

# Wānangatia te Putanga Tauira National Monitoring Study of Student Achievement

## Achievement of Students with Special Education Needs in English: Reading

Key findings 2014





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National Monitoring Study  
of Student Achievement

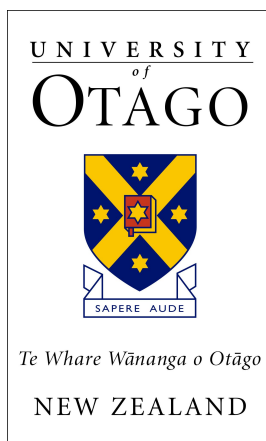
# Achievement of Students with Special Education Needs in English:Reading

Key findings 2014

Educational Assessment Research Unit  
and  
New Zealand Council for Educational Research



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- members of the reference groups: Technical, Māori, Pasifika and Special Education
- members of the curriculum advisory panels in social studies and English: reading
- principals and students of the schools where the tasks were piloted and trials were conducted
- principals, teachers and Board of Trustees members of the schools that participated in the 2014 main study including the linking study
- the students who participated in the assessments and their parents, whānau and caregivers
- the teachers who administered the assessments to the students
- the teachers, senior initial teacher education students and others who undertook the marking
- the Ministry of Education Research Team and Steering Committee.

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## Executive Summary

In 2014, the National Monitoring Study of Student Achievement (NMSSA) assessed student achievement at Year 4 and Year 8 in two areas of the *New Zealand Curriculum* (NZC) – English: reading and social studies. This brief report presents the results for students with special education needs in English: reading.

Students with special education needs made up 10 percent of the Year 4 national sample and 7 percent of the Year 8 national sample. More boys than girls in the study were identified as having special education needs at both year levels.

Twenty-four percent of Year 4 students with special education needs scored above the minimum score on the Knowledge and Application of Reading in English (KARE) assessment associated with achieving curriculum level 2 objectives, and 20 percent of Year 8 students with special education needs scored above the minimum score associated with achieving curriculum level 4 objectives.

Year 8 students with special education needs scored, on average, 28 scale score units higher on the KARE assessment than Year 4 students with special education needs.

Year 4 students with special education needs showed more positive attitudes to English: reading than Year 8 students with special education needs and girls, overall, showed more positive attitudes than boys. The correlation between scores for students with special education needs on the Attitude to Reading scale and their scores on the KARE assessment was not statistically significant at either Year 4 or Year 8.

Overall, the proportion of students with special education needs who reported doing 2 or more hours of reading in their own time was smaller than the corresponding proportion of all students in the national samples. Girls reported spending more of their own time reading than boys, and students who reported spending 5 or more hours a week reading scored higher, on average, on the KARE assessment than those who reported doing little or no reading in their own time.

The proportion of students with special education needs scoring above the national average on the KARE assessment at each year level was smaller than the corresponding proportion of all students in the national samples.

When compared with the overall proportions of boys and girls with special education needs in the national samples, boys with special education needs were slightly over-represented in the group of students with special education needs who achieved the lowest scores.

## 1. Introduction

This report provides an overview of findings for students with special education needs who were involved in the 2014 English: reading<sup>1</sup> assessment programme carried out as part of NMSSA. The report begins with an introduction to NMSSA and the 2014 programme. It then describes how students with special education needs performed on the assessment of English: reading used in the study, and how they responded to questions in the student questionnaire related to reading. The final section looks at the characteristics of students with special education needs who performed above the national average for their year level.

This report is part of a series of NMSSA reports about English: reading. A parallel series of reports present the findings from the NMSSA social studies assessment programme<sup>2</sup>.

## 2. The 2014 English: reading study

### The 2014 National Monitoring Study of Student Achievement

NMSSA is a sample-based monitoring project designed to assess and understand student achievement at Year 4 and Year 8 in New Zealand English-medium state schools. NMSSA aims to cover all learning areas of the NZC during a 5-year cycle. In 2014, the study assessed English: reading and social studies. The study was carried out during Term 3 and involved a nationally representative sample of students from 100 schools at each year level.

### How English: reading was assessed

A two-part assessment called KARE was used to assess English: reading. In Part 1, up to 25 students in each school completed a group-administered paper-and-pencil assessment. In Part 2, eight of the same students in each school took part in a one-to-one interview where they responded orally to a teacher assessor.

The KARE focused on three cognitive targets, which were assessed across a range of written texts:

- locate and recall ideas and information
- integrate and interpret ideas and information
- critique and evaluate ideas and information.

The assessment of vocabulary understanding and application was also included and was integrated across the three targets.

### Reporting achievement

An Item Response Theory (IRT) approach (specifically the Rasch model) was used to construct a measurement scale for the KARE assessment. The scale allows scores for Year 4 and Year 8 students to be reported on the same metric. The scale has been standardised so that 100 scale score units represents the combined average score for Year 4 and Year 8, and 20 scale score units is equal to the average standard deviation for a year level. More information about the KARE scale can be found in Chapter 2 of *English: Reading 2014 – Overview*.

A curriculum alignment exercise was undertaken to link achievement ranges on the KARE scale to the levels of the curriculum. Creating this link allowed scale scores to be reported in terms of curriculum levels.

In the NZC, each of the first four curriculum levels was designed to represent about 2 years of learning at school. In general, the expectations are that students in Year 4 will, on balance, achieve level 2 objectives by the end of the year, and that students in Year 8 will, on balance, achieve level 4 objectives by the end of the year.

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<sup>1</sup> English: writing was assessed in 2012. English: viewing and English: listening will be assessed in 2015. NMSSA is also collecting information about the use of literacy across the curriculum and plans to report on this in 2017.

<sup>2</sup> Six reports have been written to present the findings for English: reading, and a parallel set of six reports have been written to present the findings for social studies. A list of the reports for each learning area is provided in Appendix 1.

The alignment exercise focused on defining the minimum score (cut-score) on the KARE scale associated with achieving curriculum level 2, 3 and 4 objectives. Further information on the curriculum alignment process is provided in Appendix 7 of *Technical Information 2014: Social Studies - English: Reading*.

## Contextual data

A range of contextual data were collected through questionnaires for students, teachers and principals and a student interview. This report draws on sections of the student questionnaire related to attitudes to reading, reading opportunities and experiences, and the amount of time spent reading outside of school. Additional reporting on contextual data can be found in *English: Reading 2014: - Contextual Report*.

## Students with special education needs participating in the study

Participating schools identified students' special education needs<sup>3</sup> using the following categories:

- High special education needs: for example, Ongoing Resourcing Scheme (ORS) funded, severe behaviour or communication assistance from Special Education.
- Moderate special education needs: for example, provided with a teacher aide from school funds, on the case load for Resource Teachers: Learning and Behaviour (RTLB), or Child, Youth and Family Services (CYFS).
- On referral: for example, referred to Special Education or CYFS with action pending.

Students who were not identified as having special education needs using the criteria above were assigned to the 'no special education needs' group.

Schools were able to withdraw any students for whom they believed participating in NMSSA would be inappropriate. Parents were also able to withdraw students from participating in the study. Reasons for withdrawing students were not always related to students having special education needs, but could also include, for example, students who had less than 2 years' experience with English, or whose parents did not wish their child to be out of the classroom. Table 1 indicates the number of students with special education needs by category withdrawn from the study by principals and parents prior to the assessment programme.

**Table 1** Number of Year 4 and Year 8 students with special education needs withdrawn by principals or parents

Special education needs category	Year 4 <i>N</i> = 45	Year 8 <i>N</i> = 55
High special education needs	10	14
Moderate special education needs	26	25
On referral	5	6
Parents (category not specified)	4	10

Table 2 shows the number of students with special education needs who participated in the English reading study. The on referral and high needs groups were very small at each year level and cannot be considered nationally representative. Overall, about 10 percent of students in Year 4 and 7 percent of students in Year 8 were included in either the high, moderate or on referral categories in the national samples.

For the purposes of the rest of this report, the three categories of special education needs have been combined.

<sup>3</sup> The categories of special education needs were those common in schools and therefore easy for schools to respond to. Schools were asked to describe the funding supports in place for students with special education needs to access the curriculum, through ORS, RTLB, Ministry of Education specialist staff and school funds. To capture any unmet needs they were also asked to note students who were on referral to Ministry of Education specialist staff, RTLB, etc. These categories were discussed and endorsed by the NMSSA special education needs reference group.

Table 2 Number of students with special education needs in the national samples for the 2014 NMSSA English:Reading study

Special education needs category	Year 4	Year 8
	<b>N = 791</b>	<b>N = 793</b>
High special education needs	4	3
Moderate special education needs	76	49
On referral	4	3
No special education needs	707	738

Students with special education needs were encouraged to participate in the study using the level of assistance normally provided to them in school. The NMSSA project team also prepared accommodations, such as larger print booklets, when these were requested. Students could choose whether or not to read the larger print booklets. None of the three students identified as having visual impairment chose to use the larger print booklets.

Table 3 shows the number of students with special education needs who participated in the KARE assessment, by gender. Only comparisons by gender are presented because the numbers of students with special education needs at each year level were too small for meaningful comparisons to be made by school decile or ethnicity.

More boys than girls were identified as having special education needs at both year levels.

Table 3 Number of students with special education needs in the national samples for the 2014 NMSSA English: reading study, by gender

Gender	Knowledge and Application of Reading in English	
	<b>Year 4</b>	<b>Year 8</b>
Girls	68	41
Boys	123	108

## How the findings are presented

Box plots and tables have been used throughout the report to present findings from the study. In tables and in the text, average scores (e.g., on the KARE assessment) have been rounded to whole numbers. Any differences between average scores that are reported have been calculated using the non-rounded averages.

Full tables of the results presented in this report can be found in Appendix 2. Refer to Chapter 2 of *English: Reading 2014 – Overview* for more details about the use of graphs and statistical information.

## 3. Achievement of students with special education needs

### Achievement against the curriculum

Table 4 shows how Year 4 and Year 8 students with special education needs as a combined group (SEN Combined) achieved against the agreed alignment of curriculum levels with the KARE assessment.

Twenty-four percent of Year 4 students with special education needs scored above the minimum KARE scale score associated with achieving curriculum level 2 objectives. Twenty percent of Year 8 students with special education needs scored above the minimum score associated with achieving level 4 objectives. The corresponding percentages for all students in the national sample were 58 percent at Year 4 and 59 percent at Year 8.



Table 4 Percentage of Year 4 and Year 8 students with special education needs achieving across curriculum levels on the Knowledge and Application of Reading in English assessment scale

Curriculum Level	Year 4		Year 8	
	SEN Combined %	Confidence interval % <sup>4</sup>	SEN Combined %	Confidence interval %
Level 4 and above	1	(0.0, 2.0)	20	(12.5, 28.0)
Level 3	8	(3.0, 12.5)	26	(17.5, 35.0)
Level 2	15	(9.0, 21.5)	34	(24.5, 43.0)
Below Level 2	76	(69.0, 84.0)	20	(12.5, 28.0)

## Achievement by gender

Figures 1 and 2 show the distributions of KARE scale scores at Year 4 and Year 8 respectively, for all students with special education needs, and by gender. The minimum KARE scale scores associated with achieving the curriculum objectives at each of curriculum levels 2 to 4 are indicated by the horizontal dotted lines across the graph.

Scores for boys were more variable than scores for girls at both year levels. Girls scored slightly higher than boys, on average, at both Year 4 and Year 8. The difference in average scale scores by gender was 1 scale score unit at Year 4 and 5 scale score units at Year 8. These differences were not statistically significant.

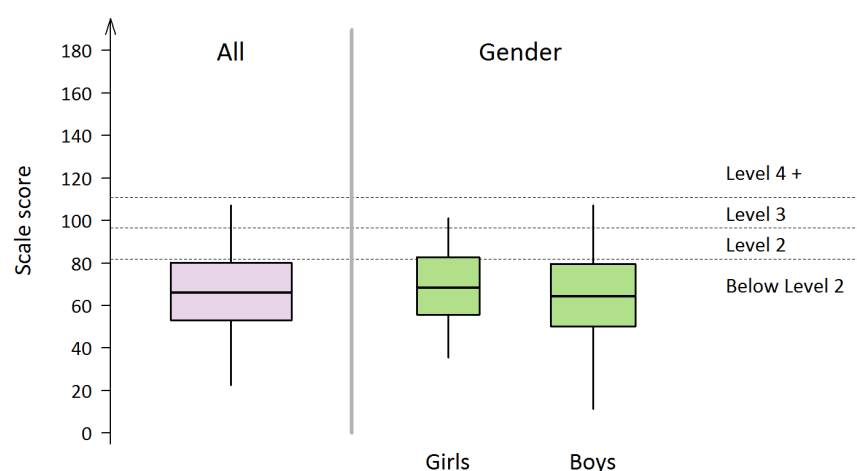


Figure 1 Distribution of scores on the Knowledge and Application of Reading in English scale for Year 4 students with special education needs, by gender

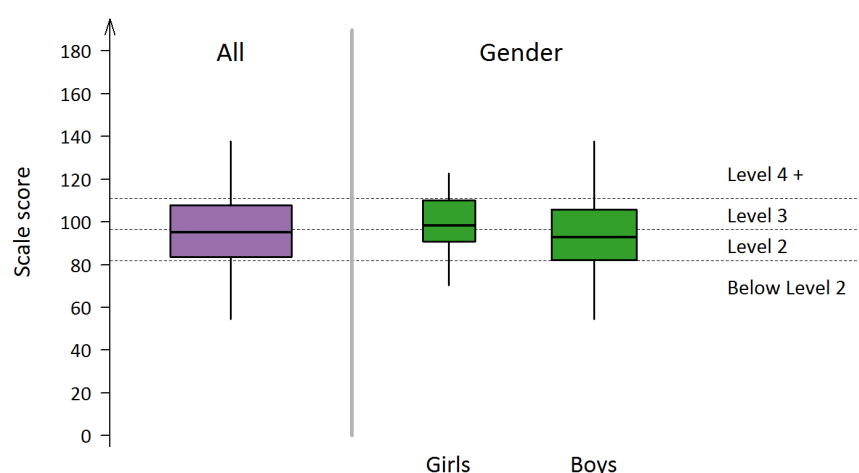


Figure 2 Distribution of scores on the Knowledge and Application of Reading in English scale, for Year 8 students with special education needs, by gender

<sup>4</sup> The confidence interval provides a range within which we can be fairly sure that the population value for the percentage statistic lies.

## Difference in achievement between Year 4 and Year 8

Figure 3 compares the distribution of scores on the KARE assessment of Year 4 and Year 8 students with special education needs. As can be seen, there was overlap between the distributions, with some Year 4 students achieving at a similar level to some students in Year 8, and vice versa.

On average, Year 8 students with special education needs scored 28 scale score units higher than Year 4 students with special education needs. This can be interpreted as an annualised difference of 7 scale score units. The difference in the average scale scores, between Year 4 and Year 8, of students with special education needs was very similar to that found for all students in the national samples.

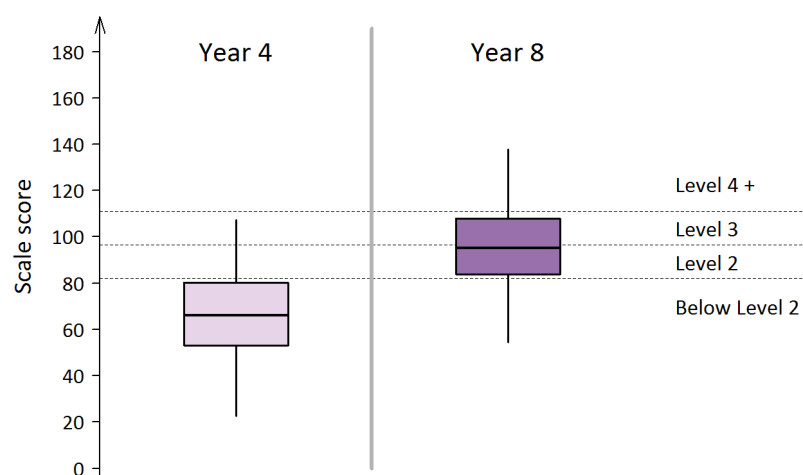


Figure 3 Distribution of scores on the Knowledge and Application of Reading in English scale for Year 4 and Year 8 students with special education needs

## 4. Attitudes to reading and opportunities to learn for students with special education needs

The student questionnaire, which was administered to all students in the study, included sections related to attitudes to reading, learning opportunities and experiences in reading, and the amount of time spent reading outside of school. This part of the report describes how students with special education needs responded to these sections and compares the responses to patterns in achievement.

### Attitudes to English: reading

Figure 4 shows how students with special education needs in Years 4 and 8 responded to a series of statements about their attitude to reading.

Overall, students with special education needs were positive about reading, although students in Year 8 were less positive than students in Year 4. The statement with which the highest proportion of students disagreed was 'Reading is my favourite subject at school'. The rate of disagreement with this statement was notably higher for Year 8 students than Year 4 students. These patterns in response were consistent with the patterns seen for all students in the national samples.

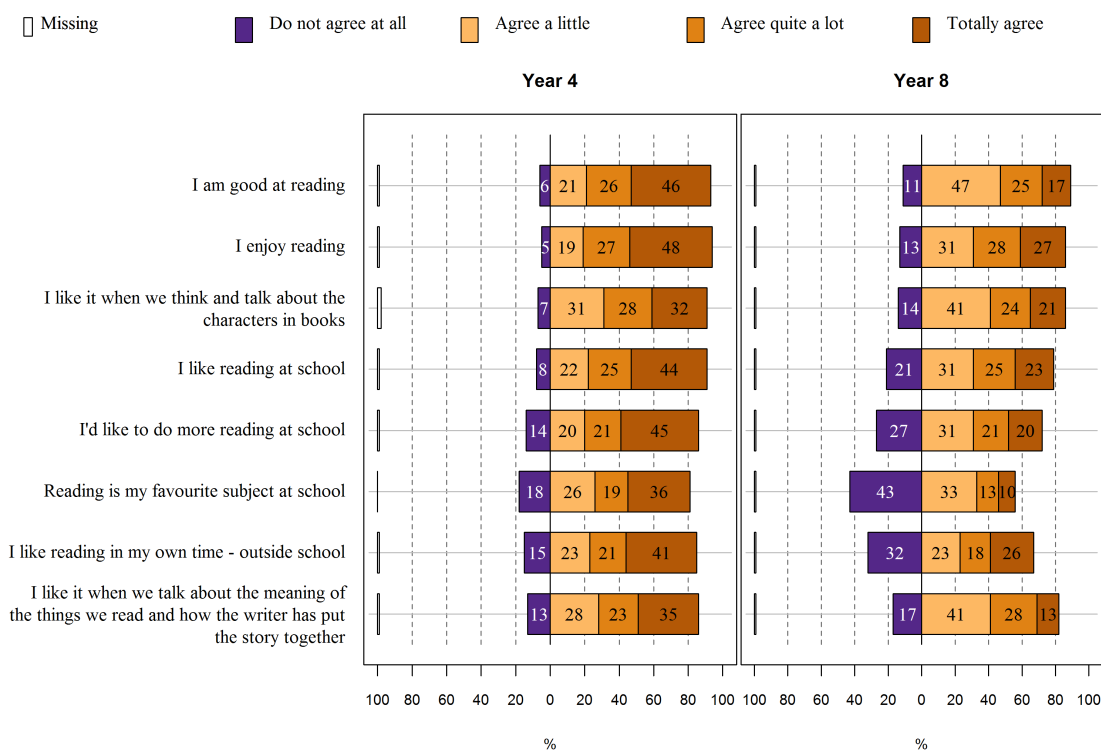


Figure 4 Percentage frequency of responses by Year 4 and Year 8 students with special education needs to individual attitude statements about reading

### Attitude to Reading scale

To provide an overall ‘attitude to reading’ measure, each of the responses to the attitude statements was scored from 1 to 4, where a ‘1’ represented ‘do not agree at all’ and a ‘4’ represented a ‘totally agree’ response. IRT<sup>5</sup> was then used to convert each student’s total score to an overall Attitude to Reading scale score. High scores on the scale indicate a very positive response overall to the attitude statements and low scores indicate a generally negative response to the statements.

Figures 5 and 6 show the distributions of Attitude to Reading scale scores at Year 4 and Year 8 respectively, for all students with special education needs, and by gender. Overall, most students were categorised as positive or very positive. Year 4 students were located higher on the Attitude to Reading scale than Year 8 students. On average, at both year levels, girls were located higher on the scale than boys. Patterns in the Attitude to Reading scale scores of students with special education needs, by year level and gender, were generally consistent with the patterns seen for all students in the national samples. Average Attitude to Reading scale scores for students with special education needs were similar to the average scores for all students in the national samples.

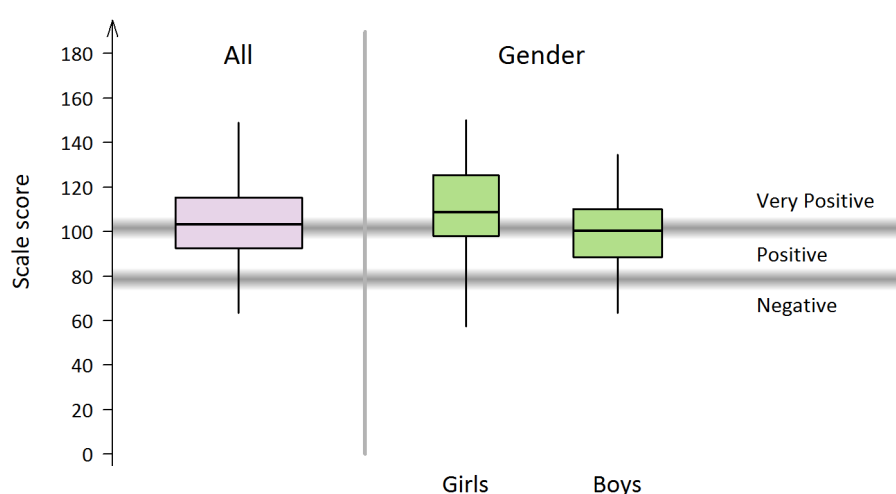


Figure 5 Distribution of scores on the Attitude to Reading scale for Year 4 students with special education needs, by gender

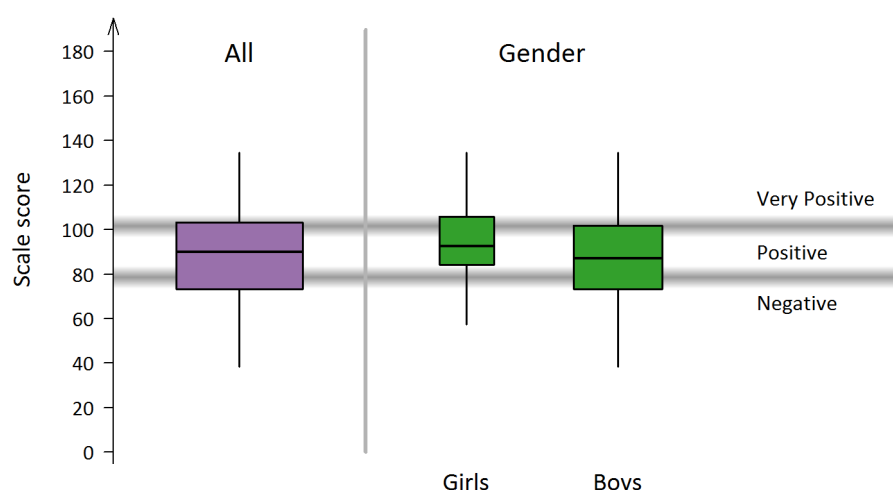


Figure 6 Distribution of scores on the Attitude to Reading scale for Year 8 students with special education needs, by gender

<sup>5</sup> See NMSSA Report 5.1: English: Reading 2014 – Overview for more information about the Attitude to Reading scale.

### Relationship between achievement and attitudes to reading

Figures 7 and 8 show the relationship between attitudes to reading and achievement on the KARE assessment by using the very positive, positive and negative regions of the Attitude to Reading scale to form three groups of students based on attitude. In the figures, the distribution of KARE scale scores has been plotted for each attitude grouping. It should be noted that, at Year 4, the number of students categorised as 'negative' was very small.

In general, students with special education needs' attitude to reading did not seem to be associated with their achievement on the KARE scale. There was no statistically significant correlation between achievement and attitude scores for these students at Year 4 or Year 8. This differs slightly from the weak positive correlation found between Attitude to Reading category and KARE scale score for all students in the Year 4 and Year 8 national samples.

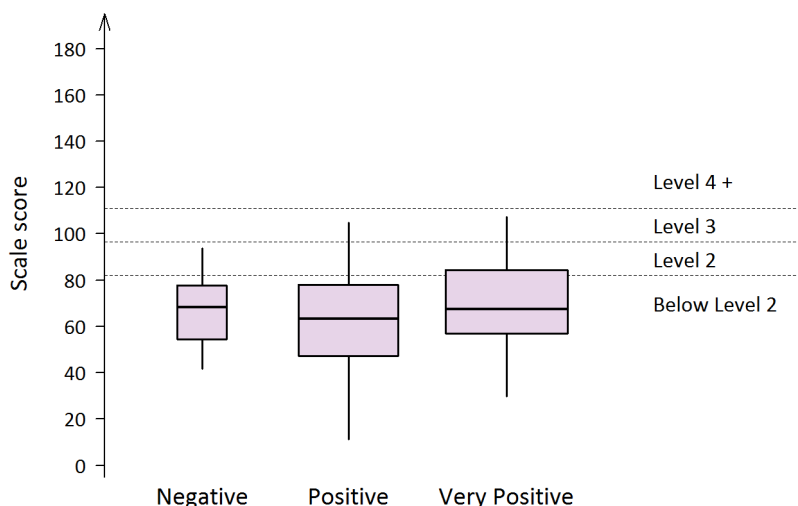


Figure 7 Distribution of scores on the Knowledge and Application of Reading in English scale for Year 4 students with special education needs, by category of Attitude to Reading

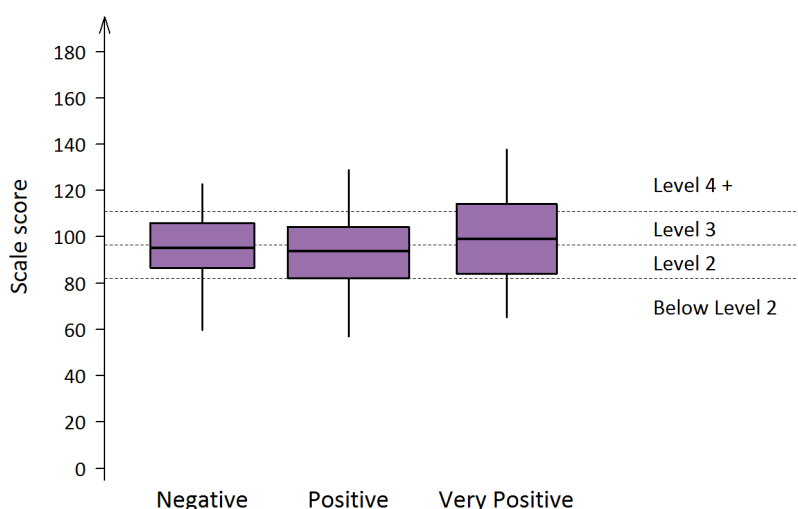


Figure 8 Distribution of scores on the Knowledge and Application of Reading in English scale for Year 8 students with special education needs, by category of Attitude to Reading

## Learning opportunities and experiences in reading at school

Figure 9 shows how Year 4 and Year 8 students with special education needs responded to a series of statements about their learning experiences and opportunities in reading at school.

Overall, the patterns of responses of Year 4 and Year 8 students were very similar, though Year 4 students were more likely to respond with 'often' or 'very often' than Year 8 students to each of the statements, with the exception of 'We have time to read books that we choose ourselves in class'. The statement to which students were most likely to respond with 'never' was 'The things we read in class are about people like me and my family/whānau'. These patterns were similar to those seen for all students in the national samples.

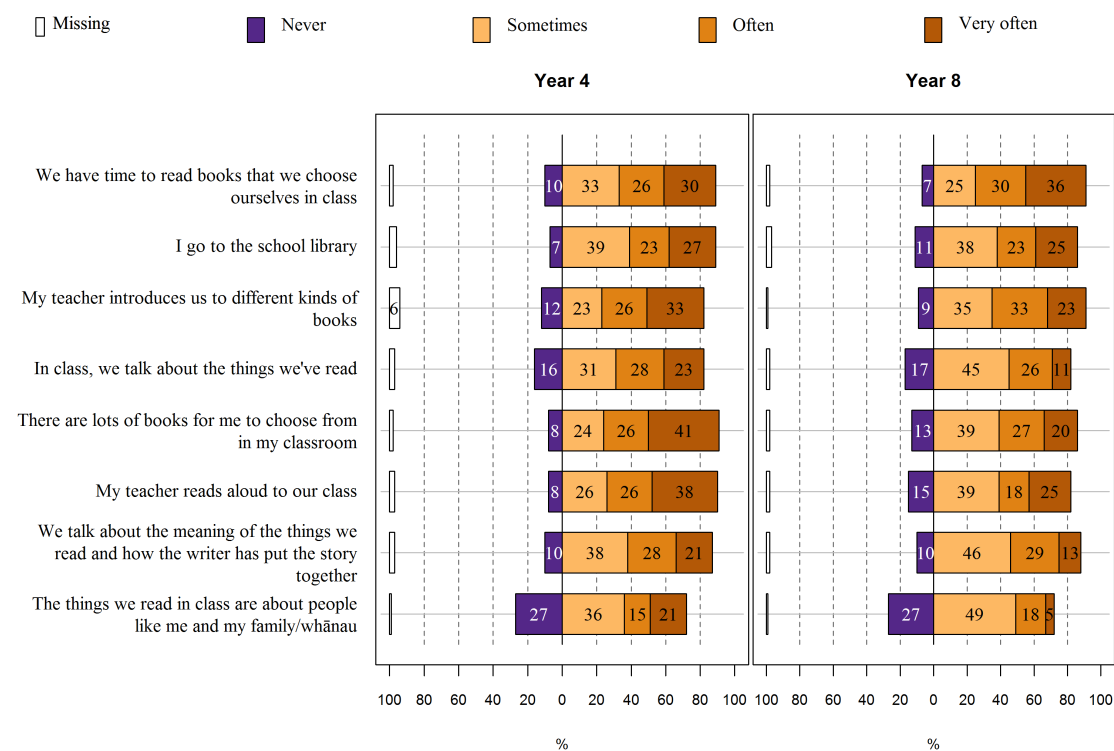


Figure 9 Percentage frequency of responses by Year 4 and Year 8 students with special education needs to the learning opportunities and experiences statements



## Reading in your own time

Students in Year 8 were asked how much reading they did in their own time (when not at school). Figure 10 shows how students with special education needs responded to this question by gender.

Boys were more likely than girls to report that they did no or very little reading in their own time (34 percent compared with 18 percent). This gender difference was consistent with findings for all students in the national sample. However, students with special education needs were less likely, overall, to report spending more than 2 hours a week reading in their own time, when compared with all students in the national sample.

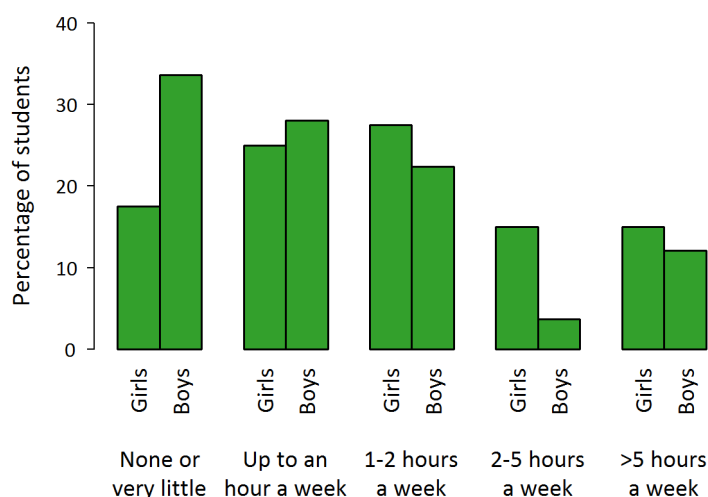


Figure 10 Percentage of Year 8 students with special education needs reporting reading in their own time, by gender and amount of time

## Relationship between reading in your own time and achievement

Figure 11 shows the distributions of Year 8 students with special education needs' achievement on the KARE scale associated with each of the response categories for the question about reading in your own time.

Students with special education needs who indicated that they read for more than 5 hours a week in their own time had an average KARE scale score that was 17 units higher than students who reported that they did little or no reading in their own time. This difference was of a similar magnitude to the difference for all students in the Year 8 national sample.

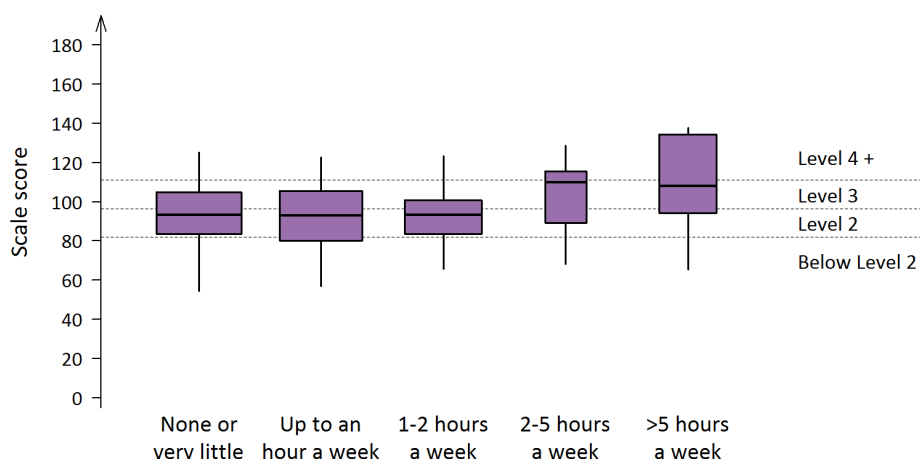


Figure 11 Distribution of scores on the Knowledge and Application of Reading in English scale for Year 8 students with special education needs, by amount of own time spent reading

## 5. Benchmarking success for students with special education needs

This section examines the profile of Year 4 and Year 8 students with special education needs who scored above the national average for all students in their respective year level (the benchmark) on the KARE assessment. These groups are defined as the ‘highest achieving’<sup>6</sup>. For comparison purposes, a ‘lowest achieving’ group has also been defined at each year level. This group is equal in size to the ‘highest achieving’ group and is made up of students with the lowest scores.

The numbers of students with special education needs in the highest (and therefore lowest) achieving groups were very small. As a result, findings should be interpreted with caution.

At Year 4, 19 percent of students with special education needs scored above the benchmark. At Year 8, 14 percent of students with special education needs scored above the benchmark. This compares with 51 percent of all students in the national sample, at each of Years 4 and 8, who scored above the respective benchmarks.

Table 5 shows the average level and spread of KARE scale scores for students with special education needs scoring above the benchmark. Corresponding statistics for all students in the national samples achieving above the benchmark are provided for reference. Students with special education needs who scored above the benchmark had lower average KARE scale scores, at each year level, than all students who scored above the benchmark.

Table 5 Average spread of scores on the Knowledge and Application of Reading in English assessment at Year 4 and Year 8 for students with special education needs, and for all students in the national sample, scoring above the benchmarks

	Knowledge and Application of Reading in English			
	Year 4 students scoring above the benchmark		Year 8 students scoring above the benchmark	
	SEN students	All students	SEN students	All students
Average scale score	97	102	124	128
Standard deviation	7	13	8	11

<sup>6</sup> In this first cycle of NMSSA we have used the national average score at Year 4 and Year 8 as benchmark scores for each learning area. The benchmarks established in this cycle, including those for English: reading, may be used to compare results across future cycles of NMSSA.

## Characteristics of highest and lowest achieving students with special education needs

### Achievement

Figures 12 and 13 show the gender composition of the lowest and highest achieving groups of students with special education needs at Year 4 and Year 8. The corresponding percentages for all students with special education needs in the national samples are given for reference.

At both Year 4 and Year 8, the groups of highest achieving and lowest achieving students with special education needs included a greater proportion of boys than girls. While this generally reflects the gender make-up of the sample of students with special education needs, boys seem to be somewhat over-represented in the group of lowest achieving students.

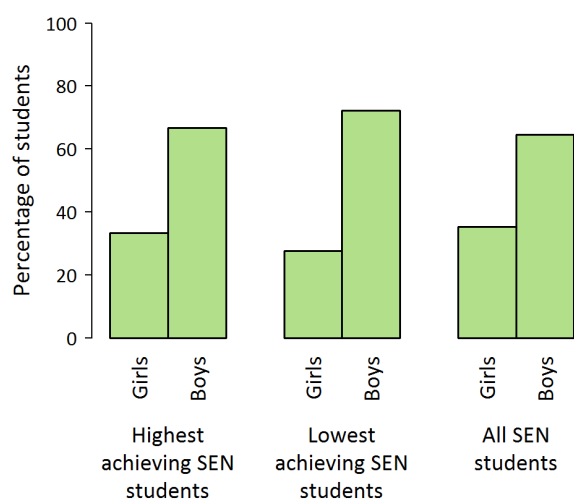


Figure 12 Percentage of Year 4 students with special education needs in the highest achieving, lowest achieving and all students groups, by gender

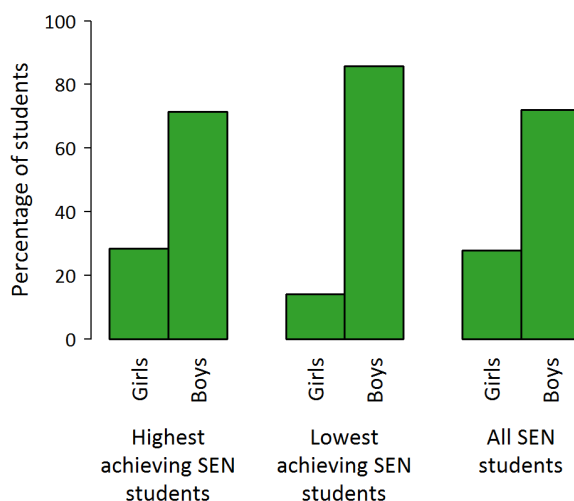


Figure 13 Percentage of Year 8 students with special education needs in the highest achieving, lowest achieving and all students groups, by gender

### Attitudes to Reading

At Year 4, the average score on the Attitude to Reading scale was 6 scale score points higher for the highest achieving group of students with special education needs than for the lowest achieving group. At Year 8, the difference was 10 scale score units. However, these differences were not statistically significant.

## Learning opportunities and experiences in reading at school

Table 8 shows the percentage of highest and lowest achieving Year 4 and Year 8 students with special education needs who responded with either ‘often’ or ‘very often’ to the learning opportunities and experiences in English: reading statements. Only statements where there was a difference of 20 percent or more, are listed.

At Year 4, a greater proportion of students from the highest achieving group than from the lowest achieving group responded with ‘often’ or ‘very often’ to the statement ‘My teacher introduces us to different kinds of books’.

At Year 8, students in the lowest achieving group were more likely than students in the highest achieving group to respond with ‘often’ or ‘very often’ to the statements, ‘The things we read in class are about people like me and my family/whānau’ and ‘In class, we talk about the things we’ve read’. Students in the highest achieving group were more likely to report that they often or very often went to the school library.

Table 6 Percentage of Year 4 and Year 8 highest and lowest achieving students with special education needs responding with ‘often’ or ‘very often’ to learning opportunities and experiences statements

Statement	Percentage of Year 4 SEN students selecting ‘often’ or ‘very often’		Percentage of Year 8 SEN students selecting ‘often’ or ‘very often’	
	Highest achieving	Lowest achieving	Highest achieving	Lowest achieving
I go to the school library	-	-	76	52
My teacher introduces us to different kinds of books	74	51	-	-
In class, we talk about the things we’ve read	-	-	29	52
The things we read in class are about people like me and my family/whānau	-	-	10	48

## Reading in your own time

Students with special education needs in the highest achieving group at Year 8 were more likely to report reading for more than 2 hours a week in their own time than those in the lowest achieving group. Students with special education needs in the lowest achieving group were more likely to report reading for an hour or less.

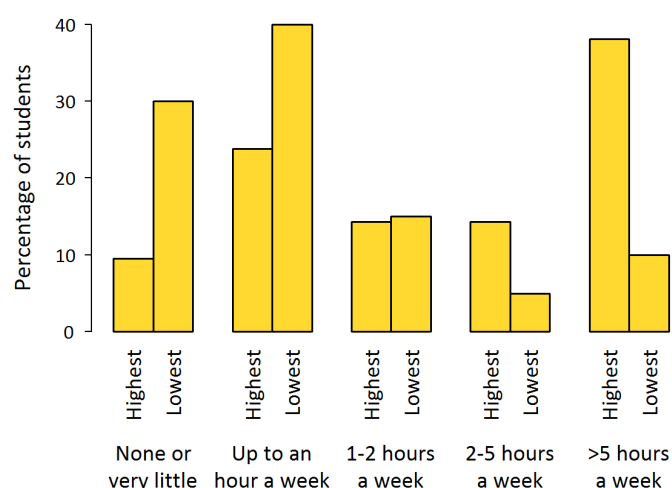


Figure 14 Percentage of Year 8 students with special education needs reporting reading in their own time, by highest and lowest achieving groups and amount of time

# Appendix 1

## Reports of findings for English: reading

- 5.1 NMSSA English: Reading 2014 – Overview
- 5.2 NMSSA Māori Student Achievement in English: Reading – Key findings 2014
- 5.3 NMSSA Pasifika Student Achievement in English: Reading – Key findings 2014
- 5.4 NMSSA Achievement of Students with Special Education Needs in English: Reading – Key findings 2014
- 5.5 NMSSA English: Reading 2014 – Contextual Report
- 7 NMSSA Technical Information 2014 – Social Studies, English: Reading

## Reports of findings for social studies

- 6.1 NMSSA Social Studies 2014 – Overview
- 6.2 NMSSA Māori Student Achievement in Social Studies – Key findings 2014
- 6.3 NMSSA Pasifika Student Achievement in Social Studies – Key findings 2014
- 6.4 NMSSA Achievement of Students with Special Education Needs in Social Studies – Key findings 2014
- 6.5 NMSSA Social Studies 2014 – Contextual Report
- 7 NMSSA Technical Information 2014 – Social Studies, English: Reading

All reports are available on line at <http://nmssa.otago.ac.nz/reports/index.htm>.

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**Table A2.1** Achievement on the KARE: Summary statistics for Year 4 students with special education needs

Group	Actual sample size	Effective sample size	Mean	Confidence interval for the mean	Standard deviation
All	191	128	67	(63.5, 70.5)	21
<b>Gender</b>					
Boys	123	82	66	(62.0, 71.0)	21
Girls	68	46	68	(62.0, 73.5)	20
<b>Decile band</b>					
Low decile	65	44	56	(51.0, 60.5)	16
Mid decile	58	39	65	(58.0, 71.5)	21
High decile	68	46	79	(74.0, 84.5)	18
<b>School type</b>					
Composite school (Years 1–15)	5	3	56	(39.0, 73.0)	16
Contributing school	124	83	69	(64.0, 73.5)	22
Full primary school	62	42	64	(58.5, 69.0)	17
<b>SEN category</b>					
On referral for SEN	18	12	57	(43.5, 71.5)	25
Moderate SEN	166	111	68	(64.0, 71.5)	20
High SEN	7	5	72	(56.0, 87.5)	17

**Table A2.2** Achievement on the KARE: Summary statistics for Year 8 students with special education needs

Group	Actual sample size	Effective sample size	Mean	Confidence interval for the mean	Standard deviation
All	149	100	95	(91.5, 99.0)	19
<b>Gender</b>					
Boys	108	72	94	(89.0, 98.5)	20
Girls	41	27	99	(93.5, 104.0)	14
<b>Decile band</b>					
Low decile	27	18	95	(86.5, 104.0)	19
Mid decile	68	46	93	(86.5, 99.0)	22
High decile	54	36	98	(93.5, 103.0)	15
<b>School type</b>					
Composite school (Years 1–15 & 7–10)	3	2	97	(80.5, 113.0)	12
Full primary school	59	40	95	(90.0, 101.0)	18
Intermediate school	68	46	94	(89.0, 100.0)	19
Secondary school (Years 7–15)	19	13	98	(85.0, 110.0)	23
<b>SEN category</b>					
On referral for SEN	7	5	99	(86.0, 113.0)	15
Moderate SEN	135	90	95	(91.5, 99.0)	19
High SEN	7	5	92	(69.0, 116.0)	26

**Table A2.3** Achievement on the KARE: Differences between subgroup means for Year 4 students with special education needs

Subgroup 1	Subgroup 1 effective sample size	Subgroup 2	Subgroup 2 effective sample size	Difference in means	Confidence interval for difference in means	Effect size
<b>Gender</b>						
Girls	46	Boys	82	<b>1</b>	(-6.0, 9.0)	0.07
<b>Decile band</b>						
High decile	46	Mid decile	39	<b>15</b>	(6.0, 23.0)	0.76
High decile	46	Low decile	44	<b>23</b>	(16.5, 30.5)	1.39
Mid decile	39	Low decile	44	<b>9</b>	(1.0, 17.0)	0.48
<b>School type</b>						
Composite school (Years 1–15)	3	Contributing school	83	<b>-13</b>	(-30.5, 4.5)	-0.58
Composite school (Years 1–15)	3	Full primary school	42	<b>-8</b>	(-25.5, 10.0)	-0.45
Contributing school	83	Full primary school	42	<b>5</b>	(-2.0, 12.0)	0.25
<b>SEN category</b>						
On referral for SEN	12	Moderate SEN	111	<b>-10</b>	(-25.0, 4.5)	-0.50
On referral for SEN	12	High SEN	5	<b>-14</b>	(-35.5, 7.0)	-0.61
Moderate SEN	111	High SEN	5	<b>-4</b>	(-20.0, 12.0)	-0.20

**Table A2.4 Achievement on the KARE: Differences between subgroup means for Year 8 students with special education needs**

Subgroup 1	Subgroup 1 effective sample size	Subgroup 2	Subgroup 2 effective sample size	Difference in means	Confidence interval for difference in means	Effect size
<b>Gender</b>						
Girls	27	Boys	72	<b>5</b>	(-2.0, 12.0)	0.26
<b>Decile band</b>						
High decile	36	Mid decile	46	<b>5</b>	(-2.5, 13.5)	0.28
High decile	36	Low decile	18	<b>3</b>	(-7.0, 13.0)	0.19
Mid decile	46	Low decile	18	<b>-2</b>	(-13.0, 8.5)	-0.11
<b>School type</b>						
Composite school (Years 1–15 & 7–10)	2	Full primary school	40	<b>1</b>	(-15.5, 18.5)	0.08
Composite school (Years 1–15 & 7–10)	2	Intermediate school	46	<b>2</b>	(-14.5, 19.5)	0.12
Composite school (Years 1–15 & 7–10)	2	Secondary school (Years 7–15)	13	<b>-1</b>	(-21.0, 19.5)	-0.04
Full primary school	40	Intermediate school	46	<b>1</b>	(-7.0, 9.0)	0.05
Full primary school	40	Secondary school (Years 7–15)	13	<b>-2</b>	(-15.5, 11.5)	-0.11
Intermediate school	46	Secondary school (Years 7–15)	13	<b>-3</b>	(-16.5, 10.5)	-0.16
<b>SEN category</b>						
On referral for SEN	5	Moderate SEN	90	<b>4</b>	(-9.5, 18.0)	0.23
On referral for SEN	5	High SEN	5	<b>7</b>	(-20.0, 34.0)	0.33
Moderate SEN	90	High SEN	5	<b>3</b>	(-21.0, 26.5)	0.14

Table A2.5 Achievement on the KARE: Differences between means for Year 4 and Year 8 students with special education needs, by subgroup

Group	Year 8 effective sample size	Year 4 effective sample size	Difference in means	Confidence interval for difference in means	Effect size
All	100	128	28	(23.0, 33.5)	1.42
<b>Gender</b>					
Girls	27	46	31	(23.0, 39.0)	1.73
Boys	72	82	27	(21.0, 34.0)	1.33
<b>Decile band</b>					
Low decile	18	44	39	(29.5, 49.0)	2.34
Mid decile	46	39	28	(19.0, 37.0)	1.33
High decile	36	46	19	(12.0, 26.0)	1.14
<b>SEN category</b>					
On referral for SEN	5	12	42	(22.5, 61.5)	1.83
Moderate SEN	90	111	27	(22.0, 33.0)	1.41
High SEN	5	5	21	(-7.5, 49.0)	0.94

Table A2.6 English: reading curriculum levels for Year 4 students with special education needs

Group	Actual sample size	Effective sample size	Percentage of students at <L2	Confidence interval for <L2 percentage	Percentage of students at L2	Confidence interval for L2 percentage	Percentage of students at L3	Confidence interval for L3 percentage	Percentage of students at L4+	Confidence interval for L4+ percentage
All	191	128	76%	(69.0%, 84.0%)	15%	(9.0%, 21.5%)	8%	(3.0%, 12.5%)	1%	(0.0%, 2.0%)
<b>Gender</b>										
Boys	123	82	78%	(69.0%, 87.0%)	12%	(5.0%, 19.5%)	9%	(3.0%, 15.0%)	1%	(0.0%, 3.0%)
Girls	68	46	74%	(60.5%, 86.5%)	21%	(9.0%, 32.5%)	6%	(0.0%, 12.5%)		
<b>Decile band</b>										
Low decile	65	44	98%	(95.0%, 100.0%)	2%	(0.0%, 5.0%)				
Mid decile	58	39	79%	(66.5%, 92.0%)	14%	(3.0%, 24.5%)	7%	(0.0%, 15.0%)		
High decile	68	46	53%	(38.5%, 67.5%)	29%	(16.0%, 42.5%)	16%	(5.5%, 27.0%)	1%	(0.0%, 5.0%)
<b>School type</b>										
Composite school (Years 1–15)	5	3	100%							
Contributing school	124	83	73%	(63.0%, 82.0%)	15%	(7.0%, 22.0%)	12%	(5.0%, 19.0%)	1%	(0.0%, 2.5%)
Full primary school	62	42	82%	(70.5%, 94.0%)	18%	(6.0%, 29.5%)				
<b>SEN category</b>										
On referral for SEN	18	12	83%	(62.5%, 100.0%)	17%	(0.0%, 37.5%)				
Moderate SEN	166	111	75%	(67.5%, 83.5%)	15%	(8.5%, 21.5%)	9%	(3.5%, 14.5%)	1%	(0.0%, 2.0%)
High SEN	7	5	86%	(54.0%, 100.0%)	14%	(0.0%, 46.0%)				

Table A2.7 English: reading curriculum levels for Year 8 students with special education needs

Group	Actual sample size	Effective sample size	Percentage of students at <L2	Confidence interval for <L2 percentage	Percentage of students at L2	Confidence interval for L2 percentage	Percentage of students at L3	Confidence interval for L3 percentage	Percentage of students at L4+	Confidence interval for L4+ percentage
All	149	100	20%	(12.5%, 28.0%)	34%	(24.5%, 43.0%)	26%	(17.5%, 35.0%)	20%	(12.5%, 28.0%)
<b>Gender</b>										
Boys	108	72	24%	(14.0%, 34.0%)	34%	(23.5%, 45.0%)	22%	(12.5%, 32.0%)	19%	(10.5%, 28.5%)
Girls	41	27	10%	(0.0%, 21.0%)	32%	(14.5%, 49.0%)	37%	(18.5%, 54.5%)	22%	(6.5%, 37.5%)
<b>Decile band</b>										
Low decile	27	18	22%	(3.0%, 41.5%)	33%	(11.5%, 55.0%)	19%	(0.5%, 36.5%)	26%	(5.5%, 46.0%)
Mid decile	68	46	26%	(13.5%, 39.5%)	34%	(20.0%, 47.5%)	19%	(7.5%, 30.5%)	21%	(9.0%, 32.5%)
High decile	54	36	11%	(1.0%, 21.5%)	33%	(18.0%, 48.5%)	39%	(23.0%, 55.0%)	17%	(4.5%, 29.0%)
<b>School type</b>										
Composite school (Years 1–15 & 7–10)	3	2			67%	(1.5%, 100.0%)	33%	(0.0%, 98.5%)		
Full primary school	59	40	20%	(8.0%, 33.0%)	29%	(14.5%, 43.0%)	32%	(17.5%, 47.0%)	19%	(6.5%, 31.0%)
Intermediate school	68	46	22%	(10.0%, 34.0%)	37%	(23.0%, 51.0%)	21%	(9.0%, 32.5%)	21%	(9.0%, 32.5%)
Secondary school (Years 7–15)	19	13	16%	(0.0%, 36.0%)	32%	(6.0%, 57.0%)	26%	(2.0%, 50.5%)	26%	(2.0%, 50.5%)
<b>SEN category</b>										
On referral for SEN	7	5			43%	(0.0%, 87.5%)	29%	(0.0%, 69.5%)	29%	(0.0%, 69.5%)
Moderate SEN	135	90	20%	(12.0%, 28.0%)	33%	(23.5%, 43.0%)	27%	(18.0%, 36.5%)	19%	(11.0%, 27.5%)
High SEN	7	5	43%	(0.0%, 87.5%)	29%	(0.0%, 69.5%)			29%	(0.0%, 69.5%)



Table A2.8 Attitude to Reading: Summary statistics for Year 4 students with special education needs

Group	Actual sample size	Effective sample size	Mean	Confidence interval for the mean	Standard deviation
All	192	129	105	(101.5, 109.0)	22
<b>Gender</b>					
Boys	124	83	102	(97.0, 106.5)	22
Girls	68	46	112	(105.5, 117.5)	21
<b>Decile band</b>					
Low decile	66	44	107	(101.5, 113.5)	20
Mid decile	58	39	105	(97.5, 112.5)	24
High decile	68	46	103	(96.5, 109.5)	22
<b>School type</b>					
Composite school (Years 1–15)	5	3	136	(114.0, 157.5)	20
Contributing school	125	84	105	(100.0, 109.0)	21
Full primary school	62	42	104	(97.0, 111.0)	23
<b>SEN category</b>					
On referral for SEN	18	12	102	(91.5, 111.5)	18
Moderate SEN	167	112	105	(101.5, 109.5)	23
High SEN	7	5	107	(88.5, 126.0)	21

Table A2.9 Attitude to Reading: Summary statistics for Year 8 students with special education needs

Group	Actual sample size	Effective sample size	Mean	Confidence interval for the mean	Standard deviation
All	149	100	88	(83.5, 93.0)	24
<b>Gender</b>					
Boys	108	72	86	(80.0, 91.5)	24
Girls	41	27	95	(87.0, 102.5)	21
<b>Decile band</b>					
Low decile	27	18	94	(84.5, 102.5)	19
Mid decile	68	46	88	(82.5, 94.0)	19
High decile	54	36	85	(75.5, 94.5)	30
<b>School type</b>					
Composite school (Years 1–15 & 7–10)	3	2	67	(28.0, 107.0)	28
Full primary school	59	40	94	(86.0, 101.0)	24
Intermediate school	68	46	88	(82.5, 94.0)	20
Secondary school (Years 7–15)	19	13	74	(58.5, 90.0)	29
<b>SEN category</b>					
On referral for SEN	7	5	77	(65.0, 89.5)	14
Moderate SEN	135	90	89	(84.0, 93.5)	23
High SEN	7	5	87	(55.0, 118.5)	35

Table A2.10 Achievement on the KARE, by Attitude to Reading category for students with special education needs

Group	Attitude to Reading category					
	Negative		Positive		Very positive	
	Actual sample size	Mean KARE scale score	Actual sample size	Mean KARE scale score	Actual sample size	Mean KARE scale score
<b>Year 4</b>						
All	17	66.00	70	63.00	104	70.00
Boys	14	65.00	51	63.00	58	70.00
Girls	3	71.00	19	62.00	46	70.00
<b>Year 8</b>						
All	45	93.00	62	94.00	42	100.00
Boys	36	91.00	45	92.00	27	101.00
Girls	9	99.00	17	99.00	15	98.00

Table A2.11 Student Questionnaire – Question 5: Reading in own time for students with special education needs

Group	Actual sample size	Effective sample size	Question 5: Reading in own time				
			None or very little	Up to an hour	1–2 hours	2–5 hours	>5 hours
All	147	98	29%	27%	24%	7%	13%
<b>Gender</b>							
Boys	107	72	34%	28%	22%	4%	12%
Girls	40	27	18%	25%	28%	15%	15%
<b>Benchmark group</b>							
Lowest achievers	20	13	30%	40%	15%	5%	10%
Highest achievers	21	14	10%	24%	14%	14%	38%

Table A2.12 Achievement on the KARE, by amount of own time spent reading for students with special education needs

Group	Question 5: Reading in own time									
	None or very little		Up to an hour a week		1–2 hours a week		2–5 hours a week		>5 hours a week	
	n	Mean KARE scale score	n	Mean KARE scale score	n	Mean KARE scale score	n	Mean KARE scale score	n	Mean KARE scale score
All	43	92	40	92	35	94	10	103	19	109
<b>Gender</b>										
Boys	36	92	30	90	24	93	4	100	13	112
Girls	7	96	10	99	11	96	6	105	6	102





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