A SNAPSHOT

STUDENT ACHIEVEMENT AT A GLANCE

RESEARCH DIVISION
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MINISTRY OF EDUCATION
Te Tāhuhu o te Mātauranga

This information kit brings together the findings of a range of national and international studies on student achievement. They are Assessment Tools for Teaching and Learning (asTTle), National Education Monitoring Project (NEMP), Trends in International Mathematics and Science Study (TIMSS), Progress in International Reading Literacy Study (PIRLS), Programme for International Student Assessment (PISA) and National Certificate of Educational Achievement (NCEA). They have different focuses of interest, objectives, methodologies and types of assessment and were done at different times and have different student populations.

Here is a summary of findings

Common findings across studies

The findings across the studies as a whole are clear that:

- Students advance in learning as they pass through their years of schooling. However, learning does not progress at a constant rate across curriculum levels or across school years.
- New Zealand students achieve in reading and mathematics, on average, at a high level compared to other countries, particularly in mid secondary school. Their average level of achievement has been stable in recent years.
- The highest achieving students in New Zealand are comparable to the best in the world, particularly in reading at mid secondary school.
- New Zealand students have a wide spread of achievement in reading, and to a lesser extent in mathematics, compared to other highly achieving countries.
- Generally, the spread of achievement is wide within individual schools. This means that every school is likely to be working with a diverse range of student achievement and ability. The spread of achievement ***within*** schools is more significant, particularly in an international context, than the spread of achievement ***between*** different groups of schools.
- Initiatives such as the Literacy Professional Development Project, the Numeracy Development Project and some school improvement projects have produced very significant positive shifts in reading, writing and mathematics achievement for low achieving students in participating schools, including students in low decile schools.
- Writing is an area where New Zealand students could do better. On average, students do not reach the same curriculum levels as they do in reading or mathematics. The performance in writing amongst some boys is particularly concerning. However, recent findings from the national Literacy Professional Development Project show that significant improvements in writing are occurring in participating schools.
- Though some boys achieve at a very high level, boys are over-represented in those who achieve at a low level, particularly in writing and also in reading. The spread of achievement is wider for boys than girls, particularly in writing.
- Although some Māori and Pasifika students achieve at a very high level, Māori and Pasifika students achieve, on average, less well than their Pākehā and Asian peers. The rate of progress for Māori and Pasifika students across school years and curriculum levels is generally similar to that of Pākehā and Asian students, but Māori and Pasifika students' achievement starts at a lower base and never makes up the gap. However, some evidence – clearest for middle primary reading, writing and mathematics – shows the gap narrowing and Māori and Pasifika average achievement increasing. The achievement of some Māori boys is particularly concerning.
- Students whose home language is English achieve, on average, at a higher level than others especially in reading and writing.

The fact that the different assessment studies' findings closely align in a wide range of areas, is compelling evidence that, to a great extent, they measure similar concepts and provide reliable measures of student achievement. Moreover, these common findings give us clear pointers about the aspects of student achievement that are of most concern, and therefore confidence that we can focus further research on the most relevant areas, and develop strategies and responses that will address real problems.

Some areas where findings differ across studies

Findings vary across studies in some areas:

- While assessment studies based on data collected before about 2004 show that students in low decile schools perform poorly on average compared to students in other schools, more recent school improvement projects and the literacy and numeracy projects have shown that significant improvement is occurring in participating low decile schools.
- Some studies show some relationship between student attitudes and achievement, while other studies show little or no relationship. Studies explore different attitudes (liking a subject, perceptions of ability, self-confidence) but no clear overall picture about attitudes emerges.
- Measures of the size and nature of the gap between girls' and boys' achievement in reading vary across studies.

To some extent, variable results across studies may be due to different studies having differing definitions of the content areas that are assessed, and different student populations. Some studies conduct assessments differently. Different results between studies for small subgroups may be only because of small sample sizes.

This table summarises some further key information about studies of student achievement.

	asTTle	NEMP	PIRLS	PISA	TIMSS	NCEA
Full title of study	Assessment Tools for Teaching and Learning	National Education Monitoring Project	Progress in International Reading Literacy Study	Programme for International Student Assessment	Trends in International Mathematics and Science Study	National Certificate of Educational Achievement
Administering body	University of Auckland	Educational Assessment Research Unit (EARU), Otago University	IEA (International) & Ministry of Education (MoE)	OECD (International) & Ministry of Education (MoE)	IEA (International) & Ministry of Education (MoE)	New Zealand Qualifications Authority (NZQA)
Mathematics	Yes	Yes	No	Yes	Yes	Yes
Writing	Yes	Yes	No	No	No	Yes
Reading	Yes	Yes	Yes	Yes	No	Yes
Number of NZ students	Nearly 100,000	1,400 Y4 & 1,400 Y8	Nearly 2,500 in PIRLS.1,200 in 10 yr Trends in Reading Literacy Study	3,667 (2000) 4,500 (2003)	4,300 Y5 & 3,800 Y9 from 390 schools	Approx 145,000
Age of students	Approx 9-17	9 & 13	10	15 yrs 3 mths – 16 yrs 2 mths	10 & 14	Approx 15-18
School year	Y4-12	Y4 & Y8	Y5	Mostly Y10	Y5 & Y9	Mostly Y11, 12 and 13
Year of study	2000-2004	Annually since 1995	2001, 2005	2000, 2003, 2006	1994, 1998, 2002, 2006	Level 1: from 2002 Level 2: from 2003 Level 3: from 2004
National/ International	National	National	35 countries	2000: 32 countries 2003: 42 countries	2002: Y5: 25 countries Y9: 46 countries	National
Language of test	English & Māori	English & Māori	English & Māori	English	English	English & Māori
Match to NZ Curriculum (NZC)	Assessments developed from NZC	Majority of items	Some items	Some items	60-80 percent of items	Assessments developed from NZC