



**IN FOCUS**

# ACHIEVEMENT IN READING

INFORMATION KIT: STUDENT ACHIEVEMENT IN NEW ZEALAND

RESEARCH DIVISION  
Wāhanga Mahi Rangahau

THE UNIVERSITY OF AUCKLAND  
NEW ZEALAND



MINISTRY OF EDUCATION  
Te Tihitanga o te Mātauranga



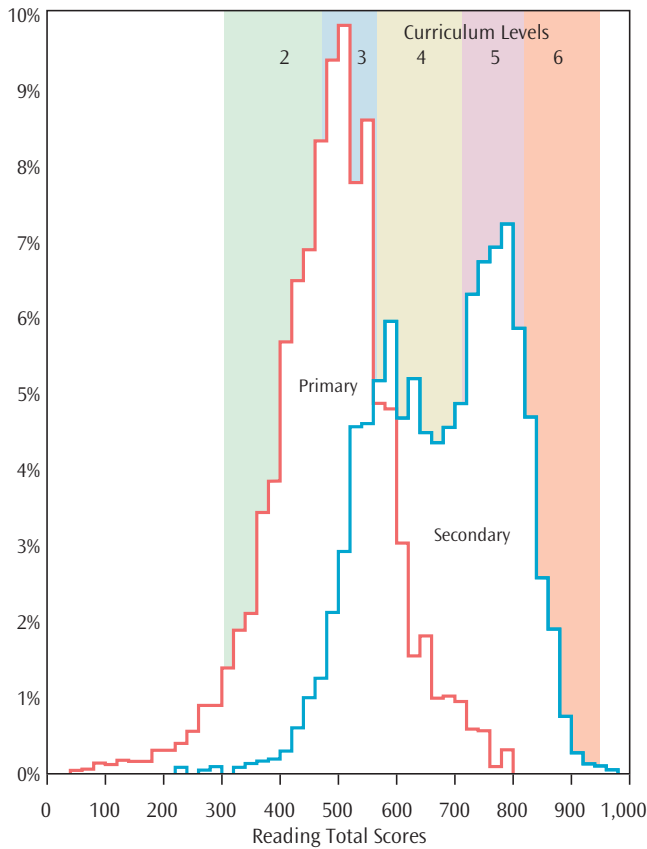
## Achievement in reading

This monograph analyses student achievement data in reading comprehension (known as ‘close reading’ in the New Zealand curriculum) from Year 5 to Year 12 in New Zealand. It uses data gathered during the development of 1,600 assessment tasks for the Assessment Tools for Teaching and Learning (asTTle). These data were from a representative sample of about 39,000 students collected from 2000 to 2004. The tasks covered the six content areas of reading comprehension (Limbrick, Keenan, & Girven, 2000; Nicholls, 2003) and were designed to assess curriculum Levels 2 to 6.

The six content areas were:

- finding information (finding information)
- knowledge of the meaning of words and language devices (knowledge)
- understanding the main ideas and details of text (understanding)
- making connections between and within texts (connections)
- drawing inferences, evaluations and interpretations from a text (inference)
- understanding the meanings generated by grammar, punctuation and spelling (surface features).



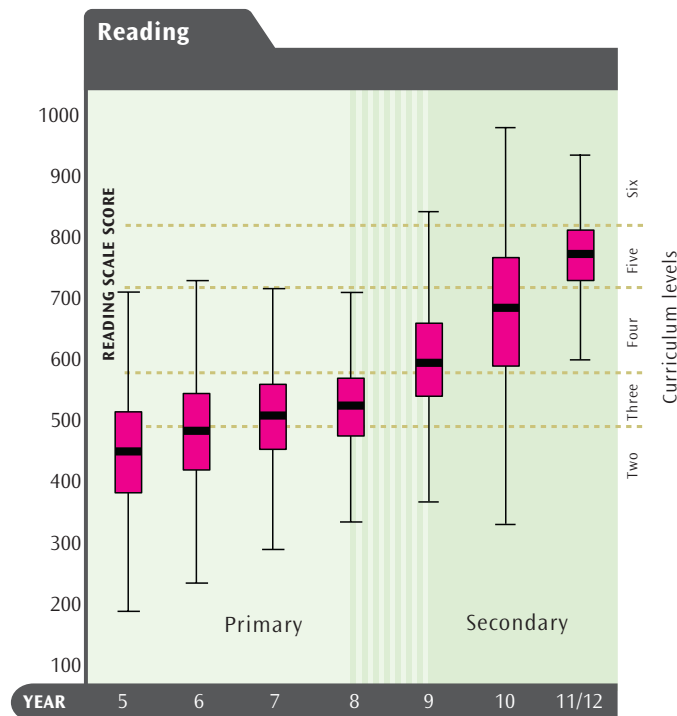
**FIGURE 1.** Distribution of reading total score.

## Overall reading achievement

Across all years the average reading score was 550, or curriculum Level 3 advanced<sup>1</sup> (Figure 1). The range covered just over 1,000 points, with the distribution having two peaks. The larger peak was centred on a score of 500 and represented the majority of scores produced by those at primary school. The smaller peak, centred on 750, consisted mainly of scores produced by secondary school students. It is important to note, however, that there was a large number of secondary (mainly Year 9) and primary students who had the same total reading comprehension scores.

## Reading achievement across student years

There was a rapid increase in average achievement from the first year of secondary schooling (Year 9) onwards, with an annual gain that represents two or three years of primary school gains (Figure 2). The average performance of students on entry to secondary school was within curriculum Level 3 and increased to Level 5 by Year 11/12<sup>2</sup>.

**FIGURE 2.** Reading score and curriculum level by year.

<sup>1</sup> The range of scores for each curriculum level is divided into basic, proficient and advanced.

<sup>2</sup> As the number of students sampled from Year 12 was low, their data was merged with Year 11 students for this and subsequent analyses.

## Reading content areas

The five major content areas within reading all followed the general pattern of rapid growth in achievement from Year 9 (Figure 3). The content areas of finding information, knowledge, understanding and inference had similar average scores throughout student years, which suggests they are taught or learned equally well. Making connections, however, was about 20 points behind the other content areas at primary school and fell slightly behind again at Year 10.

Achievement in the sixth content area of reading – the surface features of grammar, punctuation and spelling – rose slowly through primary school, remaining on the boundary between curriculum Levels 2 and 3 (Figure 4<sup>3</sup>). However, performance in the surface features showed the same rapid acceleration from Year 9 as the other content areas: performance in spelling rose to curriculum Level 4; grammar increased to high in curriculum Level 3; and punctuation increased to Level 5.

FIGURE 3. Average reading content area score and curriculum level by year.

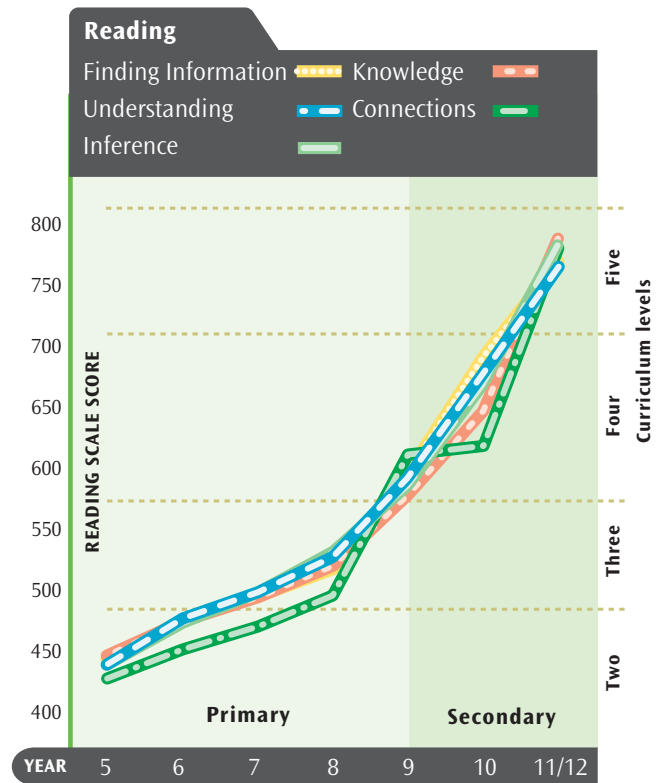
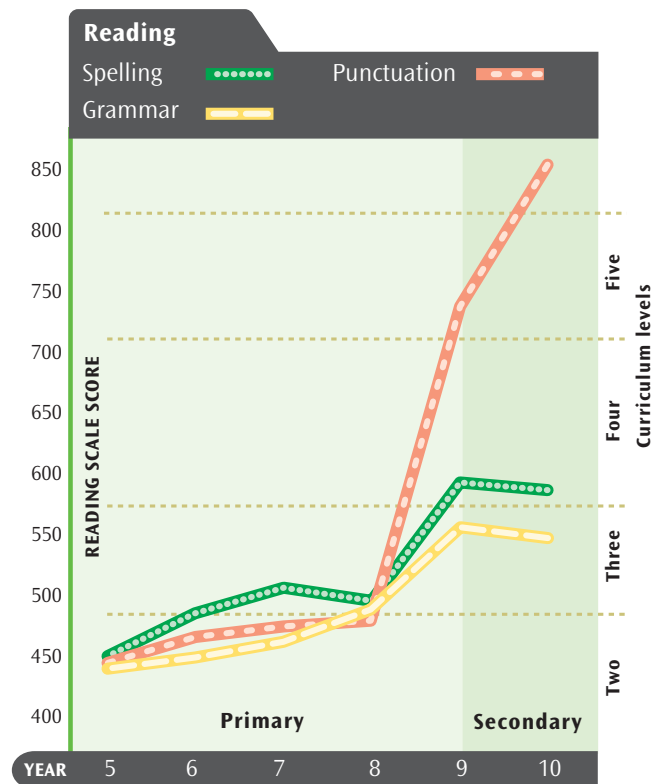
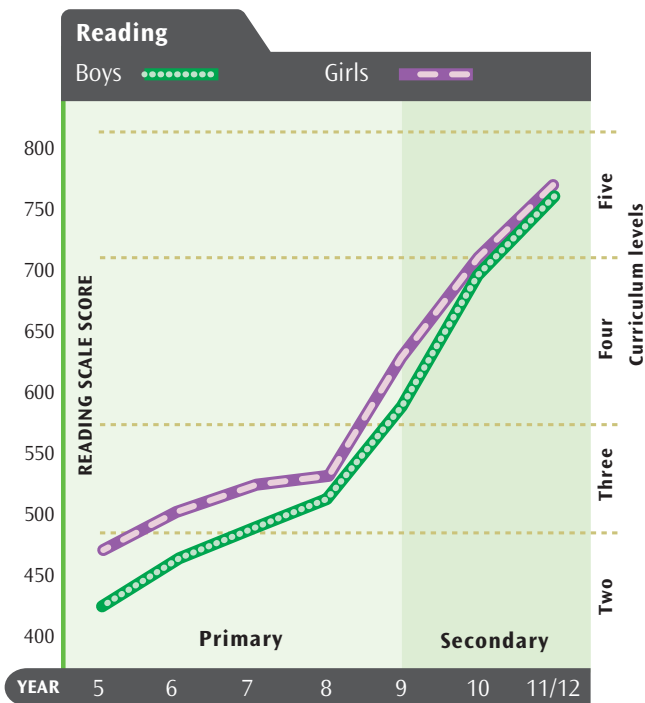


FIGURE 4. Average reading surface features score and curriculum level by year.



3 There were very few students and very few items available to measure the surface features of grammar, punctuation and spelling beyond Year 10, so those students were excluded from this analysis.

FIGURE 5. Average reading score and curriculum level by gender and year.



## Gender

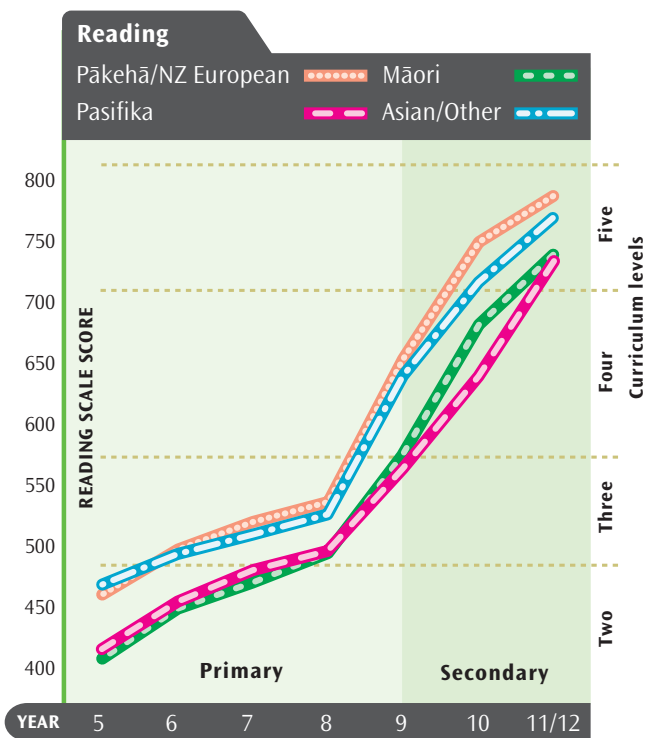
Girls started off at Year 5 with a distinct average advantage over boys in total reading achievement (46 point difference, effect size of 0.43<sup>4</sup>), but this difference halved by the end of primary school. By Year 10 the differences between genders was minimal.

This same trend in overall achievement was also evident in each content area of reading.

## Ethnicity

There were clear differences in reading scores between students of different ethnic groups (Figure 6): Pākehā/New Zealand European and Asian/Other<sup>5</sup> students maintained a distinct average advantage compared to Māori and Pasifika counterparts by about 50 points across all years. The Pākehā/New Zealand European and Asian/Other students reached curriculum Level 5, on average, at Year 10, while the Māori and Pasifika students did so in Year 11. It is worth noting that all students, regardless of ethnicity, experienced steeper gains during their secondary schooling.

FIGURE 6. Average reading score and curriculum level by ethnicity and year.



4 Effect size is a statistical method of taking into account the variation and sample size of the groups whose averages you are comparing. An effect size of greater than 0.4 is generally regarded as exceeding the average of all educational interventions.

5 Note the number of students reporting themselves as Asian or Other ethnicity was too low to provide robust statistics and so these two categories were merged.

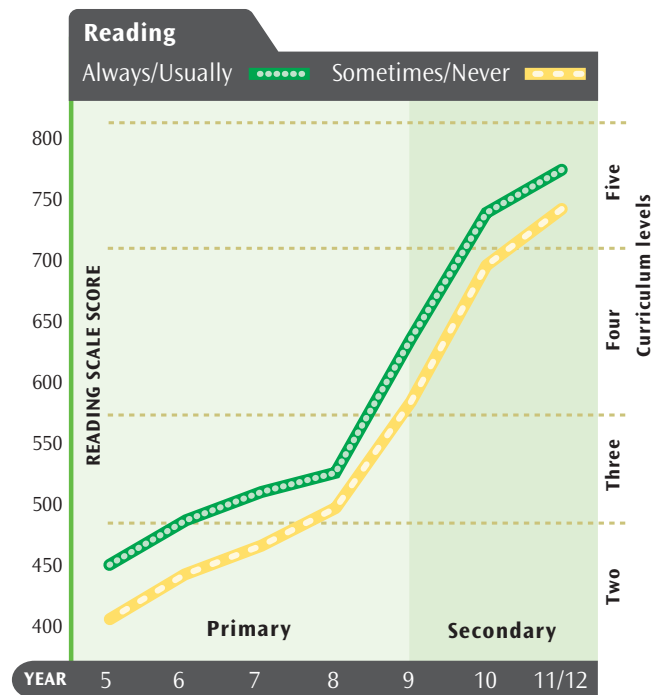
## English at home

In terms of dominant language at home, students were classified into two categories: those who always or usually speak English at home; and those who sometimes or never speak English at home. On average, across all years of schooling, students who always or usually spoke English at home performed better than those students who spoke English at home only sometimes or never (average difference across years is 40 points, average effect size across years is 0.44). This difference was about half that reported in earlier measures of New Zealand student performance on generalised measures of reading comprehension such as the International Association for the Evaluation of Educational Achievement (IEA) Reading Literacy Study (Wagemaker, 1993).

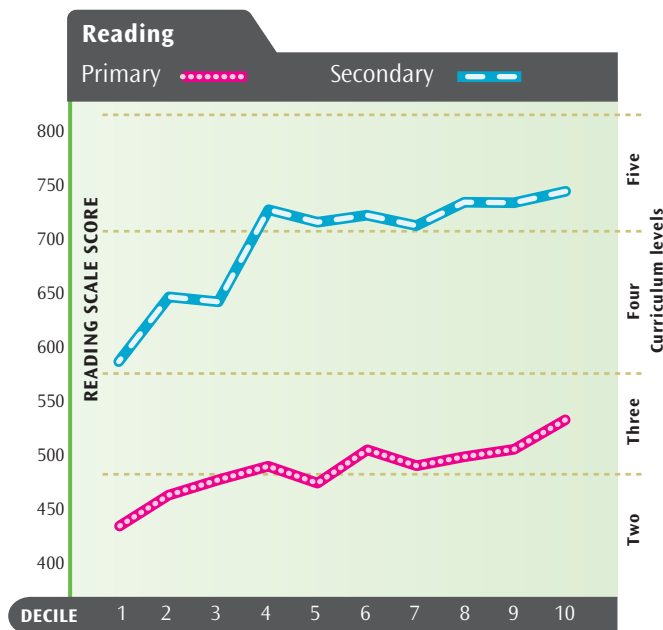
## School decile

Combined student performances across Years 5 to 8 (primary) and Years 9 to 12 (secondary) showed a difference between the lowest and highest decile schools of 100 points at primary and 150 points at secondary (Figure 8). Of greater interest, however, was the lack of difference among the majority of schools – the rankings were nearly level between decile 4 and 10 for secondary schools (ie, they were all Level 5 basic) and between decile 4 and 9 for primary (ie, they were all Level 2 advanced or Level 3 basic). Clearly, a higher decile rating did not automatically equate with higher performance from decile 4 onwards.

**FIGURE 7.** Average reading score and curriculum level by frequency of English spoken at home and year.



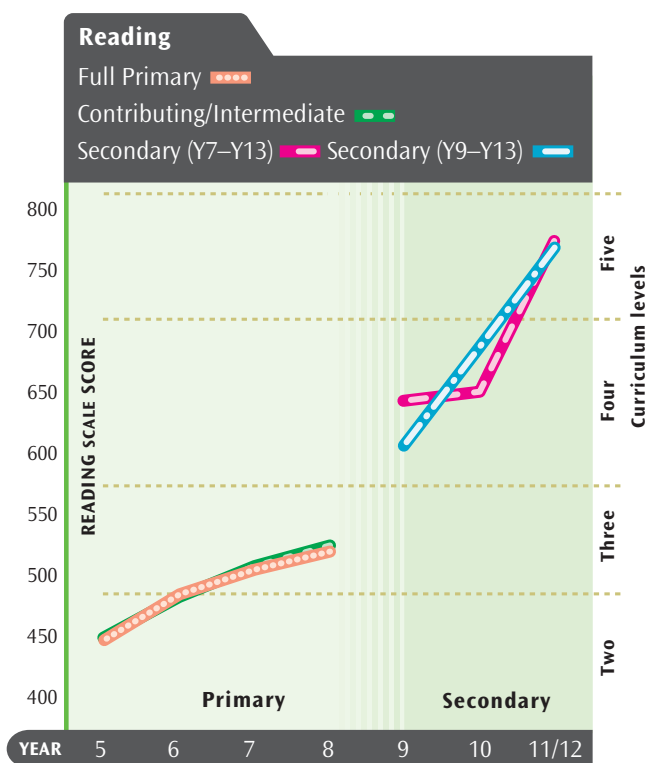
**Figure 8.** Average reading score and curriculum level by school type and year.



**FIGURE 9.** Average reading score and curriculum level across school decile for primary and secondary students.

## School type

The data show that the type of primary school attended made no difference to performance in reading across the primary school years: contributing primaries, full primaries and intermediate schools all showed similar performances (Figure 9). There was a large jump in performance associated with attendance at secondary school (performance was well into Level 4 at Year 9), as was noted earlier. There was also a small advantage in Year 9 to those students enrolled in secondary schools who have attached Year 7 and 8 classes<sup>6</sup>, but this pattern was reversed at Year 10. Essentially, school type was irrelevant to progress in reading achievement; the key to success seemed to be attendance at secondary school.



<sup>6</sup> However, students at Year 7 and Year 8 at secondary Y7-Y13 schools were not tested.



## Conclusion

The main findings were:

- entry to secondary school had a huge impact on reading comprehension skills
- differences between boys' and girls' reading comprehension reduced significantly as their age increased
- student ethnicity differences in reading achievement were large and persistent
- on average, students who usually or always spoke English at home had higher reading scores across all years
- school type and decile made little difference to achievement in reading.



## References

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See: [www.tki.org.nz/r/asttle/pdf/technical-reports/techreport04.pdf](http://www.tki.org.nz/r/asttle/pdf/technical-reports/techreport04.pdf)

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