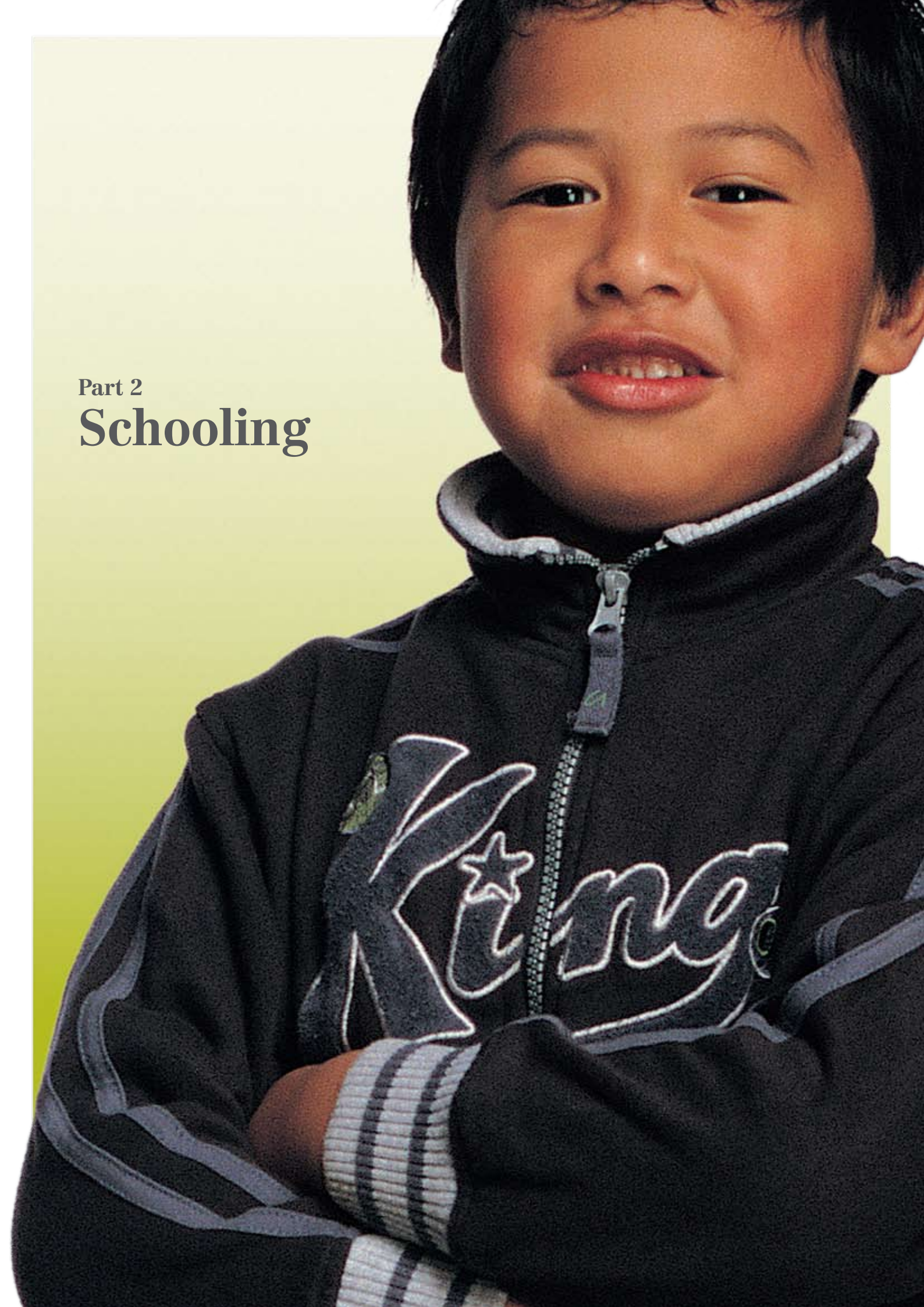


Part 2

Schooling



A good level of numeracy and literacy obtained from schooling is vital in the workplace and in everyday life, and for establishing foundations needed for lifelong learning. Students who obtain qualifications at school tend to have more options for tertiary education and for future employment. Those who leave school early and/or without qualifications have a greater risk of unemployment and low incomes.

All students should achieve their potential. This means improving opportunities and outcomes for students currently underachieving, while continuing to improve outcomes for high and average achievers. Current sector-wide activities focus on those factors that make the biggest difference for student learning, namely:

- ensuring teachers use and develop effective teaching practices, maintain high expectations of all students, and judge their success by the academic and social outcomes of their students
- ensuring families have high expectations for the ongoing learning of their children, and receive the information and support to nurture their child's learning.

Areas examined in this chapter are: foundation knowledge (primary), student engagement, teaching education, knowledge (secondary), school leaver qualifications and school leaver transition to tertiary education.

There is a considerable amount of information on international comparisons and on trends in our schooling system, but gaps include:

- international comparison studies are carried out only periodically (typically with gaps of several years) and the information even at the point of release can be quite dated
- system-wide information collected from schools has historically been aggregate and paper-based and has not enabled sophisticated, longitudinal tracking of student performance.



5. Foundation Knowledge

What we have found

The latest available international studies show that New Zealand Year 5 students on average perform significantly above the international mean in reading and science, and around the international mean in mathematics. Between 1994 and 2002 there was a significant improvement in the mean mathematics and science scores of New Zealand Year 5 students.¹⁷

Year 5 girls significantly outperformed boys in reading on average, and tend to score higher than them in science. In mathematics, the mean scores for girls and boys are similar.

European/Pkeh and Asian Year 5 students typically achieve higher scores than their Mōri and Pasifika counterparts in reading, mathematics and science. However, there have been reductions in the disparities between ethnic groups for mathematics and science.¹⁸

Why this is important

The primary schooling years, Year 1 to Year 8, build on the beginning concepts gained in early childhood. Successful learning at a young age increases the likelihood of positive engagement in later schooling years and assists students with becoming lifelong learners.

Evidence shows that effective teaching makes a difference to New Zealand's diverse range of learners. Teachers establish supportive learning environments by identifying students' learning needs and make decisions on what to teach and how to teach it. Student learning is also enhanced when it is encouraged and assisted by the school, family, friends and the local community.

How we are going

Reading literacy achievement

In 2005/06, the second cycle of the Progress in International Reading Literacy Study (PIRLS) found New Zealand Year 5 students on average performed significantly higher than the international mean. The data show:

- there was no significant change in New Zealand students' mean score between 2001 and 2005/06
- the performance of many New Zealand Year 5 students was relatively strong compared with their international

counterparts in 2005/06. Approximately 13 percent of New Zealand students achieved scores above 625 (Advanced International Benchmark). This was the ninth highest proportion internationally and nearly double the international median of seven percent (see Figure 5.1)

- eight percent of New Zealand students did not reach the low international benchmark of 400 (compared with the international median six percent) in 2005/06. In comparison to many other higher-achieving countries, the spread in achievement between the weakest performing and the strongest performing New Zealand students (the 5th and 95th percentiles) was high at 290 points (see Figure 5.1)
- as was the case in 2001, there continues to be a relatively large gap between the highest and lowest achieving New Zealand Year 5 students' in 2005/06. This gap is larger than most other higher-performing countries
- in 2005/06, girls generally achieved significantly higher reading literacy scores than boys in all but two of the forty participating countries. The average difference observed between New Zealand Year 5 girls and boys was one of the largest to be observed internationally.

¹⁷ The fourth cycle of TIMSS was administered in New Zealand in late 2006. Mathematics and science achievement data was collected for Year 5 and will be reported on in December 2007. Year 9 students did not take part in this cycle of TIMSS.

¹⁸ Ethnic data for reading literacy will not be available until 2008.

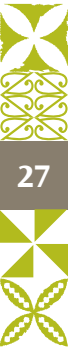




Figure 5.1: Percentage of New Zealand Year 5 students reaching the PIRLS-05/06 international benchmarks



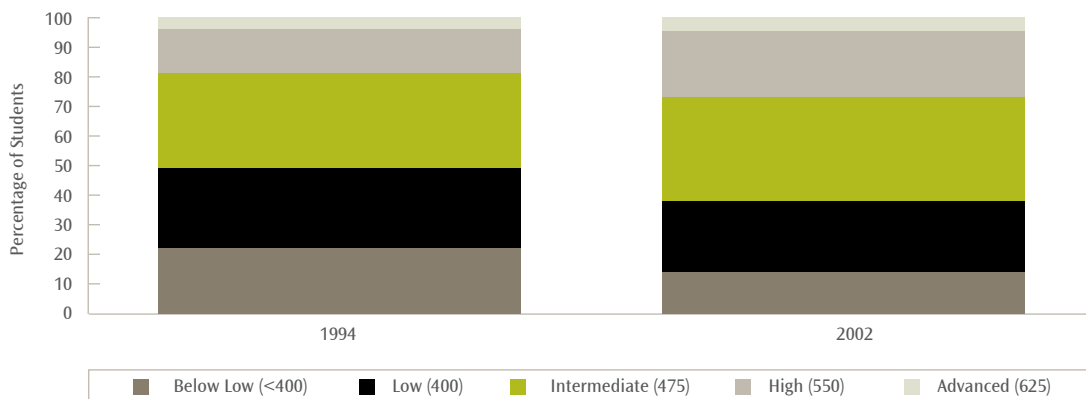
Source: Chamberlain, M (2007)

Mathematics achievement

The Trends in International Mathematics and Science Study (TIMSS) showed that in 2002 New Zealand Year 5 students generally performed around the international mean. Furthermore, there was significant improvement in the mean score of New Zealand Year 5 students between 1994 and 2002. The range of scores between the highest and lowest-performing groups of students reduced between 1994 and 2002; largely owing to the increase in scores of students in the lowest-performing group. The data show:

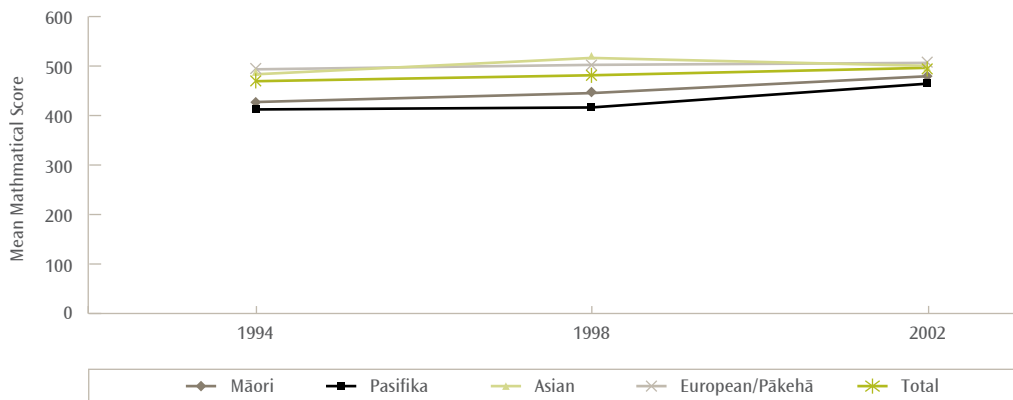
- proportionately more New Zealand Year 5 students achieved at or above the intermediate, high or advanced mathematics benchmarks in TIMSS in 2002 than in 1994 (see Figure 5.2)
- the proportion of New Zealand Year 5 students who did not reach the low mathematics benchmark in TIMSS in 2002 was 8 percentage points less than in 1994 (see Figure 5.2)
- girls and boys generally score similarly in mathematics in New Zealand
- Māori and Pasifika students had the largest increases in mean achievement scores between 1994 and 2002 in TIMSS (see Figure 5.3)
- NEMP also showed a moderate reduction in the disparity between European/Pākehā, and Māori and Pasifika students, between the 2001 and 2005 cycles.

Figure 5.2: Trends in the proportions of New Zealand Year 5 students achieving at or above the international mathematics benchmarks in TIMSS (1994 and 2002)



Source: Ministry of Education (2004a)

Figure 5.3: Mean mathematics achievement for New Zealand Year 5 students in TIMSS, by ethnic group (1994, 1998 and 2002)



Source: Ministry of Education (2004a)

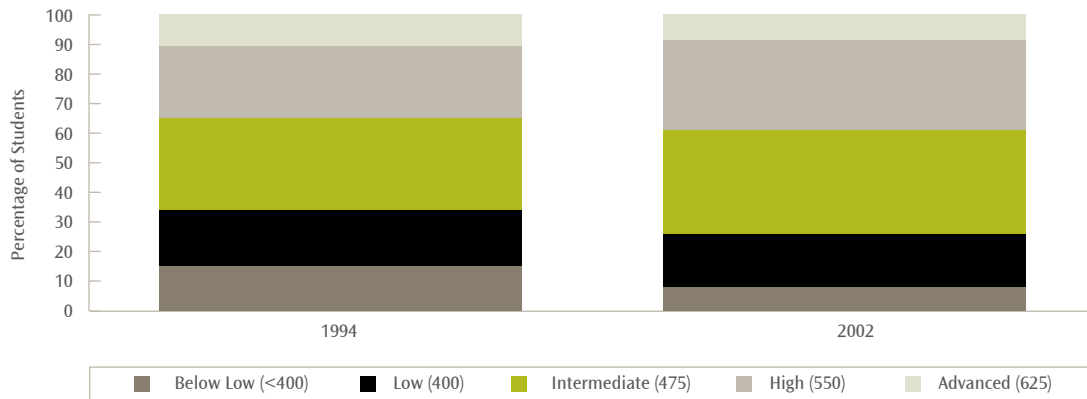
1. Because results are rounded to the nearest whole number, some differences may appear to be inconsistent.
2. The 1998 assessment was a national study only and not part of the international TIMSS-98/99.
3. Since 2002 was the first year in which New Zealand assessed in two languages, for trend purposes, the mean scores shown here are for those of students assessed in English.

Science achievement

Between 1994 and 2002, the average science performance of New Zealand Year 5 students improved significantly as measured by TIMSS. In 2002 the mean performance of Year 5 students was significantly higher than the international mean across 25 participating countries. The distribution of scores has narrowed since 1994, largely due to the increase in scores of students in the lowest performing group. The data show:

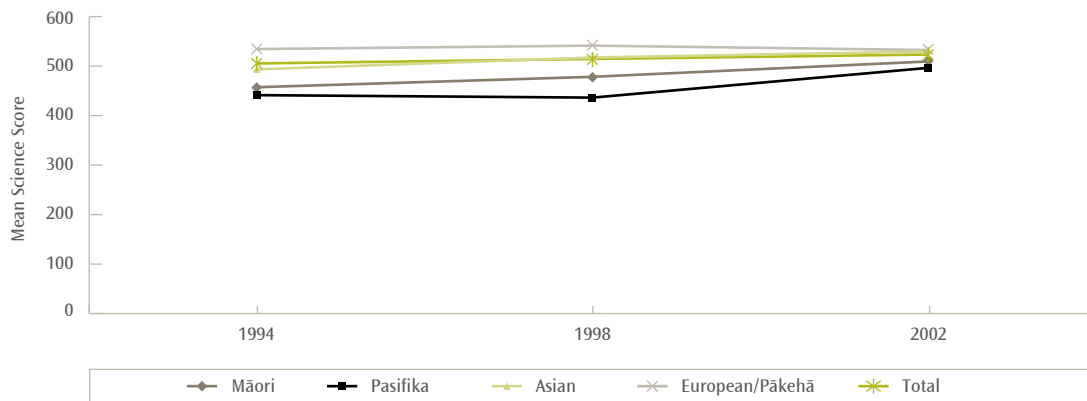
- proportionately more New Zealand Year 5 students achieved at or above the intermediate or high international science benchmarks in 2002 than in 1994 (see Figure 5.4)
- the proportion of students who did not reach the low science benchmark in 2002 nearly halved from 1994 (from 15 percent to 8 percent) (see Figure 5.4)
- girls and boys have both shown significant improvement in their mean science achievement scores in TIMSS over the eight-year period from 1994 to 2002. While girls in 2002 were found to achieve on average slightly higher scores than boys, the average difference was not significant
- there have been significant increases in the mean science scores of Māori, Pasifika and Asian students between 1994 and 2002, reducing the disparity between these groups and European/Pākehā students (see Figure 5.5).

Figure 5.4: Trends in the proportions of Year 5 students achieving at or above the international science benchmarks (1994 and 2002)



Source: Ministry of Education (2004a)

Figure 5.5: Mean science achievement for New Zealand Year 5 students in TIMSS by ethnic group (1994, 1998 and 2002)

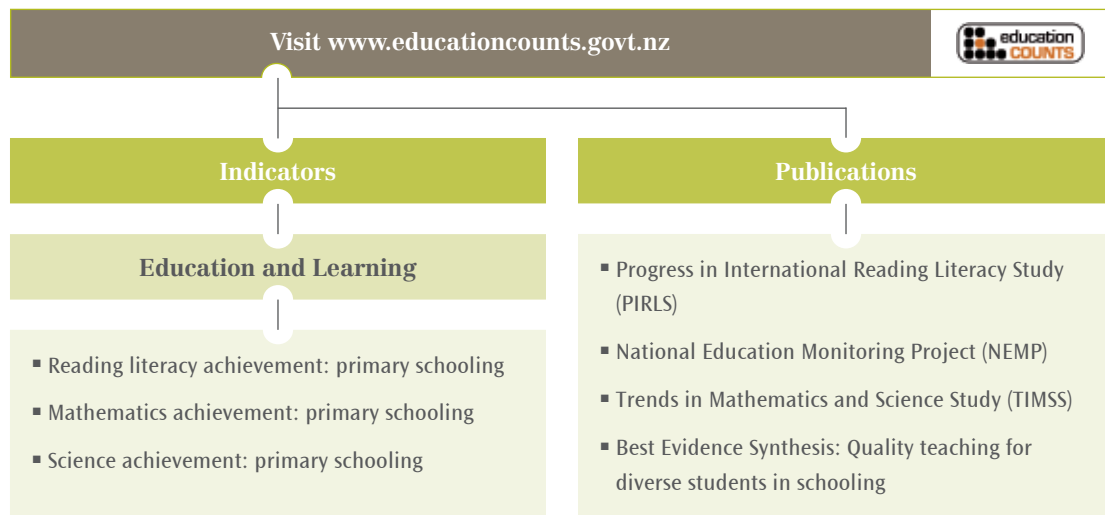


Source: Ministry of Education (2004a)

1. Because results are rounded to the nearest whole number, some differences may appear to be inconsistent.
2. The 1998 assessment was a national study only and not part of the international TIMSS-98/99.
3. Since 2002 was the first year in which New Zealand assessed in two languages, for trend purposes, the mean scores shown here are for those of students assessed in English.



Where to find out more



6. Student Engagement

What we have found

The rates of stand-downs have increased over the last seven years, while the rates of suspensions, exclusions and expulsions have decreased. This implies that schools are minimising the removal of students from school through the more severe interventions by using stand-downs instead allowing a more rapid re-integration into the learning environment.

Male students are 2.5 times more likely to be stood-down or suspended, three times more likely to receive an exclusion and four times more likely to be expelled than female students. There is little variation between the number of male and female 'frequent' truants.

M ori and Pasifika students are four and three times, respectively, more likely to be suspended and excluded, while Pasifika students are seven times more likely to be expelled than European/P keh students. The likelihood of a M ori or Pasifika student being a 'frequent' truant is three to five times higher than for Asian and European/P keh students.

Students from schools in the lowest two deciles are between two and five times more likely to be stood down, suspended, excluded or expelled as students from schools in the highest two deciles, while also being six times more likely to be a 'frequent' truant.

The Student Engagement Initiative (SEI), which started in 2001 as the Suspension Reduction Initiative, has led to a significant decrease in the suspension rate of M ori students in the original 63 SEI schools. These SEI schools are also recording reductions in the number of suspensions for non-M ori students, indicating that the strategies being put in place are beneficial for all students.

Why this is important

Engagement in education means the extent to which young people participate and become involved in their schooling. It encompasses attendance at school, a sense of belonging, being happy at school, and enjoying the subjects being studied.

Positive student engagement, which is potential 'opportunity to learn', is an essential part of helping students to reach their educational potential, and obtain the prerequisites for higher education and training, or for many entry-level jobs.

Student disengagement leads to higher risks of negative youth behaviours such as drug and alcohol abuse, and violence. It also causes disruptive behaviour that affects others in the schooling community.

There are clear signals when a student is disengaging from school. These include a decline in academic performance, behavioural problems and non-attendance. If the underlying reasons are not identified and tackled, disengagement could lead to stand-downs and suspensions, or in the more serious cases, exclusion or expulsion of the student.



How we are going

Suspensions

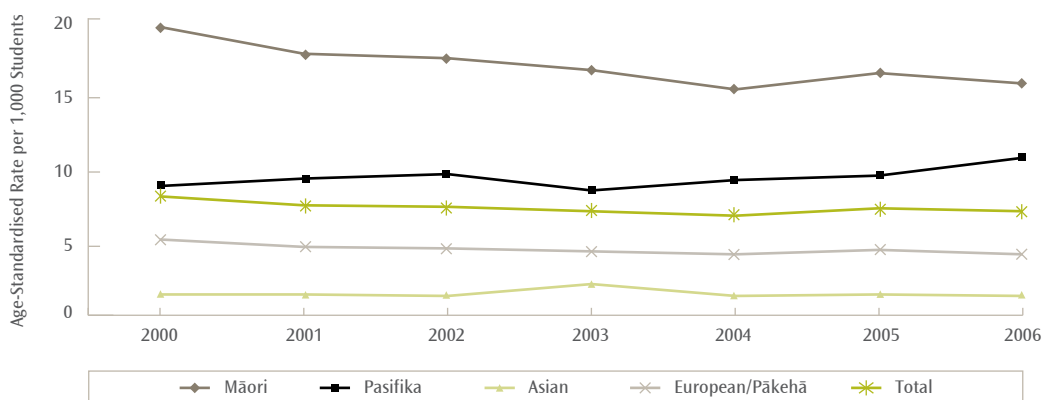
The rate of stand-downs increased by 20 percent between 2000 and 2006. However, over the same period the rate of suspensions decreased by 12 percent. This implies that schools are minimising the removal of students from school through the more severe interventions by using stand-downs instead. Stand-downs allow a more rapid re-integration into the learning environment than suspensions do. In 2006 a student given a stand-down lost an average of 2.5 school days. Conversely, a suspended student lost an average of 19 school days. This trend has been the same since 2000. In 2006, 31 students per 1,000 were given stand-downs, while 7 students per 1,000 were given suspensions. The data show:

- in 2006, the suspension rate was over 2.5 times greater for males (10 students per 1,000) than for females (3.8 students per 1,000)
- in 2006, Māori students (16 students per 1,000) and

European/Pākehā students (4.1 students per 1,000) had the greatest proportionate reductions in suspension rate since 2000, reducing by 20 and 19 percent respectively

- In 2006, Māori students had the highest suspension rate. Asian students had the lowest suspension rate with 1.3 students per 1,000 respectively (see Figure 6.1)
- the Pasifika suspension rate (11 students per 1,000) has increased by 22 percent since 2000; this is the largest increase of all the ethnic groups (see Figure 6.1)
- students from schools that have the highest proportion of students from low socio-economic communities (schools that are decile 1 or 2) had a suspension rate of 12 students per 1,000, and were almost five times more likely to receive a suspension than students from schools that have the lowest proportion of students from low socio-economic communities (schools that are decile 9 or 10), where only 2.4 students per 1,000 received a suspension.

Figure 6.1: Age-standardised suspension rates by ethnic group (2000 to 2006)



Source: Ministry of Education (2007a)

1. New Zealand Agency for International (NZAI) students, foreign fee-paying students, the Correspondence School students, adult students (age > 19) and private students are excluded.
2. A series for students of 'Other' ethnicity is not represented; however, they are included in the total series.





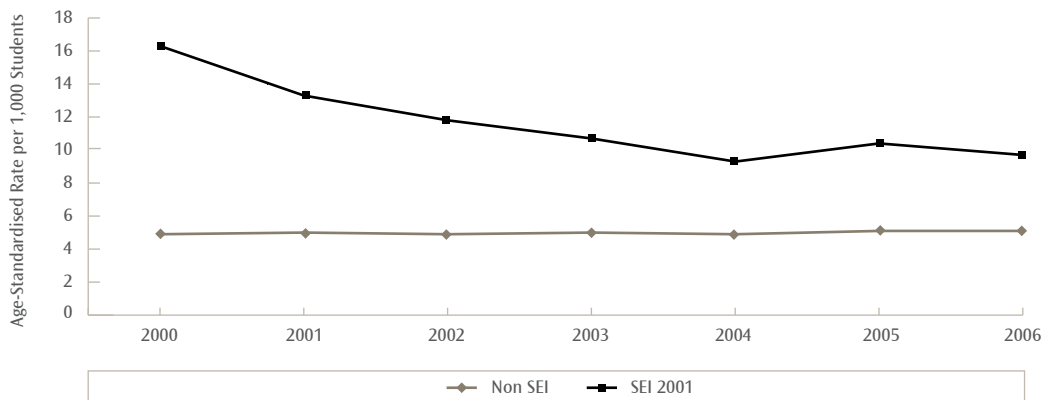
The Student Engagement Initiative (SEI) which was formerly known as the Suspension Reduction Initiative was established in 2001 to reduce the disproportionately high number of Māori suspensions. The 63 secondary schools that joined the programme in the first year were the schools with the highest rates of suspensions, truancy and early leaving exemptions. The data show:

- between 2000 and 2006 the suspension rate for SEI schools who joined in 2001 (9.7 per 1,000 students) decreased by 40 percent, while the suspension rate

for secondary schools that have never joined the SEI programme (5.1 per 1,000 students) increased by five percent (see Figure 6.2)

- the Māori suspension rate for SEI schools who joined in 2001 (17 per 1,000 students) has decreased by 52 percent between 2000 and 2006 compared to a six percent increase in the Māori suspension rate for schools that have never joined the SEI programme (12 per 1,000 students).

Figure 6.2: Age-standardised suspension rates for secondary schools, by Student Engagement Initiative (SEI) status (2000 to 2006)



Source: Ministry of Education

1. New Zealand Agency for International (NZAI) students, foreign fee-paying students, the Correspondence School students, adult students (age > 19) and private students are excluded.

Exclusions and expulsions

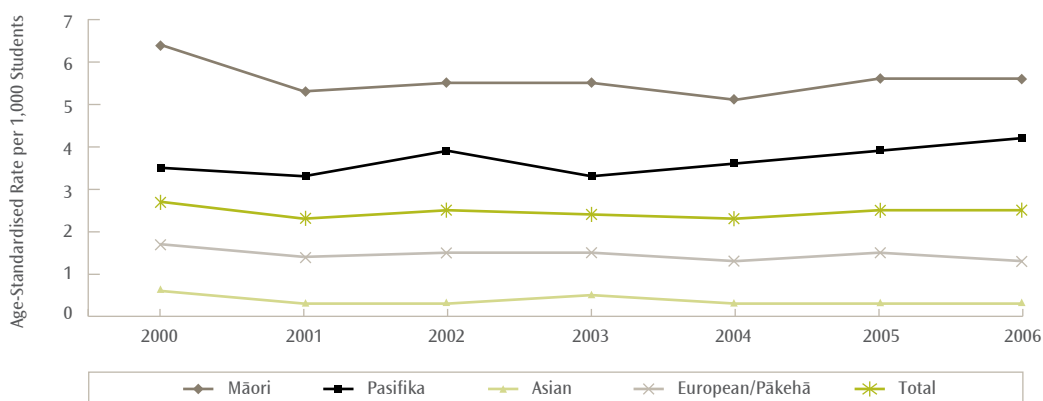
In cases where a student is suspended it becomes the decision of the board of trustees as to whether the student is excluded or expelled from the school. Both the rate of exclusions and expulsions have decreased over the last seven years indicating that less severe forms of discipline are being used. The data show:

- from 2000 to 2006 the exclusion rate decreased 10 percent from 2.7 to 2.5 students per 1,000, and the expulsion rate fell 29 percent from 2.5 to 1.9 students per 1,000 (see Figures 6.3 and 6.4)
- male students account for 76 percent of exclusions and 81 percent of expulsions

- Māori students had the highest exclusion rate of 5.6 students per 1,000, while European/Pākehā students had an exclusion rate of 1.3 students per 1,000. Both these rates were a decrease from 2000 with the Māori rate decreasing by 13 percent and the European/Pākehā rate decreasing by 23 percent (see Figure 6.3)
- Māori students (2.3 students per 1,000 in 2006) and European/Pākehā students (1.0 students per 1,000 in 2006) had the greatest reductions in expulsion rates since 2000 reducing by 56 and 44 percent respectively (see Figure 6.4)

- Pasifika students had the highest expulsion rate, at 7.0 students per 1,000. Proportionately, the Pasifika exclusion rate (4.2 students per 1,000) and expulsion rate have increased more than the other ethnic group categories since 2000, with increases of 17 percent and 48 percent respectively (see Figures 6.3 and 6.4)
- Asian students had the lowest exclusion and expulsion rates with 0.3 students per 1,000 and 0.8 students per 1,000 respectively (see Figures 6.3 and 6.4)
- students from schools that have the highest proportion of students from low socio-economic communities (schools that are decile 1 or 2) had an exclusion rate of 4.3 students per 1,000 and an expulsion rate of 2.2 students per 1,000. This compares to an exclusion rate of 0.8 students per 1,000 and an expulsion rate of 1.2 students per 1,000 for schools that have the lowest proportion of students from low socio-economic communities (schools that are decile 9 or 10). This means that in 2006, a student from a decile 1 or 2 school was over five times more likely to receive an exclusion and almost twice as likely to receive an expulsion as a student from a decile 9 or 10 school.

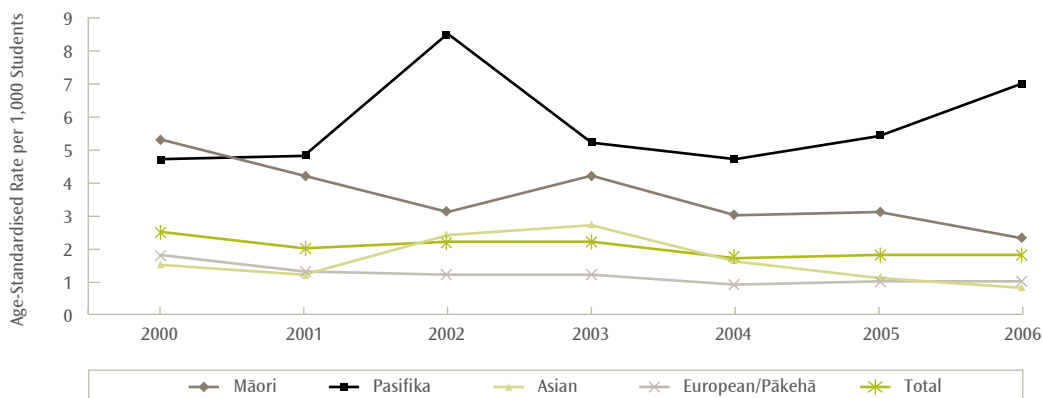
Figure 6.3: Age-standardised exclusion rates by ethnic group (2000 to 2006)



Source: Ministry of Education (2007b)

1. New Zealand Agency for International (NZAI) students, foreign fee-paying students, the Correspondence School students, adult students (age > 19) and private students are excluded.
2. A series for students of 'Other' ethnicity is not represented; they are included in the total series.

Figure 6.4: Age-standardised expulsion rates by ethnic group (2000 to 2006)



Source: Ministry of Education (2007b)

1. New Zealand Agency for International (NZAI) students, foreign fee-paying students, the Correspondence School students, adult students (age > 19) and private students are excluded.
2. A series for students of 'Other' ethnicity is not represented; they are included in the total series.



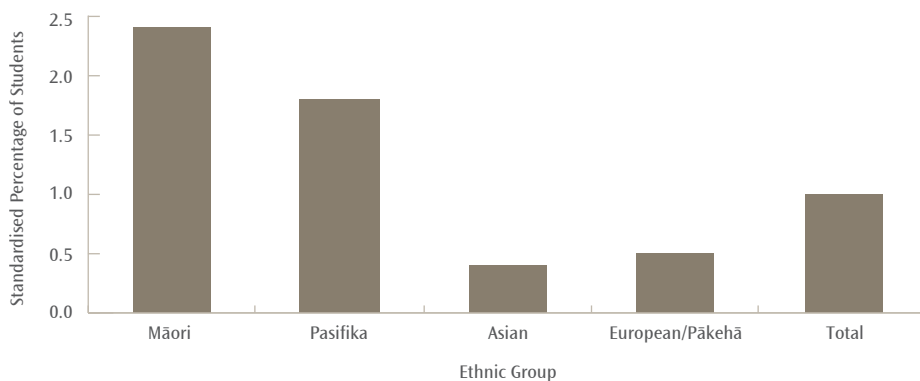


Truancy

An attendance survey is carried out every two years in New Zealand by the Ministry of Education. This survey estimates truancy rates, which are the percentage of students who have absences that cannot be explained or that are not satisfactorily explained. This can range from an intermittent absence for part of the day (includes arriving late at school, skipping classes and tardiness in attending classes) to an unjustified absence for the whole day. Students who are unjustifiably absent for three or more days during the week of the survey are identified as ‘frequent truants’. The data show:

- no considerable differences between the numbers of male and female frequent truants
- Māori students had the highest proportion of ‘frequent’ truants (2.4 percent), 30 percent greater than Pasifika students (1.8 percent) and was almost five and six times greater than the European/Pākehā (0.5 percent) and Asian (0.4 percent) proportions respectively (see Figure 6.5)
- students from schools that have the highest proportion of students from low socio-economic communities (schools that are decile 1 or 2) had a proportion of ‘frequent’ truants of 2.5 percent and were over six times more likely to be ‘frequent’ truants than students from schools that have the lowest proportion of students from low socio-economic communities (schools that are decile 9 or 10), where the proportion of ‘frequent’ truants was only 0.4 percent (see Figure 6.6).

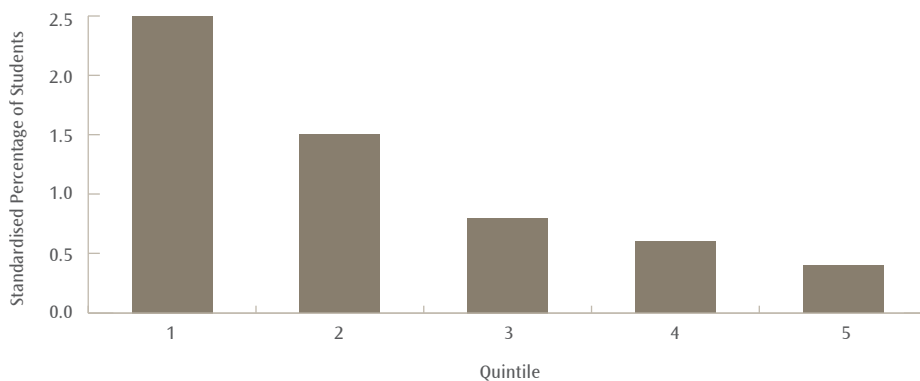
Figure 6.5: Standardised percentage of ‘frequent’ truancy by ethnic group (2006)



Source: Ministry of Education (2006e)

1. Age was not provided in the Attendance Survey data, so truancy percentages have been standardised by Year Level.
2. Total includes the ‘Other’ ethnic group.

Figure 6.6: Standardised percentage of ‘frequent’ truancy by quintile (2006)



Source: Ministry of Education (2006e)

1. Age was not provided in the Attendance Survey data, so truancy percentages have been standardised by Year Level.

Case study:

Golden Bay High school and keeping Year 10s engaged

Year 10 can be a difficult year for some students. It is often when students have the biggest behavioural issues. It can also be a year that students experience a lack of focus.

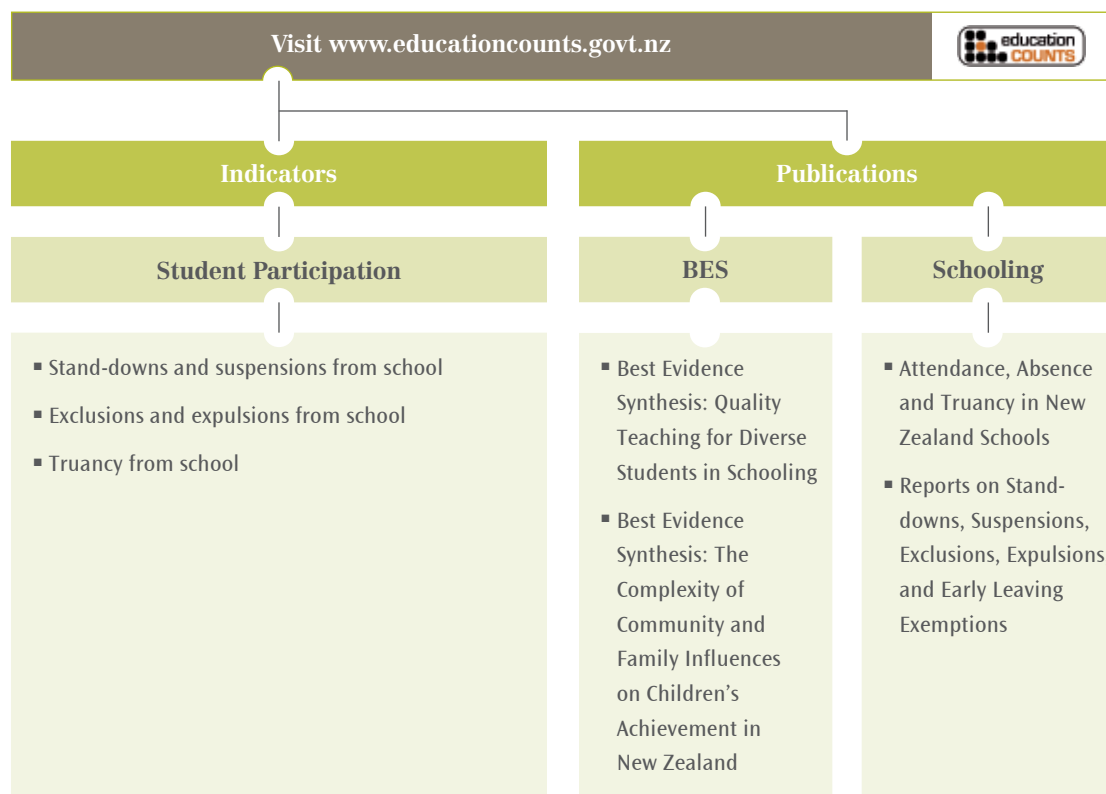
Staff at Golden Bay High School decided to introduce their own diploma programme to minimise the effect that behaviour issues and lack of focus can have on student engagement, particularly at the Year 10 level when students are moving from the junior to senior secondary school. The diploma programme is made up of organisational skills, work and study skills and relationship-building. The programme is integrated into all curriculum areas. All students are expected to reach a benchmark and if a student fails to do so they may be held back at the start of the following year. The

school also rewards the top achievers and biggest improvers in this diploma programme.

Golden Bay High School is also ensuring more constructive parent-teacher communication. Parent-teacher meetings have been transformed into goal setting meetings which also involve the student. These goals are then monitored by the teacher during the year. These parent-teacher meetings are now scheduled soon after mid-year reports go out. Golden Bay High School believes the change of emphasis on parent-teacher meetings has resulted in a parent turnout of at least four times greater than before the changes.

Golden Bay High School believes it is achieving its aims with these new initiatives. Behaviour referrals are down and its truancy rate was 1.3 percent in 2006, compared to the national average for secondary schools of 8.3 percent.

Where to find out more



7. Participation

What we have found

Retention and early leaving exemption rates have not changed considerably since 2000. Between 2000 and 2006 the percentage of students staying at school until age 16.5 decreased slightly by 2.4 percent while the percentage of students staying at school until age 17.5 increased by 0.8 percent. During this time the early leaving exemption rate increased by 2.8 percent.

M ori students are over 2.7 times more likely to be granted an early leaving exemption compared to other ethnic groups. M ori students are also less likely than any other ethnic group to stay at school until the ages of 16.5 and 17.5. Male students are more likely to be granted an early leaving exemption and less likely to stay at school until the ages of 16.5 and 17.5 than female students.

Students from low deciles schools (deciles 1 and 2) are almost five times more likely to be granted an early leaving exemption than students from high decile schools (deciles 9 and 10). Students from low decile schools are also less likely to stay at school until the ages of 16.5 and 17.5 than students from high decile schools.

Why this is important

Staying at school is vital for students to achieve. Students who leave school early, many with little or no formal qualifications, are less likely to participate in further training and/or employment, and are more likely to have lower incomes or be dependent on income support. The positive effect of each additional year of schooling on incomes has been estimated to range from 5 to 10 percent (see Figure 7.1).

Students must be focused and engaged in learning to achieve the necessary qualifications that prepare them for lifelong learning. Students must therefore be encouraged to participate and offered support through the schooling community, parents and family.

How we are going

Early leaving exemptions

Under section 22 of the Education Act 1989, early leaving exemptions may be granted only where the student's educational problems and conduct and an assessment of the likely benefit of the student staying at school make it 'sensible' to provide an exemption. These factors are interdependent, not optional, and all must be met before the Ministry of Education can approve an exemption application. The data show:

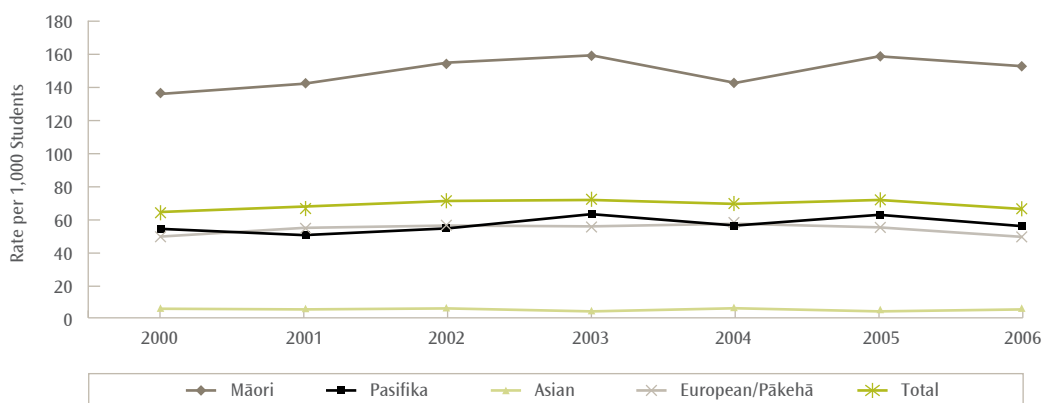
- since 2000 the rate of early leaving exemptions has increased by 2.8 percent from 64 per 1,000 15 year-old students to 66 per 1,000 15 year-old students in 2006¹⁹ (see Figure 7.1)
- males have a higher rate of early leaving exemptions than their female counterparts with rates of 80 and 52 per 1,000 15 year-old students respectively

¹⁹ During 2006 the ministry became concerned about the continuing high rate of early leaving exemptions. In 2007 the ministry has revised its procedures and is working with parents and schools to ensure that the best possible decision is made in the interest of students and their learning. The latest figures show early leaving exemptions have halved in 2007 when compared to 2006.



- Māori students (152 per 1,000 15 year-old students) were 2.7 and 3.1 times more likely to be granted an early leaving exemption in 2006 than Pasifika (56 per 1,000 15 year-old students) and European/Pākehā students (49 per 1,000 15 year-old students) respectively (see Figure 7.1)
 - Asian students had a much lower early leaving exemption rate than any other ethnic group, with 5.1 per 1,000 15 year-old students (see Figure 7.1)
 - students from schools that have the highest proportion of students from low socio-economic communities (schools that are decile 1 or 2) had an early leaving exemption rate of 110 per 1,000 15 year-old students.
- They were almost five times as likely to be granted an early leaving exemption than a student from a school with the lowest proportion of students from low socio-economic communities (schools that are decile 9 or 10), where only 23 per 1,000 15 year-old students were granted an early leaving exemption (see Figure 7.2)
- in 2006, of the students who were granted an early leaving exemption, 76 percent went onto a training provider course, 19 percent went onto full-time employment and the remaining five percent went onto polytechnic and university courses. However, around one-fifth of these early leavers pull out of the training provider courses.

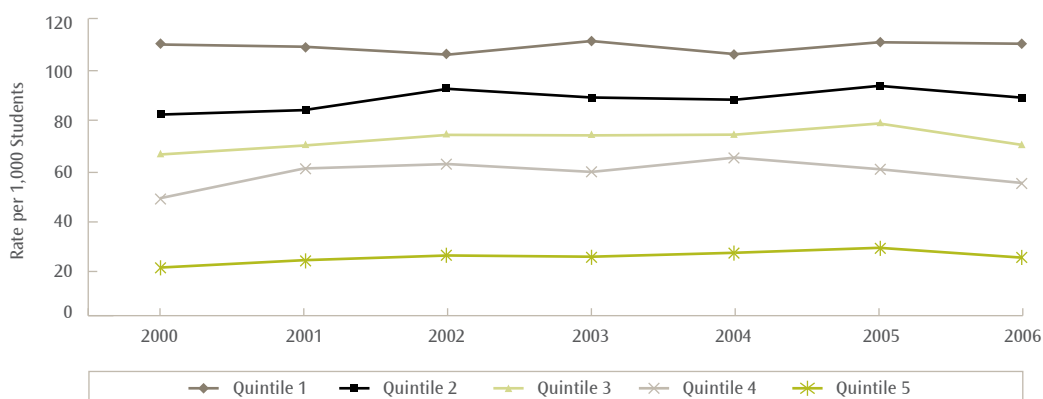
Figure 7.1: Early leaving exemption rates per 1,000 15 year-old students by ethnic group (2000 to 2006)



Source: Ministry of Education (2007c)

1. New Zealand Agency for International Development (NZ Aid) students and foreign fee-paying students are excluded.
2. 'Other' school leavers are not shown as a separate series but are included under Total.

Figure 7.2: Early leaving exemption rates per 1,000 15 year-old students by quintile (2000 to 2006)



Source: Ministry of Education (2007c)

1. New Zealand Agency for International Development (NZ Aid) students and Foreign fee-paying students are excluded.





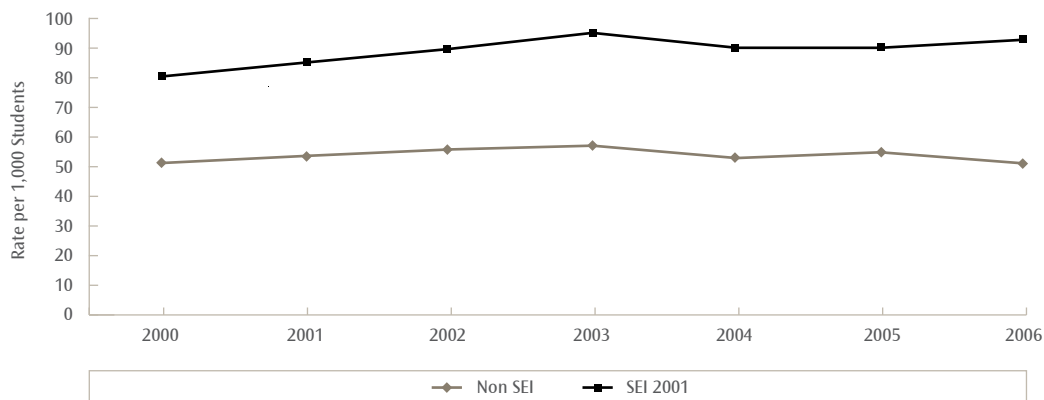
As mentioned in the Student Engagement chapter (chapter 6) the Student Engagement Initiative (formerly known as the Suspension Reduction Initiative) was established in 2001 to reduce the disproportionately high number of Māori suspensions, truancies and early leaving exemptions. The sixty-three secondary schools that joined the programme in the first year were the schools with the highest suspension rates. The data show:

- between 2000 and 2006 the rate of early leaving exemptions for SEI schools who joined in 2001 (93 per

1,000 15 year-old students) increased by 15 percent, while the early leaving exemption rate for schools that have never joined the SEI programme has not changed from 51 per 1,000 15 year-old students (see Figure 7.3)

- the Māori rate of early leaving exemptions for SEI schools who joined in 2001 has increased by 12 percent between 2000 and 2006 compared to an 18 percent increase in the Māori rate of early leaving exemptions for schools that have never joined the SEI programme.

Figure 7.3: Early leaving exemption rates per 1,000 15 year-old students by Student Engagement Initiative (SEI) status (2000 to 2006)



Source: Ministry of Education

Retention at senior secondary school

Trend data indicate that retention rates were highest in the early 1990s before rising again in the late 1990s and decreasing over the next few years. The retention rates at ages 16.5, and 17.5 in 2006 were similar to those in 2000 (see Figures 7.4 and 7.5).

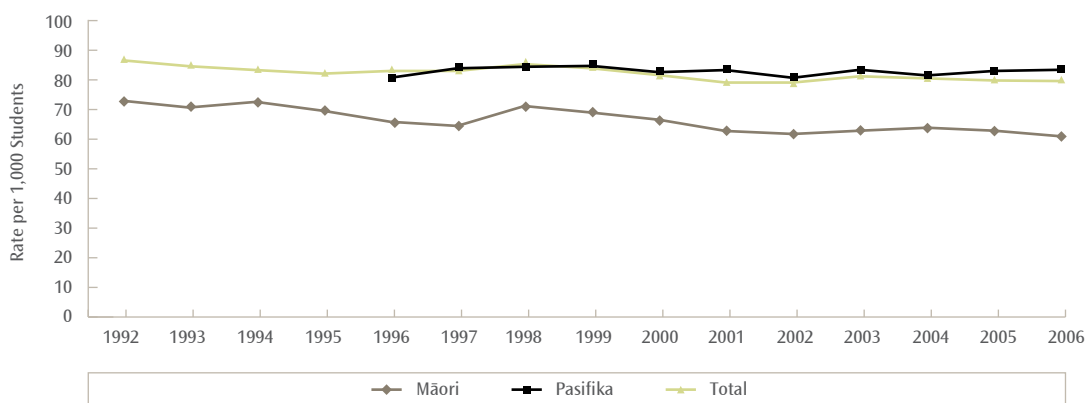
The rise in retention rates in the late 1990s also coincided with an increase in unemployment rates over the same period, particularly for those who had no qualifications. From 1996 to 1998 there was an increase of 34 percent in unemployment rates.

Students who are least likely to stay at school are Māori, male, and attend a low decile school (decile 1 or 2). The data show:

- in 2006, 84 percent and 65 percent of girls stayed at school to ages 16.5 and 17.5 respectively, compared to 77 percent and 56 percent of boys respectively. This means that girls were 8.7 percent and 16 percent more likely to stay at school to ages 16.5 and 17.5 respectively
- Pasifika students were 38 and 73 percent more likely to stay at school to ages 16.5 and 17.5 respectively, than Māori students in 2006 (see Figure 7.4 and 7.5)

- in 2006, schools that have the highest proportion of students from low socio-economic communities (schools that are decile 1 or 2) had 67 percent and 45 percent of their students stay at school to ages 16.5 and 17.5 respectively. This compares to 89 percent and 72 percent of students staying at school to ages 16.5 and 17.5 respectively, for schools that have the lowest proportion of students from low socio-economic communities (schools that are decile 9 or 10). This means that in 2006, students from a decile 9 or 10 school were 34 percent more likely to stay to age 16.5 and 60 percent more likely to stay to age 17.5 than students from a decile 1 or 2 school.

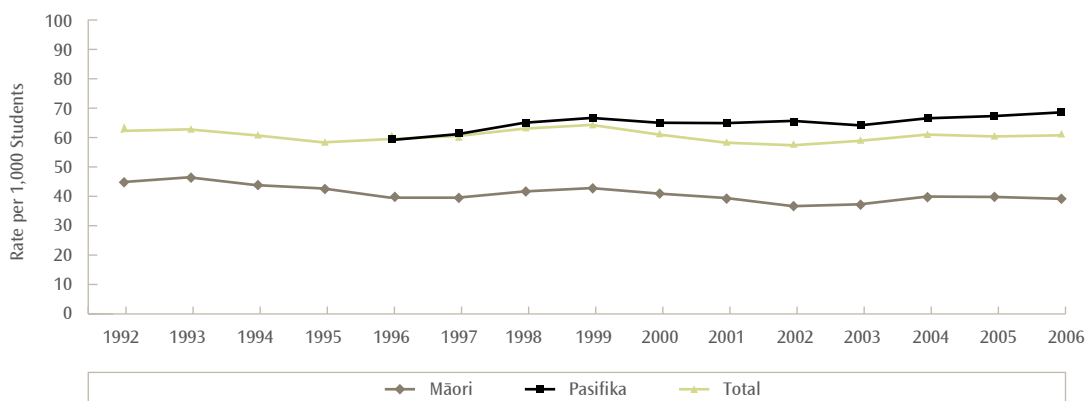
Figure 7.4: Estimated percentage of students staying on at school to age 16.5 by ethnic group (1992 to 2006)



Source: Ministry of Education (2006f)

1. New Zealand Agency for International Development (NZAID) students and foreign fee-paying students are excluded.
2. This graph represents the proportion of 14.5 year-olds, as at 1 July, still enrolled at school two years later.

Figure 7.5: Estimated percentage of students staying on at school to age 17.5 by ethnic group (1992 to 2006)

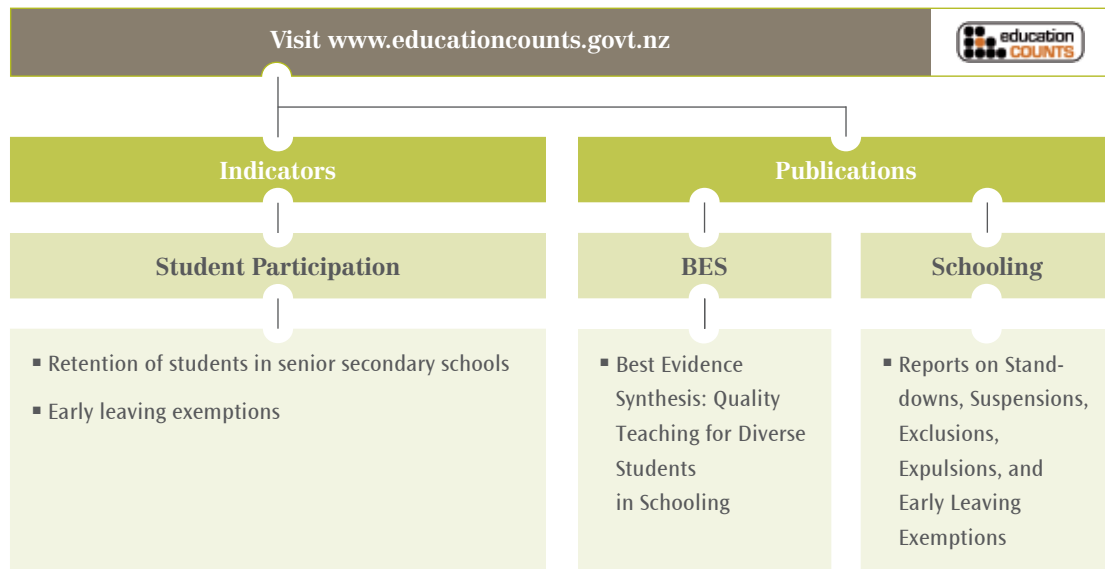


Source: Ministry of Education (2006f)

1. New Zealand Agency for International Development (NZAID) students and foreign fee-paying students are excluded.
2. This graph represents the proportion of 14.5 year olds, as at 1 July, still enrolled at school three years later.



Where to find out more



8. Teacher Education and Entry into Teaching

What we have found

Teacher education graduates are important in meeting the sector's requirement for extra teachers.

Declining roll growth over the past few years in primary schools and a slowing of growth in secondary schools has contributed to a decline in teacher education enrolments.

However, changes in government policy have offset the decline in demand for teachers. The proportion of graduates obtaining work as teachers has remained steady over the past few years, as has the proportion of schools employing beginning teachers.

The proportion of new graduates gaining employment as teachers, and the proportion of schools employing new teachers has remained relatively steady over the past few years.

Why this is important

There are several factors that affect the demand for teachers in schools. Growth in student rolls, teacher resignations and retirements, and changes in government policy (for example, classroom release time and reducing class sizes) all increase the demand for teachers. On the other hand, reductions in student rolls decrease demand. A school's preference or need for more experienced teachers also influences the demand for new teachers. The data show:

- student rolls have been in decline in primary schools since 2003. In secondary schools student rolls peaked in 2007 and are projected to slowly decline over the next 10 years²⁰ before growing strongly again
- teacher loss rates for both sectors have been between 10 and 11 percent for the past few years.²¹

While changes in loss rates and student rolls are relatively gradual, government policy can have a more direct impact on teacher demand. With teacher qualifications taking three to four years with full time study, the supply of teachers from teacher education programmes cannot respond immediately to changes in demand.

How we are going

Teacher education enrolments

Teacher education enrolments for both primary and secondary school sectors had been increasing until a few years ago (see Figure 8.1).²² Primary teacher education enrolments peaked in 2000, while secondary teacher education enrolments peaked in 2003. The absolute numbers of enrolments are much higher for primary education students.

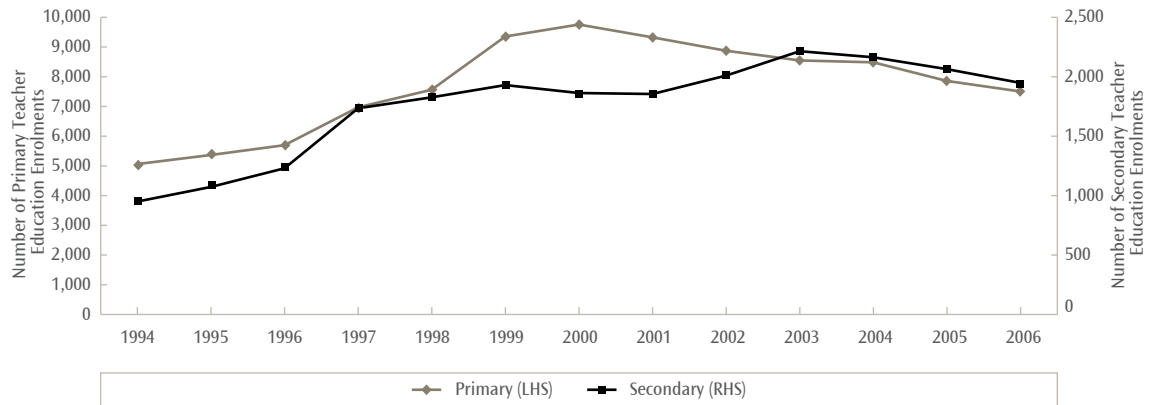
²⁰ Source: *Teacher supply and demand projections*, January 2007 update. Internal report, Ministry of Education.

²¹ Source: *Ibid.*

²² Source: *Ibid.*



Figure 8.1: Teacher education enrolments (1994 to 2006)



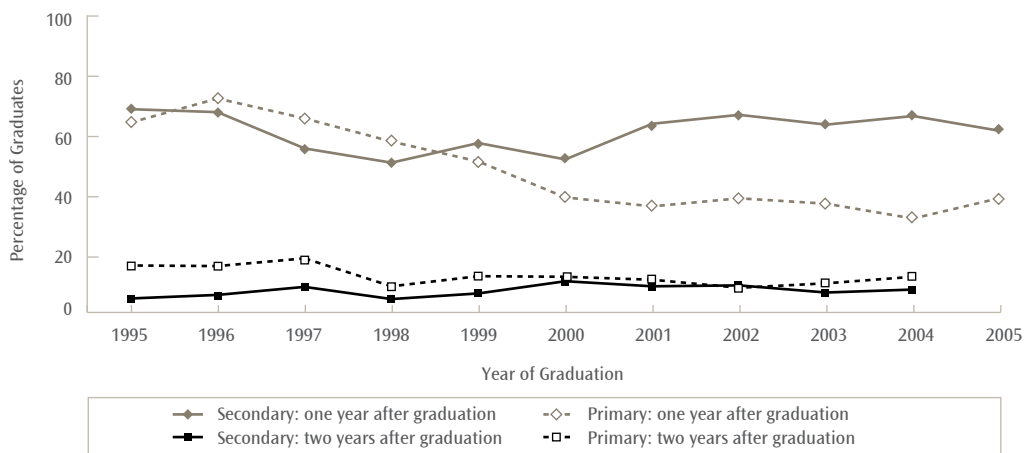
Source: Ministry of Education

New teacher take up rates

Over the past few years, 30 to 40 percent of primary teacher education graduates obtain teaching positions in New Zealand one year after graduation, compared with 60 to 70 percent of secondary teacher education graduates (see Figure 8.2).²³ Over the longer term, this rate has remained relatively steady for secondary teachers, while for primary teachers it represents a sharp decline from 10 years ago.

For new teachers two years after graduation the rates of first time employment in primary and secondary schools are similar, being about 10 percent over the past seven years. For secondary teachers this represents a slight rise over the past 11 years, and for primary teachers a slight fall.

Figure 8.2: Teacher education graduates gaining first time employment as teachers (1995 to 2005)



Source: Ministry of Education

²³ Source: *Teacher supply and demand projections*, January 2007 update. Internal report, Ministry of Education.



9. Knowledge – Secondary Years

What we have found

In 2006 New Zealand 15 year-old students achieved significantly higher mean scores than the international mean for reading, mathematics and science. Of the 30 OECD countries who participated in Programme for International Student Assessment (PISA): two OECD countries achieved a significantly better mean reading literacy score than New Zealand, three OECD countries achieved a significantly better mean mathematical literacy score than New Zealand, and one OECD country achieved a significantly better mean scientific literacy score than New Zealand.

Fifteen year-old girls scored higher than boys in reading, boys scored higher than girls in mathematics, while the scores for science were similar.

European/Pākehā and Asian 15 year-old students achieved higher levels than their Māori and Pasifika counterparts in reading, mathematics and science.

Why this is important

Knowledge gained at secondary level contributes to students' likelihood of successful participation in tertiary education and/or future employment. Achievement at secondary level contributes to a students' well-being and their ability to participate as responsible and informed members of today's knowledge-based society.

Achievement in reading, mathematics and science gives students the knowledge and skills to deal with every-day life and provide a basis for further study. Skills developed during secondary education (including time management, budgeting, problem-solving, and thinking logically and creatively) prepare students for everyday situations such as flatting, studying and working.

How we are going

Reading achievement

The Programme for International Student Assessment (PISA) study looks at the ability of 15 year-olds (predominantly Year 11 students) to apply their learning in these areas to authentic (real life) situations. In 2006, PISA found New Zealand 15 year-old students had a mean reading achievement score significantly above the Organisation for Economic Co-operation and Development (OECD) mean. The data show:

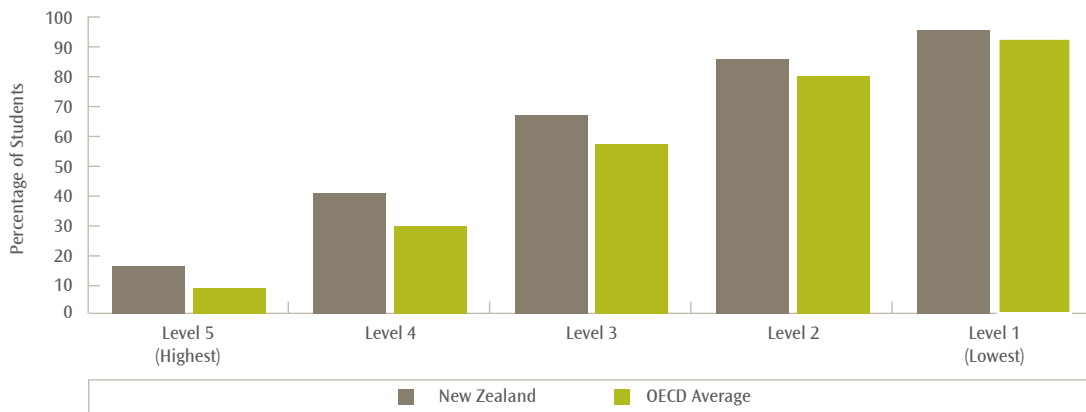
- New Zealand performed highly in 2006 and only two OECD countries (Korea and Finland) achieved a mean

score that was significantly better. Hong Kong-China also achieved a significantly higher mean score

- between 2000 and 2006 there has been no significant change in New Zealand's average 15 year-old student performance
- more New Zealand 15 year-old students achieved at the top proficiency levels in reading: level 4 and above (40 percent) and level 5 (16 percent) than the OECD average, 29 and 9 percent respectively (see Figure 9.1)
- fifteen percent of New Zealand 15 year-old students did not reach beyond the lowest level of reading literacy (level 1), and this was statistically similar to Australia (13 percent), and a statistically smaller proportion than the average across the OECD countries (20 percent)
- fifteen year-old girls achieved a significantly higher mean score than boys. This gender difference is common to all PISA participants
- Māori and Pasifika 15 year-old students achieved significantly lower mean reading literacy scores than European/Pākehā and Asian 15 year-old students. Asian 15 year-old students achieved a significantly lower mean reading literacy score than their European/Pākehā counterparts.



Figure 9.1: Percentage of New Zealand 15 year-old students reaching the PISA reading literacy proficiency levels (2006)



Source: OECD (2007)

Mathematics achievement

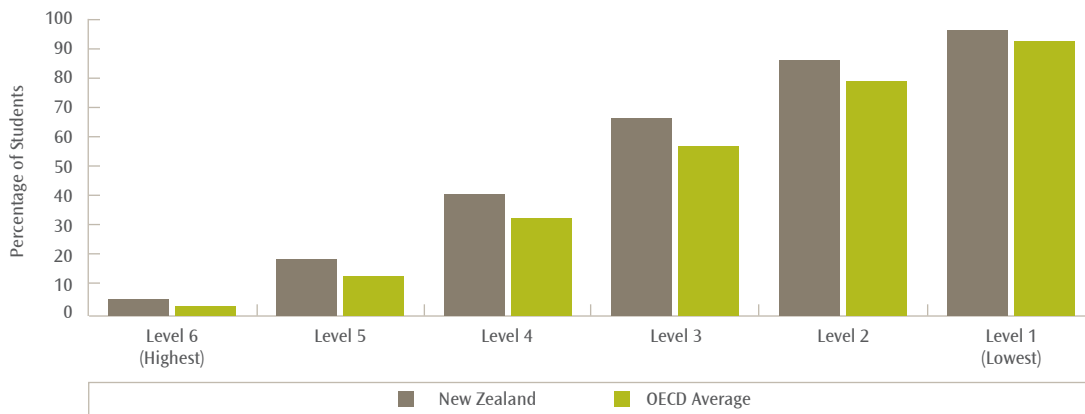
In 2006, PISA found New Zealand 15 year-old students had a mean mathematics score significantly above the OECD average. It was also found that there was no significant change in this mean between 2003 and 2006. The data show:

- New Zealand performed highly in 2006 and only three OECD countries (Korea, the Netherlands and Finland) achieved a mean score that was significantly better. Chinese-Taipei and Hong Kong-China also achieved a significantly higher mean
- in 2006, 15 year-old boys scored significantly higher than girls, which is common to the majority of OECD countries

- in 2006, the mean scores for 15 year-old Asian and European/Pākehā students were significantly higher in PISA mathematics than Māori and Pasifika students
- significantly more New Zealand 15 year-old students (19 percent) achieved at the top proficiency levels (level 5 or above) in mathematical literacy than the OECD average (13 percent). Fourteen percent of New Zealand students did not reach beyond the lowest level of mathematical literacy (level 1), and this proportion was statistically similar to Australia (13 percent), and statistically smaller than the average across the OECD countries (21 percent).



Figure 9.2: Percentage of New Zealand 15 year-old students reaching the PISA mathematical literacy proficiency levels (2006)



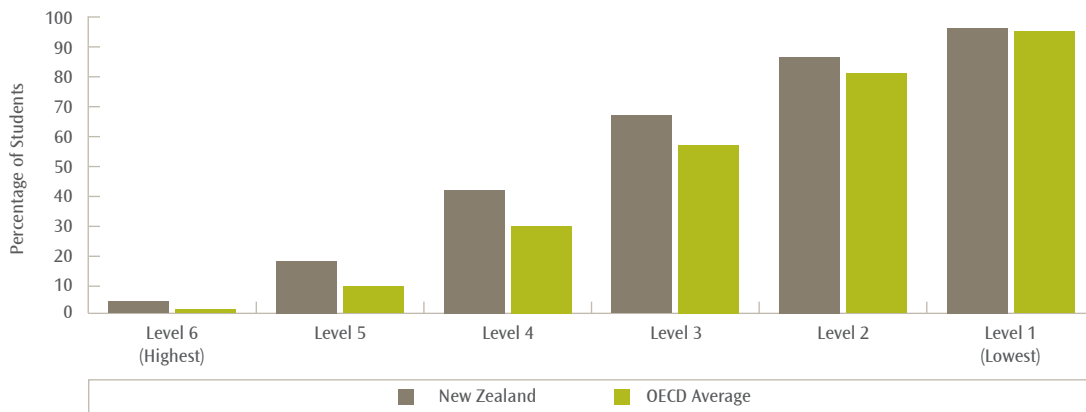
Source: OECD (2007)

Science achievement

In 2006, PISA found New Zealand 15 year-old students had a mean science score significantly above the OECD average. The data show:

- New Zealand performed highly in 2006 and only one OECD country (Finland) achieved a mean score that was significantly better. Hong Kong-China also achieved a significantly higher mean
- in 2006, there was no significant difference between the mean science scores of 15 year-old boys and girls
- Māori and Pasifika 15 year-old students achieved significantly lower mean science literacy scores than European/Pākehā and Asian 15 year-old students. Asian 15 year-old students achieved a significantly lower mean science literacy score than their European/Pākehā counterparts
- New Zealand and Finland achieved the largest proportion of students achieving the highest proficiency levels in scientific literacy, with 18 percent reaching level 5 or above. Fourteen percent of New Zealand 15 year-old students did not reach beyond the lowest level of scientific literacy (level 1), a proportion which was significantly smaller than the average across the OECD countries
- New Zealand 15 year-old students, like their international peers reported science as being less important than mathematics and English. However, a much higher percentage of New Zealand 15 year-old students reported spending four or more hours a week studying science and agreed that science will be useful to them in the future than the average percentage of their OECD counterparts. They were also as likely to report an intention to pursue science in the future as their OECD peers.

Figure 9.3: Percentage of New Zealand 15 year-old students reaching the PISA scientific literacy proficiency levels (2006)



Source: OECD (2007)



Where to find out more

Visit www.educationcounts.govt.nz

Indicators

- Reading literacy achievement: senior secondary schooling
- Mathematics achievement: middle schooling
- Mathematics literacy achievement: senior secondary schooling
- Science achievement: middle schooling
- Science literacy achievement: senior secondary schooling

Publications

- Best Evidence Synthesis: Quality teaching for diverse students in schooling
- Programme for International Student Assessment (PISA)
- Trends in International Mathematics and Science Study (TIMSS)

10. School Leavers – Qualifications

What we have found

In recent years, since the introduction of the National Certificate of Educational Achievement (NCEA), proportionately more students have left school with qualifications than in previous years. NCEA Level 1 was introduced in 2002, Level 2 in 2003 and Level 3 in 2004. Over the last four years there has been a 39 percent decrease in the proportion of students leaving school with little or no formal attainment. In the past three years there has been a 14 percent increase in the proportion of students leaving with NCEA Level 2 or above. In just the last two years there has been a 13 percent increase in the proportion of school leavers attaining a university entrance standard qualification. In all these qualifications, over the same time periods, the gap between M ori achievement and the achievement of all other ethnic groups has closed.

The flexibility of the new qualifications system means that students can take longer to achieve qualifications, and courses can be tailored to meet their needs. In the past, students who may have achieved in some aspects of learning may not have had their achievements formally recognised; now they do.

Why this is important

School leaver data provide a way of measuring the cumulative performance of students. It shows the overall success of schools in ensuring that students are adequately equipped to participate in society, the labour market and further education. A formal school qualification is a measure of the extent to which young adults have completed a basic prerequisite for higher education and training or for many entry-level jobs.

How we are going

The overall picture for 2006 school leavers is positive, with the evidence showing raised levels of achievement. Key indicators suggest that the introduction of NCEA has had a positive impact, with a greater proportion of school leavers attaining a university entrance standard qualification and fewer leaving with little or no formal attainment since its introduction (see Table 10.1).

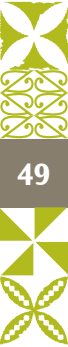


Table 10.1: Highest attainment of school leavers (2006)

Highest Attainment	Percentage of Students					
	Māori	Pasifika	Asian	Other	European/ Pākehā	All School Leavers
UE, Level 3 qualification or higher	14.8	16.8	63.0	40.7	41.3	36.3
Halfway to Level 3 qualification ¹	7.4	13.9	10.0	9.2	7.6	8.3
Level 2 qualification	14.5	18.9	9.1	13.6	16.5	15.6
Halfway to Level 2 qualification ²	10.8	13.5	6.0	11.7	7.4	8.5
Level 1 qualification	8.5	4.7	2.3	3.8	7.0	6.6
Halfway to Level 1 qualification ³	12.6	11.9	2.8	7.3	7.2	8.2
Less than halfway to Level 1 qualification ⁴	9.5	8.1	2.1	4.7	4.2	5.3
Little or no formal attainment ⁵	21.8	12.2	4.5	9.0	8.8	11.1
Total	100	100	100	100	100	100

Source: Ministry of Education (2007d)

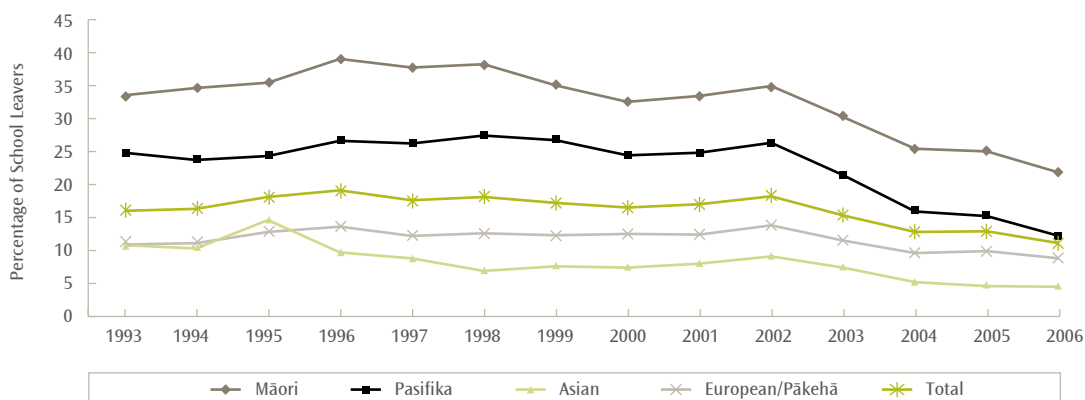
¹ 30+ credits at Level 3 or above² 30+ credits at Level 2 or above³ 40+ credits at Level 1 or above⁴ 14–39 credits at Level 1 or above⁵ 0 credits or 1–13 at Level 1, 2 or 3***School leavers with little or no formal attainment***

In 2006, 11 percent of all school leavers left school with little or no formal attainment.²⁴ Since the introduction of NCEA in 2002, all ethnic groups have seen considerable reductions in the proportion of students leaving with little or no formal attainment (see Figure 10.1).

Some of these school leavers are likely to continue their learning through tertiary education providers in preference to pursuing secondary school qualifications. However, a number will attempt to become part of the workforce. These individuals may experience difficulties both in gaining employment and in sustaining this over the long term. The data show:

- between 2002 and 2006 the proportion of school leavers with little or no formal attainment decreased from 18 percent to 11 percent. This indicates that there has been a 39 percent decrease in the proportion of school leavers with little or no formal attainment between 2005 and 2006 (see Figure 10.1)
- slightly more boys than girls left school in 2006 with little or no formal attainment, with 12 and 10 percent respectively
- approximately one in every five Māori students left school with little or no formal attainment in 2006. This is an improvement from 2002 when approximately one in every three Māori students left school with little or no formal attainment. In 2002 Māori school leavers were 2.5 times more likely to leave school with little or no formal attainment than European/Pākehā school leavers and this gap has not changed in 2006 (see Figure 10.1)
- since 2002, the proportions of Pasifika and Asian students leaving school with little or no formal attainment has halved. In 2006, approximately one in every eight Pasifika school leavers and less than one in every 20 Asian school leavers left school with little or no formal attainment (see Figure 10.1)
- school leavers from schools that have the highest proportion of students from low socio-economic communities (schools that are decile 1 or 2) had 19 percent of their school leavers leave with little or no formal attainment. They were 4.5 times more likely to leave school with little or no formal attainment than a school leaver from a school with the lowest proportion of students from low socio-economic communities (schools that are decile 9 or 10), where only 4.2 percent of school leavers leave with little or no formal attainment.

²⁴ Little or no formal attainment is equivalent of 0 credits or 1–13 credits at Level 1, 2 or 3.

Figure 10.1: Percentage of school leavers with little or no formal attainment by ethnic group (1993 to 2006)

Source: Ministry of Education (2007d)

Notes: 1993-2001: No formal attainment or less than 12 credits at National Certificate.

2002-2004: No formal attainment or 1-13 credits at NCEA level 1.

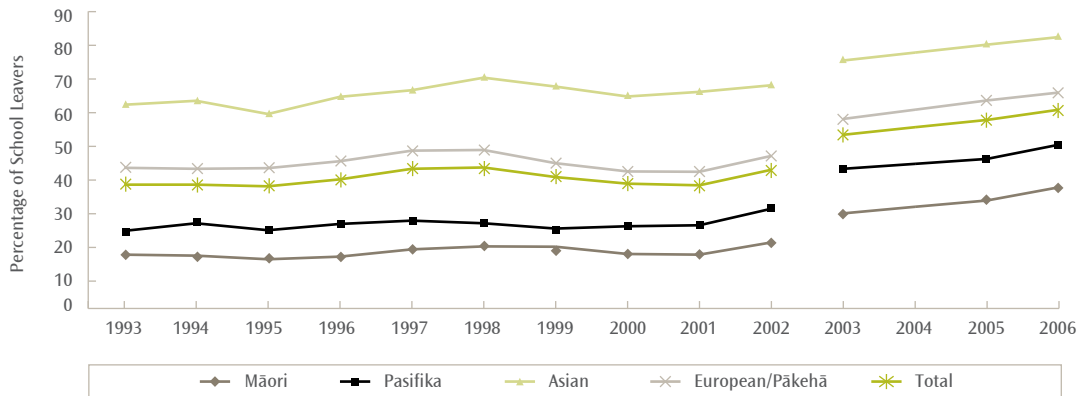
2005-2006: No formal attainment or 1-13 credits at any NCEA level.

School leavers with NCEA level 2 or above

In 2006, 60 percent of school leavers achieved at least an NCEA Level 2 qualification; a 14 percent increase from 2003 (53 percent). Since 2003, all ethnic groups have had an increase in the proportion of school leavers attaining at least an NCEA Level 2 qualification. Māori school leavers have had the largest proportional increase. The data show:

- although the performance gap between girls and boys has narrowed since 2003, in 2006 girls still outperformed boys with 65 percent of girls achieving at least an NCEA Level 2 qualification compared to 56 percent of boys
- in 2006 Asian school leavers were the most likely to leave school with at least an NCEA Level 2 qualification (82 percent), 26 percent more likely than European/Pākehā school leavers (65 percent) (see Figure 10.2)
- between 2003 and 2006 the proportion of Māori school leavers achieving at least an NCEA Level 2 qualification increased by 27 percent, from 29 to 37 percent. During the same period the proportion of European/Pākehā school leavers achieving at least an NCEA Level 2 qualification increased by 14 percent, from 57 to 65 percent. The gap in this achievement level is closing, as proportionally Māori NCEA Level 2 or above achievement has increased almost twice as much as that for European/Pākehā (see Figure 10.2)
- there is a substantial gap between Pasifika (50 percent) and Māori (37 percent) students in attaining at least an NCEA Level 2 qualification. Some of this difference is due to the higher retention rates for Pasifika. Eighty-eight percent of Pasifika school leavers in 2006 stayed in school until at least Year 12 compared with only 75 percent of Māori (see Figure 10.2)
- schools that have the highest proportion of students from low socio-economic communities (schools that are decile 1 or 2) had 41 percent of their school leavers leave with at least an NCEA Level 2 qualification. This compares to 78 percent of school leavers from schools that have the lowest proportion of students from low socio-economic communities (schools that are decile 9 or 10) leaving with at least an NCEA Level 2 qualification. This means that in 2006, if a school leaver was from a decile 9 or 10 school, they were almost twice as likely to leave school with an NCEA Level 2 qualification or above, as a school leaver from a decile 1 or 2 school.

Figure 10.2: Percentage of school leavers with NCEA level 2 or above by ethnic group (1993 to 2006)



Source: Ministry of Education (2007e)

1. Due to methodological changes in the allocation of attainment levels in 2004, for leavers achieving a qualification between little or no formal attainment and UE standard, the percentages of leavers with at least NCEA Level 2 in 2004 is not comparable with other years and has been omitted.
2. A direct comparison can not be made between rates up to and including 2002 with rates for 2003 on, due to the change in qualification structure.

School leavers achieving a university entrance standard

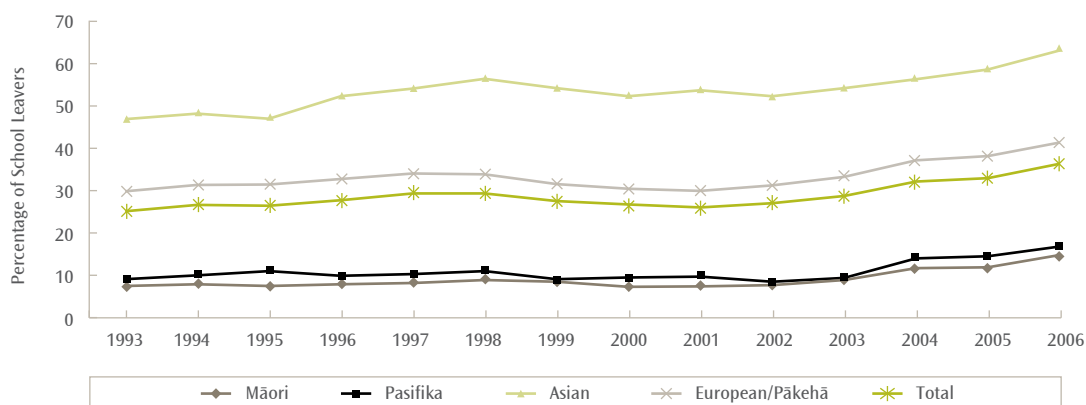
Students achieving a university entrance standard are able to enter directly into degree-level study. In 2006, 36 percent of school leavers achieved a university entrance standard. This is a 13 percent increase on 2004, when 32 percent of school leavers achieved a university entrance standard. The data show:

- in 2006, girls achieved at a much higher rate than boys, with 41 percent achieving a university entrance standard compared to 31 percent of males
- Asian students had the highest proportion of school leavers achieving a university entrance standard in 2006, with 63 percent. This proportion is over 50 percent higher than the proportion of European/Pākehā school leavers who achieved a university entrance standard, which was 41 percent (see Figure 10.3)

- between 2004 and 2006, the proportions of Māori and Pasifika school leavers achieving a university entrance qualification have increased by 27 and 20 percent respectively. However, compared to other ethnic groups, Māori and Pasifika school leavers were less likely to achieve a university entrance standard in 2006, with 15 and 17 percent respectively (see Figure 10.3)
- school leavers from schools that have the lowest proportion of students from low socio-economic communities (schools that are decile 9 or 10) were almost four times more likely to leave school with university entrance qualification as a school leaver from a school that has the highest proportion of students from low socio-economic communities (schools that are decile 1 or 2).

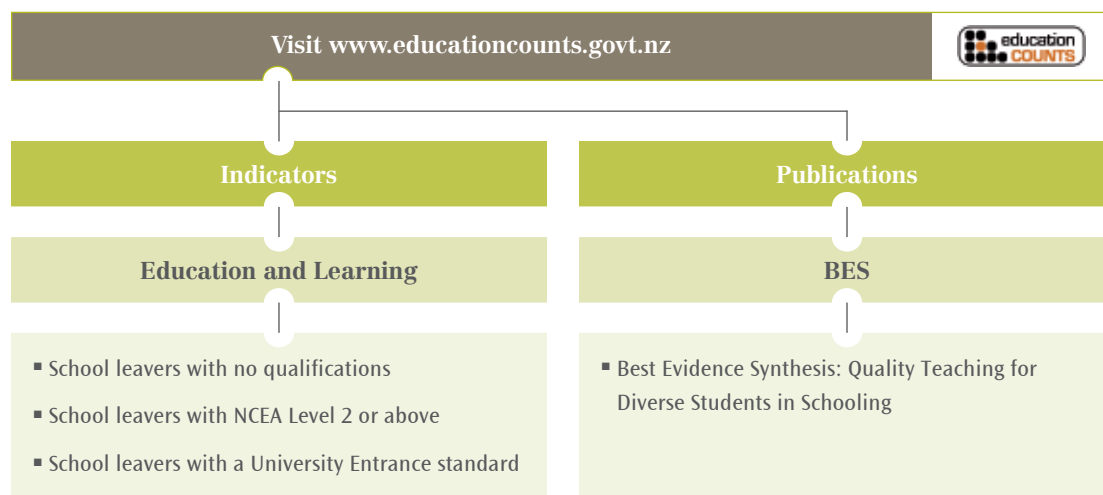


Figure 10.3: Percentage of school leavers with a university entrance qualification by ethnic group (1993 to 2006)



Source: Ministry of Education (2007f)

Where to find out more



11. School Leavers – Transition to Tertiary

What we have found

The proportion of school leavers who make a direct transition into tertiary education has been increasing steadily since 1998.

The proportion of M ori and Pasifika school leavers directly transitioning into tertiary education has increased considerably since 1998 and are now similar to European/P keh , although well short of Asian rates.

M ori and Pasifika school leavers are more likely to directly transition to certificate level study, while Asian and European/P keh students have considerably high proportions directly transitioning to degree-level study. However, of school leavers who obtained a university entrance standard, larger proportions of M ori or Pasifika students transitioned directly into degree level study compared to their European/P keh counter parts.

Why this is important

To contribute in today's society, individuals must be skilled and knowledgeable. Tertiary education provides a means to develop these skills and individuals can participate at any age, from leaving school through to adulthood.

Tertiary education offers a range of courses to suit the background of each learner, from low level certificate courses through to undergraduate degrees and advanced research-based postgraduate degrees.

Qualifications are the desired outcome of tertiary education; those individuals gaining them have greater labour force participation, and, on average, earn higher

incomes.²⁴ The benefits for students enrolling directly from school are even greater. School leavers are more likely to complete their studies and more likely to progress on to higher levels of study.

To receive these benefits, clear pathways to assist young people to make the direct transition from school to tertiary level study must be developed and maintained. Encouraging students to stay at school and the use of effective teaching through providing appropriate, timely and useful careers guidance and advice about different learning programmes and pathways better prepares students for tertiary education.

²⁴ Loader & Dalgety. (2006).

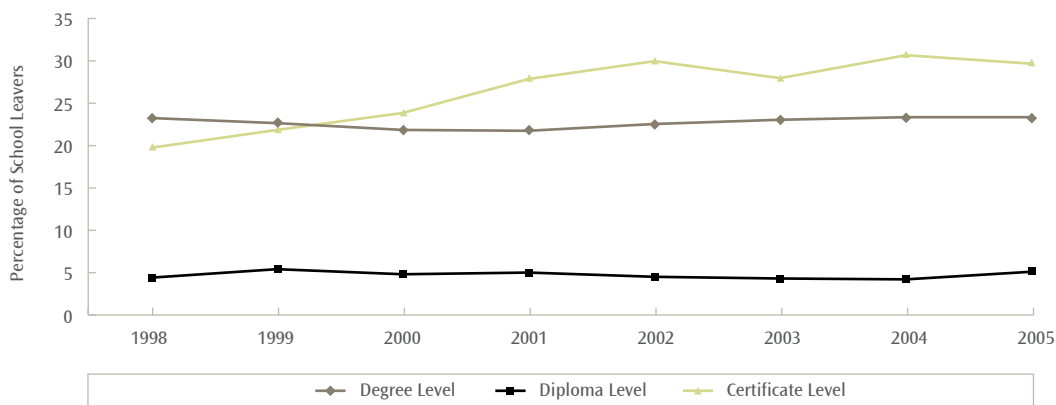


How we are going

A student is regarded as making a direct transition to tertiary education when they start tertiary study by the end of the calendar year following the year they leave school. The number of students making a direct transition to tertiary education has been increasing since the late 1990s. Between 1998 and 2005 the number of students directly transitioning has increased by 36 percent. The data show:

- over half (58 percent) of all school leavers from 2005 transitioned directly into tertiary education, an increase of 23 percent from 1998. The increase is largely due to school leavers enrolling in lower level certificate courses
- thirty percent of school leavers from 2005 enrolled in certificate-level courses, 5.1 percent enrolled in diploma-level courses, and 23 percent enrolled in degree-level courses (see Figure 11.1).

Figure 11.1: Percentage of school leavers making a direct transition to tertiary education by award level and year left school (1998 to 2005)



Source: Ministry of Education (2007g)

1. Excludes New Zealand Agency for International Development (NZ Aid) and foreign fee paying students.

School leavers who make a direct transition to tertiary education are most likely to be female, Asian and from a decile 9 or 10 school. The data show:

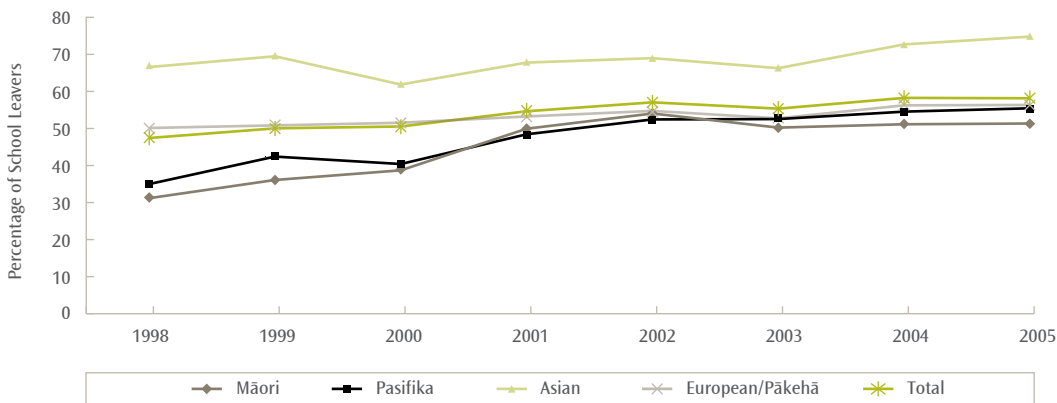
- just under 75 percent of Asian school leavers from 2005 made a direct transition into tertiary study compared to 56 percent of European/Pākehā school leavers; an increase of over 12 percent between 1998 and 2005 for both of these ethnic groups (see Figure 11.2)
- between 1998 and 2005, the numbers of Māori school leavers (51 percent of all school leavers) and Pasifika school leavers (55 percent) directly transitioning into tertiary education increased by 65 percent and 59 percent respectively (see Figure 11.2)
- in 2005 Pasifika school leavers had the highest proportion of students enrolling in certificate-level study (40 percent), while Māori school leavers had the second highest proportion of students enrolling in certificate-level study (38 percent). In contrast 18 percent of Asian school leavers enrolled in certificate-level study
- approximately one in every ten Māori school leavers and Pasifika school leavers in 2005 enrolled in degree-level study. In contrast, one in every four European/Pākehā school leavers and half of Asian school leavers in 2005 enrolled in degree-level study



- of the 2005 school leavers who obtained a university entrance standard, 70 percent of Māori, 66 percent of Pasifika, 71 percent of Asian and 59 percent of European/Pākehā students enrolled in degree-level study
- schools that have the highest proportion of students from low socio-economic communities (schools that are decile 1 or 2) had 50 percent of 2005 school leavers directly transitioning into tertiary education. This

compares to 69 percent of 2005 school leavers directly transitioning into tertiary education for schools that have the lowest proportion of students from low socio-economic communities (schools that are decile 9 or 10). This means that a 2005 school leaver from a decile 9 or 10 school was 38 percent more likely to make a direct transition into tertiary education than a 2005 school leaver from a decile 1 or 2 school.

Figure 11.2: Percentage of school leavers making a direct transition to tertiary education by ethnic group and year left school (1998 to 2005)



Source: Ministry of Education (2007g)

1. Excludes New Zealand Agency for International Development (NZAID) and foreign fee paying students.
2. 'Other' school leavers are not shown as a separate series but are included under Total.

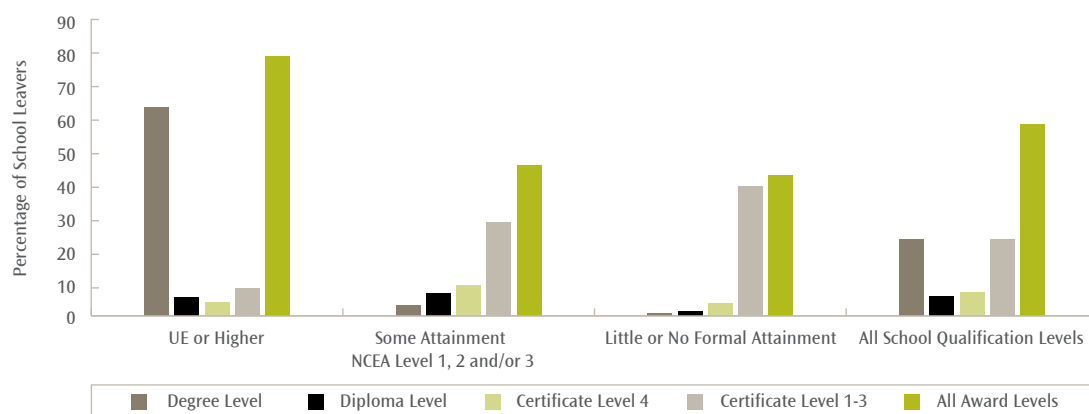
School leavers can be placed into three groups relative to their highest attainment, those with: university entrance (or equivalent), some attainment at NCEA Level 1, 2 and/or 3, and little or no formal attainment. Since 2000 the number of students leaving with university entrance has increased, while the number with little or no formal attainment has decreased. The data show:

- seventy-nine percent of 2005 school leavers who obtained a university entrance standard enrolled for tertiary education, compared to just 46 percent of 2005 school leavers with some attainment at NCEA Level 1, 2 and/or 3, and 43 percent for 2005 school leavers with little or no formal attainment respectively (see Figure 11.3)

- of the 2005 school leavers who obtained a university entrance standard and directly transitioned into tertiary education, 80 percent enrolled in degree-level study, 14 percent enrolled in certificate-level study, and six percent enrolled in diploma-level study²⁶ (see Figure 11.3)
- of the 2005 school leavers with some attainment at NCEA Level 1, 2 and/or 3 who directly transitioned into tertiary education, 81 percent enrolled in certificate-level study, 13 percent enrolled in diploma-level study, and six percent enrolled in degree-level study. Of the 2005 school leavers with little or no formal attainment who directly transitioned into tertiary education, 98.4 percent enrolled in certificate-level study, 1.4 percent enrolled in diploma-level study, and 0.2 percent enrolled in degree-level study (see Figure 11.3).

²⁶ Previously, the measure of a students' attainment was taken from their first enrolment form at tertiary. However, the ministry is now able to match individual student enrolments with their attainment history on the NQF while at school, providing a more reliable assessment of a student's attainment at school. As a result, previous figures have underestimated the number of school leavers attaining a university entrance standard transitioning directly to tertiary students and have overestimated the number of school leavers with little or no formal attainment transitioning directly to tertiary study.

Figure 11.3: Percentage of school leavers making a direct transition to tertiary education by tertiary award level and highest school qualification (2005)



Source: Ministry of Education (2007g)

1. Excludes New Zealand Agency for International Development (NZ Aid) and foreign fee paying students.

Where to find out more

