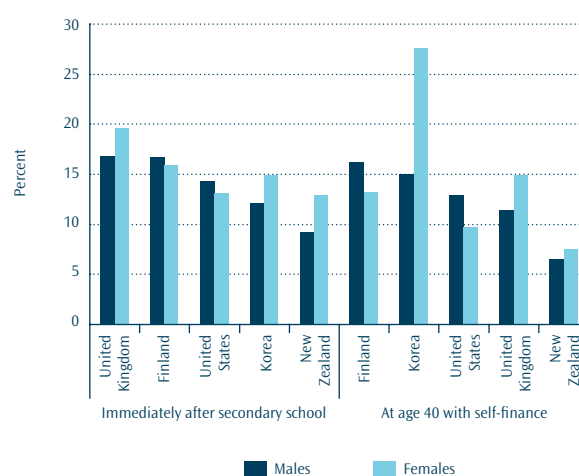
- The individual followed a tertiary education programme directly from school before entry to the labour market.
- Study at the next higher level of education was postponed until the age of 40.

The rates were calculated by comparing individuals in the two scenarios with an individual working for the minimum wage with a lower secondary level of education (Figure 5.17). The return in the OECD countries, except in New Zealand, Denmark, Sweden and Switzerland, was above 10 percent per annum for both men and women who, immediately following secondary school, acquired a bachelors degree. In New Zealand, the private rate was well below that of the United States and the United Kingdom, while it was higher than the rates in Sweden and Denmark. New Zealand's lower private internal rate of return reflects the relatively low income disparity and the low unemployment rate in 2003. New Zealand's internal rate of return in 2003 for those going straight to tertiary education was 13 percent for females, and 9.3 percent for males. The relatively higher return to women implies that acquiring a bachelors degree tends to reduce the disparity in incomes between men and women.

The private internal rate of return was lower for those who attained a bachelors degree at age 40. The New Zealand rate was 6.5 percent for males and 7.5 percent for females. The rates for New Zealand, Denmark and the United States were lower than in all other OECD countries. While the impact on earnings for individuals who invest mid-career is likely to be more modest, the overall result is that there is still a positive return on investment in tertiary education for individuals.

The estimates in Figure 5.16 are, however, a snapshot of average pre-tax earnings and they do not consider different courses of study or the fact that individuals from different social groups may have different rates of return. Also, in estimating the rates of return, the increased likelihood of employment due to education is taken into account. This does, however, make the estimates sensitive to the stage in the economic cycle when the data was collected.

Figure 5.17 // The private internal rate of return in 2003 for a bachelors degree by gender



Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table A9.6, p.165.

Note: The rate of return has been calculated compared with an individual working for the minimum wage with a lower secondary level of education. The rate for those at age 40 is based on the direct costs and foregone earnings.

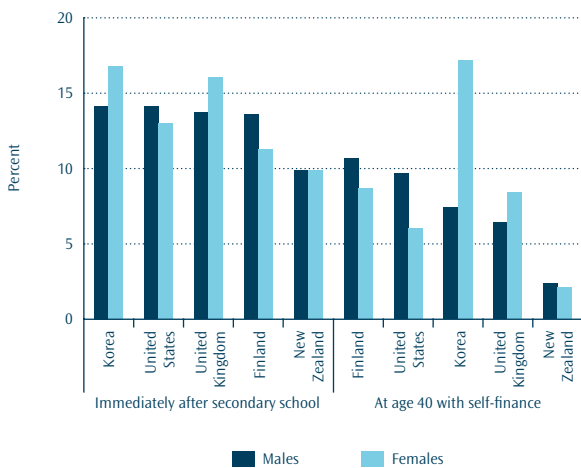
These OECD findings show that the rate of return on investing in tertiary education was above the bond rate, meaning that, even in a narrow financial sense, tertiary education is a good investment for a private individual.

In 2006, the OECD also calculated the public return to tertiary education for the 2003 year. The public internal rate of return attempts to measure the cost to the taxpayer of funding an individual's education and balances this against the extra tax that is collected as a result of the fact that graduates earn more. The rate calculated for New Zealanders who, immediately following secondary school, acquired a bachelors-level degree, was again positive – it was financially a good investment for the government.

New Zealand's public return for both males and females was 9.9 percent in 2003. While the rate of return to New Zealand was lower than in countries such as the United Kingdom, Finland, the United States and Korea, it was higher than in Denmark, Norway, Sweden and Switzerland. Nevertheless, these public rates of return are still high and well above, for example, the interest rate offered in some countries on long-term government bonds.

For those individuals who return to tertiary education mid-career, and absorb the direct costs of tuition and foregone earnings, the public rate of return for completing a bachelors degree was lower in 2003 than the private return in all countries. There were particularly low rates of return in Denmark, New Zealand, Sweden and Switzerland. These low rates are driven by factors such as the high costs of providing education, and high losses in tax receipts from foregone earnings relative to tax revenues when the individual returns to work.

Figure 5.18 // Public internal rate of return in 2003 for a bachelors degree by gender and country



Source: OECD (2007), *Education at a glance: 2007 OECD indicators*, Table A9.8, p.166.

The overall positive result is that, for those who acquire tertiary education, the high private internal rates of return in most countries indicate that investment in human capital appears to be an effective way for individuals to build wealth.

For an international comparison of New Zealand's tertiary education funding refer to chapter 16 of this report. More information on the OECD's indicators and international comparisons is available on their website: www.oecd.org/statsportal

PASSING COURSES

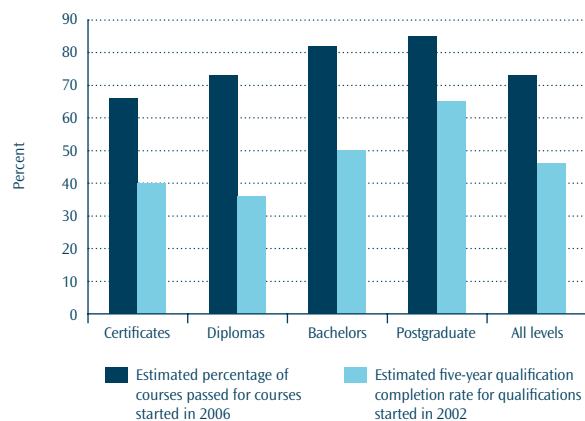
In 2006, over 490,000 students enrolled in formal tertiary courses⁵ in New Zealand. Collectively these students enrolled in nearly 3,430,000 courses, involving over 60,500 different courses and 4,310 different qualifications, in over 300 tertiary education providers. On average, each student enrolled in seven courses.

In 2006, the Ministry of Education published a report⁶ that introduced new information on how many tertiary students pass their courses. The report also drew on existing information about qualification completion, to compare success at the course level with success at the qualification level. This article updates information from that report with information on courses that were started in 2006.

Students passed 73 percent of all courses taken in 2006. Pass rates were higher at higher academic levels. Students passed 66 percent of all courses taken at certificate level, 73 percent of courses at diploma level, 82 percent of courses at bachelors level, and 85 percent of courses at postgraduate level. Course pass rates have not changed much since 2001.

The outcome for a number of course enrolments is not always able to be determined. This occurs when, for example, the course is not yet complete, or when students are still being assessed. In these cases, the pass rate is taken as the mid-point between the rate where all students with unknown outcomes are assumed to have failed and the rate where all students with unknown outcomes are assumed to have passed. As such, pass rates represent estimates rather than actual rates. The margins of uncertainty range from $\pm 1\%$ at bachelors level to $\pm 14\%$ at certificate level.

Figure 5.19 // Course and qualification completion rates

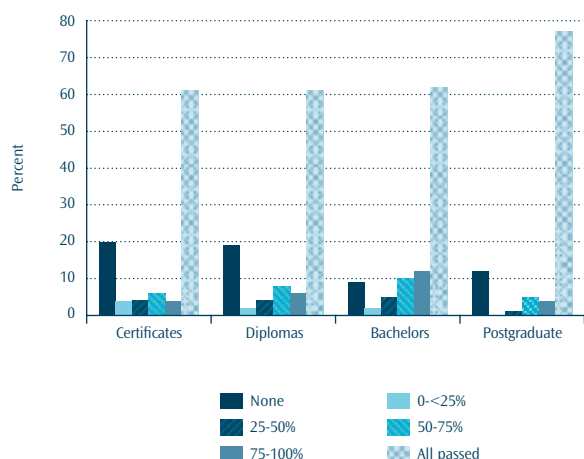


5. The term 'course' as used in this report, refers to a distinct module, paper, or unit of study that forms part of a larger programme of study that may or may not lead towards a recognised qualification. This is different from other countries, such as Australia or Britain, where the term 'course' is commonly used to refer to a programme of study qualification.

6. Scott, D. (2006) *Passing courses*, Wellington: Ministry of Education.

Broadly speaking, students are more likely to pass all, or none of their courses. Over 60 percent of students pass all their courses each year and around 16 percent fail all their courses. The percentage of students passing all their courses increases to 77 percent at postgraduate level. Students at bachelors level are more likely to pass some and fail some of their courses compared with students studying at other levels.

Figure 5.20 // Percentage of courses that are passed – for courses started in 2006

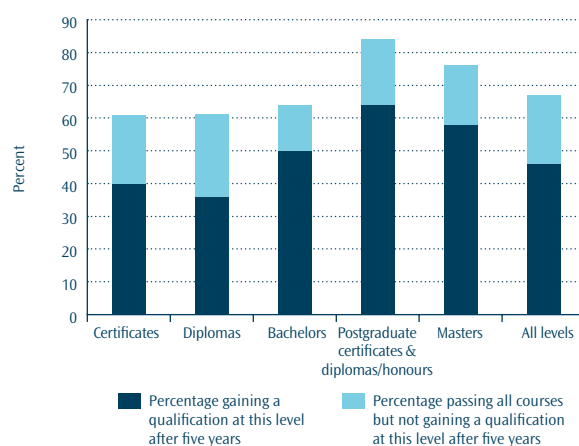


People enrolling in just one or two courses a year are more likely to pass them all, compared with those enrolled in a larger number of courses. Earlier studies⁷ have shown that full-time students are more likely to complete a qualification than part-time students. However, studying full-time does not appear to be a factor for success at the course level, and part-time students actually pass courses at the same rates or even higher rates than students with more full-time study loads.

The tertiary education system is not solely focused on students gaining qualifications. Some students undertake study without a qualification goal in mind. Many people, especially those who are in employment and those who have already attained a qualification, are interested in acquiring further skills and knowledge through tertiary study, but are less interested in completing a qualification. On the other hand, most younger students are focused on gaining a qualification that they can use to get employment.

Of all the students who started any level of study in 2002, 21 percent passed all the courses they enrolled in, but had not gained a qualification after five years. Students who started diplomas in 2002 are most likely to fit into this category with around 25 percent passing all their courses but not gaining a qualification, compared to 14 percent of bachelors students and around 20 percent of postgraduate students.

Figure 5.21 // Passing courses and qualifications – for students starting qualifications in 2002



About 46 percent of people who started a qualification in 2002 had successfully completed it within five years. But if success is extended beyond qualification completion to include those that pass all courses without gaining a qualification, then the percentage of students who are 'successful' increases from 46 percent to 67 percent. The use of qualification completion rates alone, therefore, is likely to significantly underestimate the performance of the sector, in terms of successful skills and knowledge acquisition.

What is the range of pass rates across types of providers?

At degree level and above, there is little difference in course pass rates between universities and polytechnics. Courses at bachelors level (which include graduate certificates and diplomas as well as degrees) were offered at 18 of the 20 polytechnics in 2006, and represented 16 percent of all bachelors-level enrolments in 2006.

7. See for example Scott, D. & Smart, W. (2005) *What factors make a difference to getting a degree in New Zealand?*, Wellington: Ministry of Education.

Table 5.2 // Course and qualification completion rates in 2006 by provider type and level

Provider type	Certificate		Diploma		Bachelors		Postgraduate	
	Course	Qualification	Course	Qualification	Course	Qualification	Course	Qualification
	%	%	%	%	%	%	%	%
University	75	49	75	28	82	52	86	61
Polytechnic	67	29	72	30	83	36	82	53
Wānanga	64	46	66	47	72	35	66	na
Private provider	66	35	75	42	86	23	90	92
All providers	66	40	73	36	82	50	85	65

Note: The course pass rate relates to courses started in 2006. The qualification completion rate relates to the percentage of 2002 starting students who had gained a qualification at the same level as the one they started by the end of 2006.

However, more university students gain their bachelors degree after five years than do polytechnic students. A number of polytechnics, in conjunction with a university, offer the first year of a bachelors programme at the polytechnic, with the remaining years at the university. These students are not reflected in the qualification completion rates for the polytechnic. Also, university students are more likely to be studying full-time, and are more likely to have a bachelors degree as their goal.

At certificate level, universities have the highest pass rates, while polytechnics have similar pass rates to private providers and wānanga. Course pass rates at diploma level appear broadly similar across provider types, except wānanga, where rates from year to year tend to be lower than for other parts of the sector. However, more students at wānanga (along with private providers) gain a diploma qualification after five years than other parts of the sector.

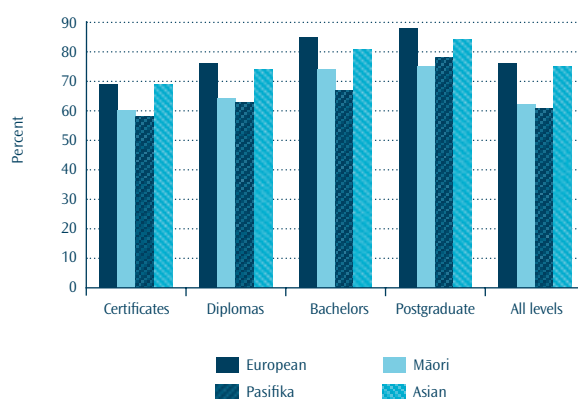
Although there is only a small amount of provision at degree level and above in private tertiary education providers, their course pass rates at these levels are similar to, or higher than, other parts of the sector.

Ethnic, age and gender differences

Older students have higher course pass rates at certificate and diploma level, while younger students have higher pass rates at degree level and above. However, older students are less likely to take out a qualification, and more likely to have passed all courses without gaining a qualification than younger students, consistent with the hypothesis that younger students may be more likely to be focused on gaining a qualification.

Women have higher completion rates than men, both at the course and qualification level, although this gap closes at higher levels. Women are also more likely to have passed all courses without gaining a qualification.

Figure 5.22 // Course pass rates by ethnic group and level – for courses started in 2006



Asian and European students have higher pass rates than Māori at both the course and qualification level. Pasifika students have the lowest rates of completion at both course and qualification level. There does not appear to be any tendency for one ethnic group over another to be studying on a partial qualification basis, ie with specific course goals, rather than a qualification goal.